



LIC-12-0121
August 17, 2012

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

Reference: Docket No. 50-285

Subject: Licensee Event Report 2012-013, Revision 0, for the Fort Calhoun Station

Please find attached Licensee Event Report 2012-013, Revision 0, dated August 17, 2012. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B).

The following commitment is being made in this letter:

Procedures PED-QP-9, "Setpoint Control," SO-G-30, "Procedure Changes and Generation," and PED-NEI-4, "Interface Requirements for Reload Analysis Process," will be revised to include guidance on the development of new Technical Specification limits and the associated administrative limits. These actions will be tracked in the station's CAP and will be completed prior to December 31, 2012.

If you should have any questions, please contact me.

Sincerely,

D. J. Bannister
Vice President and CNO

DJB /epm

Attachment

c: E. E. Collins, Jr., NRC Regional Administrator, Region IV
L. E. Wilkins, NRC Project Manager
J. C. Kirkland, NRC Senior Resident Inspector
INPO Records Center

LICENSEE EVENT REPORT (LER)(See reverse for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Fort Calhoun Station

2. DOCKET NUMBER

05000285

3. PAGE

1 OF 4

4. TITLE

Inadequate Calculation of Uncertainty Results a Technical Specification Violation

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
12	7	2011	2012	- 013	- 0	8	17	2012	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE

5

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME

Erick Matzke

TELEPHONE NUMBER (Include Area Code)

402-533-6855

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO**15. EXPECTED SUBMISSION DATE**

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

Technical Data Book Procedure (TDB)-III.40, "Technical Specification Required SIRWT Levels," lists the administrative requirements to maintain the Technical Specification (TS) required Safety Injection Refueling Water tank (SIRWT) levels. The required SIRWT level for TS 2.3 accounts for instrument uncertainty, as described in the basis for TS 2.3. However, the required SIRWT levels listed in TDB-III.40 for TS 2.2.7 and 2.2.8 do not account for instrument uncertainty. Therefore, the TS described levels in TS 2.2.7 and 2.2.8 did not adequately account for SIRWT instrument level uncertainty. As a result, using the levels described in TDB-III.40 for compliance with TS 2.2.7 and 2.2.8 was non-conservative.

The analysis concluded that there was inadequate/incomplete procedural guidance for developing Administrative Limits used to protect TS Limits. This includes guidance for understanding how to evaluate and apply uncertainties when developing TS Administrative Limits.

SIRWT level was increased to a level that accounted for instrument uncertainty. TDB-III.40 has been modified to change the Administrative Limits to account for uncertainty.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Fort Calhoun Station	05000285	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 4
		2012	- 013	- 0	

NARRATIVE

BACKGROUND

Fort Calhoun Station (FCS) Technical Specifications (TS) Limiting Conditions for Operation (LCOs) contain requirements to maintain the Safety Injection Refueling Water (SIRW) tank as follows:

2.3, Emergency Core Cooling System

(1) Minimum Requirements

The reactor shall not be made critical unless all of the following conditions are met:

- a. The SIRW tank contains not less than 283,000 gallons of water with a boron concentration of at least the refueling boron concentration at a temperature not less than 50 degrees F.

2.2.7, Borated Water Source - Shutdown

Applicable in modes 4 and 5

c. The SIRW tank with

- 1. A minimum useable borated water volume of 10,000 gallons,

2.2.8, Borated Water Sources – Operating

Applies to the operational status of borated water sources when the reactor coolant temperature (T_{cold}) is greater than 210 degrees Fahrenheit (F).

b. The SIRW tank with:

- 1. A minimum useable borated water volume of 25,000 gallons,

System Description

A safeguards actuation signal starts two of the three 100 percent capable high-pressure safety injection (HPSI) pumps, the two low-pressure safety injection (LPSI) pumps, and opens the twelve SI line isolation valves. The third 100 percent capable HPSI pump (SI-2C) may be manually aligned to either of the two HPSI injection headers. Pump SI-2C is manually actuated as required during plant operations. The SI pumps take suction from two independent suction headers which are supplied with borated water from the SIRW tank (SIRWT). The pumps discharge into the reactor coolant system through the four SI nozzles. For long term core cooling, a continuous source of borated water is provided by recirculating containment water.

EVENT DESCRIPTION

On December 7, 2011, a condition report (CR) (2011-9956) was written to identify a concern associated with the TS values contained in the Technical Data Book (TDB) for the SIRWT. Specifically, TDB-III.40, "Technical Specification Required SIRWT Levels," lists the administrative requirements for maintaining the TS required SIRWT levels. As stated in the TS Basis for TS 2.3, the required SIRWT level for TS 2.3 accounts for instrument uncertainty and therefore is not a concern. However, the required SIRWT levels listed in TDB-III.40 for TS 2.2.7 and 2.2.8 do not account for instrument uncertainty. As a result, the TS described levels in TS 2.2.7 and 2.2.8 did not account for SIRWT instrument level uncertainty and using the levels described in TDB-III.40 for compliance with TSs 2.2.7 and 2.2.8 was determined to be non-conservative.

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NARRATIVE

The cause analysis identified two times in the previous three years when LCO 2.2.7, Borated Water Source – Shutdown requirements were not met. During the 2009 refueling outage (RFO), between approximately 1430 on November 1, 2009, and 0330 on November 12, 2009, and again during the 2011 RFO, between approximately 0347 on May 29, 2011, and 0300 on May 31, 2011. No instances of LCO 2.2.8, Borated Water Sources – Operating, not being met were identified.

This condition has been entered in the station's Corrective Action Program (CAP) as CR 2011-9956. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B).

During the cause analysis, three additional TS instrument uncertainties were questioned and entered into the FCS CAP:

1. Pressurizer level - uncertainty in initial pressurizer level was not applied appropriately in several of the calculations of USAR Chapter 14 analyses performed during the timeframe of the replacement steam generator project. However, due to the additional conservatism already employed in the initial pressurizer level in those calculations, the initial pressurizer level used is still conservative to what was required, and therefore, the calculations themselves remain conservative.
2. Refueling cavity level instruments LI-106 and LI-199 – being reviewed.
3. CEA position indication – being reviewed.

FCS has been systematically addressing issues that have been identified since June 2011, in response to the flooding conditions, switchgear fire, and increased oversight. This LER is being submitted beyond the 60-day regulatory reporting requirement due to non-conservative decisions with respect to procedural and regulatory reportability requirements and resource constraints caused by the operating challenges which began in June 2011.

CONCLUSION

A cause analysis was conducted to determine the reason for the failure to account for instrument uncertainties. The analysis concluded that there was inadequate/incomplete procedural guidance for developing Administrative Limits used to protect Technical Specification Limits. This includes guidance for understanding how to evaluate and apply uncertainties when developing Technical Specification Administrative Limits.

CORRECTIVE ACTIONS

Interim Actions

SIRWT level was increased to a level that accounted for instrument uncertainty. TDB-III.40 (Engineering Change (EC) 56127) has been modified to change the Administrative Limits to account for uncertainty.

Actions to Prevent Recurrence

Procedures PED-QP-9, "Setpoint Control," SO-G-30, "Procedure Changes and Generation," and PED-NEI-4, "Interface Requirements for Reload Analysis Process," will be revised to include guidance on the development of new Technical Specification limits and the associated administrative limits. These actions will be tracked in the station's CAP and will be completed prior to December 31, 2012.

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1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
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NARRATIVE

SAFETY SIGNIFICANCE

Two instances occurred where TS Limit 2.2.7 was not met as a result of this condition. The 10,000-gallon limit for SIRWT volume (credited for a mode 5 boron dilution event) is in fact not used in USAR 14.3, Boron Dilution Incident. There is no analytical basis for the 10,000-gallon limit associated with SIRWT volume. The 25,000-gallon limit associated with SIRWT volume is enveloped by a larger required limit of 283,000 gallons. Although this resulted in a reportable event, it did not represent a challenge to nuclear safety as the refueling cavity was filled as required by TS. This event did not result in the release of any radiation. Therefore, this event had no impact on the health and safety of the public.

SAFETY SYSTEM FUNCTIONAL FAILURE

This event does not result in a safety system functional failure in accordance with NEI-99-02.

PREVIOUS EVENTS

No previous events concerning inadequate application of uncertainty have been identified.

LICENSING CORRESPONDENCE REVIEW FORM

LIC-12-0121

Date Issued: 8/14/12

Requested Return Date: 8/15/12

Review/Approval		Information	
Dave Bannister		Lynn Smith	
Susan Baughn		Woody Goodell	
S. Miller		Brad Blome	
Mike Cooper			
C. Sterba			
C. Cameron			
J. Steinke			
S. Simpson			

Subject__ Inadequate Calculation of Uncertainty Results a Technical Specification Violation _

Please review and approve the attached draft correspondence (referenced above). In order to document your review for our records, please sign this form and return it to the Licensing Coordinator. If no notification is received by the requested return date, your concurrence with no comment will be assumed.

Technical Coordinator (Ext.)

E. Matzke 6855

Licensing Coordinator (Ext.)

[] Approved with no comment. [] Approved pending resolution of comments as noted.

Comments: _____

Reviewer's Signature

Date

LICENSING CORRESPONDENCE REVIEW FORM SUMMARY

LIC-12-0121

Date Issued: 8/14/2012

Requested Return Date: 8/15/2012

Name	Date Comments Received	No Comments ¹	Comments - How Resolved ²
Dave Bannister	8/14/12	X	
Susan Baughn	8/15/12		Corrected
S. Miller	none		
Mike Cooper	none		
John Goodell	8/15/12	X	
C. Sterba	none		
C. Cameron	8/15/12		Corrected or explained
Lynn Smith	none		
J. Steinke	8/15/12		Corrected
S. Simpson	8/15/12		Corrected

Subject: Inadequate Calculation of Uncertainty Results a Technical Specification Violation

NOTE – This submittal does ____ does not X include documents/files on CD-ROM.³

NL Comment Coordinator Signature E. Matzke	Date 8/17/12
Responsible Dept. Manager (if required)	Date
Review by Nuclear Licensing Supervisor	Date

¹ Attach only signed Licensing Correspondence Review Form.

² Attach necessary documentation.

³ Ensure that the CD-ROM files are formatted properly for electronic information exchange (EIE) to the NRC. (Reference NL-17)