

Exelon Nuclear
Limerick Generating Station
PO Box 2300
Sanatoga, PA 19464

www.exeloncorp.com

10CFR50.73

September 23, 2002

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

Limerick Generating Station, Unit 2
Facility Operating License Nos. NPF-85
NRC Docket Nos. 50-353

Subject: LER 2-02-002, Unit 2 Offgas Hydrogen Analyzers Inoperable

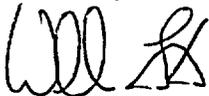
This LER reports a condition prohibited by the Technical Specifications in that a grab sample of the Unit 2 offgas system was not obtained within the time limit required by Technical Specifications Section 3.3.7.12, Action 110 with the hydrogen analyzers inoperable.

Report Number: 2-02-002
Revision Number: 00
Event Date: July 24, 2002
Discovered Date: July 24, 2002
Report Date: Sep. 23, 2002

This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,



William Levis
Vice President - Limerick

cc: H. J. Miller, Administrator Region I, USNRC
A. L. Burritt, USNRC Senior Resident Inspector, LGS

IE22

Estimated burden per response to comply with this mandatory information collection request 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1) Limerick Generating Station, Unit 2	DOCKET NUMBER (2) 05000 353	PAGE (3) 1 OF 3
--	--------------------------------	--------------------

TITLE (4)
Manual Scram due to Failure of Main Condenser Air Removal System

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
7	24	2002	2002	002	00	9	23	2002	FACILITY NAME	DOCKET NUMBER
										05000
										05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check all that apply) (11)			
POWER LEVEL (10) 100	20 2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50 73(a)(2)(ix)(A)
	20 2201(d)	20.2203(a)(4)	50 73(a)(2)(iii)	50 73(a)(2)(x)
	20 2203(a)(1)	50.36(c)(1)(i)(A)	50 73(a)(2)(iv)(A)	73 71(a)(4)
	20 2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
	20 2203(a)(2)(ii)	50.36(c)(2)	50 73(a)(2)(v)(B)	OTHER
	20 2203(a)(2)(iii)	50.46(a)(3)(ii)	50 73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
	20 2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50 73(a)(2)(v)(D)	
	20 2203(a)(2)(v)	x 50.73(a)(2)(i)(B)	50 73(a)(2)(vii)	
	20 2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50 73(a)(2)(viii)(A)	
20 2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50 73(a)(2)(viii)(B)		

LICENSEE CONTACT FOR THIS LER (12)

NAME M. C. Kaminski, Manager – Regulatory Assurance	TELEPHONE NUMBER (Include Area Code) (610) 718-3400
--	--

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
A									

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO		MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e. approximately 15 single-spaced typewritten lines) (16)

On July 24, 2002 at 00:26 hours during unit shutdown, all three Unit 2 Main Condenser Offgas Hydrogen Analyzers were placed in purge mode, with the steam jet air ejectors in service, without compensatory sampling in place. This condition represented a violation of Technical Specifications 3.3.7. The cause of this event was that shift management allowed all three H2 analyzers to be purged without compensatory sampling in place, based on incorrect assumptions of future plant conditions. Corrective actions included restoring an analyzer to operable status, making appropriate revisions to the affected procedures, and reviewing the event with Operations and Instrument and Controls (I&C) departments.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Limerick Generating Station, Unit 2	05000353	2002	002	00	2 OF 3

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

Unit Conditions Prior to the Event

LGS Unit 2 was in Operational Condition 3 (Hot Shutdown) following a manual scram due to decreasing condenser vacuum. Operations was planning to remove the Steam Jet Air Ejector (SJAЕ) System and the Offgas System from service, place the mechanical vacuum pump in service and proceed to cold shutdown. The auxiliary steam system was not in service, and there were no other systems, structures, or components inoperable that contributed to the event.

Description of the Event

On July 23, 2002, Operations personnel were in process of shutting down the unit following a manual scram and were removing the steam jet air ejectors and offgas system (EIS:WF) from service. Per procedures, the hydrogen analyzers were to be placed in a purge mode when the SJAЕs were removed from service. Operations planned to start the mechanical vacuum pump (MVP) to maintain condenser vacuum. Since the vacuum pump radiation monitor was not in service, the MVP could not be started. Therefore, main condenser vacuum control was transferred to second stage SJAЕ to minimize main steam consumption and maintain condenser vacuum. However, Operations requested I&C to performed a routine test (RT) that placed the remaining two offgas hydrogen analyzers in purge. At that time, one of the three hydrogen analyzers was already in purge due to being taken offline for scheduled maintenance.

On July 24 at 00:26 the two offgas hydrogen analyzers were removed from service. During the next shift, the Operations Shift Manager inquired about the status of the hydrogen analyzers since the integrated plant shutdown procedure had been signed off indicating that all the hydrogen analyzers were removed from service. Upon discovery that all hydrogen analyzers were in purge, a hydrogen sample was taken at 12:20 hours and the common hydrogen analyzer was placed back in service at 13:17 hours.

Technical Specifications require that, with the SJAЕ system and offgas system in service, at least one of three available offgas hydrogen analyzers be operable. With less than one required offgas hydrogen analyzer operable, offgas grab samples are required to be collected at least once per 4 hours and analyzed within the following 4 hours. On this occasion, the offgas system operated for 11 hours and 18 minutes before the first offgas sample was taken at 13:36 on July 24, 2002. At 14:10 hours, actual offgas hydrogen concentration was determined to be 0.125% hydrogen by volume per analysis of a grab sample. This is less than the 4% by volume limit specified in Technical Specifications.

This event was determined to be reportable under the requirements of 10CFR50.73(a)(2)(i)(B).

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Limerick Generating Station, Unit 2	05000353	2002	- 002	- 00	3	OF 3

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

Analysis of the Event

The actual consequences of this event were minimal. There was no release of radioactive material to the environment. The offgas system operated as designed during shutdown operation. A hydrogen analyzer was restarted approximately 14 hours after being secured. Grab samples of offgas confirmed that the hydrogen concentration was a small fraction of the Technical Specification 3.11.2.5 limits.

The potential consequences of this event were also minimal. In the event that hydrogen had exceeded the limit of 4% as specified in Tech Specs, the required action would have restored the concentration to less than 4% within 48 hours.

Cause of the Event

The cause of this event was that the shift management allowed all H2 analyzers to be placed in purge without compensatory sampling in place based on assumed future plant conditions.

Corrective Action Completed

The following corrective actions have been completed:

- The Unit 2 common offgas hydrogen analyzer was immediately restored to operable status following condition discovery, and a hydrogen sample was taken.
- Plant procedures have been revised to specify the operable/inoperable hydrogen analyzers when testing and removing SJAE/offgas hydrogen analyzers from service.
- Operations and Instrument and Control personnel have been briefed on this event including proper communications.

Previous Similar Occurrences

LER 1-99-006 In that event, all offgas analyzers were left in purge and not put in service when bringing on the SJAE during plant startup. This was attributed to operator error.