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10CFR50.73

LG-16-008 February 8, 2016

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

> Limerick Generating Station, Unit 2 Renewed Facility Operating License No. NPF-85 NRC Docket No. 50-353

Subject: LER 2015-007-00, Condition Prohibited by Technical Specifications Due to an Inoperable Reactor Coolant Leak Detection System

This Licensee Event Report (LER) addresses a condition prohibited by Technical Specifications. The reactor coolant leakage detection system, drywell unit coolers condensate flow rate monitoring system, was identified as inoperable for a period that exceeded the Technical Specification allowable outage time. This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

There is one commitment contained in this letter. The commitment is listed in Attachment 1

If you have any questions, please contact Robert B. Dickinson at (610) 718-3400.

Respectfully,

Original signed by

Richard W. Libra Vice President – Limerick Generating Station Exelon Generation Company, LLC

Attachment: Summary of Regulatory Commitments

cc: Administrator Region I, USNRC USNRC Senior Resident Inspector, LGS LG-16-008 February 8, 2016 Page 2

## ATTACHMENT 1

## SUMMARY OF REGULATORY COMMITMENTS

The following table identifies commitments made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

	COMMITTED	COMMITMENT TYPE				
COMMITMENT	DATE OR	ONE-TIME ACTION	PROGRAMMATIC			
	"OUTAGE"	(Yes / No)	(Yes / No)			
The degraded Unit 2 reactor coolant system leakage detection system will be restored to operable status during the next refueling outage currently scheduled for April 2017.	OUTAGE	Yes	No			

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION APPROVED BY OMB:									VED BY OMB: NO.	3150-010	4		EXPIRE	S: 01/31	/2017		
(01-2014)	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 and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by intermet 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.											hours. ndustry. lections , or by ion and on, DC id OMB bond to,					
1. FACIL	1. FACILITY NAME 2. DOCKET NUMBER 3. PAGE																
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4. TITLE Conditi	4. TITLE Condition Prohibited by Technical Specifications Due to an Inoperable Reactor Coolant Leakage Detection System																
5. E		DATE	6.	LER NUM	BER	7.	REPORT	DATE			8. O	THER FA		IES INVO	LVED		
MONTH	DAY	YEAR	YEAR	SEQUENT NUMBE	R REV	MONTH	DAY	YI	EAR	FA	CILITY NAME				DOCKET NUMBER		
12	10	2015	2015	- 007	- 00	02	08	20	016	FA	CILITY NAME				DOCKET	NUMBER	
9. OPE	RATIN	G MODE	11	. THIS RE	PORT IS	SUBMIT	TED PURS	UAN	г то т	ΉE		rs of 10	CFR	§: (Check	all tha	t apply)	)
			20	0.2201(b)			20.2203(a	a)(3)(i)			50.73(a)(2	)(i)(C)		50.7	3(a)(2)	vii)	
	1		20	0.2201(d)			20.2203(a	a)(3)(ii	)		50.73(a)(2	)(ii)(A)		50.73(a)(2)(viii)(A)			
			20	0.2203(a)(	1)		20.2203(a	a)(4)			50.73(a)(2	)(ii)(B)		50.7	3(a)(2)	viii)(B)	
			20	0.2203(a)(	2)(i)		50.36(c)(	1)(i)(A	)		50.73(a)(2	)(iii)		50.7	3(a)(2)	ix)(A)	
10. POW	ER LE	VEL	20	0.2203(a)(	2)(ii)		50.36(c)(	1)(ii)(A	<b>(</b> )		50.73(a)(2	)(iv)(A)		50.7	3(a)(2)	x)	
			20	0.2203(a)(	2)(iii)		50.36(c)(2	2)			50.73(a)(2	)(v)(A)		73.7	1(a)(4)		
	100		20	0.2203(a)(	2)(iv)		50.46(a)(	3)(ii)			50.73(a)(2	)(v)(B)		73.7	1(a)(5)		
	100		20	0.2203(a)(	2)(v)		50.73(a)(2	2)(i)(A	)		50.73(a)(2)(v)(C)			□ отн			
			20	0.2203(a)(	2)(vi)	$\square$	50.73(a)(2	2)(i)(B	)		50.73(a)(2)(v)(D)			Specify in Abstract below or in NRC Form 366A			
FACILITY N	IAME					12. LICE	NSEE CO	NTAC	T FOR	R TH	HIS LER	TI	ELEPH		R (Include	Area Cod	le)
Rober	rt B. D	ickinson	, Mana	ger - Re	gulatory	Assura	ance							610-7	18-34	00	,
CALIS	F	SYSTEM	13. COM	PONENT	MANU-	FOR EA	CH COMP		CAUSE	ILU :	SYSTEM COMPONENT _ MANU					REPORTABLE	
B	-	11	001		FACTURE	R			B	-		FT		FACTURI	ER D		IX
					1303		I		D		15 EYP			MONTH			
YE	14. SUPPLEMENTAL REPORT EXPECTED   YES (If yes, complete 15. EXPECTED SUBMISSION DATE)						NO			SUBMI DA	SSION		06	30	20	)17	
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) A modification was performed on the drywell unit coolers condensate flow rate monitoring system during the Spring 2015 refueling outage (2R13) due to obsolescence issues on the system. The modification replaced all six flow sensors and flow transmitters with a more recent design. The cause of the system inoperability has not yet been determined. Further troubleshooting will occur during the next drywell entry outage opportunity. The planned corrective action is to restore the system to an operable status. The degraded Unit 2 reactor coolant system leakage detection system will be restored to operable status during the next refueling outage.																	

NRC FORM 366A U.S. NUCLEAR REG (01-2014)	ULATORY COMMISS	SION APPROV Estimated b	ED BY OMB: NO. 315 burden per response to cor	<b>;0-0104</b> mply with this m;	EX andatory colle	<b>PIRES: 01</b> ection request	/31/2017
LICENSEE EVENT REF	'ORT (LER) SHEET	Reported le Send comm Branch (T-5 internet e-m and Regula Washington currently val required to n	ssons learned are incorpora rents regarding burden esti i F53), U.S. Nuclear Regul ail to Infocollects.Resource( atory Affairs, NEOB-10202 , DC 20503. If a means use di OMB control number, the espond to, the information c	ted into the licen mate to the FOI/ atory Commission @nrc.gov, and to , (3150-0104), ( d to impose an ir NRC may not co ollection.	sing process A, Privacy an h, Washingtor the Desk Off Office of Ma offormation co onduct or spo	and fed back d Information n, DC 20555-0 ficer, Office of anagement au llection does r insor, and a pr	to industry. Collections 0001, or by Information nd Budget, not display a erson is not
1. FACILITY NAME	2. DOCKET		6. LER NUMBER			3. PAGE	
Limorick Congrating Station Unit 2	05000353	YEAR	SEQUENTIAL NUMBER	REV NO.	2	OF	٨
	03000333	2015	- 007 -	00	2	01	4
NARRATIVE	·						
Unit Conditions Prior to the Event							
Unit 2 was in Operational Condition no structures, systems or compon	on (OPCON) 1 ( ents out of serv	(Power Op vice that co	eration) at 100 Intributed to thi	% power. s event.	. There	e were	
Description of the Event							
On Thursday, December 10, 2015 hours, the Control Room Supervis leakage detection (EIIS:IJ), the dry was degraded. The CRS declared (TS) 3.4.3.1 Reactor Coolant Syst Action was met and states the foll With the drywell unit coole the primary containment at OPERABLE, perform a char radioactivity monitoring syst	5, Limerick Unit for (CRS) was r ywell unit coole d the system ind em Leakage, Li owing: rs condensate f tmosphere gase annel check of stem (SR 4.4.3.	2 was ope notified tha rs condens operable a eakage De flow rate m eous radioa the primary .1.a) once	rating at 100% t one method c sate flow rate n nd entered Tec etection Systen onitoring syste activity monitor containment a per 8 hours.	power. A of reactor nonitoring chnical Sp ns, Action m inoper ing syste atmosphe	At 1436 coolan g syster pecifica n c. The rable, A m ere gas	3 it ation e TS ND seous	
A modification had installed six (6) (EIIS:FT) on the Unit 2 leakage de (2R13). The new system was dec 2015, at 0858 hours. The RCS un period between restart and Decen would increase due to the higher I continued to indicate 0.0 gpm flow flow rate monitoring system was d leakage.	) new flow sens stection system lared operable identified leakage nber 10, 2015. eakage rate of /. On Decembe leclared inopera	ors (EIIS:F during the and Unit 2 ge gradual It was exp 0.7 gpm. 1 er 10, 2015 able for not	E) and six (6) Spring 2015 r was restarted ly increased to ected that the However, all 6 , the drywell un indicating the	flow tran efueling c on Mond 0.7 gpm system flo flow sens nit cooler suspecte	ismitter butage lay, Ma over th ow indi sors s conde ed dryw	rs ny 4, ne cation ensate rell	
On Sunday December 13, 2015, a (2M52) to perform maintenance of monitoring system was performed new flow sensors. The troublesho system performance and Unit 2 w with the leakage detection system 8 hours as required.	at 0854 hours, L n the main turbi during the outa ooting activity co as restarted on inoperable and	Unit 2 was ine. Troub age which i ould not ide Saturday, d TS 3.4.3.	shutdown for a leshooting on f included work entify the cause December 19, 1 Action c bein	planned he degra in the dry e of the d 2015, at g perforn	outage Ided flo well on egrade 2259 h ned on	e w i the id iours, ce per	
TS 3.4.3.1 Action c allows for con Unit 2 restart was permitted by TS	tinued operatior 3 3.0.4.a and a r	n for an un risk assess	limited period o ment was not	of time. T required.	Therefo	re,	

1. FACILITY NAME	2. DOCKET	6. LER NUMBER 3. F	AGE
nerick Generating Station, Unit 2	05000353	YEAR SEQUENTIAL REV NUMBER NO. 4 C	)F 4
		2015 - 007 - 00	
RRATIVE			
The investigation determined the inoperable during the operating met until the system was declare	at firm evidence was cycle for greater tha ed inoperable on De	s present that the leak detection system w an 30 days and TS 3.4.3.1 Action c was n ecember 10, 2015 and Action c was enter	∕as ot ∋d.
This LER is being submitted pur condition prohibited by Technica	suant to the requirer al Specifications.	ments of 10CFR50.73(a)(2)(i)(B) for a	
Analysis of the Event			
There was no actual safety cons consequences of this event were leakage detection systems during the operable systems.	sequence associated e minimal. RCS leal ng this period except	d with this event. The potential safety kage was monitored by three operable t for periods during surveillance testing or	I
The modification that installed th on the existing system. The ai condensate drain flows monitore each and 2 sensors monitor 2 u located in the drywell and six flo section 5.2.5.2.1.4 describes the	ne new flow sensors r cooler system is co ed by 6 flow sensors nit coolers each. Th w transmitters locate e drywell air cooler c	was required due to obsolescence issue omprised of 8 drywell unit coolers with Four (4) sensors monitor one unit coolers system is comprised of six flow sensor ed in the reactor enclosure. LGS UFSAR condensate drain flow monitoring system.	3 !r 3
Cause of the Event			
The cause of the system inopera occur during the next drywell en Investigation into the developme challenge of vendor provided inf	ability is not yet dete try outage opportuni ent of the modificatio formation and modifi	ermined. Further troubleshooting will ity to determine the cause. on identified weaknesses in engineering ication acceptance test development.	
Corrective Action Completed			
Initial troubleshooting was perfo inoperability.	rmed, however it did	d not determine the cause the system	
Corrective Action Planned			
The planned corrective action is Unit 2 reactor coolant system lead during the next refueling outage	to restore the system akage detection system currently scheduled	em to an operable status. The degraded stem will be restored to operable status d for April 2017.	
Previous Similar Occurrences			

NRC FORM 366A (01-2014)	LICEN	SEE EVENT I	REPORT ( N SHEET	U.S. NUCI (LER)	LEAR REC	GULATORY	COMMISSION			
1. FACILITY NAM	1E	2. DOCKET	(	6. LER NUMBER		3. PAGE				
Limerick Generating Station, Unit 2		05000353	YEAR	SEQUENTIAL NUMBER	REV NO.	4 (	OF 4			
			2015	- 007 -	00					
NARRATIVE Component data: System	IJ Leak Mo	onitoring Syste	em							
Component Component number Manufacturer Model number Serial number	FE Primary FE-087-220A R369 Rosemo 8705FSA005S1 0264287	Dunt Nuclear Ir	v istruments	s Inc.						
System Component Component number Manufacturer Model number Serial number	IJ Leak Monitoring System nent FT Transmitter, Flow nent number FT-087-220A cturer R369 Rosemount Nuclear Instruments Inc. number 8712ESR1A1N0M4 umber 0402227									