

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U7.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 1										DOCKET NUMBER(2) 0 5 0 0 0 3 8 7 1				PAGE (3) OF 0 3	
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TITLE (4)
Liquid Effluent Grab Sample Analysis Requirements

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)		
0 7	0 2	9 7	9 7	0 1 5	0 0	0 8	0 1	9 7	Susquehanna SES- Unit 2			0 5 0 0 0 3 8 8		
												0 5 0 0 0		

OPERATING MODE (9) 1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more of the following) (11)										
POWER LEVEL (10) 1 0 0	20.402(b)			20.405(c)			50.73(a)(2)(v)			73.71(b)		
	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)		
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 368A)		
	20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(vii)(A)					
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(1)(2)(vii)(B)					
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(vi)						

(LICENSEE CONTACT FOR THIS LER (12))

NAME Comelius T. Coddington - Senior Engineer, Licensing							TELEPHONE NUMBER					
							AREA CODE					
							7 1 7		5 4 2 - 3 2 9 4			

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NFRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NFRDS

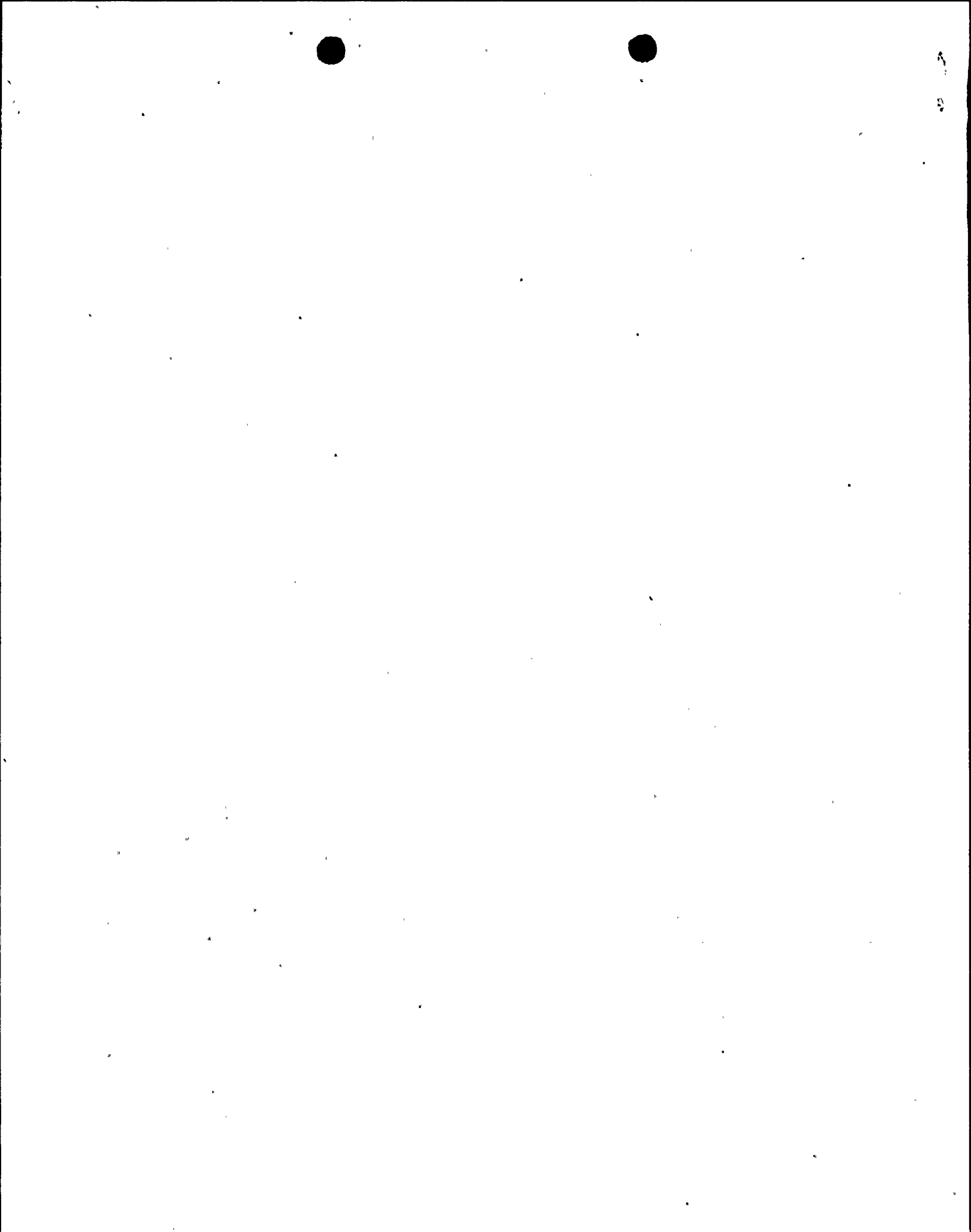
SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On July 2, 1997, at 1630 hours, with both Unit 1 and Unit 2 in Condition 1 (Power Operation) at 100% power, it was determined during a review of procedures as a follow-up to a previous plant event, that the requirement of Technical Specification Table 3.3.7.10-1, ACTION 101 was not being met. Technical Specification Table 3.3.7.10-1, ACTION 101, requires a gross radioactivity analysis on liquid effluent grab samples when the associated effluent monitoring instrumentation is not operable to be performed. Performance of gamma isotopic analysis does not meet the Technical Specification requirement since it does not measure gross radioactivity to a sensitivity of 1E-7 microcurie/ml. This event was determined to be a condition prohibited by Technical Specifications and is reportable per 10CFR50.73(a)(2)(i)(B). The cause of the event was determined to be human performance. It was not recognized that a change to the Technical Specifications was required since it was viewed that the isotopic analysis was an improved method of analysis. There were no safety consequences or compromises to public health and safety as a result of this event as the isotopic analysis is a better analysis in determining radioactivity in effluents. Corrective actions include: providing requirement to perform the gross radioactivity analysis along with the isotopic analysis and submitting a revision to the Technical Specifications.

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TEXT CONTINUATION

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FACILITY NAME (1) Unit 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	LER NUMBER (6)						PAGE (3)		
		YEAR		SEQUENTIAL NUMBER		REVISION NUMBER				
		9 7	—	0 1 5	—	0 0		2	OF	3

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

EVENT DESCRIPTION

On July 2, 1997, at 1630 hours, with both Unit 1 and Unit 2 in Condition 1 (Power Operation) at 100% power, it was determined during a review of procedures as a follow-up to a previous event, that the requirement of Technical Specification Table 3.3.7.10-1, ACTION 101, was not being met.

Technical Specification Table 3.3.7.10-1, ACTION 101, states: "With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirements, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta and gamma) at a limit of detection of at least 1E-7 microcurie/ml." The plant procedures for these grab samples (EIS Code: IL) had been to perform isotopic analysis to the sensitivity required for liquid effluents in Technical Specification Table 4.11.1.1.1-1, which has a sensitivity that is less than the sensitivity specified in Technical Specification Table 3.3.7.10-1, ACTION 101. Performance of gamma isotopic analysis does not meet the Technical Specification requirement since it does not measure gross radioactivity to a sensitivity of 1E-7 microcurie/ml. This event was determined to be a condition prohibited by Technical Specifications and is reportable per 10CFR50.73(a)(2)(i)(B).

CAUSE OF EVENT

The cause of the event was determined to be human performance. It was not recognized that a change to the Technical Specifications was required. The isotopic analysis was viewed to be an improved method of analysis.

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), in that Susquehanna SES Units 1 and 2 were in a condition prohibited by the Technical Specifications, in that the requirement by Technical Specification Table 3.3.7.10-1, ACTION 101, to perform a gross radioactivity analysis on liquid effluent grab samples when the associated effluent monitoring instrumentation is not operable, was not being met. The plant procedures for these grab samples had been to perform gamma isotopic analysis to the sensitivity required for liquid effluents in Technical Specification Table 4.11.1.1.1-1 that has a sensitivity that is less than the sensitivity specified in Technical Specification Table 3.3.7.10-1, ACTION 101. Performing the isotopic analysis does not meet the Technical Specification requirement since it does not measure gross radioactivity to a sensitivity of 1E-7 microcurie/ml.

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

Performing gross radioactivity analysis was viewed as the only method in the past for frequent samples where isotopic analysis was too difficult to complete. With advances in technology, it is now possible to perform isotopic analysis frequently, and therefore, is the desirable method. This view of gross radioactivity analysis versus isotopic analysis was, in part, obtained from Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Lightwater Cooled Nuclear Power Plant." This Regulatory Guide states in Section C.4: "Gross radioactivity measurements alone are generally not acceptable for showing compliance with effluent release limits. However, gross radioactivity measurements are often the only practicable means of continuously monitoring effluents...". In Appendix A, Section B.1, of Regulatory Guide 1.21, it states: "When operational or other limitations preclude specific gamma radionuclide analysis of each batch, gross radioactivity measurements should be made to estimate the quantity and concentrations of radioactive material released...".

Contributing to the decision to perform an isotopic analysis instead of a gross radioactivity analysis was the presence of natural radioactivity. An isotopic analysis rather than a gross radioactivity analysis is needed to distinguish natural radioactivity from plant generated radioactivity in effluent releases.

There were no safety consequences or compromises to public health and safety as a result of this event since the isotopic analysis is viewed as an improved method of analysis in determining radioactivity in effluents.

In accordance with the guidelines provided in NUREG-1022, Supplement 1, Item 14.1, the required submission date for this report was determined to be August 1, 1997.

CORRECTIVE ACTIONS

The requirement to perform gross radioactivity analysis, in addition to isotopic analysis, on liquid effluent grab samples has been implemented.

A change to the Technical Specifications to require only an isotopic analysis will be submitted.

ADDITIONAL INFORMATION

Past Similar Events: None

Failed Component: None