

June 6, 2005

LTR: BYRON 2005-0075  
File: 1.10.0101

United States Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Subject: Licensee Event Report (LER) 454-2005-003-00, "Technical Specification (TS) 3.9.4 Violation Due to Imprecise Original Wording TS And TS Bases Wording"

Byron Station, Units 1 and 2  
Facility Operating License Nos. NPF-37 and NPF-66  
NRC Docket Nos. STN 50-454 and STN 50-455

Enclosed is an LER involving the inadvertent non-compliance with Technical Specification 3.9.4 "Containment Penetrations." This condition is reportable to the NRC in accordance with 10 CFR 50.73 (a) (2) (i) (b).

Should you have any questions concerning this matter, please contact Mr. William Grundmann, Regulatory Assurance Manager, at (815) 234-5441, extension 2800.

Respectfully,

*(signed by)*  
Stephen E. Kuczynski  
Site Vice President  
Byron Nuclear Generating Station

SEK/JEL/rah

Attachment LER 454-2005-003-00

<b>NRC FORM 366</b> (6-2004)	<b>U.S. NUCLEAR REGULATORY COMMISSION</b> APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007	
<h2 style="margin: 0;">LICENSEE EVENT REPORT (LER)</h2> <p style="margin: 0;">(See reverse for required number of digits/characters for each block)</p>		
<b>1. FACILITY NAME</b> Byron Station, Unit 1	<b>2. DOCKET NUMBER</b> 05000454	<b>3. PAGE</b> 1 of 3

**4. TITLE** Technical Specification (TS) 3.9.4 Violation Due to Imprecise Original TS and TS Bases Wording

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
09	20	2002	2005	- 003 -	00	06	06	2005	Byron Station, Unit 2	05000455
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

**9. OPERATING MODE**  
6

**10. POWER LEVEL**  
N/A

**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 checked="" 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**

NAME William Grundmann, Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) (815) 406-2800
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**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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b> MONTH:      DAY:      YEAR:
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**ABSTRACT** *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

An NRC inspector raised an issue with Technical Specification (TS) 3.9.4, "Containment Penetrations," as to whether Byron Station was violating item "c" of the Limiting Condition for Operations by causing direct access from containment atmosphere to the outside atmosphere during the performance of local leak rate test (LLRT) on containment isolation valves while core alterations or movement of irradiated fuel within containment were in progress. The NRC's position is contrary to how Byron Station has historically applied this TS. Byron Station has always viewed this wording to mean those penetrations that have a direct air path from within containment to the outside atmosphere (i.e., not through an intermediate area or building such as the auxiliary building). Byron Station decided to not further contest the issue and adopted the NRC's position on the intent of this TS. The most probable cause is the authors and reviewers of the original TS and TS Bases wording inadvertently used imprecise language. The outage schedule was reconfigured to not allow the performance of LLRTs that provide direct access from containment to the auxiliary building during core alterations or movement of irradiated fuel within containment. A revision to the TS Bases for TS 3.9.4 will be made to explicitly state the NRC's interpretation of the definition of what a direct access from containment atmosphere to the outside atmosphere means. An engineering evaluation concluded that there are no adverse safety consequences. This is an event or condition prohibited by the Technical Specifications and consequently, reportable to the NRC in accordance with 10 CFR 50.73 (a) (2) (i) (b).

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Byron Station, Unit 1	05000454	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2005	- 003	- 000	

**NARRATIVE** (If more space is required, use additional copies of NRC Form 366A) (17)

**A. Plant Condition Prior to Event:**

These events occurred during refuel outage conditions for both Units 1 and 2 within 3 years of April 6, 2005. The units were in Mode 6, Refuel Operations. The specific timeframes within each refuel outage are:

- Unit 2 tenth refuel outage - September 20, 2002 to September 23, 2002
- Unit 1 twelfth refuel outage – September 26, 2003 to October 2, 2003
- Unit 2 eleventh refuel outage – March 27, 2004 to April 2, 2004

**B. Description of Event:**

During the Byron Station Unit 1 refueling outage in March of 2005, an NRC inspector raised an issue with Technical Specification (TS) 3.9.4, "Containment Penetrations," as to whether we were violating item "c" of the Limiting Condition for Operations (LCO) by causing direct access from containment atmosphere to the outside atmosphere during the performance of local leak rate tests (LLRT) on containment isolation valves while core alterations or movement of irradiated fuel within containment were in progress. Item "c" of the LCO requires that, during core alterations or movement of irradiated fuel within containment, each penetration providing direct access from containment atmosphere to the outside atmosphere be closed by a manual or automatic isolation valve, blind flange or equivalent. During a typical LLRT setup, the penetration piping is drained and a direct air path exists for a short period of time from within containment to the auxiliary building through the open small diameter vent and drain valves. The NRC believed an air path from containment to the auxiliary building was considered direct access to the outside atmosphere.

The NRC's position is contrary to how Byron Station has historically applied this TS. Byron Station has always viewed this wording to mean those penetrations that have a direct air path from within containment to the outside atmosphere (i.e., not through an intermediate area or building such as the auxiliary building). Byron Station's application has been consistent since initial startup of the units and this interpretation has been institutionalized within Operations procedures and training material.

Byron Station's original TS wording for TS 3.9.4 had identical wording as the now current Improved TS (ITS). The original bases wording was silent on defining what "direct access from the containment atmosphere to the outside atmosphere" meant. Transition to the ITS in the 1999 timeframe indicated the new TS 3.9.4 was an equivalent change. The current ITS bases wording also does not explicitly define "direct access from the containment atmosphere to the outside atmosphere." It does contain more details but nothing that contradicted our application of the TS.

A conference call occurred with the NRC containment experts on April 6, 2005 to discuss and clarify each other's respective position on this TS. As a result of this conference call, Byron Station concluded that, based on the TS and TS Bases wording, both positions are valid applications of the TS. However, with consideration that other utilities have considered themselves in violation of TS 3.9.4 for having a direct path from containment to the auxiliary building, Byron Station decided to not further contest the issue and has adopted the NRC's position on the intent of this TS.

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**(B. Description cont.)**

Byron Station's test records for the LLRTs do not have specific times that the direct path from within containment to the auxiliary building existed during each test in order to correlate it with the core alterations or movement of irradiated fuel logs. However, since several of these LLRTs were started and finished within the core offload or reload schedule windows and with the absence of specific controls or coordination with fuel moves specified within the LLRT procedures, it is likely that at least once Byron Station had a direct path from within containment to the auxiliary building during core alterations or the movement of irradiated fuel with in containment. Based on this likelihood Byron Station believes it is prudent to consider this an event or condition prohibited by the Technical Specifications and consequently, reportable to the NRC in accordance with 10 CFR 50.73 (a)(2)(i)(b).

**C. Cause of Event:**

In retrospect, the original TS wording for TS 3.9.4 was issued and approved with the ambiguous wording "direct access to outside atmosphere" and was inadequately explained in its Bases section.

The cause of this ambiguous wording is unknown. The most probable cause is the authors and reviewers of the original TS and TS Bases wording inadvertently used imprecise language and failed to realize that the proposed wording and lack of detailed explanation could lead to a plausible alternate implementation of the TS 3.9.4.

**D. Safety Analysis**

An engineering evaluation was conducted to analyze the safety consequences of having a direct air path from within containment to the auxiliary building during a design basis fuel handling accident within containment. This evaluation concluded that there are no adverse safety consequences. This is based on available radiation monitoring and alarms to the operators and sufficient time for operator intervention to realign the auxiliary building ventilation to the charcoal filtration path to prevent exceeding 10CFR100 offsite dose limits.

**E. Corrective Actions**

The outage schedule was rearranged to not allow the performance of LLRTs that provide direct access from containment to the auxiliary building during core alterations or movement of irradiated fuel within containment. Future outages will have the same restriction unless TS relief has been obtained via a license amendment request.

Until a license amendment has been obtained, a revision to the TS Bases for TS 3.9.4 will be made to explicitly state the NRC's interpretation of the definition of what direct access from containment atmosphere to the outside atmosphere means.

**F. Previous Occurrences**

There have been no previous occurrences of this nature.