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ARKANSAS NUCLEAR ONE			
FORM TITLE: 10CFR50.59 DETERMINATION		FORM NO. 1000.131A	REV. 003-03-0

Document No. **ER 002334N102** Rev./Change No. **0**

Title **P-34A/B Bearing Housing Replacement and Cooling Water Modification**

Brief description of proposed change: **This modification will reinstall the original type cast iron inboard bearing housing on the Decay Heat pumps P34A & P34B and change the type of radial bearing from a "C3" fit to a "C4" fit bearing. The original type cast iron inboard housings will replace the current stainless housings installed under PC 91-7085 because of concerns related to the thermal expansion characteristics. This modification will also install normally locked open ball valves in the ¾" service water outlets from the Decay Heat pump P34A & P34B inboard bearing coolers (E-50A/B). Additionally this Nuclear Change will install non-safety related informational temperature indicators in the bearing housings to provide an indication of service water temperature in the bearing housings.**

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

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QAMO? Yes☐ No☒

E-Plan? Yes☐ No☒

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Basis for Determination (Questions 1, 2 & 3):

1. **This change does not change the design basis for P34. This change is beyond the level of detail contained in the operating license documents and Technical Specifications.**

2. **The material for the bearing housings and the size/fit of the bearings are beyond the level of detail contained in the SAR documents. The new ball valves will be operated in accordance with the criteria, which is detailed in ER 002334N102, which provides the technical basis for this portion of the modification. The lines in which the ball valves and temperature indicators will be installed are shown on SAR figure 9-12. A change to this figure will be required.**

3. **This is a component level change, which will maintain the pumps operating condition within approved limits to prevent bearing failure and which will not affect the performance of the pump or the decay heat system. This modification does not constitute a test or experiment not described in the SAR.**

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #___, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS: **50.59- Unit 1**	**All (LPI, DH, Long Term, DHR w/10 Cooler, E-50, Bearing Cooler, Service Water w/10 Bearing, Bearing, Service Water Flow, Bearing Housing, Stainless w/5 Housing)**
MANUAL SECTIONS: **Unit 1 SAR**	**4.2.5.1, 6.1.2.1.2, 6.1.2.3, 6.1.3.2, 9.3, 9.5, 14, Table 6-2, 6-4, 6-5**
Unit 1 T.S.	**3.1.1, 3.3, 3.8, 4.5.1**
FIGURES: **Unit 1 SAR**	**6-7, 9-12**

B. Rowlett — **William R. Rowlett, Jr.** — **02-24-2000**

Certified Reviewer's Signature / Printed Name / Date

Reviewer's certification expiration date: **05-25-2001**

Assistance provided by:

Printed Name — Scope of Assistance — Date

NC 002334N102

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Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Certified Reviewer's Signature: John Richardson — Printed Name: John Richardson — Date: 2-24-2000

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. **ER 002334N102** Rev./Change No. 0

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

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FFN # 00-015

10CFR50.59 Eval. No. _____ (Assigned by PSC)

Document No. **ER 002334N102** Rev./Change No. **0**

Title **P-34A/B Bearing Housing and Bearing Modification**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased?

Yes ☐ No ☒

This modification will reinstall the original type cast iron inboard bearing housing on the Decay Heat pumps P34A & P34B and change the type of bearing from a "C3" fit to a "C4" fit bearing. The original type cast iron housings will replace the current stainless housings installed under PC 91-7085 because of concerns related to the thermal expansion characteristics. This modification will also install normally locked open ball valves in the ¾" service water outlets from the Decay Heat pump P34A & P34B inboard bearing coolers (E-50A/B). Additionally this Nuclear Change will install non-safety related informational temperature indicators in the bearing housings to provide an indication of service water temperature in the bearing housings. While the new bearings, ball valves and temperature indicators are a change from the original configuration, the pump design parameters are not changed by this activity and the decay heat system will operate with the same performance properties as before. Neither the ANO-1 Service Water System, P34A/B bearings nor the bearing housings are an initiator for any accident evaluated in the SAR, therefore this change has no effect on the probability of any accident analyzed in the SAR.

2. Will the consequences of an accident previously evaluated in the SAR be increased?

Yes ☐ No ☒

The inboard bearing housings are being returned to the original material configuration. The bearing fit change provides a means to ensure proper freedom of movement at varying service water temperatures. The valves will be locked open and will not change the operation of the system. The temperature indicators have no effect on the function of the pumps. Since the bearings and housings will be operated within existing limits, the nature of any possible leakage due to bearing failure will not be changed and therefore the dose consequences of an accident will not increase.

3. Will the probability of a malfunction of equipment important to safety be increased?

Yes ☐ No ☒

The bearing housing material change, new bearings, valves and temperature indication will improve the reliability of the pumps. Because of improvements to the service water chemistry, the original fouling problems with cast iron housings are not expected to reoccur. Periodic service water flow testing will ensure adequate service water flow is maintained. While the service water flow through the bearing coolers may change from the current requirements, the bearing temperature limit, which is the basis for the service water flow requirement, will not be increased. This modification is intended to offset the effects of lower than normal service water temperatures, and will increase

the service life of the bearings over the present configuration. Because of this, the modifications will not increase the probability of the malfunction of the equipment.

4. Will the consequences of a malfunction of equipment important to safety be increased?

Yes ☐ No ☒

The bearing housing material change will have no impact on the consequences of a malfunction of the decay heat pumps. Existing temperature limits for the P34A/B bearings will be maintained. Modifications to the tubing and housings will meet ANO-1 design requirements and will have no effect on the integrity of the service water system. The addition of temperature indication will not affect the pump's function. Changes to the service water flow are limited to the decay heat pumps and will not starve any other components. These modification effects are limited to the decay heat pumps. The consequences of a malfunction of these pumps will not be increased by this change. The alterations will also not adversely impact the ability of the decay heat pumps to mitigate a malfunction of other equipment important to safety.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

Yes ☐ No ☒

(inboard) mrk 3-26-00

The change in bearing housing material will have no impact on the possibility of an accident as the material is being returned to a type originally used on the pumps. The new bearings are appropriate for the intended service conditions. The new valves will be locked open and will not affect the operation of the system. Flow through these components is minimal compared to the service water system flow. Temperature indication will have no effect on the pump or service water system function. Only the service water and decay heat systems are affected, and there are no significant changes to the function or operation of either system, therefore there is no possibility of any new accident being created.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

Yes ☐ No ☒

The change in bearing housing material will decrease the possibility of a malfunction of the decay heat pumps since the material is being returned to a type better suited for the service conditions. The new bearings will still perform the same function on the pumps as the original bearings. Since the design parameter of bearing temperature is still bounded at the same limit, the design basis is maintained and the design stress levels are unchanged. The total flow to this component is insignificant compared to the total service water system flow and any change to service water flow cannot starve any other component of flow. The temperature indication installation meets engineering design requirements and will not cause a malfunction of the equipment. Previous analysis is still bounding and this activity does not cause the possibility of a malfunction of equipment important to safety of a different type.

7. Will the margin of safety as defined in the basis for any technical specification be reduced?

Yes ☐ No ☒

There is no margin of safety defined in any technical specification basis, which is affected by the P34A/B bearing size, bearing housing material or service water flow to the housings. The bearing temperatures will be maintained to the existing requirements and no change in system performance will result.

Bill Rowlett

William R. Rowlett, Jr.

02-24-2000

Certified Reviewer's Signature Printed Name Date

Reviewer's certification expiration date: 05-25-2001

Assistance provided by:

Printed Name Scope of Assistance Date

PSC review by: _____ Date: 2/27/00

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FFN #00-024

ARKANSAS NUCLEAR ONE		Page 1
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 3 PC-1

This Document contains 3 Pages.

Document No. PROCEDURE 1000.152 Rev./Change No. 002-04-0

Title UNIT 1 & 2 FIRE PROTECTION SYSTEM SPECIFICATIONS

Brief description of proposed change:

CR-C-1999-0302 was written to address a concern with inspection requirements and compensatory measures for Aux Bldg elevator doors located in regulatory required fire barriers. This was a result of a NRC finding at Callaway Nuclear Station. It has been determined that the door should be inspected and compensatory measures should be in place to address degradations. The Aux Bldg elevator doors to be upgraded are: U-1 el. 335 and U-2 el. 386, 354 and 335. This determination will address the compensatory measures required by 1000.152. The inspection procedure revisions for units 1 & 2 will be covered by action items 4 and 5. The 50.59 evaluation for this procedure revision should be adequate for procedure 1306.05 & 2306.025 fire door inspection procedures.

Will the proposed Activity:

1. Require a change to the Operating License including:

Technical Specifications (excluding the bases)?	Yes☐ No☒
Operating License?	Yes☐ No☒
Confirmatory Orders?	Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

SAR (multi-volume set for each unit)?	Yes☐ No☒
Core Operating Limits Report?	Yes☐ No☒
Fire Hazards Analysis?	Yes☒ No☐
Bases of the Technical Specifications?	Yes☐ No☒
Technical Requirements Manual?	Yes☐ No☒
NRC Safety Evaluation Reports?	Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

QAMO?	Yes☐ No☒
E-Plan?	Yes☐ No☒

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. PROCEDURE 1000.152 Rev./Change No. 002-04-0

- Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

FORM TITLE: 10CFR50.59 SAFETY EVALUATION	FORM NO. 1000.131B	REV. 3 PC-2

This Document contains 1 Page.

Document No. PROC. 1000.152 Rev./Change No. 002-04-0 10CFR50.59 Eval. No. 00-024 (Assigned by PSC)

Title Unit 1 & 2 Fire Protection System Specifications

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Thomas D Robinson	Thomas D. Robinson	2/17/00
Certified Reviewer's Signature	Printed Name	Date

Reviewer's certification expiration date: 3/23/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: [signature] Date: 3/9/00

Document No. Proc. 1000.152 Rev./Change No. 002-04-0

10CFR50.59 Review Continuation Page

Background: Appendix R requires those redundant trains of safety related equipment be separated by three hour rated fire barriers. This requirement also applies to components of the rated fire barrier such as fire doors, dampers, penetration seals, etc. In the past Fire Protection personnel did not inspect nor apply the compensatory measures of 1000.152 to elevator doors since they were not viewed to be a viable path for smoke, fire, etc. to propagate from one fire area to another. However, Callaway Nuclear Station was sighted with a violation by the NRC for not having compensatory measures in place for elevator doors that are part of a fire area boundary. As a result, 1000.152 as well as the fire door inspection procedures will be revised to include elevator doors. The Aux Bldg elevator doors to be upgraded are: U-1 el. 335 and U-2 el. 386, 354 and 335. The upgrade does not include all the Aux Bldg elevator doors since one door is adequate to provide separation. It should be noted that the doors are not currently three (3) hour rated as the fire barriers are but are one and one-half hour rated. They have been evaluated for use in a three (3) hour rated fire barrier by calculation 85-E-0053-04. All elevator doors in the turbine building are in the same fire area.

1. Will the probability of an accident previously evaluated in the SAR be increased?

   A fire is not a design bases accident that has been evaluated in the SAR. The purpose of this revision is to provide compensatory measures and inspection criteria for elevator doors that are located in a regulatory required fire area boundary. The upgrade of the elevator doors will not result in a change from one frequency class to a more frequent class or a change in one frequency class. Thus, the probability of an accident previously evaluated in the SAR will not be increased.

2. Will the consequences of an accident previously evaluated in the SAR be increased?

   As stated, a fire is not an accident that has been evaluated in the SAR. The upgrade of the elevator doors will insure that the elevator doors are inspected and compensatory measures in place if they are degraded. The offsite dose consequences of a previously evaluated accident will not be increased beyond the licensed limit. Thus, the consequences of an accident previously evaluated in the SAR will not be increased.

3. Will the probability of a malfunction of equipment important to safety be increased?

   The elevator doors will have no impact on the ability of safety related equipment to perform their safety function. The purpose of this revision is to inspect the elevator doors and provide compensatory measures for degraded conditions. Thus, the probability of a malfunction of equipment important to safety will not be increased.

4. Will the consequences of a malfunction of equipment important to safety be increased?

   As stated, this revision will have no impact on any equipment important to safety. The upgrade of the elevator doors will not impact have an on equipment important to safety but merely provide compensatory measures and inspection instructions. This upgrade will not have an impact on the radiation dose to the public associated with the plant's response to an accident. Thus, the consequences of a malfunction of equipment important to safety will not be increased.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

   As stated, a fire is not an accident that has been evaluated in the SAR. The upgrade of the elevator doors will not have an impact on any accident evaluated in the SAR or an accident of any type. Thus, the possibility of an accident of a different type than any previously evaluated in the SAR will not be created.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

   The upgrade of the elevator doors will not have an impact on any equipment important to safety either evaluated in the SAR or any not evaluated in the SAR. The upgrade will insure that the doors are maintained

in good condition and provide compensatory measures if they are not in good condition. Thus, the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR will not be created.

7. Will the margin of safety as defined in the basis for any technical specification be reduced?

   The elevator doors are not address in the margin of safety as defined in the basis of any technical specification. Thus, the margin of safety as defined in the basis for any technical specification will not be reduced.

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FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 4 Pages.

Document No. **Calculation 89-E-0044-02** Rev./Change No. **0**

Title **Changes to 1SAR Section 9.3.2.1 and Table 9-15.**

Brief description of proposed change: **Changes made to ISAR to reflect subject calculation results.**

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

FORM TITLE:	ARKANSAS NUCLEAR ONE	FORM NO.	REV.
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Document No. **Calculation 89-E-0044-02** Rev./Change No. **0**

The ECP minimum level is 342.73 feet per Calculation 91-E-0099-10, rev 1. With a one foot pressure loss and the pump bell elevation of 323.5 feet, the available submergence is 341.73 – 323.5 = 18.23 feet.

3. This change does not involve any new or revised tests or experiments.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #___, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	
All	**50.59 Unit One; submergence, NPSH, "net positive suction head", reservoir w/20 level, lake w/20 level.**
MANUAL SECTIONS:	
1SAR	**Chapter 9.3 and tables**
FIGURES:	
1SAR	**Chapter 9 figures**

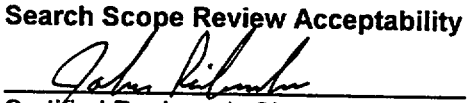
Certified Reviewer's Signature — **David MacPhee** Printed Name — **3/21/00** Date

Reviewer's certification expiration date: **9/16/01**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)



Certified Reviewer's Signature — John Richardson Printed Name — 3/21/00 Date

ENVIRONMENTAL IMPACT DETERMINATION
(UNIT 1 and UNIT 2)

Document No. **Calculation 89-E-0044-02** Rev./Change No. **0**

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 2 Pages.

10CFR50.59 Eval. No. FFN# 00-029
(Assigned by PSC)

Document No. **Calculation 89-E-0044-02** Rev./Change No. **0**

Title **Changes to 1SAR Section 9.3.2.1 and table 9-15**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Certified Reviewer's Signature	David MacPhee Printed Name	3/21/00 Date

Reviewer's certification expiration date: **9/16/01**

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: James McWilliams Date: 5/4/2000

FORM TITLE:	ARKANSAS NUCLEAR ONE	FORM NO.	REV.
	10CFR50.59 EVALUATION	1000.131B	003-04-0

10CFR50.59 Eval. No. FFN #00-029
(Assigned by PSC)

Document No. **Calculation 89-E-0044-02** Rev./Change No. **0**

Title **Changes to 1SAR Section 9.3.2.1 and table 9-15**

1. The probability of an accident previously evaluated in the SAR will not be increased.

Service water serves a mitigating function for accidents. Changes made here will not affect the probability of the loss of service water accident. Changes to service water submergence data will not cause any analyzed accidents to occur. Thus the probability of such is not increased.

2. The consequences of an accident previously evaluated in the SAR will not be increased.

Changes made to pump submergence data do not adversely affect the mitigating function of the service water system in the event of accident, and will not cause a loss of service water event. In all operating conditions submergence provided exceeds the minimum requirements. Thus, no increase in offsite dose beyond that analyzed after an accident will occur and consequences will not be increased.

3. The probability of a malfunction of equipment important to safety will not be increased.

Available submergence as shown in these changes is more than adequate for all plant conditions and pump NPSH requirements are also met for expected conditions. Transient loss of NPSH during worst case faulted loss of service water pump runout conditions and minimum lake level has been analyzed and the pumps will remain operable. No new failure modes such as pump vortexing are introduced. Thus, the probability of malfunction is unchanged.

4. The consequences of a malfunction of equipment important to safety will not be increased.

The safety functions of the service water system are maintained or enhanced with this change, There are no changes in existing failure modes and no new credible failure modes are introduced. Consequences of malfunction related to offsite dose remains unchanged since no change in existing failure modes or new failure modes of safety related equipment are introduced by this change.

5. The possibility of an accident of a different type than any previously evaluated in the SAR will not be created.

Service water serves to mitigate accidents. This change will not adversely affect components and does not change function or failure mode of any component, system or structure in the service water system nor does it affect other systems. Thus, the possibility of a different type of accident is not created.

6. The possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR will not be created.

Available submergence as shown in these changes is more than adequate for all plant conditions and pump NPSH requirements are also met for expected conditions. Transient loss of NPSH during worst case faulted loss of service water pump runout conditions and minimum lake level has been analyzed and the pumps will remain operable. No new failure modes such as pump vortexing are introduced. There are no new credible failure modes introduced by this change. Form and function of the service water pumps is unchanged. Thus, a malfunction of a different type will not be created.

7. The margin of safety as defined in the basis for any technical specification will not be reduced.

Changes made here are below the level of detail in Tech Spec bases, and no margins are based upon these changes. Thus, there is no clear reduction in margins of safety defined in Tech Specs.

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ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 REVISION	FORM NO. 1000.131D	REV. 003-04-0

This Document contains 1 Page.

Document No. 963568N101 Rev./Change No. 2 10CFR50.59 Eval. No. FFN# 00-030
Revision No. 1

This form is to be used to document Revisions to 10CFR50.59 Evaluations. Revisions to a 10CFR50.59 Evaluation after PSC review may become necessary due to SRC review, changes to the original document, etc. Refer to section 6.2.4 of this procedure for additional guidance.

Reason for revision to 10CFR50.59 Evaluation:

Replacement of power supply to MGP N16 radiation monitoring instrument from distribution panel 82LB to distribution panel 21LA..

Will the proposed revision result in any additional:

1)	Change to the Operating License?	Yes ☐ No ☒
2)	Change to other Licensing Basis Document?	Yes ☐ No ☒
3)	Conduct of test or experiment?	Yes ☐ No ☒
4)	Impact to the environment?	Yes ☐ No ☒
5)	Need for a Radiological Safety Evaluation?	Yes ☐ No ☒
6)	Impact Ventilated Storage Cask Activities?	Yes ☐ No ☒
7)	Impact the QAMO or E-Plan?	Yes ☐ No ☒

If yes, describe below and take appropriate action as per initial Determination:

Indicate revisions to the 10CFR50.59 Evaluation by placing revision number at the top right hand corner of each page of the form(s). Changes should be lined through, initialed, dated and indicated with the revision number. For extensive changes, new forms may be used with revision bars in the margin denoting changes. Attach this form to front of previous 10CFR50.59 Evaluation. Return to the PSC for review.

N. Mehta
Certified Reviewer's Signature

Nick Mehta
Printed Name

5/31/00
Date

Reviewer's certification expiration date: 3/24/2001

PSC review: T Baron Date: 6/1/00

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Question 6.

The MGP N16 monitoring system is an enhancement of other methods and equipment for the determination and quantification of primary to secondary leakage. A complete of failure of the N16 system will not interfere with our ability to utilize these other methods and equipment. As such we would still have leak detection capability.

There is no other equipment important to safety identified as being in the vicinity of the new monitors. The new monitors are powered from a non safety related 120V AC black distribution panel. As described above an electrical fault inside N16 cabinet and its cabling will not propagate to any safety related equipment. Therefore, there is no possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR as a result of this design change.

NCPR-1 NCPR-2

Question 7.

This modification will enhance the ability to detect OTSG tube leakage in support of TS bases description for TS 3.1.6.3. The TS bases does not address N16 detection as a bases for tube leakage identification. Additionally, the N16 monitors do not prohibit or eliminate detection by other means. Therefore, there is no reduction in margin.

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ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 REVISION	FORM NO. 1000.131D	REV. 003-04-0

This Document contains 1 Page.

Document No. 963568N101 Rev./Change No. 1 10CFR50.59 Eval. No. FFN# 00-030
Revision No. 1

This form is to be used to document Revisions to 10CFR50.59 Evaluations. Revisions to a 10CFR50.59 Evaluation after PSC review may become necessary due to SRC review, changes to the original document, etc. Refer to section 6.2.4 of this procedure for additional guidance.

Reason for revision to 10CFR50.59 Evaluation:

Replacement of power supply to MGP N16 radiation monitoring instrument.

Will the proposed revision result in any additional:

1) Change to the Operating License? Yes ☐ No ☒
2) Change to other Licensing Basis Document? Yes ☐ No ☒
3) Conduct of test or experiment? Yes ☐ No ☒
4) Impact to the environment? Yes ☐ No ☒
5) Need for a Radiological Safety Evaluation? Yes ☐ No ☒
6) Impact Ventilated Storage Cask Activities? Yes ☐ No ☒
7) Impact the QAMO or E-Plan? Yes ☐ No ☒

If yes, describe below and take appropriate action as per initial Determination:

Indicate revisions to the 10CFR50.59 Evaluation by placing revision number at the top right hand corner of each page of the form(s). Changes should be lined through, initialed, dated and indicated with the revision number. For extensive changes, new forms may be used with revision bars in the margin denoting changes. Attach this form to front of previous 10CFR50.59 Evaluation. Return to the PSC for review.

N. Mehta
Certified Reviewer's Signature

Nick Mehta
Printed Name

5/22/00
Date

Reviewer's certification expiration date: 3/24/2001

PSC review: [signature] Date: 5/25/00

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Question 6.

The MGP N16 monitoring system is an enhancement of other methods and equipment for the determination and quantification of primary to secondary leakage. A complete of failure of the N16 system will not interfere with our ability to utilize these other methods and equipment. As such we would still have leak detection capability.

There is no other equipment important to safety identified as being in the vicinity of the new monitors. The new monitors are powered from a non safety related 120V AC distribution panel, 82LB. As described above an electrical fault inside N16 cabinet and its cabling will not propagate to any safety related equipment. Therefore, there is no possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR as a result of this design change.

NCPR 1

Question 7.

This modification will enhance the ability to detect OTSG tube leakage in support of TS bases description for TS 3.1.6.3. The TS bases does not address N16 detection as a bases for tube leakage identification. Additionally, the N16 monitors do not prohibit or eliminate detection by other means. Therefore, there is no reduction in margin.

10CFR50.59 Review Continuation Page

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Question 1.

The LBDs have evaluated the steam generator tube rupture event, as well as other events where the maximum Tech Spec allowed primary to secondary leakage was occurring. The purpose of the N16 monitors is to provide another mechanism to detect and monitor a primary to secondary leak early enough so that actions can be taken by operations personnel to minimize the possibility that a tube rupture event occurs.

N-16 monitoring instrumentation affects no accident initiation scenario. Therefore, the probability of an accident previously evaluated in the SAR will not be increased.

Question 2.

The consequences of a steam generator tube rupture event and a steam line break event have been clearly identified in the LBDs. The addition of the N16 monitors does not impact these consequences because there is no physical interaction between the new monitors and the steam lines. The new monitors do not come in direct contact with any of the existing plant systems which are covered by the existing analysis and there are no automatic functions associated with the N16 monitors. The N16 monitors are not barriers or pathways for radiological release and have no adverse impact on the consequences of any design basis accident.

Question 3.

The new N16 monitoring equipment is not physically attached to the steam lines and they are located downstream of the MSIVs. There is no other equipment important to safety identified as being in the vicinity of the new monitors. Therefore, no seismic II/I concerns exist. The seismic failure of the detector will not impact the function of the steam lines.

The implementation of this system will not change the current N-16 monitoring and plant computer reliabilities. The N-16 cabinet will be fed from 120V AC black distribution panel 82LB, which is not backed by a diesel generator or batteries. The failure of the power supplies will not impact on safety related equipment. Therefore, this modification will not increase the probability of a malfunction of equipment important to safety.

NCPR-1

Question 4.

The purpose of the N16 equipment is to monitor the main steam lines for the presence of N16 in order to alert operations personnel of the possibility of a steam generator tube leak. The new equipment is physically separate from any safety related equipment and does not perform any automatic function. The information presented by the readout is to be used in conjunction with existing methods and equipment to detect a steam generator tube leak early enough for operations personnel to determine the appropriate action to malfunction before an actual tube rapture occurs. As such, there is no effect on the consequences of failure of equipment important to safety due to the implementation of this modification.

Question 5.

N-16 monitoring instrumentation affects no accident initiation scenario. The N16 system is non-intrusive and has no automatic function. The only purpose of the N16 detectors are to monitor the leak rate. The new N16 detectors are to be mounted in close proximity to the main steam lines. The detectors are not classified as seismic class I, but their supports have been evaluated as being able to support the loadings. No damage is expected to the steam lines in the event of a seismic event. There are no other systems identified as being in the vicinity of the new monitors, which could be affected. In conclusion, there is no possibility of an accident occurring of a different type than any previously evaluated in the SAR.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 3 PC-1

Document No. 963568N01 Rev./Change No. 0 Page 1 of 3

Title : Permanent design change package to install MGP N-16 Radiation Monitoring System.

Brief description of proposed change:

An additional N-16 radiation monitoring system was temporarily installed under TAP–96-1-028. This design change will implement this system permanently.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 3 PC-1, 2

Document No. 963568N101 Rev./Change No. 0 Page 2 of 2

Basis for Determination (Questions 1, 2, & 3):

See attached page.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
ANO-1 Tech. Specs	ALL (N-16 Detectors, Radiation Monitors, Leakage).
ANO-1 OP. License	ALL (N-16 Detectors, Radiation Monitors, Leakage).
ANO-1 Conf. Orders	ALL (N-16 Detectors, Radiation Monitors, Leakage).
ANO-1 SAR	ALL (N-16 Detectors, Radiation Monitors, Leakage).
ANO-1 TS Bases	ALL (N-16 Detectors, Radiation Monitors, Leakage).
ANO-1 NRC SER	ALL (N-16 Detectors, Radiation Monitors, Leakage).

MANUAL SECTIONS:

Unit-1 SAR	Section 7.3.4 - Post Accident Instrumentation, Figure 7-22, Table 7-11A
Unit-1 SAR	Section A.7.1.2 – Criteria for Pipe Break Location, Figures A-7 and A-8

N. Mehta
Certified Reviewer's Signature

Nick Mehta
Printed Name

01/31/2000
Date

Reviewer's certification expiration date: 03/24/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date
NONE	NONE	

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Certified Reviewer's Signature

Donald E. Bentley
Printed Name

4/18/2000
Date

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ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. 963568N101 Rev./Change No. 0 Page 3 of 3

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 REVIEW CONTINUATION PAGE	FORM NO. 1000.131C	REV. 3

Document No. 963568N101 Rev./Change No. 0 Page 1 of 1

10CFR50.59 Review Continuation Page

The MGP N-16 Monitoring System is an enhancement of our existing methods and equipment for the determination and quantification of primary to secondary leakage. The addition of the N16 monitors on the main steam lines will provide earlier and more accurate detection of a steam generator tube leak. This will provide operations personnel the opportunity to take appropriate action to address the problem of a leak prior to the leakage rate becoming significant. This is new equipment which augments the existing mechanisms and does not render any information in any of our licensing bases documents invalid.

An additional N-16 radiation monitoring system was temporarily installed under TAP 96-1-028. This modification will make this TAP permanent . The detectors will be mounted separately from the main steam piping. Minor wiring changes will be affected by this modification.

The failure of the N-16 monitoring system will not interfere with our ability to utilize the existing methods and equipment for determining and quantifying primary to secondary leakage.

Basis for Determination (Questions 1, 2 & 3):

Question 1 :

The Technical Specification 3.1.6 places a limit on the quantity of the leakage, but does not identify any instrumentation to be utilized in this effort. However, the ANO-1 Technical Specifications does not provide the level of details to address this modification. Technical Specifications for process monitors will remain valid and compliance will be maintained.

N-16 monitoring requirements are not addressed in the Operating License or any confirmatory Orders.

Question 2 :

N-16 monitoring has no relationship to the COLR. SAR Figures 7-22, A-7 and A-8 (P&ID M-206 Sheet 2 and isometric drawings 1-MS-101 Sheet 1 and 1-MS-103 Sheet 1 respectively) are included in this design package to show the additional detectors and computer points.

E-Plan does not require revision. The TS bases for RCS leakage do not describe N-16 instrumentation. The enhancement will not invalidate any SER sections.

Question 3 :

No tests or experiments not previously described in the SAR are involved by this modification.

Question 4:

See environmental impact checklist.

Question 5:

This change involves no radiological concerns.

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Question 6:

Steam line N-16 monitoring has no relationship to dry fuel storage activities.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 SAFETY EVALUATION	FORM NO. 1000.131B	REV. 3 PC-2

Document No. 963568N101 Rev./Change No. 0 10CFR50.59 Eval. No. FFN# 00-030 (Assigned by PSC)

Title Permanent design change package to install MGP N-16 radiation monitoring system.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

N. Mehta	Nick Mehta	01/31/2000
Certified Reviewer's Signature	Printed Name	Date

Reviewer's certification expiration date: 03/24/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date
	NONE	

PSC review by: James McWilliams Date: 5/4/2000

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10CFR50.59 Review Continuation Page ER9635 68N101

PAGE 12 REV 0

Question 1.

The LBDs have evaluated the steam generator tube rupture event, as well as other events where the maximum Tech Spec allowed primary to secondary leakage was occurring. The purpose of the N16 monitors is to provide another mechanism to detect and monitor a primary to secondary leak early enough so that actions can be taken by operations personnel to minimize the possibility that a tube rupture event occurs.

N-16 monitoring instrumentation affects no accident initiation scenario. Therefore, the probability of an accident previously evaluated in the SAR will not be increased.

Question 2.

The consequences of a steam generator tube rupture event and a steam line break event have been clearly identified in the LBDs. The addition of the N16 monitors does not impact these consequences because there is no physical interaction between the new monitors and the steam lines. The new monitors do not come in direct contact with any of the existing plant systems which are covered by the existing analysis and there are no automatic functions associated with the N16 monitors. The N16 monitors are not barriers or pathways for radiological release and have no adverse impact on the consequences of any design basis accident.

Question 3.

The new N16 monitoring equipment is not physically attached to the steam lines and they are located downstream of the MSIVs. The N-16 cabinet will be fed from 120V AC Instrumentation panel Y-01, which is safety related and backed by a Diesel Generator. The diesel backed power supply will allow for continued monitoring of primary to secondary leakage even after a loss of offsite power to the unit. The breaker at Y-01 is providing isolation between class 1E and non safety related N16 monitoring equipment. There is a separate breaker in the N-16 cabinet which feeds the new equipment.

There is no other equipment important to safety identified as being in the vicinity of the new monitors. Therefore, no seismic II/I concerns exist. The implementation of this system will not change the current N-16 monitoring and plant computer reliabilities. This modification will not increase the probability of a malfunction of equipment important to safety.

Question 4.

The purpose of the N16 equipment is to monitor the main steam lines for the presence of N16 in order to alert operations personnel of the possibility of a steam generator tube leak. As described above the safety function of the Y-01 panel will not be impacted by the implementation of N16 equipment. This modification will not increase the consequences of a malfunction of equipment important to safety.

Question 5.

N-16 monitoring instrumentation affects no accident initiation scenario. The N16 system is non-intrusive and has no automatic function. The only purpose of the N16 detectors are to monitor the leak rate. The new N16 detectors are to be mounted in close proximity to the main steam lines. The detectors are not classified as seismic class I, but their supports have been evaluated as being able to support the loadings. No damage is expected to the steam lines in the event of a seismic event. There are no other systems identified as being in the vicinity of the new monitors, which could be affected. In conclusion, there is no possibility of an accident occurring of a different type than any previously evaluated in the SAR.

Question 6.

The MGP N16 monitoring system is an enhancement of other methods and equipment for the determination and quantification of primary to secondary leakage. A complete of failure of the N16 system will not interfere with our ability to utilize these other methods and equipment. As such we would still have leak detection capability.

There is no other equipment important to safety identified as being in the vicinity of the new monitors. The new monitors are powered from a safety related 120V AC instrumentation panel, Y-01. However, as described above an electrical fault inside N16 cabinet and its cabling will not propagate to any safety related equipment. Therefore, there is no possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR as a result of this design change.

Question 7.

This modification will enhance the ability to detect OTSG tube leakage in support of TS bases description for TS 3.1.6.3. The TS bases does not address N16 detection as a bases for tube leakage identification. Additionally, the N16 monitors do not prohibit or eliminate detection by other means. Therefore, there is no reduction in margin.

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This Document contains 3 Pages.

Document No. DRN 00-01020 Rev./Change No. 0

Title **Change to DZ-4A&B Normal Valve Position**

Brief description of proposed change: The normal valve position of DZ-4A and DZ-4B is being changed from normally open to normally closed. Discharge check valves on the liquid radwaste systems have historically had problems with leaking by. Enhanced soft seat check valves where installed in the DZ system (DZ-27A&B) to remedy the problem. However, to date, they have been unsuccessful. Therefore, to preclude reverse flow through a nonoperating P-52 pump, the pump discharge globe valves, DZ-4A & B, will be maintained normally closed.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

Document No. **DRN 00-01020** Rev./Change No. **0**

Basis for Determination (Questions 1, 2 & 3):

1. Normal valve position of the P-52 discharge globe valves (DZ-4A&B) is beyond the scope of the Operating License documents.
2. This change affects P&ID drawing M-~~234~~, Sh 1. which is SAR Figure 11-2. Therefore, this change will make the SAR inaccurate. As such, a 50.59 evaluation for this change will be performed. 5/3/00 5/25/00
3. This change does not involve a test or experiment and therefore does not involve a test or experiment not described in the SAR.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #_____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section	
LRS:		
Unit 1 50.59 Documents	**All**	**"liquid* w/20 *waste, M-213, dz, backflow, back w/2 flow"**

MANUAL SECTIONS:
11.1.3.1

FIGURES:
11-2

Renee Millison — Certified Reviewer's Signature / Printed Name — **4/27/00** Date

Reviewer's certification expiration date: **2/20/02**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

T. Grant Ehren — Certified Reviewer's Signature / Printed Name — 5/2/00 Date

This Document contains 2 Pages.

10CFR50.59 Eval. No. FFN # 00-036
(Assigned by PSC)

Document No. **DRN 00-01020** Rev./Change No. **0**

Title **Change to DZ-4A&B Normal Valve Position**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   The position of DZ-4A & B is not an accident initiator. None of the accidents evaluated in the Unit 1 SAR involves any of the liquid radwaste systems as its initiator. As such, changing the normal position of the DZ-4 valves from normally open to normally closed will not increase the probability of an accident previously evaluated in the SAR.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   The position of DZ-4A&B has no effect on the contents of the liquid radwaste systems nor does it affect dose consequences of any previously analyzed SAR accident. Therefore, changing the normal valve position from opened to closed will not increase the consequences of an accident previously evaluated in the SAR.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

   Maintaining the P-52 pump discharge globe valves (DZ-4A&B) closed, as opposed to open, will have no effect on any equipment important-to-safety. Hence, implementation of this valve position change will not increase the probability of a malfunction of equipment important-to-safety.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

   Assuming a malfunction of equipment important to safety, maintaining DZ-4A&B in the closed position would not result in increased radiological release consequences. Therefore, implementation of this valve position change will not increase the consequences of a malfunction of equipment important to safety.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

Maintaining the dirty liquid waste pump discharge globe valves normally closed, as opposed to open, will not create the possibility of any new types of accidents. As such, implementation of this change will not create the possibility of an accident of a different type than any previously evaluated in the SAR.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

No adverse effects on equipment important to safety are possible due to maintaining the dirty liquid waste pump discharge globe valves normally closed, as opposed to open. Therefore, the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the SAR will not be created due to this change.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

This change has no effect on a margin of safety as defined in the basis for any technical specification. Therefore, this change will not result in a reduction to a margin of safety as defined in the basis for any technical specification.

Certified Reviewer's Signature	Renee Millison Printed Name	4/28/00 Date

Reviewer's certification expiration date: 2/20/02

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 5/25/2000

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This Document contains 3 Pages.

Document No. DRN 00-01126 Rev./Change No. 0

Title **Change to CZ-15 Normal Valve Position**

Brief description of proposed change: The normal valve position of CZ-15, as depicted on P&ID M-214, Sh 3, is being changed from normally opened to normally closed. Discharge check valves on the liquid radwaste systems have historically had problems with leaking by. Therefore, to maintain positive control of the contents of the T-11 tank, the P-46 pump discharge globe valve, CZ-15, will be maintained normally closed. Based on past operating experience, this valve has been maintained in the closed position by Caution tagging controls for an extended period of time to establish this desired control.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

Document No. **DRN 00-01126** Rev./Change No. **0**

Basis for Determination (Questions 1, 2 & 3):

1. Normal valve position of the CZ-15 globe valve is beyond the scope of the Operating License documents.
2. This change affects P&ID drawing M-214, Sh 3. which is SAR Figure 11-1. Therefore, this change will make the SAR inaccurate. As such, a 50.59 Evaluation for this change will be performed.
3. This change does not involve a test or experiment and therefore does not involve a test or experiment not described in the SAR.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #_____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section	
LRS:		
Unit 1 50.59 Documents	**All**	**"liquid* w/20 *waste, M-214, cz, aux* w/10 tank, backflow, back w/2 flow, p-46"**

MANUAL SECTIONS:
11.1.3.1

FIGURES:
11-1

Certified Reviewer's Signature	**Renee Millison** Printed Name	**5/4/00** Date

Reviewer's certification expiration date: **2/20/02**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Certified Reviewer's Signature	T. GRANT EHREN Printed Name	5/8/00 Date

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. **DRN 00-01126** Rev./Change No. **0**

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

This Document contains 2 Pages.

10CFR50.59 Eval. No. FFN # 00-037
(Assigned by PSC)

Document No. **DRN 00-01126** Rev./Change No. **0**

Title **Change to CZ-15 Normal Valve Position**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   The position of CZ-15 is not an accident initiator; neither is the T-11, Aux. Building Equipment Drain Tank. None of the accidents evaluated in the Unit 1 SAR involves any of the liquid radwaste systems as its initiator. As such, changing the normal position of the CZ-15 pump discharge valve from normally open to normally closed will not increase the probability of an accident previously evaluated in the SAR.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   The position of CZ-15 has no effect on the contents of the liquid radwaste systems nor does it affect dose consequences of any previously analyzed SAR accident. Therefore, changing the normal valve position from opened to closed will not increase the consequences of an accident previously evaluated in the SAR.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

   Maintaining the P-46 pump discharge globe valve (CZ-15) closed, as opposed to open, will have no effect on any equipment important-to-safety. Hence, implementation of this valve position change will not increase the probability of a malfunction of equipment important-to-safety.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

   Assuming a malfunction of equipment important to safety, maintaining CZ-15 in the closed position would not result in increased radiological release consequences. Therefore, implementation of this valve position change will not increase the consequences of a malfunction of equipment important to safety.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

Maintaining the Aux. Building Equipment Drain tank pump discharge globe valve normally closed, as opposed to open, will not create the possibility of any new types of accidents. As such, implementation of this change will not create the possibility of an accident of a different type than any previously evaluated in the SAR.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

No adverse effects on equipment important to safety are possible due to maintaining CZ-15 normally closed, as opposed to open. Therefore, the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the SAR will not be created due to this change.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

This change has no effect on a margin of safety as defined in the basis for any technical specification. Therefore, this change will not result in a reduction to a margin of safety as defined in the basis for any technical specification.

Certified Reviewer's Signature	Renee Millison Printed Name	5/4/00 Date

Reviewer's certification expiration date: 2/20/02

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 5/25/2000

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FFN# 00-049

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 3 Pages.

Document No. Rev./Change No.

Title Spent Fuel Pool Purification Suction Valves not in Design Position Due to Flow Restriction.

Brief description of proposed change: The Spent Fuel Pool Purification Suction Valve, 2FP-5A, is closed due to a flow restriction. An alternate suction valve, 2FP-5B, is open. These valve positions are contrary to the normal valve line up and the P&ID. These valves have been carried in the COOP Log for > 1 year.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. Rev./Change No.

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. Rev./Change No.

Basis for Determination (Questions 1, 2 & 3):

Question #1: These two Spent Fuel Pool valves being in a position other than their normal procedural and P&ID position does not require any change to Unit 2's Operating License, Technical Specifications, or Confirmatory Orders because the position of these valves is below the level of detail contained in these documents.

Question #2: The SAR does discuss the Spent Fuel Pool System, It specifically states that the purification is drawn from the bottom of the pool. Since this is no longer true, a 10CFR 50.59 Evaluation will be performed. The valves are depicted on SAR Figure 9.1-1 with 2FP-5A shown open and 2FP-5B shown closed. This change in the normal position for these valves is below the level of detail included in the COLR, FHA, Tech. Spec. Bases, TRM and NRC SERs, therefore these valves being out of their normal position does not make any of these documents untrue or inaccurate.

Question #3: This valve alignment does not constitute a test or experiment as described in Attachment 2 of 1000.131. This review is simply verifying that these valves being out of their normal position does not place the plant outside of its Design Basis.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #_____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	**Unit 2 50.59 (2FP-5A, 2FP-5B, Spent Fuel Pool Purification, Purification, 2P-66, SFP, pool w/10 suction, fuel w/10 pool w/10 purification, fuel w/10 pool w/10 cleanup, fuel w/10 pool w/10 bottom)**
MANUAL SECTIONS: SAR	**9.1.1, 9.1.2, 9.1.3, 11.3.6.3, 15.1.15, 15.1.23**
FIGURES: SAR	**Figures 9.1-1, 9.1-15 Tables 9.1-1, 9.1-3**

R A K — **Rex A. Knight** — **5/24/00**

Certified Reviewer's Signature | Printed Name | Date

Reviewer's certification expiration date: **6/30/01**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

[signature] — Jeff Rudder — 5-25-00

Certified Reviewer's Signature | Printed Name | Date

This Document contains 2 Pages.

Document No. Rev./Change No.

10CFR50.59 Review Continuation Page

1. No postulated failure or condition associated with the Spent Fuel Pool Purification System can initiate any of the accidents previously evaluated in the SAR. The suction location for the SFP Purification System does not pose a possibility of initiating an accident previously evaluated in the SAR, nor is the suction location utilized to prevent a previously evaluated accident from occurring. Therefore, having a different suction location for this system will not increase the probability of an accident previously evaluated in the SAR.

2. The Spent Fuel Pool Purification System is not a Safety Related System. None of the accidents evaluated in the SAR depend upon the SFP Purification System to mitigate an accident. The accidents that are evaluated in Chapter 15 of the SAR that are most applicable to this evaluation are the Fuel Handling Accident Fuel Assembly inadvertently placed in wrong location or made with the wrong uranium enrichment. None of these postulated accidents credit the Spent Fuel Pool Purification System with mitigating the consequences of these events. SAR Section 11.3.6.3 states that the estimated annual release of gaseous activity from the Aux. Building ventilation will receive some dose from the Spent Fuel Pool Ventilation System. It continues to say that the SFP activity will be maintained low by the SFP Purification System as described in SAR 9.1.3. SAR 9.1.3 describes the SFP Purification System as taking suction from the bottom of the SFP. The present blockage of the lower suction has lead to the suction of the SFP Purification System being aligned from the middle elevation in the SFP. This arrangement will not impact the activity level in the SFP because the SFP Purification Pump does not create a lot of mixing flow for the SFP. It only moves about 150 gallons/minute which is an insignificant quantity when compared to the size of the SFP. The mixing of the water is caused by the SFP Cooling flow which is approximately 2000 gallons/minute and by natural circulation created by the heat generated by the spent fuel assemblies. This mixing will ensure that the SFP Purification System is removing the impurities from the SFP. This is confirmed by regular sampling by the Chemistry Department. This condition has existed since 1/5/98 and the chemistry of the SFP has not been affected. Therefore, having a different suction location for this system will not increase the consequences of an accident previously evaluated in the SAR.

3. The Spent Fuel Pool Purification System is not a Safety Related System. None of the equipment important to safety is affected by the SFP Purification System. Therefore, having a different suction location for this system will not increase the probability of a malfunction of equipment important to safety.

4. The Spent Fuel Pool Purification System is not a Safety Related System. None of the equipment important to safety is affected by the SFP Purification System. Therefore, having a different suction location for this system does not increase the consequences of a malfunction of equipment important to safety.

5. The Spent Fuel Pool Purification System is operating with a different suction path than design, however, as stated in #2 above, this is not affecting the system's capability for maintaining the purity of the Spent Fuel Pool. Since the system performance is not being degraded, this change in suction location does not affect the optical clarity or purity of the water in the Spent Fuel Pool. Therefore this change does not create the possibility of an accident of a different type than previously evaluated in the SAR.

6. The Spent Fuel Pool Purification System is not a Safety Related System. None of the equipment important to safety is effected by the SFP Purification System. Therefore, having a different suction location for this system does not create the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the SAR.

7. The basis for the Tech. Specs. that are applicable to the Spent Fuel Pool rely upon boron concentration, water depth, filtered exhaust ventilation, and prevention of loads dropped in the pool to maintain a margin of safety. The Spent Fuel Pool Purification is not relied upon to assist any of these Tech. Spec. bases. Therefore, having a different suction location for this system does not reduce the margin of safety as defined in the basis for any Technical Specification.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 1 Page.

10CFR50.59 Eval. No. FFNE 00-049
(Assigned by PSC)

Document No. Rev./Change No.

Title Spent Fuel Pool Purification Suction Valves not in Design Position Due to Flow Restriction.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Certified Reviewer's Signature	Rex A. Knight Printed Name	5/24/00 Date

Reviewer's certification expiration date: 6/30/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 6/8/2000

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FFN400-050

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 3 Pages.

Document No. Rev./Change No.

Title Domestic Water Valves to Decon Sink and Shower are closed.

Brief description of proposed change: The Domestic Water Valves to the Decon Sink and Shower in the CCW Hallway have been closed and in the COOP log for over 1 year. This 50.59 evaluates the effect of them being in a position contrary to procedure and also evaluates being able to change documents to change their desired position to closed.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

FFN #00-050

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. Rev./Change No.

Basis for Determination (Questions 1, 2 & 3):

Question #1: Changing these two domestic water valves to a normally closed position does not require any change to Unit 2's Operating License, Technical Specifications, or Confirmatory Orders because the position of these valves is below the level of detail contained in these documents.

Question #2: The SAR does discuss the Domestic Water System, however, the positions of these valves are not discussed. They are depicted on SAR Figure 9.2-7 in a normally open position. An Engineering Request has been submitted to change these valve positions to normally closed. This ER will change SAR Figure 9.2-7 and direct Operations to change the Domestic Water Procedure Valve Lineup appropriately. Because these valves are being maintained closed instead of open as depicted on SAR Figure 9.2-7, a 10CFR50.59 Evaluation will be required. This change in the normal position for these valves is below the level of detail included in the COLR, FHA, Tech. Spec. Bases, TRM and NRC SERs, therefore this change will not make any of these documents untrue or inaccurate.

Question #3: This change does not constitute a test or experiment as described in Attachment 2 of 1000.131. This change simply changes the normal position for these two Domestic Water valves.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #_____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	**Unit 2 50.59 (Domestic, Domestic Water, 2DW-214, 2DW-215, Decon Shower, Decon Sink, Decon, shower, sink w/25 decon, decontamination w/25 sink, decontamination w/25 shower)**
MANUAL SECTIONS:	
SAR	**9.2.3, 9.2.4, 12.3.2.3**
E-Plan	**K 3.0**
FIGURES:	
SAR	**Figure 9.2-7, Tables 3.6-27, 9.2-11, 9.2-12, 9.2-13, 9.2-14, 9.2-15**

Rex A. Knight — Certified Reviewer's Signature / Printed Name — 5/25/00 Date

Reviewer's certification expiration date: 6/30/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Certified Reviewer's Signature — Jeff Rudder Printed Name — 5-25-00 Date

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. Rev./Change No.

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

This Document contains 2 Pages.

Document No. Rev./Change No.

10CFR50.59 Review Continuation Page

1. No postulated failure or condition associated with the Domestic Water System can initiate any of the accidents previously evaluated in the SAR. To isolate Domestic Water to the Decon Sink and Shower in the CCW Hallway does not pose a possibility of initiating an accident previously evaluated in the SAR, nor is the water supply to this sink and shower utilized to prevent a previously evaluated accident from occurring. Therefore, having the Domestic Water isolated to the Decon Sink and Shower in the CCW Hallway will not increase the probability of an accident previously evaluated in the SAR.

2. The Domestic Water System is not a Safety Related System. A review of the accidents that are evaluated in the SAR show that none of them depend upon the DW System to mitigate or reduce the consequences of an accident. The purpose of this Decon Sink and Shower were to aid in operation of the Regen Waste Evaporator. The Regen Waste Evaporator is not used, and no plans exist to place this equipment back into service. The SAR does not discuss the use of this sink and shower. The only place that it can be found in the SAR is in Figure 9.2-7 which depicts a portion of the Domestic Water System. Decontamination operations are not directed by procedure or in the SAR to be performed at this location. Therefore, having the Domestic Water isolated to the Decon Sink and Shower will not increase the consequences of an accident previously evaluated in the SAR.

3. The Domestic Water System is not a Safety Related System. None of the equipment important to safety is affected by the Domestic Water System. The Decon Sink and Shower do not provide any support for any safety related equipment. Therefore, having the Domestic Water isolated to the Decon Sink and Shower will not increase the probability of a malfunction of equipment important to safety.

4. The Domestic Water System is not a Safety Related System. None of the equipment important to safety is affected by the Domestic Water System, nor is Domestic Water used to mitigate any malfunctions of Safety Related Equipment. Therefore, having the Domestic Water isolated to the Decon Sink and Shower does not increase the consequences of a malfunction of equipment important to safety.

5. The only effect of having the Domestic Water isolated from the Decon Sink and Shower will be a loss of use of these items. They have not been used for several years, and are not relied upon for use in any normal or emergency situations. They were installed to facilitate decontamination activities associated with the Regen Waste Evaporator. This system is not in use, and if decontamination activities need a sink or shower, these are available at CA-1. Decontamination activities or the inability to perform them can not lead to any postulated accident. Therefore this situation does not create a possibility of an accident of a different type than any previously evaluated in the SAR.

6. The Domestic Water System is not a Safety Related System. None of the equipment important to safety is affected by the DW System. The Decon Sink and Shower do not provide any support for any safety related equipment Therefore, having the Decon Sink and Shower isolated does not create the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the SAR.

7. None of the bases for the Tech. Specs. are associated with the Domestic Water System, nor does the Domestic Water System provide any support function for any equipment that is important to safety. Therefore having Domestic Water isolated to the Decon Sink and Shower does not reduce the margin of safety as defined in the basis for any Technical Specification.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 1 Page.

10CFR50.59 Eval. No. FFN#00-050
(Assigned by PSC)

Document No. Rev./Change No.

Title Domestic Water Valves to Decon Sink and Shower are closed.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Certified Reviewer's Signature	Rex A. Knight Printed Name	5/27/00 Date

Reviewer's certification expiration date: 6/30/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 6/8/2000

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ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 4 Pages.

Document No. 992133N101 Rev./Change No. 0

Title EH Fluid System Improvement Modifications

Brief description of proposed change: Install Instrument Air to EH Tank T-38 and provide EH filter system drain and isolation valves.

NC 992133N101
PAGE 5 REV 0

Will the proposed Activity:

1. Require a change to the Operating License including:

Technical Specifications (excluding the bases)?	Yes☐ No☒
Operating License?	Yes☐ No☒
Confirmatory Orders?	Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

SAR (multi-volume set for each unit)?	Yes☒ No☐
Core Operating Limits Report	Yes☐ No☒
Fire Hazards Analysis?	Yes☐ No☒
Bases of the Technical Specifications?	Yes☐ No☒
Technical Requirements Manual?	Yes☐ No☒
NRC Safety Evaluation Reports?	Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

QAPM?	Yes☐ No☒
E-Plan?	Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

FORM TITLE:	ARKANSAS NUCLEAR ONE	FORM NO.	REV.
	10CFR50.59 DETERMINATION	1000.131A	003-04-0

Document No. **992133N101** Rev./Change No. **0**

NC 992133N101
PAGE 6 REV 0

Basis for Determination (Questions 1, 2 & 3):

SAR figure 9-14 (P&ID M218 sht 3) will be revised.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #___, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	
ALL	**(EH, EHC, T-38, F-81, F-82, F-83, F-84 F-113, FILTER)**
MANUAL SECTIONS:	
ANO-1 SAR	**CHAPTER 10**
ANO-1 TECH SPECS	**SECTION 3.4**
FIGURES:	
ANO-1 SAR	**9-14**

Steve Capehart — Certified Reviewer's Signature
STEVE CAPEHART — Printed Name
6/8/00 — Date

Reviewer's certification expiration date: **5/4/01**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Walter A. Hill — Certified Reviewer's Signature
WALTER A. HILL — Printed Name
6/8/00 — Date

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 REVIEW CONTINUATION PAGE	FORM NO. 1000.131C	REV. 003-04-0

This Document contains 1 Page.

Document No. 992133N101 Rev./Change No. 0 NC 992133N101

10CFR50.59 Review Continuation Page PAGE 8 REV 0

This Nuclear Change will install an instrument air supply line to EH Tank T-38. The Nuclear Change will also install valves that will allow drainage of the EH filter housings and allow the EH fluid to be 100% routed through a 1 micron filter (F-113). This NC is being implemented in to increase the reliability of the MOOG valves that are part of the Main Turbine Valves.

QUESTION 1 – Operating License

The new instrument air supply system for the EH tank and the EH fluid system drain and isolation valves used at ANO-1 are not discussed in the level of detail present in the ANO-1 Technical Specifications, Operating License or any Confirmatory Orders.

QUESTION 2 – SAR Documents

The new instrument air supply system for the EH tank and the EH fluid system drain and isolation valves used at ANO are not discussed in any of the SAR documents. However, the instrument air connection is shown on P&ID M218 sht 3 which is SAR figure 9-14. An LDCR has been prepared to reflect this SAR change.

QUESTION 3 – Test or Experiment

The post modification testing performed by this NC is within ANO procedures.

QUESTION 4 – Environmental Impact

The modifications made by this NC do not require an Environmental Impact Evaluation per the Environmental Impact Checklist.

QUESTION 5 – Radiological Safety Evaluation

The work performed by this NC will not affect the processing of radioactive material. The NC will not create new monitored ventilation or drainage pathways. There will not be any radioactive material generated as a result of this NC.

QUESTION 6 – Ventilated Storage Cask

The new instrument air supply system for the EH tank and the EH fluid system drain and isolation valves are not associated with the VSC project.

QUESTION 7 – QAMO or E-PLAN

The new instrument air supply system for the EH tank and the EH fluid system drain and isolation valves used at ANO are not referenced in the QAMO or E-PLAN.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

NC 992133N101

PAGE 9 REV 0

This Document contains 2 Pages.

10CFR50.59 Eval. No. FEN # 00-051
(Assigned by PSC)

Document No. **992133N101** Rev./Change No. **0**

Title **EH Fluid System Improvement Modifications**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased?

   Yes ☐ No ☒

   The instrument air supply line being routed to EH tank T-38 will be used to remove moisture from the EH fluid in T-38. The valves being installed on the EH filter system will allow the filter housings to be drained at changeout and will allow rerouting of filter flow. The components being installed by this NCP do not interface with any equipement, piping, etc that are considered accident initiators. However, the instrument air system is considered a transient initiator. The connection to the IA system and/or subsequent failure of any of the new components will not adveresly impact the operation of the IA system. Therefore, the probability of an accident previously evaluated in the SAR is not increased.

2. Will the consequences of an accident previously evaluated in the SAR be increased?

   Yes ☐ No ☒

   The instrument air supply line to T-38 and EH filter system valves do not interface with or affect the operating performance of the systems, structures or components required to mitigate the consequences of an accident. Therefore, the consequences of an accident previously evaluated in the SAR are not increased.

3. Will the probability of a malfunction of equipment important to safety be increased?

   Yes ☐ No ☒

   The instrument air supply line to T-38 and EH filter system valves are not considered equipment important to safety and do not physically or electrically interface with any equipment that is considered equipment important to safety. Therefore, the probability of a malfunction of equipment important to safety is not increased.

4. Will the consequences of a malfunction of equipment important to safety be increased?

   Yes ☐ No ☒

   The instrument air supply line to T-38 and EH filter system valves do not interface with any equipment important to safety. The critical characteristics of equipment important to safety are not affected by the installation of the new instrument air line or EH filter system valves. Therefore, the consequences of a malfunction of equipment important to safety are not increased.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

Yes ☐ No ☒

The instrument air supply line to T-38 and EH filter system valves are not considered accident initiators and do not interface with equipment that is considered accident initiators. However, the loss of EH fluid is considered a transient initiator. The failure of any of the new instrument air components will not the ability of the EH system to supply EH fluid to the respective components. The failure of any of the new filter drain valves (i.e. spurious open) thereby draining the EH system is highly unlikely. The discharge of the drain valves are capped which essentially eliminates any leak path in the event of a valve failure. Therefore, the possibility of an accident of a different type than any previously evaluated in the SAR is not increased.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

Yes ☐ No ☒

The instrument air supply line to T-38 and EH filter system valves are not considered equipment important to safety and do not interface with any equipment that is considered important to safety. The installation of the new equipment does not create any new failure scenarios that would increase the possibility of any plant transients. Therefore, the possibility of a malfunction of equipment important to safety of a different type previously evaluated in the SAR will not be created.

7. Will the margin of safety as defined in the basis for any technical specification be reduced?

Yes ☐ No ☒

The instrument air supply line to T-38 and EH filter system valves are not discussed in the basis of any Technical Specifications. Therefore, the margin of safety as defined in the basis for any technical specification is not reduced.

NC 992133N101

PAGE 10 REV 0

Steve Capehart — Certified Reviewer's Signature

STEVE CAPEHART — Printed Name

6/8/00 — Date

Reviewer's certification expiration date: 5/4/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 6/12/00

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FORM TITLE: ARKANSAS NUCLEAR ONE 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 5 Pages.

Document No. ER002565E301 Rev./Change No. 0

Title **Evaluate deferral of the Unit 1 ILRT currently scheduled for 1R16 to 1R17.**

Brief description of proposed change: Move the Unit 1 ILRT scheduled for Spring 2001 to the Fall 2002.

ER002565E301 evaluates the deferral of the Unit 1 Integrated Leak Rate Test from 1R16 (9 year interval from previous test) to 1R17 (10 year 6 month interval from previous test). The SER to Amendment No. 185, dated October 3, 1996, states "Reg. Guide 1.163 specifies an extension in Type A test frequency to at least one test in 10 years based upon two consecutive successful tests." The consecutive successful tests have been completed for ANO Unit 1. The additional 6 months needed to complete the ILRT during 1R17 will not impact the ILRT program nor affect the test results.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☐ No☒

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☒ No☐

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. ER002565E301 Rev./Change No. 0

Basis for Determination (Questions 1, 2 & 3):

1) **The Unit 1 Technical Specifications were reviewed. Unit 1 Technical Specification 6.8.4** states "The Reactor Building Leakage Rate Testing Program shall be established, implemented, and maintained: A program shall be established to implement the leakage rate testing of the reactor building as required by **10 CFR 50.54(o)** and **10 CFR 50, Appendix J, Option B,** as modified by approved exemptions. This program shall be in accordance with the guidelines contained in **Regulatory Guide 1.163, "Performanced-Based Containment Leak-Test Program,"** dated September 1995." NEI 94-01, which is endorsed by RG 1.163, provides an allowance in Section 9.0 for extending the Type A test interval up to 15 months. ER002565E301 does not change the requirements of TS 6.8.4, nor does it impact the documents referenced by TS 6.8.4 or their related programs.

Technical Specification 4.4.1.1 states "Integrated leakage rate tests shall be conducted and visual inspections performed in accordance with the Reactor Building Leakage Testing Program." ER002565E301 does not change the requirements of TS 4.4.1.1, nor does it impact the document referenced the TS.

Technical Specification 4.4.1.1.4 states "Integrated leakage rate testing frequencies shall be in accordance with the Reactor Building Leakage Testing Program." ER002565E301 does not change the requirements of TS 4.4.1.1.4, nor does it impact the document referenced by the TS.

No other Technical Specifications are related to leakage rate testing of the reactor building and therefore required no change for ER002565E301.

The Operating License and Confirmatory Orders were reviewed and no changes were required due to ER002565E301.

2) **The Unit 1 SAR Documents were reviewed.** In the SER 185 Evaluation (2.0) it states that "RG 1.163 specifies an extension in Type A test frequency to - at least one test in 10 years based upon two consecutive successful tests ." This statement does not provide an allowance on the 10 year period, therefore approval of a 10 year 6 month interval under ER002565E301 impacts the exact wording of SER 185. No other SAR Documents were impacted by ER002565E301.

3) **ER002565E301 does not change the mode of operation in which the ILRT test is performed (i.e., Cold Shutdown) and it does not require abnormal operation of systems or components.** Extending the ILRT interval to 10 years and 6 months does not impact any test or experiment as discussed in Attachment 2 of 1000.131.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #_____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only

text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS: **ANO Unit 1 50.59**	**1.163, ILRT, Containment P/2 Leakage, Reactor P/2 Leakage, 10 P/2 year, Leak P/2 Testing, Integrated P/1 Leak.**

MANUAL SECTIONS:
SAR 1.2.4, 5.2, 6, 14
SER 185
TS 6.8.4, 4.4

FIGURES:
NA

Certified Reviewer's Signature — **Mikel J. Fuller** Printed Name — 6/1/00 Date

Reviewer's certification expiration date: **7/23/01**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Certified Reviewer's Signature — Don Graham Printed Name — 6/9/00 Date

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. ER002565E301 Rev./Change No. 0

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 3 Pages.

10CFR50.59 Eval. No. FAN #00-053
(Assigned by PSC)

Document No. **ER002565E301** Rev./Change No. **0**

Title **Evaluate deferral of the Unit 1 ILRT currently scheduled for 1R16 to 1R17**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   Chapter 6, Engineered Safeguards, and Chapter 14, Safety Analysis, of the SAR were reviewed. No accidents were identified that would be affected by the change in conducting ILRT dates. The deferral of the Unit 1 ILRT for 6 months beyond the 10 year interval stated in SER 185, will not affect any plant structure, system, or component configuration or functionality or the way that the ILRT is conducted. The extension of the ILRT interval will not result in the change of an accident initiator as described in the SAR, therefore the probability of an accident previously evaluated in the SAR will not be increased.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   Changing the ILRT timing has no impact upon plant systems, either safety or non-safety related, nor the operation or configuration of any plant structures, systems or components or their operation or configuration. No accidents evaluated in the SAR will have their radiation dose consequences increased due to the 6 month extension of the ILRT date. This extension does not change the Appendix J Program nor the ILRT test requirements. The potential for increased leakage through containment, due to the six (6) months extension in the ILRT date, is negligible. NUREG 1493 states that "Reducing the frequency Type A tests from the current three per 10 years to one per 20 years was found to lead to an imperceptible increase in risk." Consequences of an accident previously evaluated in the SAR will not be increased.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

   The extension to the ILRT test date, does not change the requirements of the Appendix J or ILRT test programs, which monitor containment integrity, and has no direct impact on important to safety plant equipment, systems or operational procedures. The only indirect affect would be if the containment integrity were to undergo a change in the maintenance of the boundary. All required penetration and isolation devices and their surveillances are unchanged. There is no probability of a malfunction of equipment to be increased due to the ER since it is not associated directly with important-to-safety equipment.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The extension to the ILRT test date, has no direct or indirect impact on important-to-safety plant equipment or the consequences of their failure. The evaluation will not allow an increase of dose-to-the-public due to a malfunction of equipment since the ER is not associated with the operation or design of important-to-safety equipment.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

The extension to the ILRT test date, could not create a different type of accident than those evaluated in the SAR since the activity has no impact on plant equipment configuration or operation thereof, important to safety or otherwise. The evaluation will not contribute to the possibility of an accident of a different type not previously evaluated since the ER is not associated with the operation or design of important-to-safety equipment.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

ER002565E301 has no impact on important-to-safety plant equipment or the consequences of their failure. The evaluation will not contribute to the possibility of an accident of a different type not previously evaluated since the ER is not associated with the operation or design of important-to-safety equipment.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Unit 1 Technical Specification 6.8.4 states "The Reactor Building Leakage Rate Testing Program shall be established, implemented, and maintained: A program shall be established to implement the leakage rate testing of the reactor building as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performanced-Based Containment Leak-Test Program," dated September1995." No basis is provide for TS 6.8.4.

Regulatory Guide 1.163 endorses the use of NEI 94-01 for complying with the provisions of Option B in Appendix J to 10CFR50.

The proposed change allows use of a time extension (15 months) identified in NEI 94-01 Section 9.0 to extend the Integrated Leakage Rate Test (ILRT) for ANO Unit 1 to the 1R17 Refueling Outage.

Technical Specification 4.4.1.1 states "Integrated leakage rate tests shall be conducted and visual inspections performed in accordance with the Reactor Building Leakage Rate Testing Program."

Technical Specification 4.4.1.1.4 states "Integrated leakage rate testing frequencies shall be conducted in accordance with the Reactor Building Leakage Rate Testing Program."

The bases for TS's 4.4.1.1 and 4.4.1.1.4 states "The reactor building will be periodically leakage tested in accordance with the Reactor Building Leakage Rate Testing Program. ...." The term "periodically" is not defined in the bases and is construed to be defined in accordance with the Reactor Building Leakage Rate Testing Program, therefore, no explicit margin for the ILRT testing interval is defined in the TS bases.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

The extension does not change a safety limit, an LCO, or a surveillance requirement on equipment required to run the plant, therefore, this extension does not involve a reduction in the margin of safety.

Certified Reviewer's Signature — **Mikel J. Fuller** Printed Name — 6/01/00 Date

Reviewer's certification expiration date: **07/23/01**

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 6/15/2000

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This Document contains 3 Pages.

Document No. ER002636N101 Rev./Change No. 0

Title IA Compressor Seal Purge Air and Buffering Water

Brief description of proposed change:

This change provides for the addition of purge air and buffering water systems to the C-28A/B instrument Air Compressors. These purge air and buffering water systems were designed for these compressors and were intended to be installed as part of the original installation of later versions of the compressor air ends. The purge air system supplies air to the static and dynamic seals separating the oil and water wetted portions of the compressor to assist in seal operations and provide a sweeping action to prevent cross flow between the oil and water wetted portions of the compressor. The buffering water is supplied to act as a means of centering the pressure dropper to provide for proper pressure breakdown across the device.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions? (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

Document No. ER002636N101 Rev./Change No. 0

Basis for Determination (Questions 1, 2, & 3):

Question 1: The non-Q instrument air compressors are not addressed in any portion of the Operating License, and as such the support systems for the compressors are not addressed. Therefore, no change to the operating license is required.

Question 2: The instrument air system is addressed in section 9.9 of the ANO-1 SAR, however, the specifics of compressor operation are not discussed. SAR Figure 9-14 (P&ID M-218, Sheet 8) will be affected by the addition of the purge air and buffering water kits because, even though the addition will be "to "skid mounted" components, the purge air piping arrangement will be depicted on the updated drawing.

Question 3: No new test or experiment not already described in the SAR are created by the addition of the purge air and buffering water systems.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ___. (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS: All (instrument air, compressor, C-28A, C-28B,	
MANUAL SECTIONS: 9.9	
FIGURES: 9-14	

Stephen J. Lynn — Certified Reviewer's Signature

Stephen J. Lynn — Printed Name

6-20-00 — Date

Reviewer's certification expiration date: 5/26/01

Assistance provided by:

Printed Name	Scope of Assistance	Date
Randall S. Smith	LRS	6/6/00

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Daniel Schaubroeck — Certified Reviewer's Signature

Daniel Schaubroeck — Printed Name

6/22/00 — Date

ENVIRONMENTAL IMPACT DETERMINATION
(UNIT 1 and UNIT 2)

Document No. ER002636N101 Rev./Change No. 0

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

FORM TITLE: 10CFR50.59 SAFETY EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 1 Page.

Document No. ER002636N101 Rev./Change No. 0 10CFR50.59 Eval. No. (Assigned by PSC) FFN B 00-066

Title IA Compressor Seal Purge Air and Buffering Water

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Stephen J. Lynn — Certified Reviewer's Signature
Stephen J. Lynn — Printed Name
6-20-00 — Date

Reviewer's certification expiration date: 5/26/01

Assistance provided by:

Printed Name	Scope of Assistance	Date
Randall S. Smith	LRS	6/8/00

PSC review by: _____ Date: 6/29/00

ER 002636N101
PAGE 8 REV 0

Document No. ER002636N101 Rev./Change No. 0

10CFR50.59 Review Continuation Page

Bases for Response to Questions 1 through 7:

Question 1: The instrument air system is not the initiator for any accident previously evaluated in the SAR and because this change serves only to increase the reliability of a component of the instrument air system, no increase in the probability of an accident previously evaluated in the SAR is possible.

Question 2: This change affects only specific components associated with the instrument air system. No previously evaluated accident in the SAR relies upon the instrument air system to mitigate the consequences of the evaluated accident. Therefore, this change will not increase the consequences of an accident previously evaluated in the SAR.

Question 3: The instrument air compressors are not considered as equipment important to safety. Instrument air components which are important to safety have fail-safe features or air reservoirs to allow operation independent of the instrument air supply. This change affects only the instrument air compressors and therefore will not affect the probability of a malfunction of equipment important to safety.

Question 4: The change affects only the instrument air compressors, which are not considered important to safety. While certain components within the instrument air system are safety related, they are unaffected by this change. The consequences of any malfunction of equipment important to safety are therefore unaffected.

Question 5: This change affects only equipment not considered important to safety. The change has no potential to increase the possibility of an accident of a different type than that previously evaluated in the SAR.

Question 6: This change affects only equipment not considered important to safety. Instrument air components which are important to safety have fail-safe features or air reservoirs to allow operation independent of the instrument air supply. There is therefore no possibility of creating a malfunction of equipment to safety of a different type than previously evaluated in the SAR.

Question 7: The instrument air system is not credited in the bases for any Technical Specification. The margin of safety in any Technical Specification bases will therefore not be reduced by this change to the instrument air system.

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FFN #00-100

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This document contains 3 Pages

Document No. 1012.027 Rev./Change No. 003-01-0

Title: Alara Program

Brief description of proposed change: Changed ALARA Review Committee Review Criteria.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☐ No☒

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☒ No☐

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. 1012.027 Rev./Change No. 003-01-0

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. 1012.027 Rev./Change No. 003-01-0

Basis for Determination (Questions 1, 2 & 3):

After review of the documents referenced in the questions 1 & 2, a conflict has been noted in the Unit 1/Unit 2 SER's (see attached 50.59 evaluation). The conflict concerns a reference to previous ALARA committee review criteria. All other LBD's have been reviewed with respect to this change, no other conflicts exist. This change does not involve a test or experiment not described in the SAR.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	50.59 Common: (radiat* w/10 work, Categor* w/10 ALARA, estimate w/10 dose or TEDE, pre*job*brief*, survey* w/10 freque* or type, man*rem or person*rem)

50.59 Common

MANUAL SECTIONS: _____

U1 / U2 TS	5.7.1 (tsipu1), 6.10, 6.11 / 6.11, 6.13
U1 / U2 SAR	11.2.6 / 12.3
U1 / U2 SER	ANO FSAR Update # 76, 2.7; 12.2 / ANO FSAR Update # 43, 2.7; 12.5
E-Plan	K 2.2.1

FIGURES:
N/A

Certified Reviewer's Signature | Gerard Andrew Doran (Printed Name) | 8-22-2000 (Date)

Reviewer's certification expiration date: 5-4-2001

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Certified Reviewer's Signature | Printed Name | Date

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 3 Pages.

10CFR50.59 Eval. No. FFN# 00-100
(Assigned by PSC)

Document No. 1012.027 Rev./Change No. 003-01-0

Title Alara Program

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Please see attached page 3 of 3 for anwers to the seven questions on page 1 of 3.

Certified Reviewer's Signature	G. A. DORAN	9-6-2000
	Printed Name	Date

Reviewer's certification expiration date: 5-4-2001

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 9/12/00

ALARA Program

50.59 Evaluation Continuation Sheet

The procedure changes addressed in this evaluation involve RWP Categories and their associated ALARA review requirements. SER Amendments establish (by reference) an ALARA committee review threshold; this change will effectively alter the ALARA committee review threshold. ALARA Committee review criteria is not referenced in any other LBD. With this change Non-Standard RWP's with appreciable dose potentials will continue to get ALARA Managers Committee review, while other RWP's will be eliminated from such a strenuous review. This will not eliminate ALARA reviews for Non-Standard Category II RWP's, it will simply allow the review to be conducted by use of the 1012.019K Form. The resulting multi-tier ALARA review process established through this change does not conflict with any other LBD or 10 CFR 20 regulations.

1. No. The proposed changes to our ALARA process do not involve an accident initiator. Accidents previously analyzed will not be effected by these changes. Therefore, there can be no increase in the probability of a previously evaluated accident.

2. No. This change to ALARA review thresholds will influence the administration of the radiation work permit system that controls work performed by occupational radiation workers. This change will not effect radiation doses to the public as a result of plant response to an accident. In summary, changing our ALARA review criteria will not increase the consequences of a previously evaluated accident.

3. No. These changes concern an ALARA program change that will not influence any equipment important to safety and thus will not contribute to an increase in the probability of malfunction of equipment important to safety.

4. No. Because these changes involve our ALARA program and are not remotely associated with equipment important to safety, the consequences associated with equipment important to safety malfunction will not be effected.

5. No. These changes are editorial in nature and do not have the potential to create an accident previously or not previously evaluated. This change will simply alter our RWP ALARA process to accommodate more effective reviews.

6. No. The ALARA program changes encompassed in the procedure change do not involve any equipment important to safety; therefore, no changes in circumstances that are not already bounded by previous evaluations or other malfunctions of equipment important to safety are possible as a result of these changes.

7. No. ALARA reviews are not addressed in the basis for any Technical Specification. Changes to ALARA review thresholds will not conflict with the basis for any Technical Specification; therefore, the margin of safety as defined in the bases for Technical Specifications will not be influenced.

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FORM TITLE:	FORM NO.	REV.
10CFR50.59 DETERMINATION	1000.131A	003-04-0

Document No. ER002559E101 Rev./Change No. 0

Title Provide Replacement for FS-5622B VALVE

Brief description of proposed change:

ER002559E101 provided equivalency evaluation for changing FS-5622B VALVE from a diaphragm valve to a ball valve.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions? (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. ER002559E101 Rev./Change No. 0

Basis for Determination (Questions 1, 2, & 3):

1). Change involves replacing a Fire Water System valve with an equivalent replacement. Tech Specs, OLs, and COs do not go to the level of detail purposed by this change.

2). The valve being replaced is shown on P&ID M-219 Sheet 4 Detail E. This P&ID is SAR Figure 9-16 and requires Note 2 from Detail E to be revised to include FS-5622B as being a ball valve. All other information in the SAR documents will not be affected by the change.

3). The change will not involve an experiment or test.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item #____. (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	Unit 1-50.59 (Sprinkler)(FS5622*)(UAV5622*)(Diaphragm w/10 valve)(Grinnell)
MANUAL SECTIONS:	Unit 1 SAR Section 9.8, Appendix 9D, and Fire Hazard Analysis
FIGURES:	Unit 1 SAR Fig 9-16

Certified Reviewer's Signature | Jeff Curry (Printed Name) | 9/13/00 (Date)

Reviewer's certification expiration date: 4/29/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Certified Reviewer's Signature | WILLIAM E. ROGERS (Printed Name) | 9/15/00 (Date)

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. ER002559E101 Rev./Change No. 0

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

Document No. ER002559E101 Rev./Change No. 0 10CFR50.59 Eval. No. FFN# 00-105 (Assigned by PSC)

Title Equivalency evaluation for Replacement of Fire System Valve FS-5622B

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

Chapter 14 of the Unit 1 SAR does not identify fire as an evaluated accident. Section 9.8 of the SAR denotes that the Fire Water System is designed such that rupture or inadvertent operation will not jeopardize the capability of safety related equipment. The valve being replaced by this change is located in an area where there is no safety related equipment that could be damaged by water impingement. As a result, the probability of an accident not previously evaluated in the SAR will not be increased.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

Fire is not identified in Chapter 14 of the Unit 1 SAR as an evaluated accident. Section 9.8 of the SAR addresses failure of the Fire Protection System to actuate and its affect on equipment important to safety. It also indicates that the system is designed such that a rupture or inadvertent operation will not jeopardize the capability of safety related equipment. This change involves an equivalent replacement of a ½" diaphragm valve with a ½" ball valve within the Fire Water System. As a result, this change would be bounded by the existing analysis. There will be no increase in the consequences of an accident previously evaluated, i.e., there is no increase in an accident analysis radiation dose.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The SAR and FHA denote use of UL Listed components as applicable. The replacement valve is a UL Listed component, therefore, this requirement is maintained. Using an equivalent replacement that meets the same requirements as the original and considering the valve is located in an area where no safety related equipment could be damaged by water impingement, there is no increase in the probability of a malfunction of equipment important to safety.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The Fire Water System is designed such that any failure will not affect equipment important to safety. The valve being replaced by this change is an equivalent replacement to the original and will not alter the capability of the system to perform its function. Also, the valve is located in an area that even in the event of a failure it would not affect safety related equipment. Therefore, the consequences of a malfunction of equipment important to safety will not be increased, i.e. there is no increase in an accident analysis radiation dose.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

Pipe Rupture and inadvertent operation of the Fire Water System are addressed in SAR Section 9.8. There are no other accidents that could be created by this change that would affect the failure of the system since this replacement involves an equivalent valve meeting the same requirements as the original. The valve is located in an area where there is no safety related equipment. The possibility of an accident of a different type previously evaluated in the SAR will not be created.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

Replacement of this component will not impair the fire system from performing its design function. Also, the valve being replaced by this change will not create any new failure modes because it is located in an area where there is no equipment important to safety. As a result, the possibility of a malfunction of equipment important to safety of a different type will not be created.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

The Fire Water System is not addressed in the basis for any technical specification, therefore, the margin of safety as defined in the basis for any Tech. Spec. will not be reduced by this change.

Certified Reviewer's Signature	Jeff Curry Printed Name	9/13/00 Date

Reviewer's certification expiration date: 4/29/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 9/15/01

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ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. **CR-ANO-1-1998-0704, CA-003** Rev./Change No. N/A

Title **Revise Unit 1 SAR Section 14.3 to include reference to SBLOCA Analysis**

Brief description of proposed change: Replace reference to B&W Topical on SBLOCA with FTI SBLOCA evaluation dated August 1999, which shows that an emergency feedwater flow of as low as 200 gpm per steam generator will not lead to violation of any acceptance criteria.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

Document No. **CR-ANO-1-1998-0704, CA-003** Rev./Change No. N/A

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

Basis for Determination (Questions 1, 2 & 3):

1) Require a change to the Operating License:

This effort does not change the Technical Specification, Operating License or Confirmatory Orders. In SAR Section 14.3, a reference to a B&W Topical Report on a small break LOCA is being replaced by an FTI document entitled "Small Break Loss-of-Coolant Accident Mini-Spectrum." This new analysis shows that an emergency feedwater flow of as low as 200 gpm per steam generator will not lead to violation of any acceptance criteria. The OL documents do not provide details relating to the sizing of the EFW system for a SBLOCA. This change will not make the OL documents untrue.

2) Result in information in the following SAR documents (including drawings and test) being no longer true or accurate, or violate a requirement stated in the document:

SAR section 14.3 revisions have been identified to reflect the current analysis that demonstrates an acceptable emergency feedwater flow of as low as 200 gpm per steam generator during a small break LOCA. The original analysis to support the EFW system sizing assumed that both trains of ECCS were available. Both trains are not available when you assume a single failure. EFW system sizing was reevaluated for a SBLOCA using RELAP5. This analysis qualifying EFW flow does not invalidate the 10CFR50.46 ECCS Performance analysis which is still based on CRAFT2 methodology. The EFW flow sizing analysis for SBLOCA has no impact on the FHA or TRM. The COLR and SERs do not provide sufficient detail relating to the EFW flow during a SBLOCA. The TS Bases states that the minimum EFW flow requirements to the SGs is 500 gpm. The SBLOCA analysis is more conservative in that it shows that EFW flow as low as 200 gpm per SG (400 gpm total) provides favorable results. Therefore, the revision identified in SAR Section 14.3 will not make these other SAR documents untrue.

2) Involve a test or experiment not described in the SAR:

The SBLOCA and subsequent EFW flow are analytical in nature and therefore do not involve a test or experiment.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #___, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	
50.59-Unit 1	**(sbloca, small break loca, baw-10052, emergency feedwater w/10 gpm, emergency feedwater w/10 flow, efw w/10 gpm, efw w/5 flow, emergency feedwater w/25 loca, feedwater w/25 loca, efw w/25 loca)**

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

MANUAL SECTIONS:

TS 3.4 and Bases, TS 3.5 and Bases, TS 4.8 and Bases, TS Table 4.1-1, SAR Chapter 6 and 14, SAR sections 7.1.4 and 10.4, NSE Section 6.3, NSE Supp. 1, SER 43, 50, 101, 108, 119, 120, 125, 140, 177, 207

FIGURES:

All in Chapter 6, 10, and 14

Kathryn L. Ashley — Kathryn L. Ashley — 9/25/00
Certified Reviewer's Signature — Printed Name — Date

Reviewer's certification expiration date: 5/10/2002

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Daniel H. Williams — Daniel H. Williams — 9/25/00
Certified Reviewer's Signature — Printed Name — Date

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. **CR-ANO-1-1998-0704, CA-003** Rev./Change No. **N/A**

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

10CFR50.59 Eval. No. EFW#00-115
(Assigned by PSC)

Document No. **CR-ANO-1-1998-0704, CA-003** Rev./Change No. **N/A**

Title **Revise Unit 1 SAR Section 14.3 to include reference to SBLOCA Analysis**

BACKGROUND: An error in the SAR reference to SBLOCA (Small Break Loss of Coolant Accident) analysis requiring at least 500 gpm EFW flow was found and documented in CR-ANO-1-1998-0704. The current referenced analysis assumes EFW (Emergency Feedwater) flow in excess of 1 EFW pump capacity available to the SGs (Steam Generators) for core heat removal. It also assumed that both trains of ECCS were available. A small spectrum of SBLOCAs rely on SG heat removal. The current SBLOCA analysis of record is documented in BAW-1976A, where EFW flow is assumed based on SG pressure. The flow assumed is conservative when both EFW pumps are available, but will not support the availability of only one EFW pump. The assumed ECCS (Emergency Core Cooling System) flow is based on a worst-case single failure of one ECCS loop. The single failure of one ECCS loop could be due to the failure of the red EDG, which in turn would fail the motor-driven EFW pump. Letter INS-97-2553 from FTI indicates that a decrease in the assumed EFW flow rate using our current methodology could predict core uncovering and increase the calculated PCT (Peak Clad Temperature) for the limiting small break. Therefore, the current assumption in the SBLOCA analysis for EFW flow is non-conservative with regard to statements in the ANO-1 SAR section 14.3. FTI has subsequently performed a SBLOCA mini-spectrum analysis using RELAP5 with the assumption of one EFW pump and one train of ECCS available. The results of the analysis show that an EFW flow of as low as 200 gpm per steam generator will not lead to violation of any acceptance criteria. This analysis makes consistent the assumption of only one ECCS train and one EFW pump being available. This analysis qualifying EFW flow does not invalidate the 10CFR 50.46 ECCS Performance analysis which is still based on CRAFT2 methodology. SAR section 14.3 is being revised to reference the FTI analysis for the emergency feedwater system assumptions during a SBLOCA.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

The change made by this package involves replacing a reference to the SBLOCA analysis and the emergency feedwater criteria assumed in the analysis with a new reference that shows that the EFW flow, assuming one EFW pump and one ECCS train is available, meets the acceptance criteria. This analysis makes consistent the assumption of only one ECCS train and one EFW pump being available. This analysis qualifying EFW flow does not invalidate the 10CFR 50.46 ECCS Performance analysis which is still based on CRAFT2 methodology. There are no new systems, components, substructures, design changes, physical alteration, or operating procedure changes being proposed by this change or will result due to this change. This change is not an accident initiator. It relates only to the analysis-input assumptions and results so the probability of an accident previously evaluated in the SAR will not be increased.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

No radiological dose consequences increase due to the change in the analysis. This change relates only to the reference to the analysis for EFW system sizing for a small break loss of coolant accident. The analysis performed, and being referenced, makes the ECCS flow assumptions and the EFW flow assumptions consistent with the failure assumptions. That is, with a single failure, only one ECCS train and one EFW pump is available. The analysis shows that there is no change in the system response and that the results of the limiting break is not significantly impacted (peak cladding temperature increases slightly). Therefore, the consequences of the SBLOCA are not increased.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The purpose of this change is to reference the analysis for EFW system sizing for a SBLOCA. This does not affect the way in which the systems operate or function, but the assumptions taken in the analysis on their operation. Therefore, the probability of a malfunction of equipment will not be impacted.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

As this change relates to the analysis and its assumptions, there are no physical impacts on equipment, which could result in an increase in the consequences of a malfunction. No new plant operating modes, changes in plant operating conditions or physical design are being proposed. This effort only revises SAR Section 14.3 to reference the analysis for EFW system sizing for a SBLOCA.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

The change only references the analysis for EFW system sizing for a SBLOCA. The analysis does not affect the operation of the plant or the operation of any equipment. Therefore, no new initiators or accidents are caused by this change.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

There are no new systems, components, substructures, physical design changes, physical alterations, nor operating procedure changes being proposed or required by this change. This change only affects the SAR Section 14.3 EFW system performance during a SBLOCA analysis. As there are no physical changes to the plant, the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR will not be created.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

The EFW flow assumptions in the SBLOCA analysis being referenced in SAR section 14.3 are conservative with respect to the current Technical Specifications. The results of the analysis, which utilized the TS limits, will not lead to violation of any acceptance criteria and are conservative with respect to the bases for the Technical Specifications. As stated in response to question 2, above, the analysis shows that the peak cladding temperature increases slightly, however it is remains well within the limit of 2200°F stated in the TS 3.3 Bases. Also, there is no change in the metal-water reaction, therefore, the margin of safety is not reduced by this analysis. There is no impact to the fission product barriers due to this SAR revision.

Document No. **CR-ANO-1-1998-0704, CA-003** Rev./Change No. **N/A**

Kathryn L. Ashley — Kathryn L. Ashley — 9/25/00
Certified Reviewer's Signature — Printed Name — Date

Reviewer's certification expiration date: 5/10/2002

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: [signature] Date: 9/28/2000

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FORM TITLE:	ARKANSAS NUCLEAR ONE	FORM NO.	REV.
	10CFR50.59 DETERMINATION	1000.131A	003-04-0

This Document contains 4 Pages.

Document No. ANO-1 TRM 3.5.1.10, ANO-2 TRM 4.3.3.7.2, ANO-1 SAR 9.7.2.1, ANO-2 SAR 9.4.1.2 Rev./Change No. 0

Title **Removal of Auto-Actuation Function of the Chlorine Detection System for VSF-9 and 2VSF-9**

Brief description of proposed change: **The current ANO-1 and ANO-2 License Bases require the chlorine detection system to be capable of automatically initiating the control room emergency filtration system and the control room isolation system. Since chlorine is no longer stored in bulk on site, crediting manual operator action to initiate the control room emergency filtration system is acceptable. The requirements for automatic initiation of control room isolation are retained in the License Bases.**

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☒ No☐

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAPM? Yes☐ No☒

E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. ANO-1 TRM 3.5.1.10, ANO-2 TRM 4.3.3.7.2, ANO-1 SAR 9.7.2.1, ANO-2 SAR 9.4.1.2 Rev./Change No. 0

Basis for Determination (Questions 1, 2 & 3):
Requirements for chlorine detection instrumentation were relocated from the ANO-1 & 2 TS by Amendments 192 and 191, respectively. Therefore, no changes to the Technical Specifications are required. This changes proposes changes to the ANO-1 SAR & TRM, and the ANO-2 SAR & TRM. The proposed changes revise descriptions of the control room emergency ventilation system and do not implement tests or experiments not described in the SARs.

☐ Proposed change does not require 10 CFR 50.59 Evaluation per Attachment 1, Item #_____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in Question 1, 2 and 3. If a search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	
50.59 - Common	**(Chlorine)**
MANUAL SECTIONS:	
ANO-1 SAR	**9.7**
ANO-2 SAR	**9.4**
FIGURES:	
None	**No changes to plant configuration are involved**

Certified Reviewer's Signature — **Clinton W. Szabo** Printed Name — **10/5/2000** Date

Reviewer's certification expiration date: **06/22/2002**

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Review per 1000.006)

Certified Reviewer's Signature — STEVE A. BENNETT Printed Name — 10/5/00 Date

FORM TITLE:	ARKANSAS NUCLEAR ONE 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

ENVIRONMENTAL IMPACT DETERMINATION
(UNIT 1 and UNIT 2)

Document No. ANO-1 TRM 3.5.1.10, ANO-2 TRM 4.3.3.7.2, ANO-1 SAR 9.7.2.1, ANO-2 SAR 9.4.1.2 Rev./Change No. 0

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

FORM TITLE: ARKANSAS NUCLEAR ONE 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 2 Pages.

10CFR50.59 Eval. No. FFN# 00-117
(Assigned by PSC)

Document No. ANO-1 TRM 3.5.1.10, ANO-2 TRM 4.3.3.7.2, ANO-1 SAR 9.7.2.1, ANO-2 SAR 9.4.1.2 Rev./Change No. 0

Title Removal of the Auto-Actuation Function of the Chlorine Detection System for VSF-9 and 2VSF-9

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased?

   Yes ☐ No ☒

   The chlorine Detection System serves to isolate the control rooms in the event of a chlorine release. Therefore, the chlorine detection system is not an accident initiator for any evaluated accidents in either Unit 1 or Unit 2 safety analyses.

2. Will the consequences of an accident previously evaluated in the SAR be increased?

   Yes ☐ No ☒

   The ANO-1 Chapter 14 and the ANO-2 Chapter 15 Safety Analysis Reports were reviewed and determined that the chlorine release event was not a previously evaluated accident. As discussed in the NRC SER for Amendment 192 and 191 to the ANO-1 and ANO-2 Operating Licenses, respectively, the NRC states that chlorine detection systems may serve an important role in the protection of control room personnel from internal or external hazards related to toxic gases. However, the release of chlorine or other hazardous chemicals is not part of an initial condition of a design basis accident or transient analysis that assumes a failure of or presents a challenge to the integrity of a fission product barrier. Since the release of toxic gases is not assumed to initiate or occur simultaneously with design basis accidents or transients involving challenges to fission product barriers, the Chlorine Detection System is not part of a success path for the mitigation of those accidents or transients.

3. Will the probability of a malfunction of equipment important to safety be increased?

   Yes ☐ No ☒

   The release of chlorine from either an onsite or offsite event would be classified as a malfunction of equipment. However, the system is used to mitigate a chlorine release only. Therefore, the Chlorine Detection System cannot initiate an accident and would not cause any malfunction of equipment important to safety. Removing the requirement to have automatic actuation of the control room emergency ventilation systems would not cause equipment to malfunction.

4. Will the consequences of a malfunction of equipment important to safety be increased?

   Yes ☐ No ☒

   As discussed in ANO-1 SAR Section 9.7.2.1 and ANO-2 SAR Section 9.4.1.1.2, elemental chlorine is no longer stored or used on site or within a 5 mile radius of the plant site, and seismic category I designation is not necessary for ANO design requirements. A postulated seismic event concurrent with transport failure and release of chlorine or other toxic gas offsite is considered an incredible event. Postulating a seismic event concurrent with transport and release of a toxic gas offsite in

the plant vicinity is considered to be extremely unlikely. No offsite dose consequences are assumed to occur simultaneous with a toxic gas release. The isolation function of the chlorine detection system is unaffected by this change. Sufficient time is available to identify and take action to initiate the control room emergency ventilation and/or don SCBAs assuming an offsite chlorine event occurs. The probability of disabling the operators is considered unlikely since operators are provided with SCBAs and are directed to don them upon detection of chlorine. Chlorine is easily detectable by scent alone. Therefore, the Chlorine Detection System is not important to safety and there is no change in the dose consequences by removing the auto initiation function of the chlorine detection system.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

Yes ☐ No ☒

No new failure modes are introduced and the response to existing occurrences is not changed. The possibility of an offsite toxic gas release is not specifically addressed in Chapter 14 of the 1SAR or Chapter 15 of the 2SAR. However, this type of release is considered bounded by the onsite chlorine release which has been previously evaluated, and thus an accident of a different type is not created.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

Yes ☐ No ☒

Removing the Chlorine Detector Systems auto-actuation function of the control room ventilation system will not reduce the reliability of the system or create a new failure mode. These systems are required by the unit TRMs and the isolation function is surveillance tested and maintained accordingly.

7. Will the margin of safety as defined in the basis for any technical specification be reduced?

Yes ☐ No ☒

The Chlorine Detection System was relocated to the ANO-1 and ANO-2 TRMs in OL Amendment 192 and 191 respectively. There are no TS Bases or associated conditions that address the chlorine detection system. The ability to actuate and detect radiological releases are covered in the ANO-1 3.9.2 Bases and the ANO-2 3.7.6 Bases and are unaffected by this change. In addition, there are no fission product boundaries that are affected by this change.

Certified Reviewer's Signature

Steve Bennett
Printed Name

10/5/00
Date

Reviewer's certification expiration date: **08/10/2002**

Assistance provided by:

Printed Name	Scope of Assistance	Date
Dave MacPhee	**Chlorine Detection System**	**10/5/00**

PSC review by:  Date: 10/5/00

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FFN #00-132

FORM TITLE:	ARKANSAS NUCLEAR ONE 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 2 Pages.

10CFR50.59 Eval. No. FFN # 00-132
(Assigned by PSC)

Document No. Rev./Change No.

Title ER 991603E101 Alternate Cooling Water Supply to CWPs

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

Certified Reviewer's Signature | Daryl Sawberry (Printed Name) | 10/18/00 (Date)

Reviewer's certification expiration date: 11/30/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 11/7/00

ER 991603E101 10CFR50.59 Evaluation

1) Will the probability of an accident previously evaluated in the SAR be increased?

The temporary cooling line is configured similarly to the existing hard piped bearing cooling line and does not present an increased probability of an accident beyond that of an ACW component line break. There are no Technical Specification bases related to this change beyond Service Water independence and redundancy, which is preserved through administrative controls (see discussion for question 7). No increased radiation dose associated with the plant's response to an accident is anticipated as the result of this temporary alignment to provide temporary cooling to Circulating Water Pump (CWP) bearings. Additionally, the temporary CWP bearing supply line and associated fittings are rated for a minimum service pressure of 125 psig. There are administrative controls requiring hose connections to be secured to prevent an inadvertent disconnection and the temporary hose is caution flagged and anchored every 10 feet or less to prevent hose whip in the event of a hose break. Isolation valves (SW-1118 and SW-1115) are available to isolate the supply line in the case of a line rupture.

2) Will the consequences of an accident previously evaluated in the SAR be increased?

The expected consequence of a break in the temporary cooling line is identical to a line break of the existing cooling water supply piping. In the case of an ESAS actuation, the temporary cooling line is isolated along with other downstream ACW components; however, there are administrative controls to ensure two CWPs remain available to support Condenser vacuum. Additionally, this activity does not degrade the performance of equipment important to safety below the design bases assumed by the ANO accident analysis. See response to question 1 for information related to material specifications and construction practices.

3) Will the probability of a malfunction of equipment important to safety be increased?

The temporary CWP bearing cooling line interfaces with the Service Water System in a similar manner as the existing bearing cooling supply line. The temporary cooling line configuration allows maintenance on the existing bearing cooling line and therefore, serves to reduce the probability of a loss of CWPs due to a failure of the current degraded bearing cooling line. Probability of line break of the existing cooling water supply line is greater in the current condition.

4) Will the consequences of a malfunction of equipment important to safety be increased?

An increase in radiation dose as a result of an equipment malfunction due to this temporary configuration is not anticipated. The proposed alignment does not present a plant effect departing from a failure of the existing bearing cooling supply piping. In either case, full power operations would be unlikely; however, response to the transient is expected to be typical and well within existing mitigation capability. An increased dose consequence is not created beyond that currently existing. Additionally, administrative controls are advocated within the procedure to prevent a single failure loss of Circulating Water or Service Water.

5) Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

The previous accident analysis bounds the overall plant effects of the temporary cooling water configuration considering the similarity of the proposed change to existing plant configuration. No accidents of a different type are likely to happen in relation to those considered in the SAR. Controlling Service Water Loop alignment precludes a single failure loss of Circulating Water. Loop independence is maintained for both Service Water and CWP bearing cooling.

6) Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

The current accident analysis bounds the overall plant effects of the temporary cooling water alignment considering the similarity of the proposed change to current existing plant configuration. Although the temporary cooling water alignment may present a new failure mechanism in the case of an ESAS actuation, a different type of malfunction is not created since the result, or effect, is the same as currently exists. Considering the current degraded condition of bearing cooling water piping, the temporary cooling water supply alignment provides enhanced margin to a common loss of CWP cooling. Service Water loading with the temporary alignment in place remains approximately equivalent to existing loading.

7) Will the margin of safety as defined in the basis for any technical specification be reduced?

There are no Technical Specification bases associated with the Circulating Water System. The Service Water System maintains the existing bases requiring an independent but interconnected, full capacity, 100% redundant system. The normal operating requirements remain greater than the emergency system requirements following a loss of coolant accident. The proposed temporary plant change does not preclude rotation of the operating Service Water pump in accordance with the bases for Tech Spec Surveillance specification 4.5

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Document No. ER992137E101 Rev./Change No. 0

Title Equivalency evaluation for replacement of Fire System Valve FS-5615D.

Brief description of proposed change:

ER992137E101 provides an equivalency evaluation for replacement of FS-5615D VALVE from a butterfly valve that is depicted on M-219 sheet 4, SAR Figure 9-16, to a ball valve.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions? (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

Document No. ER992137E101 Rev./Change No. 0

Basis for Determination (Questions 1, 2, & 3):

1). Change involves replacing a Fire Water System valve with an equivalent replacement. Tech Specs, OLs, and COs do not go to the level of detail purposed by this change.

2). The valve being replaced is shown on P&ID M-219 Sheet 4 Detail B as a butterfly valve. This P&ID is SAR Figure 9-16 and requires addition of a note to identify FS-5615D as being a ball valve. All other information in the SAR documents will not be affected by the change.

3). The change will not involve an experiment or test.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS:	Unit 1-50.59 (Sprinkler)(FS5615*)(UAV5615*)(manual w/10 station)(manual w/10 actuation)
MANUAL SECTIONS:	Unit 1 SAR Section 9.8, Appendix 9D, and Fire Hazard Analysis
FIGURES:	Unit 1 SAR Fig 9-16

David N. Hamblen — Certified Reviewer's Signature
David N. Hamblen — Printed Name
11/15/00 — Date

Reviewer's certification expiration date: 06/08/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

William E. Rogers — Certified Reviewer's Signature
WILLIAM E. ROGERS — Printed Name
11/20/00 — Date

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. ER992137E101 Rev./Change No. 0

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

Document No. ER992137E101 Rev./Change No. 0 10CFR50.59 Eval. No. FFN#00-144 (Assigned by PSC)

Title Equivalency evaluation for replacement of Fire System Valve FS-5615D.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

Chapter 14 of the Unit 1 SAR does not identify fire as an evaluated accident. Section 9.8 of the SAR denotes that the Fire Water System is designed such that rupture or inadvertent operation will not jeopardize the capability of safety related equipment. The replacement valve being installed by this change is an equivalent functioning valve meeting the same pressure requirements as the Model B Flooding Deluge Valve it actuates. As a result, the probability of an accident not previously evaluated in the SAR will not be increased.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

Fire is not identified in Chapter 14 of the Unit 1 SAR as an evaluated accident. Section 9.8 of the SAR addresses failure of the Fire Protection System to actuate and its affect on equipment important to safety. It also indicates that the system is designed such that a rupture or inadvertent operation will not jeopardize the capability of safety related equipment. This change involves an equivalent replacement of a 3/8" piped manual control station actuation valve with a 1/2" piped manual control station actuation ball valve within the Fire Water System. As a result, this change would be bounded by the existing analysis. There will be no increase in the consequences of an accident previously evaluated, i.e., there is no increase in an accident analysis radiation dose.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The SAR and FHA denote use of UL Listed components as applicable. The replacement valve is a UL Listed component, therefore, this requirement is maintained. Using an equivalent functioning replacement valve that meets the same pressure requirements as the Model B Flooding Deluge Valve it actuates assures there is no increase in the probability of a malfunction of equipment important to safety.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The Fire Water System is designed such that any failure will not affect equipment important to safety. The replacement valve installed by this change is an equivalent functioning valve the original and will not alter the capability of the system to perform its function. Therefore, the consequences of a malfunction of equipment important to safety will not be increased, i.e. there is no increase in an accident analysis radiation dose.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

Pipe Rupture and inadvertent operation of the Fire Water System are addressed in SAR Section 9.8. There are no other accidents that could be created by this change that would affect the failure of the system since this replacement involves an equivalent functioning valve meeting the same pressure requirements as the Model B Flooding Deluge Valve it actuates. The possibility of an accident of a different type previously evaluated in the SAR will not be created.

FORM TITLE:	FORM NO.	REV.
10CFR50.59 SAFETY EVALUATION	1000.131B	003-04-0

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

Replacement of this component will not impair the fire system from performing its design function. The replacement valve being installed by this change will not create any new failure modes because the valve is an equivalent functioning valve meeting the same pressure requirements as the Model B Flooding Deluge Valve it actuates. As a result, the possibility of a malfunction of equipment important to safety of a different type will not be created.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

The Fire Water System is not addressed in the basis for any technical specification, therefore, the margin of safety as defined in the basis for any Tech. Spec. will not be reduced by this change.

David N. Hamblen — Certified Reviewer's Signature

David N. Hamblen — Printed Name

11/15/00 — Date

Reviewer's certification expiration date: 06/08/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 11/21/00

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ARKANSAS NUCLEAR ONE		
FORM TITLE: 10CFR50.59 EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 2 Pages.

FFN#

10CFR50.59 Eval. No. 00449
(Assigned by PSC)

Document No. Rev./Change No.

Title **Extension of Y-28 Alternate Power Time Clock**

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   By maintaining power to cabinets C540A and C540B from the Y-28 alternate power source rather than its normal power source, the probability of an accident previously evaluated in the SAR will not be increased. No SAR accident initiator depends on inverter Y-28 failure or success.

2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒

   The consequences of an accident previously evaluated in the SAR will not be increased due to maintaining power to C540A and C540B from the Y-28 alternate power source rather than its normal power source for up to 72 hours. C540A and B powers alternate shutdown instrumentation as shown in attachment A.

   For alternate shutdown instrumentation, FHA (Fire Hazards Analysis) assumes a Loss of Offsite Power, but does not assume a single failure apart from equipment lost due to the fire. The extension of the time Y-28 is powered from its alternate power source does not effect the availability of the EDGs to supply emergency power upon a loss of offsite power. In addition, alternate or redundant train availability exists for RCS wide range pressure input for ICC, SPDS, DROPS, PI-1041. The SAR states that Y-28 delivers uninterruptable power. With the Y-28 powered from its alternate power source, this will not be the case, however, for alternate shutdown required functions, this is not required. Rather manual operation can be credited to support the safety function of necessary equipment, emergency power will be availble when the equipment is required for mitigation.

   No other SAR analyses depend on power from Y-28.

3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

   The probability of a malfunciton of equipment important to safety will not be increased due to the extension of Y-28 being on its alternate power source. Based on the evaluation of attachment C, the failure of Y-28 will only cause equipment of interest to be lost for the early stages of an alternate shtudown. This will not impact the ability to achieve safe shutdown conditions.

   In addition, as noted in attachment A, CV 1410 requirments for ACI in TS 3.5.1-1 notes 1 and 5 are met, since AC power will remain available should a loss of offsite power occur.

   Y-28 is designed to operate using the alternate power source. Although this power source is not filtered as the primary power source, it is adequate to assure that quality power is supplied to C540A and C540B.

4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒

The consequences of a malfunciton of equipment important to safety will not be increased due to the extension of Y-28 being on its alternate power source. Based on the attached evaluation, the failure of Y-28 will only cause equipment of interest to be lost for the early stages of an alternate shtudown. This will not impact the ability to achieve safe shutdown conditions.

In addition, as noted in attachment A, CV 1410 requirments for ACI in TS 3.5.1-1 notes 1 and 5 are met, since ac power will remain available should a loss of offsite power occur.

Therefore, equipment important to safety is not effected by the extension of Y-28 being powered by its alternate power source.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

The possibility of an accident of a different type than any previously evaluation in the SAR will not be created. No new initiator will be created by power being supplied by Y-28 alternate power. The safety funciton of Y-28 is supplying power to instrumentation to mitigate fire events in critical areas and bring the plant to safe shutdown.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒

The possibility of a malfunciton of equipment important to safety of a different type than any previously evaluated in the SAR will not be created. Power to equipment important to safety will be available when necessary to mitigate the event as indicated in attachmens A andC.

7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

There is no margin regarding the Y-28 inverter in the basis of Technical Specifications. Therefore, no margin of safety as defined in the basis for any technical specification will be reduced.

Morris E. Byram — Certified Reviewer's Signature
MORRIS E. BYRAM JR. — Printed Name
12/2/00 — Date

Reviewer's certification expiration date: 9/10/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date
Richard Guilty	Operation Support	12-2-00
John N. Miller, Jr.	Operation & coordination support	12/02/00
Ed Eades	Operations support	12/2/00
Woody Walker	ALTERNATE SHUTDOWN	12/2/00

PSC review by: _____ Date: 12/2/00

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FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 4 Pages.

Document No. CALC-87-E-0059-02 Rev./Change No. 0

Title ANO-1 LOFW EVENT WITH 20 PCT TUBE PLUGGING

Brief description of proposed change:

See continuation page(s).

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions? (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. CALC-87-E-0059-02 Rev./Change No. 0

Basis for Determination (Questions 1, 2, & 3):

See continuation page(s).

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ____. (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document Section

LRS: Unit 1 50.59 - ALL [(loss w/3 feed*) OR (lofw*)] [(1?2 w/5 decay*) OR (ans* w/5 decay*)] [(tube* w/5 plug*) AND (efw* OR feedw*)] [500 w/2 (gpm OR gal*)]

MANUAL SECTIONS: 1-SAR Sect. 14.3, 1-TS-3.4, 1-TS-4.8.1, and 1-TS-4.8, 1-ITS-3.7.5

FIGURES: None

Darren G. Talley — Certified Reviewer's Signature
Darren G. Talley — Printed Name
1/5/01 — Date

Reviewer's certification expiration date: 12/7/02

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Kathryn L. Ashley — Certified Reviewer's Signature
Kathryn L. Ashley — Printed Name
1/5/01 — Date

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. CALC-87-E-0059-02 Rev./Change No. 0

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

FORM TITLE: 10CFR50.59 REVIEW CONTINUATION PAGE	FORM NO. 1000.131C	REV. 003-04-0

Document No. CALC-87-E-0059-02 Rev./Change No. 0

10CFR50.59 Review Continuation Page

Brief Discussion of Change

The Unit 1 LOFW analysis has been re-done because of a water property table discrepancy discovered in Framatome's computer analysis code (RELAP5/MOD2-B&W), and documented in CR-ANO-1-1999-0016. The acceptance criteria for the new analysis remained the same as those currently noted in the SAR. The new analysis was performed in a manner consistent with the previous analysis, with the following exceptions:

(1) OTSG tube plugging, and
(2) decay heat model.

The new analysis addresses the impact of up to 20% OTSG tube plugging. Acceptance criteria for the analysis are still met when 20% OTSG tube plugging is considered.

The decay heat model used in the previous analysis was specified to be 1.2 times ANS 5.1 decay heat. Framatome's NRC-approved safety analysis topical (BAW-10193P-A) states the following:

> "...Since the mid-1980's the industry has better quantified the uncertainties in core decay heat following shutdown with the implementation of the ANS 1979 decay heat standard."
>
> "It is demonstrated that 1.0 times the ANS 1971 plus heavy isotopes bounds ANS 1979 plus 2-sigma uncertainty for a wide variation in feed assembly enrichment and burnup. Consequently, with the exception of main steam line break (MSLB) analyses, FTG will use 1.0 times the ANS 1971 decay heat standard for fission plus B&W heavy isotopes calculation of actinides."

The analysis has been performed in accordance with this NRC-approved methodology.

Basis for Determination (Questions 1, 2, and 3)

1. No items within the Operating License were identified as requiring a change due to the new analysis of the Loss of Feedwater for EFW Sizing event. The new analysis was performed in a manner consistent with previous analysis with the exceptions noted above. The EFW system flowrate is surveilled per TS 4.8.1 in order to demonstrate compliance with EFW flow rate requirements. The required flow of 500 gpm has not been changed by the new analysis.

2. TS bases (for TS 3.4) reflect the 500 gpm flow requirement. Likewise, the SAR (Sect. 14.3) specifies the 500 gpm flow requirement. The new analysis does not change this value. Steam generator tube plugging is not discussed in the SAR or TS Bases discussions for EFW system parameters. However, SAR Section 14.3 does make note of the "1.2 times ANS 5.1 decay heat" analysis assumption. Since the new analysis used a different assumption, an LDCR is required. No other SAR documents are affected.

3. This change is the result of a new analysis of the LOFW event, and does not involve a test or experiment.

LDCR(s) Required by This Change

- SAR Section 14.3

FORM TITLE: 10CFR50.59 SAFETY EVALUATION	FORM NO. 1000.131B	REV. 003-04-0

This Document contains 3 Pages.

DH

Document No. CALC-87-E-0059-02 Rev./Change No. 0 10CFR50.59 Eval. No. (Assigned by PSC) FFN# 01-0021

Title ANO-1 LOFW EVENT WITH 20 PCT TUBE PLUGGING

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Darren G. Talley — Certified Reviewer's Signature

Darren G. Talley — Printed Name

1/5/01 — Date

Reviewer's certification expiration date: 12/7/02

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 1/11/01

Document No. CALC-87-E-0059-02 Rev./Change No. 0

10CFR50.59 Review Continuation Page

Bases for the Responses to the Evaluation Questions

1. *Will the probability of an accident previously evaluated in the SAR be increased?*

   The changes resulting from CALC-87-E-0059-02, Rev. 0, in general, and the change in decay heat assumption, in particular, concern the analysis results for the LOFW event, not its initiators. As with the previous LOFW analysis, the results are within the analysis acceptance criteria. The new analysis does not increase the probability of any accident initiators for the Chapter 14 safety analysis events. Therefore, the probability of an accident previously evaluated in the SAR is not increased.

2. *Will the consequences of an accident previously evaluated in the SAR be increased?*

   The changes resulting from CALC-87-E-0059-02, Rev. 0, in general, and the change in decay heat assumption, in particular, concern the analysis results for the LOFW event. The purpose of the analysis is for determining the minimum EFW flow requirement. The analysis acceptance criteria include: (1) RCS pressure below 110% of design, (2) Departure from Nucleate Boiling Ratio greater than the applicable correlation limit, and (3) doses below 10CFR100. In essence, meeting the first two criteria assures that the third criterion is met since there would be no fuel failure or loss of RCS integrity. The results for the new analysis remain within the analysis acceptance criteria. Therefore, the consequences of an accident previously evaluated in the SAR are not increased.

3. *Will the probability of a malfunction of equipment important to safety be increased?*

   The changes resulting from CALC-87-E-0059-02, Rev. 0, in general, and the change in decay heat assumption, in particular, concern the analysis results for the LOFW event. There are no fundamental changes in the sequences of events or RCS and RPS response because the other basic analysis assumptions are essentially the same, the results remain within the analysis acceptance criteria, and the EFW flow requirement is unchanged. As such, these changes to the analysis have no impact on equipment important to safety. Therefore, the probability of a malfunction of equipment important to safety is not increased.

4. *Will the consequences of a malfunction of equipment important to safety be increased?*

   The changes resulting from CALC-87-E-0059-02, Rev. 0, in general, and the change in decay heat assumption, in particular, concern the analysis results for the LOFW event. There are no fundamental changes in the sequences of events or RCS and RPS response because the other basic analysis assumptions are essentially the same, the results remain within the analysis acceptance criteria, and the EFW flow requirement is unchanged. As such, these changes to the analysis have no impact on equipment important to safety. As such, these changes to the analysis have no impact on equipment important to safety. Therefore, the consequences of a malfunction of equipment important to safety are not increased.

5. *Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?*

   The changes resulting from CALC-87-E-0059-02, Rev. 0, in general, and the change in decay heat assumption, in particular, concern the analysis results for the LOFW event. There are no fundamental changes in the sequences of events or RCS and RPS response because the other basic analysis assumptions are essentially the same, the results remain within the analysis acceptance criteria, and the EFW flow requirement is unchanged. No new equipment is installed, nor is any existing equipment modified. In addition, the changes are such that no change in the way the plant is operated is required. Therefore, the possibility of an accident of a different type than any previously evaluated in the SAR is not created.

6. *Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?*

   The changes resulting from CALC-87-E-0059-02, Rev. 0, in general, and the change in decay heat assumption, in particular, concern the analysis results for the LOFW event. There are no fundamental changes in the sequences of events or RCS and RPS response because the other basic analysis assumptions are essentially the same, the results remain within the analysis acceptance criteria, and the EFW flow requirement is unchanged. In addition, no new equipment is installed, nor is any existing equipment modified. Therefore, the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR is not created.

7. *Will the margin of safety as defined in the bases for any technical specification be reduced?*

   The TS 3.4 Bases note that the EFW system design takes into account such factors as a single failure, pump recirculation flow, seal leakage and pump wear. In addition, EFW system component and functional redundancies are discussed. These features deal with the system design capability to deliver the 500 gpm flow requirement. The LOFW analysis only establishes the acceptability of the 500 gpm flow.

   No other margins of safety are defined in TS Bases. Therefore, no margin of safety as defined in the bases of the technical specification is reduced.

Conclusion

The changes resulting from CALC-87-E-0059-02, Rev. 0 do not constitute an unreviewed safety question.

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FFN# 01-004

TALT 1-01-001	ARKANSAS NUCLEAR ONE	Page 1
FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

This Document contains 3 Pages.

Document No. TAP 01-0-001 ER 991909 E 303 Rev./Change No. 0

Title Temporary Fire Pump

Brief description of proposed change:

The referenced ER evaluates installation of the temporary fire pump which will be connected to the ANO fire system, located outside the Unit 1 Intake Structure, via hoses/piping. During refueling outages portions of SW and ACW systems are typically secured at various times for maintenance. The fire water system will be used to provide an alternate source of cooling water while eliminating undue wear on the permanent fire pumps. Certain maintenance activies also require one of the main fire pumps be removed from service when the Fire Water System is remaining in service. Operation of the fire protection system will be affected slightly as a result of this temporary alteration.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions? (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-04-0

Document No. TAP 01-0-001 ER 991909 E 303 Rev./Change No. 0

Basis for Determination (Questions 1, 2, & 3):

1. The connection of a temporary fire pump to the fire water system is beyond the scope of both Unit 1 and Unit 2 Operating License documents.
2. Because this temporary alteration does not unduly degrade the operation of any system component or the qualification of the system itself, the text information in the SAR documents will does not need revision remain true and accurate. This temporary alteration violate a requirement of the documents. **However, Unit 1 SAR figure 9-16 (P&ID M-219, Sh.1) will be inaccurate while this temporary alteration is installed as will SAR figure 9-10 (P&ID M-209, Sh. 4).** As such, a safety evaluation will be performed. A change to the SAR figures is not required, as this is a temporary change. This temporary alteration does not involve a test or experiment that could degrade the margins of safety during normal operations or anticipated transients nor will it degrade the adequacy of structures, systems or components required to prevent accidents or mitigate accident consequences. Accordingly this temporary alteration does not constitute a test or experiment not described in the SAR.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ____, (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document Section

LRS: All (fire w/3 suppres*, fire w/3 pump, fire w/3 water)

MANUAL SECTIONS: Unit 1 SAR, sect. 9.8.2, Appendix 9D.2; Unit 2 SAR Sect. 9.5.1.2, Table 9.5-1, Appendix 9D

FIGURES: : Unit 1 SAR 9-10 and 9-16

Certified Reviewer's Signature | Robert J. Priore Printed Name | 1/25/01 Date

Reviewer's certification expiration date: 9/17/2001

Assistance provided by:

Printed Name	Scope of Assistance	Date

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Certified Reviewer's Signature | Daniel Schaubroeck Printed Name | 1/31/01 Date

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. TAP 01-0-001 ER 991909 E 303 Rev./Change No. 0

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

FORM TITLE:	FORM NO.	REV.
10CFR50.59 SAFETY EVALUATION	1000.131B	003-04-0

This Document contains 1 Page.

Document No. TAP 01-0-001 ER 991909 E303 Rev./Change No. 0 10CFR50.59 Eval. No. FFN#01-004 (Assigned by PSC)

Title Temporary Fire Pump

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Certified Reviewer's Signature	Robert J. Priore Printed Name	1/25/01 Date

Reviewer's certification expiration date: 9/17/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: R V Fuller Date: 1-31-01

Document No. TAP 01-0-001 ER 991909 E 303 Rev./Change No. 0

10CFR50.59 Review Continuation Page

1. Will the probability of an accident previously evaluated in the SAR be increased?

A temporary pump will be connected to the Fire Water System at its test header, located outside the Unit 1 Intake Structure, via hoses/piping with this Engineering Evaluation. During refueling outages, portions of SW and ACW systems may be secured at various times for maintenance. The fire water system will be used to provide an alternate source of cooling water. Use of the temporary pump is desired to prevent undue wear on the permanent fire pumps. As a result, the necessity to operate P-6A or P-6B for cooling water supply is eliminated while the normal fire pumps and all normal fire protection system components will remain functional and be available for fire fighting purposes. The fire system's ability to perform its function will therefore not be degraded in this case. Utilizing the temporary fire pump supplements the delivery capability of the Firewater system and, as a result, increases the reliability of the system.

When this evaluation is used to support a need to remove a main Fire Water Pump from service the fire system's ability to perform its function will not be degraded. This is because the Temporary Fire Pump has sufficient capacity to provide protection to all regulatory required fire responses.

No safety related system piping is altered and no safety function is affected and the Fire Pumps will not be degraded by this Alteration.

All temporary piping and hose connections will be out-of-doors, such that a pipe/hose rupture or inadvertent operation of the pump would not cause a loss of function of plant structures, systems or components important to safety. A ~~manual isolation valve and a~~ check valve will be installed at the test header to prevent back flow if the temporary system is out of service or should it fail.

This Temporary Alteration does not affect system performance or reliability, does not cause the system to be operated outside of design limits, and does not effect any system interface in any way. Activities performed by this temporary alteration are not accident initiators nor do they relate to or cause an accident previously evaluated in the SARs. Therefore, the probability of an accident previously evaluated in the SAR will not be increased by implementation of this temporary alteration.

2. Will the consequences of an accident previously evaluated in the SAR be increased?

The Unit 1 and Unit 2 SARs documents evaluation of the Fire Protection System to withstand line breaks, mis-operation, and capability to mitigate the consequences of fires which could have an effect on safety related equipment. Supplemental or replacement water delivery capacity being supplied by this temporary alteration will not affect the Fire Water system's capability to perform in accordance with the design requirements as evaluated in the SARs. No accidents evaluated in the SARs will have their radiation dose consequences altered as a result of the activities proposed in this temporary alteration. Thus, the consequences of an accident previously evaluated in the SARs will not be increased.

3. Will the probability of a malfunction of equipment important to safety be increased?

The Fire Protection system is designed to minimize the affect of fires and while not introducing an unsatisfactory probability of pipe ruptures or inadvertent operation that has the potential to cause loss of function to components important to safety. The normal fire pumps and all normal fire protection system components will remain functional and be available for fire fighting purposes. The fire system's ability to perform its function is not affected by this temporary alteration. No safety related system piping is altered and no safety function is affected. Connection of the temporary fire pump to the fire protection system will not degrade safety system component capability or reliability as provisions are included in the TAP to account for temporary pump and/or hose failures via the use of a check valve ~~and an isolation valve~~. As such, implementation of this temporary alteration will not increase the probability of the failure of equipment important to safety to perform its specified safety function in the SARs. Therefore, the probability of a malfunction of equipment important to safety will not be altered.

4. Will the consequences of a malfunction of equipment important to safety be increased?

The Fire Water system is designed such that any failure will not affect equipment important to safety. The test header, the temporary fire pump, and connecting hoses are all located outside of plant structures and in an area such that failure would not affect any safety related equipment. This temporary alteration does not alter the availability or reliability of the Fire Water system, the ability of any associated safety related equipment to perform its safety function, nor the consequences of any equipment malfunction. The activities proposed by this temporary alteration do not affect nor change the failure mode of any equipment important to safety. Consequently, assuming a failure of equipment important to safety, activities proposed by this temporary alteration will not result in increased radiological release consequences for that failure.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

The Unit 1 and Unit 2 SARs evaluate Fire Protection system line breaks, misoperation, and mitigation of the consequences of fires which could have an affect on safety related equipment. Supplemental water being supplied by a temporary fire pump will not affect the Fire Protection system's capability of performing in accordance with the design requirements as evaluated by the SARs. All redundant features of the Fire Protection system are maintained with this TAP installation. As such, it will not create any new types of accidents. Therefore, the possibility of an accident of a different type than previously evaluated will not be created by the activities proposed by this temporary alteration.

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

The equipment and connections associated with this temporary alteration are all located outside of plant structures and in an area such that failure would not affect any safety related equipment. Connection and operation of a temporary fire pump to the firewater test header does not modify or affect the Fire Protection System's interface with other structures, systems, or components. Therefore, activities proposed by this temporary alteration will not create the possibility of a malfunction of equipment important to safety of a different type then previously evaluated in the SAR.

7. Will the margin of safety as defined in the basis for any technical specification be reduced?

The Fire Protection system is not covered in the bases of either Unit's Technical Specifications. In addition, no correlation could be drawn form the installation of this temporary alteration as to any affect on a Tech Spec Bases. Therefore, implementation of this temporary alteration will not reduce the margin a safety as defined in the basis for any technical specification.

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Document No. 991682N101 Rev./Change No. 0 Page _____

Title Vacuum Pump Reliability & Monitoring Improvements.

Brief description of proposed change:

NC 991682N101 installs two dead ended 1-1/2" connection points on the JBD-6-8" Condenser Vacuum line. These connection points may be used by future modification packages to allow installation of flow instrumentation on the 8" line. This package only addresses the issues involved with the installation of these two normally closed and isolated connection points.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC, SER, Relief, etc.) ? (Forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

Document No. 991682N101 Rev./Change No. 0 Page _____

Basis for Determination (Questions 1, 2, & 3):

See attached continuation page.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ____. (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document	Section
LRS : 50.59 Common Unit and 50.59 Unit 1	ALL "CONDENSER VACUUM", "CONDENSER VACUUM PUMP", "JBD-6", "25-EX-102" and "RE-3632"
MANUAL SECTIONS:	UNIT 1 SAR; SAR 10.4.1, SAR 9 Figure 9-10 and SAR 14.1.2.8.3
FIGURES:	Unit 1 SAR Figure 9 – 10.

Kathy J. Barham — Certified Reviewer's Signature
Kathy J. Barham — Printed Name
1 / 24 / 2001 — Date

Reviewer's certification expiration date: 01 / 11 / 2002

Assistance provided by:

Printed Name	Scope of Assistance	Date
NONE	NONE	

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Kenneth R Hayes — Certified Reviewer's Signature
Kenneth R Hayes — Printed Name
1/25/01 — Date

Document No. 991682N101 Rev./Change No. 0 Page _____

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

Document No. 991682N101 Rev./Change No. 0 Page _____

10CFR50.59 Review Continuation Page

Basis for Determination (Questions 1, 2 & 3): **Continued**

NC991682N101 installs two new dead ended and isolated 1–1/2" connection points on the JBD-6-8" Condenser Vacuum line. This will allow future modifications (T-alts or Nuclear Change Packages) the capability to install flow instrumentation on the JBD-6-8" line while the unit is on-line. The new branch connections are similar to other existing branch connections (i.e., drain and vents) on this line and they are part of the Condenser and Condenser Vacuum System, which do not have any safety related functions. However, this system is required to continue in operation to support the assumptions made in analyzing a steam generator tube failure. This change does not alter system function or change any assumptions made in the license base documents for analyzing steam generator tube failure. The actual 10CFR50.59 Determination and Review for any instrumentation installed in the future on these isolated dead ended branch connections is outside the scope of this 10CFR50.59 review and must be performed by the package installing the instrumentation.

Question 1 :

Installation of the two isolated connection points on the Condenser Vacuum line is below the level of detail presented in the Unit 1 Operating License, Technical specifications, and Confirmatory Orders. Therefore, no change will be required for these documents.

Question 2 :

The proposed change is below the level of detail presented in the Core Operating Limits Report, Fire Hazards Analysis, Bases of the Technical Specifications, Technical Requirements Manual, and NRC Safety Evaluation Reports. Therefore, this change will not result in any of these documents being no longer accurate, or violate a requirement stated in these documents. However, the Unit 1 SAR Figure 9-10 will be affected by the addition of the two isolated connection points which will require update of the SAR Figure 9-10 Drawing.

Document No. 991682N101 Rev./Change No. 0 Page _____

10CFR50.59 Review Continuation Page

Question 3 :

The proposed change does not involve tests or experiments not already described in the SAR, nor does the implementation of this modification create any new tests or experiments. The post modification testing performed by this NC is within ANO Procedures.

Basis for Determination (Questions 4 through 8):

Question 4:

There is no potential impact to the environment as a result of this change.

Question 5:

The proposed change does not create a new radioactive pathway outside of the monitored ventilation or drainage pathways. Therefore, the proposed change will not result in the need of a Radiological Safety Evaluation.

Question 6:

The proposed change does not impact any procedures or equipment associated with the Ventilated Storage Cask activities.

Question 7:

The proposed change does not involve a change under 10CFR50.54 section 6.1.7 for the QAMO or E-Plan.

Question 8:

The proposed change does not depend on future NRC approval of other actions (NRC, SER, RELIEF, etc.).

Document No. 991682N101 Rev./Change No. 0 10CFR50.59 Eval. No. FFNE 01-005 (Assigned by PSC)

Title Vacuum Pump Reliability & Monitoring Improvements.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Kathy J. Barham
Certified Reviewer's Signature

Kathy J. Barham
Printed Name

1 / 24 / 2001
Date

Reviewer's certification expiration date: 01 / 11 / 2002

Assistance provided by:

Printed Name	Scope of Assistance	Date
NONE	NONE	

PSC review by: _____ Date: 2/8/01

Document No. 991682N101 Rev./Change No. 0 Page

10CFR50.59 Review Continuation Page

General :

This modification package installs two dead ended 1-1/2" branch connections on the JBD-6-8" Condenser Vacuum line. The configuration and types of materials used for these new branch connections are similar to other existing connections on this system, i.e., vents, drains, instrument connections, etc. Future modification packages may utilize these two new connections for system instrumentation, but these future modifications will require separate 10CFR50.59 Determinations and/or Reviews for the acceptability of installation, operation and use of these future instruments. This modification package only addresses the issues dealing with the installation of the two new 1-1/2" dead ended and isolated branch connections. The JBD-6-8" line where these new branch connections are being added is the main Condenser Vacuum line. Loss of vacuum in this part of the system would precipitate a trip of the main generator and subsequently a trip of the Reactor system. This system is Non-Safety Related, Non-Q and Non Seismic.

Question 1 :

Installation of two new 1-1/2" dead ended, and isolated, branch connections on the JBD-6-8" Condenser Vacuum line will not increase the probability of an accident previously evaluated in the SAR. No new leak paths of a different type than what currently exists in the system are being introduced or installed as a result of this modification package.

Question 2 :

The consequences of an accident previously evaluated in the SAR will not be increased by the addition of the branch connections on the Condenser Vacuum line. The new 1-1/2" branch connections are still within the same local area in the building/room as the existing piping system and other existing small bore pipe connections. The Condenser Vacuum system is not a high energy system, Design Pressure and Temperature of the line is below 200 psig and 200 degrees F. The normal operating condition of this line is such that the temperature would be less than 120 degrees F and pressures would be under vacuum conditions. Failure of either of the two new 1-1/2" branch connections to maintain the pressure boundary of the system would have no greater consequence than the failure of

any other existing small bore branch connection on this main piping run, that is to say forcing the Unit to come off line and shut down due to excessive in-leakage such that adequate vacuum can not be maintained.

Question 3 :

The existing Condenser Vacuum line JBD-6 is Non Seismic, Non-Q and Non-Safety Related. Installation of the new connections on this line will not increase the probability of a malfunction of equipment important to safety. The new connections are within the same boundary area as the existing piping configuration, i.e., no new areas or rooms are effected. The modified piping system is still qualified to the same Codes / Standards, and uses the same types of materials as the existing system, i.e., carbon steel pipe and fittings acceptable for use in the JBD line class for temperature and pressure ratings. Thus, in case of a pipe break / leak no new potential impact to system, or plant operation, will be created.

Question 4 :

The consequences of a malfunction of equipment important to safety will not be increased by installation of dead ended 1-1/2" branch connections on the Condenser Vacuum line. The existing system has similar branch connections, i.e., drain / vent / instrument connections containing single isolation valves, which are not considered important to safety. Failure of one of the added branch connections will not be any different than a failure of any other existing branch connection in the Condenser Vacuum system.

Question 5 :

The possibility of an accident of a different type than any previously evaluated in the SAR will not be created by installation of branch connections on the Condenser Vacuum line. The same potential for a pipe break / leaks exists in the new configuration as in the old. However, as noted above, the modified piping system is still qualified to the same Codes /

10CFR50.59 Review Continuation Page

Standards as was the old piping system and uses the same types of materials as the existing system, i.e., carbon steel pipe and fittings acceptable for use in the JBD line class for temperature and pressure ratings.

Question 6 :

The possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the SAR will not be created by installation of branch connections on the Condenser Vacuum line. These new small bore pipe connection modifications incorporate the same standard piping installation practice as does the existing design. The new connections are within the same boundary areas as the existing piping, i.e., no new areas or rooms are effected. As noted above, the modified piping system is still qualified to the same Codes / Standards. Thus, in case of a pipe break / leak no new potential impact to system, or plant operation, will be created.

Question 7 :

The margin of safety as defined in the basis for any technical specification will not be reduced. The basis for any technical specification does not contain this level of detail with respect to the Condenser Vacuum system.

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FORM TITLE: 10CFR50.59 DETERMINATION	FORM NO. 1000.131A	REV. 003-03-0

This Document contains 3 Pages.

Document No. ER 992205E101 Rev./Change No. 0

Title EVALUATE THE REMOVAL OF VARIOUS WALLS INSIDE CA-1 FOR THE SGRO

Brief description of proposed change:

Several walls inside CA-1 need to be removed to facilitate the expected increase of personnel traffic through CA-1 during the Steam Generator Replacement Outage (SGRO). Two of the walls to be removed make up the exit pathway out of CA-1 into the Turbine Building. The other walls make up the HP Storage area adjacent to the restroom on the southeast corner of the room next to the RWP logout stations. These walls are not considered to be structural walls, seismic blockwalls, or fire barriers.

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report? Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7?

   QAMO? Yes☐ No☒

   E-Plan? Yes☐ No☒

Document No. ER 992205E101 Rev./Change No. 0

Basis for Determination (Questions 1, 2, & 3):

#1 – Walls are non-Q, non-structural wall partitions that have nothing to do with the Operating License documents.

#2 – The walls to be removed are detailed on SAR Figures 11-8 and 1-3 so that figure will be revised.

#3 – There are no tests or experiments involved with the removal of these walls.

☐ Proposed change does not require 10CFR50.59 Evaluation per Attachment 1, Item # ___. (If checked, note appropriate item #, send LDCR to Licensing).

Search Scope:

List sections reviewed in the Licensing Basis Documents specified in questions 1, 2 and 3. If search was performed on LRS, the LRS search index should be entered under "Section" with the search statement(s) used in parentheses. Controlled hard copies of the documents shall be reviewed (LRS is not verified and searches only text, not figures or drawings). **Attach and distribute a completed LDCR per Section 6.1.2 if LBD changes are required.**

Document Section

LRS: CA-1, controlled w/10 access

MANUAL SECTIONS: Fire Hazards Analysis - Zone 128-E

FIGURES: 11-8, 1-3

Certified Reviewer's Signature | REZA AHRABI Printed Name | 2/15/2000 Date

Reviewer's certification expiration date: ~~6/9/2000~~ 7/25/2000

Assistance provided by:

Printed Name	Scope of Assistance	Date
Blake Hogue	ER 992205E101 and performed searches	1/5/00

Search Scope Review Acceptability (NA, if performed by Technical Reviewer per 1000.006)

Certified Reviewer's Signature | David J. Lach Printed Name | 2/16/2000 Date

Bill Alumbaugh 12/21/00

ENVIRONMENTAL IMPACT DETERMINATION
(UNIT 1 and UNIT 2)

Document No. ER 992205E101 Rev./Change No. 0

Complete the following Determination. If the answer to any item below is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

FORM TITLE: 10CFR50.59 SAFETY EVALUATION	FORM NO. 1000.131B	REV. 003-03-0

This Document contains 2 Pages.

Document No. ER 992205E101 Rev./Change No. 0 10CFR50.59 Eval. No. FFN#01-007 (Assigned by PSC)

Title EVALUATE THE REMOVAL OF VARIOUS WALLS INSIDE CA-1 FOR THE SGRO

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Certified Reviewer's Signature | REZA AHRABI Printed Name | 2/15/2000 Date

Reviewer's certification expiration date: ~~6/9/2000~~ 7/25/02

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 2/8/01

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B. Hogue 9/24/00

Document No. ER 992205E101 Rev./Change No. 0

10CFR50.59 Review Continuation Page

Unreviewed Safety Questions from form 1000.121B (Cont.)

1. Will the probability of an accident previously evaluated in the SAR be increased?

No, the removal of the few non-Q, non-structural, wall partitions inside CA-1 have no effect in increasing the probability of an accident previously evaluated in the SAR. These walls are not near any safety related equipment, do not contact the control room in any way, and do not have any safety function.

2. Will the consequences of an accident previously evaluated in the SAR be increased?

No, the removal of the few non-Q, non-structural, wall partitions inside CA-1 no effect in increasing the consequences of an accident previously evaluated in the SAR. These walls are not near any safety related equipment, do not contact the control room in any way, and do not have any safety function.

3. Will the probability of a malfunction of equipment important to safety be increased?

No. These walls are non-Q and non-structural wall partitions inside the CA-1. They have no safety function. Their removal will not increase the probability of a malfunction of equipment important to safety. These walls are not near any safety related equipment and do not contact the control room in any way.

4. Will the consequences of a malfunction of equipment important to safety be increased?

No. These walls are non-Q and non-structural wall partitions inside CA-1. Their removal will not increase the consequences of a malfunction of equipment important to safety. They do not perform any safety function, nor are they near any safety related equipment and do not contact the control room in any way.

5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

No, the removal of the few non-Q, non-structural wall partitions inside CA-1 will not create the possibility of an accident of a different type than any previously evaluated in the SAR. These walls are not near any safety related equipment, do not contact the control room in any way, and they do not perform any safety function..

6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created?

No. The ER removes a few non-Q, non-structural wall partitions inside CA-1. No equipment is involved or affected by removal of these walls. Possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR will not be created. These walls are not near any safety related equipment and do not contact the control room in any way.

7. Will the margin of safety as defined in the basis for any technical specification be reduced?

No. The ER removes the few non-Q, non-structural wall partitions inside CA-1. These walls have no safety function and do not affect any safety margin. Margin of safety as defined in the basis for any technical specification will not be affected by this change.

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This Document contains 4 Pages.

Document No. **ER002814E101** Rev./Change No. **0**

Title **Equivalency Evaluation for valve(s) DH-1405**

Brief description of proposed change: **Replace a safety-related, ASME, ¾ inch Globe Valve with an equivalent gate valve. Differences in the valve(s) have all been reconciled. Valve(s) conform to design bases.DH-1405 is an isolation valve for PT-1405 on the discharge of the decay heat removal pump P-34B.**

Will the proposed Activity:

1. Require a change to the Operating License including:

   Technical Specifications (excluding the bases)? Yes☐ No☒

   Operating License? Yes☐ No☒

   Confirmatory Orders? Yes☐ No☒

2. Result in information in the following SAR documents (including drawings and text) being (a) no longer true or accurate, or (b) violate a requirement stated in the document:

   SAR (multi-volume set for each unit)? Yes☒ No☐

   Core Operating Limits Report Yes☐ No☒

   Fire Hazards Analysis? Yes☐ No☒

   Bases of the Technical Specifications? Yes☐ No☒

   Technical Requirements Manual? Yes☐ No☒

   NRC Safety Evaluation Reports? Yes☐ No☒

3. Involve a test or experiment not described in the SAR? (See Attachment 2 for guidance) Yes☐ No☒

4. Result in a potential impact to the environment? (Complete the Environmental Impact Determination of this form.) Yes☐ No☒

5. Result in the need for a Radiological Safety Evaluation per section 6.1.5? Yes☐ No☒

6. Result in any potential impact to the equipment or facilities utilized for Ventilated Storage Cask activities per Section 6.1.6? Yes☐ No☒

7. Involve a change under 10CFR50.54 for the following SAR documents per Section 6.1.7:

   QAPM? Yes☐ No☒

   E-Plan? Yes☐ No☒

8. Does this review depend on future NRC approval of other actions (NRC SER, Relief, etc)? (forward change to PSC per 6.3.8 or 6.3.9) Yes☐ No☒

ENVIRONMENTAL IMPACT DETERMINATION (UNIT 1 and UNIT 2)

Document No. **ER002814E101** Rev./Change No. **0**

Complete the following Determination. If the answer to any checklist item is "Yes", an Environmental Evaluation is required. See Section 6.1.4 for additional guidance.

Will the Activity being evaluated:

Yes	No	
☐	☒	Disturb land that is beyond that initially disturbed during construction (i.e., new construction of buildings, creation or removal of ponds, or other terrestrial impact)? See Unit 2 SAR Figure 2.5-17. This applies only to areas outside the protected area.
☐	☒	Increase thermal discharges to lake or atmosphere?
☐	☒	Increase concentration of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Increase quantity of chemicals to cooling lake or atmosphere through discharge canal or tower?
☐	☒	Modify the design or operation of cooling tower which will change drift characteristics?
☐	☒	Install any new transmission lines leading offsite?
☐	☒	Change the design or operation of the intake or discharge structures?
☐	☒	Discharges any chemicals new or different from that previously discharged?
☐	☒	Potentially cause a spill or unevaluated discharge which may effect neighboring soils, surface water or ground water?
☐	☒	Involve burying or placement of any solid wastes in the site area which may effect runoff, surface water or ground water?
☐	☒	Involve incineration or disposal of any potentially hazardous materials on the ANO site?
☐	☒	Result in a change to nonradiological effluents or licensed reactor power level?
☐	☒	Potentially change the type or increase the amount of non-radiological air emissions from the ANO site.

This Document contains 1 Page.

Document No. ER002814E101 Rev./Change No. 0

10CFR50.59 Review Continuation Page

BASES FOR RESPONSES TO DETERMINATION QUESTIONS 1:

A.) Will the proposed activity require a change to the Technical Specifications excluding the bases?

The plant modifications, which are the subject of this Determination, consist of the replacement of an existing valve(s) designated by component tag number DH-1405 by a proposed replacement valve.

The Technical Specifications describe safety limits, limiting conditions for operation, surveillance requirements, design features and administrative controls. With respect to valves, the related requirements of the Technical Specifications are the pressure relieving setpoints, surveillance and testing of valves and systems with valves, status of valves and their associated control circuits for certain activities or conditions, potential for valve leakage, and allowable isolation valve leakage rates. The replacement of an existing valve with an equivalent valve will not effect any of the requirements for valves contained in Technical Specifications. In addition, the specific valve(s) that is the subject of the Equivalency Evaluation is not mentioned in the Technical Specifications. The level of detail of the Technical Specification requirements allows the plant modifications, which are the subject of this determination to be implemented without requiring a change to the Technical Specifications.

B.) Will the proposed activity require a change to the operating license?

The operating license addresses the public health and safety, technical and financial qualifications, environmental, technical and other costs and benefits, maximum power level, physical protection, systems integrity, iodine monitoring, fire protection, and secondary water chemistry. With respect to valves the related requirements of the Operating License require a program to be implemented to reduce leaking from systems outside containment that would or could contain highly radioactive fluids during a transient or accident to as low as practical levels. The replacement of an existing valve with an equivalent valve will not alter or change the Operating License. The level of detail of the requirements of the operating license allow the plant modifications, which are the subject of this determination, to be implemented without requiring a change to the Operating License.

C.) Will the proposed activity require a change to the Confirmatory Orders?

Per review of the Confirmatory Orders issued to date, 1lfo0000.01 through 1lfo0000.14 and 2lfo0000.01 through 2lfo0000.08, there are no changes to the orders required due to the changes that are the subject of this determination.

BASES FOR RESPONSES TO DETERMINATION QUESTIONS 2:

The SAR documents were reviewed as indicated in the Search Scope Section of this Determination. Valve location, testing, closure time, environmental qualification, operation, status, position indication, seismic classification, failure to close, relief valve setpoints, conformance with GDC #55 and allowable leakage are discussed. The replacement of the existing valve with new valve that is equivalent with respect to the design bases requirements will not alter the description contained in the SAR documents. In addition the specific component tag number of the application considered in the evaluation is not mentioned in the text of the SAR documents. The SAR figure number 9-12 does show valve DH-1405. The existing valve is indicated to be a globe valve. The SAR figure will be revised to show a gate valve upon installation of the replacement gate valve that is the subject of the Equivalency Evaluation ER002814E101R0.

BASES FOR RESPONSES TO DETERMINATION QUESTIONS 3:

The proposed modifications do not involve a test or experiment.

This Document contains 1 Page.

Document No. ER002814E101 Rev./Change No. 0 10CFR50.59 Eval. No. FFN#01-008 (Assigned by PSC)

Title Evaluate replacement for DH – 1405 Vavle.

A WRITTEN RESPONSE PROVIDING THE BASIS FOR THE ANSWER TO EACH QUESTION MUST BE ATTACHED. EACH QUESTION MUST BE ANSWERED SEPARATELY. A SIMPLE STATEMENT OF CONCLUSION IS NOT SUFFICIENT. ATTACHMENT 2 PROVIDES GUIDANCE FOR RESPONSE.

If the answer to any question on this form is "Yes," then an unreviewed safety question is involved. If the answer to all questions is "No," then the proposed change does not involve an unreviewed safety question.

1. Will the probability of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
2. Will the consequences of an accident previously evaluated in the SAR be increased? Yes ☐ No ☒
3. Will the probability of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
4. Will the consequences of a malfunction of equipment important to safety be increased? Yes ☐ No ☒
5. Will the possibility of an accident of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
6. Will the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the SAR be created? Yes ☐ No ☒
7. Will the margin of safety as defined in the basis for any technical specification be reduced? Yes ☐ No ☒

Murray C. Moser	Murray C. Moser	02/05/01
Certified Reviewer's Signature	Printed Name	Date

Reviewer's certification expiration date: 8/04/01

Assistance provided by:

Printed Name	Scope of Assistance	Date

PSC review by: _____ Date: 2/8/01

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Bases for responses to Safety Evaluation questions:

1.) Will the probability of an accident previously evaluated in the SAR be increased?

The replacement of a globe valve with a gate valve with all design bases characteristics of the replacement and existing valves being equivalent cannot increase the probability of any of the accidents evaluated in Chapter 14 of the U1 SAR. The valve is a normally open valve and utilized to isolate a pressure transmitter. The change in the valve disc style does not significantly affect any activity associated with this valve. The change in the valve's disc style from globe to gate is qualitatively assessed as not significantly changing the probability of an accident associated with any activity involving this valve.

2.) Will the consequences of an accident previously evaluated in the SAR be increased?

Radiation dose consequences are qualitatively assessed as not being increased by the change in the valve's disc style. The valve is located on the discharge side of the decay heat pump P34B which takes suction from the Borated Water Storage Tank (BWST) and the reactor building sump. The valve's leak rate and design bases pressure integrity are not significantly altered by the change in the valve disc style. The valve's size and operation remain the same. The LPI pumps are located in sealed rooms through which air does not circulate. Cooling is accomplished by a closed cycle ventilation system. Iodine leaking from this pump is not exhausted through the plant vent by the ventilation system. This valve replacement activity does not change, degrade or prevent actions that would be assumed or described in any accident scenario nor does it alter any assumptions that may have been made in evaluating the consequences of an accident. The valve replacement does not significantly affect any barriers that mitigate dose to the public or create a new pathway for release of radioactive material. The change in the valve disc style does not significantly effect onsite doses with respect to access to vital areas.

3.) Will the probability of a malfunction of equipment important to safety be increased?

The valve replacement activity does not degrade the performance of equipment important to safety below the design bases assumed by the ANO accident analysis for operation of the equipment. The change in the valve disc style does not significantly effect valve operation and all design bases requirements are satisfied by the replacement valve. The removal of decay heat and injection of borated water functions of the decay heat system will not incurr an increased probability of malfunction of equipment since all design bases for the valve are meet by the replacement valve.

4.) Will the consequences of a malfunction of equipment important to safety be increased?

Except for the valve disc style the existing and replacement valves are essentially like for like replacement with respect to the design bases and therefore would not increase the consequential effects of a malfunction of equipment. The normally open manually operated globe valve's failure position is assumed to be in the open position. If the failure position for the manually operated gate valve did change to closed position the activity would not result in an increase in onsite or offsite dose consequences of an accident.

5.) Will the possibility of an accident of a different type than any previously evaluated in the SAR be created?

The change in circumstances as a result of the replacement of the isolation valve which is currently a globe valve with a gate valve are not significant enough to alter any accident analysis or introduce any other type of accident. The replacement activity essentially involves a like for like replacement and therefore no additional unbounded types of accidents could be created by this activity.

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FORM TITLE: 10CFR50.59 REVIEW CONTINUATION PAGE	FORM NO. 1000.131C	REV. 003-04-0

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Document No. **ER002814E101R0** Rev./Change No. **0**

10CFR50.59 Review Continuation Page

Bases for responses to Safety Evaluation questions:

6.) Will the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the SAR be created?

The change in circumstances as a result of the replacement of the isolation valve which is currently a globe valve with a gate valve are not significant enough to alter any accident analysis or introduce any other type of malfunction. The replacement activity essentially involves a like for like replacement and therefore no additional unbounded types of accidents or malfunctions are created. The replacement of a globe valve with a gate valve with all design bases characteristics of the replacement and existing valves being equivalent cannot introduce an initiator or failure not considered. The valve is a normally open valve utilized to isolate a pressure transmitter. The pressure transmitter provides information to SPDS point P1405. The instruments have no control or interlock function. The change in the valve disc style does not significantly affect any activity associated with this valve. The change in the valve's disc style from globe to gate is qualitatively assessed as not significantly changing the possibility of a malfunction of equipment not previously evaluated.

7.) Will the margin of safety as defined in the basis for any technical specification be reduced?

There is no margin of safety involved in this activity. The replacement valve is an equivalent valve and does not create circumstances that could alter any margin of safety of the SSC.