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JAN 16 2019

10 CFR 50.73

Serial: RA-19-0009

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/RENEWED LICENSE NO. DPR-23

Subject: LICENSEE EVENT REPORT NO. 2018-001-00:  
VALID ACTUATION OF EMERGENCY DIESEL GENERATOR

Ladies and Gentlemen:

Pursuant to 10 CFR 50.73, Duke Energy Progress, LLC is submitting the attached Licensee Event Report. There are no unresolved corrective actions necessary to restore compliance with NRC requirements. Please direct any questions regarding this submittal to Justin M. Wild, Senior Licensing Engineer, Regulatory Affairs, at (843) 951-3283.

This document contains no new regulatory commitments.

Sincerely,

Kevin M. Ellis  
Manager – Nuclear Support Services

KME/jmw

Attachment

c: Region Administrator, NRC, Region II  
NRC Resident Inspectors, HBRSEP  
N. Jordan, NRC Project Manager, NRR

United States Nuclear Regulatory Commission  
Attachment to Serial: RA-19-0009  
4 Pages (including this page)

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2**

**LICENSEE EVENT REPORT NO. 2018-001-00:**

**VALID ACTUATION OF EMERGENCY DIESEL GENERATOR**



## LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [InfoCollect.Resource@nrc.gov](mailto:InfoCollect.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOS-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					2. Docket Number			3. Page			
H. B. Robinson Steam Electric Plant, Unit No. 2					05000 261			1 OF 3			
4. Title											
Valid Actuation of Emergency Diesel Generator											
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	
11	19	2018	2018	001	00	1	16	2019	NA	05000	
9. Operating Mode										11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)	
5			<input type="checkbox"/> 20.2201(b)		<input type="checkbox"/> 20.2203(a)(3)(i)		<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)		
			<input type="checkbox"/> 20.2201(d)		<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(ii)(B)		<input type="checkbox"/> 50.73(a)(2)(viii)(B)		
			<input type="checkbox"/> 20.2203(a)(1)		<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(ix)(A)		
			<input type="checkbox"/> 20.2203(a)(2)(i)		<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(x)		
10. Power Level			<input type="checkbox"/> 20.2203(a)(2)(ii)		<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(A)		<input type="checkbox"/> 73.71(a)(4)		
000			<input type="checkbox"/> 20.2203(a)(2)(iii)		<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 73.71(a)(5)		
			<input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 73.77(a)(1)		
			<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)(D)		<input type="checkbox"/> 73.77(a)(2)(i)		
			<input type="checkbox"/> 20.2203(a)(2)(vi)		<input type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 73.77(a)(2)(ii)		
			<input type="checkbox"/> 50.73(a)(2)(i)(C)				<input type="checkbox"/> Other (Specify in Abstract below or in NRC Form 366A)				
12. Licensee Contact for this LER											
Licensee Contact Justin M. Wild, Regulatory Affairs								Telephone Number (Include Area Code) 843-951-3283			
13. Complete One Line for each Component Failure Described in this Report											
Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES		
14. Supplemental Report Expected					15. Expected Submission Date						
<input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date) <input checked="" type="checkbox"/> No					Month Day Year						
Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)											
<p>At 1916 hours eastern daylight time on 11/19/2018 with the plant in Mode 5, H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP2), experienced a valid actuation of the 'B' Emergency Diesel Generator (EDG) due to low voltage on the E2 Emergency Bus.</p> <p>Subsequent investigation determined that during activities associated with a work order task, an E2 supply breaker tripped resulting in the automatic actuation of the 'B' EDG. Consequently, the 'B' Motor-Driven Auxiliary Feedwater pump (MDAFW) actuated due to logic associated with the E2 undervoltage signal. Normal E2 bus voltage supply was restored and 'B' EDG and 'B' MDAFW pump were secured. The direct cause of the EDG actuation was inadequate procedure adherence during maintenance activities.</p> <p>The automatic actuations of the 'B' EDG and 'B' MDAFW pump are valid system actuations and are reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A). There was no impact to the health and safety of the public as a result of this event.</p>											



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

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
H. B. Robinson Steam Electric Plant, Unit No. 2	05000- 261	YEAR 2018	SEQUENTIAL NUMBER 001	REV NO. 00

**NARRATIVE****BACKGROUND**

The onsite standby power source[JX] for each 480 V Engineered Safety Features (ESF) bus[BU] is a dedicated Emergency Diesel Generator (EDG)[DG]. EDGs 'A' and 'B' are dedicated to ESF buses E1 and E2, respectively. An EDG starts automatically on an ESF bus degraded voltage or undervoltage signal and automatically ties to its respective bus after offsite power is lost. Loads are then sequentially connected to its respective ESF bus by the automatic load sequencer[34]. The following loads are connected to E2 once the 'B' EDG is connected following an undervoltage condition: 'C' and 'D' Service Water pumps[P], the Service Water Booster pumps, 'C' Component Cooling Water pump, and 'B' Motor-Driven Auxiliary Feedwater (MDAFW) pump.

The Auxiliary Feedwater (AFW) System[BA] can provide feedwater to the steam generators[SG] for decay heat removal if main feedwater is not available or steam generator level is not adequate. The system provides feedwater from any one or combination of three AFW pumps, two are MDAFW pumps and the third is steam driven. The two motor-driven pumps are supplied power from the emergency buses E1 and E2. The steam-driven pump can be operated independent of electrical power where steam produced from decay heat drives the turbine[TRB].

An 8-hour notification was made on 11/19/2018 to the Nuclear Regulatory Commission (NRC) Operations Center (Event Notification No. 53745). The event is reportable under 10 CFR 50.73(a)(2)(iv)(A), any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section, except when: (1) the actuation resulted from and was part of a pre-planned sequence during testing of reactor operation; or (2) the actuation was invalid and; (i) occurred while the system was properly removed from service; or (ii) occurred after the safety function had been already completed. This criterion requires a 60-day licensee event report be submitted within 60-days of the event date.

**EVENT DESCRIPTION**

On 11/19/2018 H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP2) was in Mode 5 with personnel conducting activities in support of a work order task intended to validate that the field wiring matched the current design drawings. A pre-job brief was conducted with the crew assigned the task. They were provided with a copy of the work order and drawing of the incorrect revision. As the crew began troubleshooting, they identified wires that needed to be reconfigured to match the drawing in hand. During reconfiguration, while landing a wire lead to a terminal strip in 4KV breaker cubicle 52/47, the E2 supply breaker[BKR] 52/48 tripped open. This caused Emergency Bus E2 to separate from its normal offsite power source, resulting in the actuation of the 'B' EDG.

Following the start of the 'B' EDG, all required loads sequenced on at the proper intervals, and all Reactor Coolant System[AB]/Residual Heat Removal System[BP] parameters remained within established bands. The components supporting core cooling, powered by the opposite train electrical bus, were in service and protected prior to the event and remained unaffected.

The following sequence of events provides a concise chronological description of the operation of plant equipment surrounding the safety system actuation.

Date: Time: Event:  
11/19/2018: 1916 - 'B' EDG started on undervoltage and EDG 'B' output supply breaker closed. All loads started as expected, including 'B' MDAFW pump.  
1926 - 'B' MDAFW pump secured  
11/20/2018: 0345 - EDG 'B' shutdown



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H. B. Robinson Steam Electric Plant, Unit No. 2		05000-	261	YEAR 2018	SEQUENTIAL NUMBER 001	REV NO. 00

**NARRATIVE****CAUSAL FACTORS**

The task crew, comprised of contracted supplemental craft, who are not licensed personnel, utilized an incorrect drawing revision while performing work in the field. Supplemental craft did not clearly understand where to properly validate the most recent drawing revision, in accordance with site procedure, prior to performing work in the field. Additionally, leadership failed to provide adequate oversight to ensure the supplemental craft and supervision knew, understood, and adhered to the standards regarding the requirement to verify records prior to working in the field.

**CORRECTIVE ACTIONS**

Complete:

1. Correct revision of the drawing was provided to the task crew and the wiring discrepancy was corrected.
2. Conduct coaching of vendors and managers to reinforce the expectations regarding verifying records prior to working in the field in accordance with procedure.

**SAFETY ANALYSIS**

There is no safety consequence as a result of this event. The 'A' train components supporting core cooling were in service and protected prior to the event and remained unaffected. The actuation of the 'B' EDG was valid, and the system responded to plant conditions as designed. The cause was attributed to inadequate procedure adherence and not due to any equipment failures. This event resulted in no impact to the health and safety of the public.

**ADDITIONAL INFORMATION**

An operating experience (OE) search was conducted and there were no prior events at HBRSEP2 involving inadvertent actuation of the onsite standby AC power system with a subsequent actuation of the AFW system within the past three years.

Energy Industry Identification System (EIIIS) codes for systems and components relevant to this event are identified in the text of this document within brackets [ ].