

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	PAGE (3) 1 OF 6
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TITLE (4)  
Missed Gas Decay Tank Sample Due to Plugged Sample Injection Syringe

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
08	19	87	87	030	000	04	18	88	N/A		0 5 0 0 0
									N/A		0 5 0 0 0

OPERATING MODE (9) 1

POWER LEVEL (10) 0.95

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	Voluntary
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME R.E. Allen, Chemistry Department Head	TELEPHONE NUMBER 5 0 4 4 6 4 - 3 1 2 9
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRCDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRCDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

At 1330 hours on August 19, 1987, Waterford Steam Electric Station Unit 3 was operating at 95% power when Operations personnel discovered that the 0900 hours Gas Decay Tank (GDT) hydrogen and oxygen samples had not been analyzed within four hours from sampling (i.e., by 1300 hours). Action Requirement 38 of Technical Specification (TS) Table 3.3-13 requires the hydrogen sample to be analyzed within four hours from sample isolation. Action Requirement 40 of the same TS requires oxygen to be sampled and analyzed once per four hours.

The root cause of this event was a plugged sample injection syringe for the Gas Chromatograph. Contributing to this was a failure in communication between Chemistry and Operations personnel which prevented securing the Waste Gas Holdup System (WGHS) Compressors prior to 1300 hours to place the plant in a mode in which the samples were not required. The syringe was repaired. Chemistry personnel were counseled. A Station Modification is being implemented to replace the installed automatic sampling system. The WGHS was secured at 1330 hours and subsequent GDT samples showed normal and expected results. There was, therefore, no safety significance to this event. Since the WGHS was secured within the allowable 25% extension of the surveillance interval, there was no condition prohibited by Technical Specifications, and this report is submitted voluntarily.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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					0   2	OF	0   6

TEXT (if more space is required, use additional NRC Form 366A's) (17)

At 1330 hours on August 19, 1987, Waterford Steam Electric Station Unit 3 was operating at 95% power when Operations personnel were notified that the 0900 hours on-service Gas Decay Tank (GDT) (EIIS Identifier WE-TK) hydrogen and oxygen grab samples had not been analyzed within four hours from sampling (i.e., by 1300 hours). Action Requirement 38 of Technical Specification (TS) Table 3.3-13 requires the hydrogen sample from the on-service GDT be analyzed within four hours from sample isolation. Action Requirement 40 of the same TS requires oxygen from the on-service GDT to be sampled and analyzed once per four hours.

TS 3.3.3.11 provides the Limiting Conditions for Operation (LCO) for radioactive gaseous effluent monitoring instrument channels shown in TS Table 3.3-13. The Waste Gas Holdup System (WGHS) Explosive Gas Monitor (FGM) (EIIS Identifier WE-MON), the installed automated means of sampling the WGHS, has been out-of-service since March 1985. Consequently, Action Requirements 38 and 40 of TS Table 3.3-13 have been applicable during periods of WGHS operation. Station Modification 818 is being implemented to replace the installed gas monitors.

The root cause of this event was a plugged sample injection syringe for the Gas Chromatograph (EIIS Identifier LQ-AI). The Gas Chromatograph is used by Chemistry technicians to manually analyze the WGHS grab samples. The sample injection syringe for the Gas Chromatograph is used to transfer gas from the sample collection vessel to the Chromatograph and had become plugged with septum material. When Chemistry technicians attempted to inject the gaseous grab sample into the Gas Chromatograph, the gas leaked out around the injection cylinder of the syringe instead of passing through the tip and into the Gas Chromatograph. This prevented performance of the analyses required by the TS, and was discovered after intensive troubleshooting of the Gas Chromatograph (including disassembly) detected no faults.

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A contributing cause in this event was a failure in communications between Chemistry and Operations personnel. At approximately 1130 hours, Operators were notified by Chemistry personnel that, "there were problems with the analyses." This message, delivered 90 minutes prior to expiration of the four hour time limit of Action Requirements 38 and 40, did not explicitly convey the fact that the samples could not be analyzed within the time limit. Had Operators been aware of this fact, the WGHS Gas Compressors (EIIS Identifier WE-CMP) would have been secured prior to 1300 hours to place the plant in a mode in which the samples were not required. Chemistry personnel became preoccupied with troubleshooting the analysis equipment and did not communicate with the control room again until approximately 1330 hours.

WGHS operation was suspended at 1330 hours. Troubleshooting continued until the sample injection syringe for the Gas Chromatograph was cleaned, and the equipment was returned to an operable status at approximately 1900 hours. Grab samples from GDT 'C', the previously on-service GDT, were taken at 1300 hours, 1500 hours, and 1900 hours, and analyzed for hydrogen and oxygen at 1930 hours. The analysis results were normal and within required limits. Shift meetings were held with all Chemistry technicians to emphasize the importance of immediately notifying the Shift Supervisor or Control Room Supervisor of an inability to meet a TS sampling or analysis requirement. The Chemistry technicians involved in this event were counseled by Chemistry supervision.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

The action requirement for an inoperable automatic hydrogen and oxygen monitor in the Waterford 3 TS is identical to the sampling requirement which existed for plants licensed before the advent of installed automatic monitors. The installation of various types of instrumentation (particularly radiation monitors) was effected to reduce the burden of performing periodic sampling. It is therefore logical that the inoperability of a particular monitor would necessitate the performance of routine sampling. This philosophy is evident in the wording of the relevant LCOs. For example, should a hydrogen monitor become inoperable, Action 38 for the Technical Specification in question stipulates that continued operation of the Gas Decay Tank can continue provided periodic sampling is performed. It is not surprising that the wording of Action 38 is similar to that of periodic surveillance requirements since the sampling is the surveillance requirement negated by the installation of the hydrogen monitor.

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In this, and other similar instances, surveillance intervals are selected based on balancing considerations which would tend to both increase and decrease the allowed interval. For example, testing a pump more frequently increases the level of assurance that it is operable at any point in time, but the added wear increases the probability that it will fail under an actual demand and increases routine maintenance costs. It is therefore intended that intervals selected based on these considerations be adhered to as closely as possible, and it is clear that there are adverse consequences (in the case of GDT Sampling, personnel radiation exposure and release of radioactive gas incident to sampling) to more frequent than necessary surveillances. It has long been recognized by the Commission that minor equipment problems, multiple tasks assigned to certain personnel, plant evolutions, and other practical considerations make performance of most surveillances at precisely the interval specified unnecessarily burdensome. The allowable surveillance extensions expressed in TS 4.0.2 were established to allow a reasonable time frame for normal scheduling problems while maintaining, on average, the desired frequency of each surveillance. If this flexibility is not allowed for periodic surveillances required by Action Statements, the only practicable option available to the licensee is to schedule the surveillance at shorter than required intervals, with the concomitant departure from the original basis of the surveillance interval. It is therefore reasonable that the allowable extensions of TS 4.0.2 be applied to recurring surveillances established by LCO actions in order to avoid a de facto increase in the surveillance frequency specified. This does not, of course, apply to nonrecurring actions (e.g., those expressed as "within 4 hours"). Since, in this case, the allowable surveillance extension was not exceeded, there was no operation or condition prohibited by TS. This report is therefore provided voluntarily for the information of the NRC staff.

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The reasoning above represents a best effort attempt to correctly understand available regulations, guidance, and precedent in the subject area. It is recognized that this issue is not treated explicitly in the TS and that information may exist of which we are not currently aware. The usefulness of the LER database is lessened if licensees classify numerous events as reportable which do not actually meet the safety significance criteria established in the LER rule, since statistical analysis will be invalidated by inclusion of events which do not actually belong in a given classification. Technical judgement concerning this event and the applicable design features as they apply to the stated reporting criteria were utilized initially in the determination not to include this as a reportable event in September 1987.

Since GDT samples prior and subsequent to the missed sample were all normal and within required limits, and the WGHS was operated for only 30 minutes after expiration of the surveillance interval, there was no safety significance to this event.

SIMILAR EVENTS

Missed GDT samples were reported in LERs 85-11, 85-19 and 86-17.

PLANT CONTACT

R.E. Allen, Chemistry Department Head, 504/464-3129



**LOUISIANA**  
POWER & LIGHT

WATERFORD 3 SES • P.O. BOX B • KILLONA, LA 70066-0751

April 18, 1988

W3A88-0040  
A4.05  
QA

U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, D.C. 20555

SUBJECT: Waterford 3 SES  
Docket No. 50-382  
License No. NPF-38  
Reporting of Licensee Event Report

Attached is Licensee Event Report Number LER-87-030-00 for Waterford Steam Electric Station Unit 3. This Licensee Event Report is submitted voluntarily as an item of potential interest to the NRC Staff.

Very truly yours,

N.S. Carns  
Plant Manager - Nuclear

NSC/WEM:rk

Attachment

cc: R.D. Martin, NRC Resident Inspectors Office, INPO Records Center (J.T. Wheelock), E.L. Blake, W.M. Stevenson, D.L. Wigginton

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