YANKEE ATOMIC ELECTRIC COMPANY
49 Yankee Road, Rowe, Massachusetts 01367

January 12, 2022
BYR 2022-001
10 CFR 73.71(d) and
Appendix G, Section I(c)

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

Yankee Atomic Electric Company
Yankee Rowe Independent Spent Fuel Storage Installation
NRC License No. DPR-3 (NRC Docket No. 50-029)

Subject: Licensee Event Report No. 2021-001-00

In accordance with 10 CFR 73.71(d), which refers to Appendix G, Section I(c), Yankee Atomic Electric Company (YAEC) is submitting the attached Licensee Event Report.

This document contains no new regulatory commitments.

If you have any questions regarding this submittal, please do not hesitate to contact me at (413) 424-5261 ext. 303.

Respectfully,

John B. Macdonald 01/12/2022

John Macdonald
ISFSI Manager

IE22
NMSS26
NMSS

cc: D. Lew, NRC Region I Administrator
A. Dimitriadis, Chief, Decommissioning Branch, NRC, Region 1
J. McKirgan, Chief, Division of Fuel Management, Storage and Transportation Licensing Branch
Director, Office of Nuclear Reactor Regulation
Director, Officer of Nuclear Material Safety and Safeguards
Director, Division of Security Policy, Office of Nuclear Security and Incident Response

NRC FORM 366 (08-2020) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2023

LICENSEE EVENT REPORT (LER)

(See Page 3 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/)

1. Facility Name	2. Docket Number	3. Page
Yankee Nuclear Power Station	05000 029	1 OF 6

4. Title

Compensatory Measure Not Established for a Momentary I/O Board Communication Loss

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	Docket Number
11	19	2021	2021	- 001 -	00	01	12	2022		05000
									Facility Name	Docket Number
										05000

9. Operating Mode	10. Power Level
N	000

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*

10 CFR Part 20	☐ 20.2203(a)(2)(vi)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	10 CFR Part 73
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(4)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(i)	10 CFR Part 21	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(1)(i)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(i)
☐ 20.2203(a)(2)(iii)	10 CFR Part 50	☑ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.77(a)(2)(ii)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	

☑ OTHER (Specify here, in abstract, or NRC 366A). 10 CFR 73.71(d), [10 CFR 73 Appendix G, Section I(c)]

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include area code)
John Macdonald	(413) 424 5261 X303

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to IRIS	Cause	System	Component	Manufacturer	Reportable to IRIS
B	IA	RLY		No					

14. Supplemental Report Expected		15. Expected Submission Date	Month	Day	Year
☑ No	☐ Yes (If yes, complete 15. Expected Submission Date)				

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On November 19, 2021, at approximately 2010 EST, the security alarm computer received a loss of communication alarm for a specific input/output (I/O) board. Per Security procedures, receipt of this alarm required that a time sensitive compensatory measure be established. Contrary to this requirement, the compensatory measure was not established. The most probable cause of the event was ISFSI Shift Supervisor overconfidence. The corrective actions include the development of the conduct of remedial training for the ISS, the development of an individual development plan for the ISS, the conduct of a presentation to the security force on expectations, conservative decision-making, procedure use and adherence, teamwork, and advocacy, and development of a case study regarding the use of human performance error prevention tools. This report is submitted in accordance with the requirement of 10 CFR 73.71(d) [10 CFR 73, Appendix G, Section I(c)].

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(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/)

1. FACILITY NAME	2. DOCKET NUMBER		3. LER NUMBER		
			YEAR	SEQUENTIAL NUMBER	REV NO.
Yankee Nuclear Power Station	05000-	029	2021	- 001	- 00

NARRATIVE

BACKGROUND

The Yankee Nuclear Power Station has been decommissioned with the exception of the area associated with the Independent Spent Fuel Storage Installation. The Independent Spent Fuel Storage Installation stores spent nuclear fuel and Greater-Than-Class-C waste generated at the Yankee Nuclear Power Station in dry storage.

The Yankee Atomic (YA) security computer system (system) [EIIS: Security System [IA]] was replaced in 2021 under a design change. The new system includes a Video Management System (VMS) running the Milestone XProtect Corporate VMS software. The user interface and alarm management portion of the system was replaced with a new custom application integrated with the Milestone software. The new application, designated as Secure 365, resides on the VMS network. Training was provided to all users in accordance with an approved lesson plan that included classroom (power point) and practical training (On the Job (OJT) and Task Performance Evaluation (TPE)) and a written quiz.

On November 10, 2021, the new system installation was completed. Post-modification testing and security performance testing were performed satisfactorily. The system was declared functional and was placed in service.

On November 19, 2021, at approximately 2010 EST, the security alarm computer received a loss of communication alarm for a specific input/output board. Per Security procedures, receipt of this alarm required that a time sensitive compensatory measure be established. Contrary to this requirement, the compensatory measure was not established.

Later, on November 19, 2021, at 2342 EST, following the identification of the failure to establish a required compensatory measure, a one-hour event notification was made to the Nuclear Regulatory Commission in accordance with 10CFR73.71(b)(1).

This licensee event report is being submitted in accordance with the requirements of 10 CFR 73.71(d) to submit a written report within 60 days. The event is specifically addressed in 10 CFR 73, Appendix G, "Reportable Safeguards Events," Section I(c) which requires the event to be reported within one hour of discovery, followed by a written report within 60 days. The event described below meets this reporting criteria.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(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/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Yankee Nuclear Power Station	05000- 029	2021	- 001	- 00

NARRATIVE

EVENT DESCRIPTION

On November 19, 2021, the spent nuclear fuel and Greater-Than-Class-C waste were being safely stored at the Independent Spent Fuel Storage Installation.

Shortly after assuming the shift on November 19, 2021, the crew briefed for the required nightly patrol of the Protected Area (PA). The ISFSI Shift Supervisor (ISO) and Security Officer #1 were positioned in SAS. Security Officer #2 was assigned the PA patrol. A minimum of two alarms are expected to be received almost simultaneously upon entry into the PA: one associated with the opening of the PA personnel gate and the second for entry into an immediate detection field. Additional alarms may be received depending upon the conduct of the patrol and other security-specific orders.

At approximately 2010 EST, the SAS Operator (Security Officer #1) observed receipt of the alarms for the PA personnel gate and detection field and then the Input / Output (I/O) Board #2 lost communication alarm [EIIS: Security System [IA] - Relay [RLY]]. The SAS Operator requested a verification of expected alarms, including the I/O Board #2 lost communication alarm, from the ISS who was also at the security computer console. The ISS was at the console for the purpose of providing additional oversight for the PA entry. The ISS scanned the received alarms and responded to the SAS Operator that the alarms were expected for a PA entry and directed the SAS Operator to acknowledge the alarms (as expected) and to record the reason for the alarms as personnel entry (specific menu option is "Personnel"). The site security procedure for the application of safeguards compensatory measures specifically requires a time sensitive compensatory measure be established for any I/O Board loss of communication.

At approximately 2148 EST, an I/O Board #3 lost communication alarm was received without any planned activities in progress and without any other alarms. The SAS Operator (Security Officer #2) informed the ISS and advised the ISS that a time sensitive compensatory measure was required. The compensatory measure was developed and was in place consistent with security procedure requirements. There were no causal concerns related to the response to this I/O Board lost communication alarm.

At approximately 2200 EST, the ISS contacted a member of the licensee staff (ISFSI Technical Specialist (ITS)) to report the I/O Board #3 lost communication alarm and to request assistance developing and implementing functional testing to potentially recover the compensatory measure. The ITS informed the ISS that he would report to the site to provide assistance and oversight.

Between 2210 and 2254 EST, the ISS reviewed the alarm log for the shift and the alarms received during the PA patrol and identified that he had in-fact missed the I/O Board #2 lost communication alarm and provided incorrect direction to the SAS Operator (Security Officer #1) to respond to the alarms as expected for a PA entry. The ISS realized that he had failed to ensure a time sensitive compensatory measure was implemented at that time. The ISS and ITS evaluated the event and it was determined to be a non-compliance with security plan and procedure requirements.

At 2304 EST, the ISS and ITS concluded that the event was reportable to the NRC. At 2342 EST, Yankee Atomic completed a one-hour notification to the NRC (USNRC Event Number: 55595) in accordance with 10 CFR 73.71(b)(1).

Throughout the remainder of November 19, 2021, and for the next 36 hours spurious I/O Board lost communication alarms were received. A separate condition report was developed to investigate the apparent cause or causes for these board failures.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(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/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Yankee Nuclear Power Station	05000- 029	2021	- 001	- 00

NARRATIVE

APPARENT CAUSE

The most probable cause of the event was due to ISS overconfidence, such that the individual did not eliminate potential distractions while responding to a request from the SAS Operator to review a set of alarms that were received during the November 19, 2021, planned PA entry. The ISS reviewed the alarms, that included the I/O Board #2 lost communication alarm and incorrectly informed the SAS Operator that the alarms were associated and consistent with a PA entry and that the alarms should be acknowledged as such by the "Personnel" designation. The SAS Operator complied, acknowledged the alarms without further action, and the event occurred.

A separate condition report was generated to determine the apparent cause and corrective actions for the I/O board failures. These are not addressed in this licensee event report, because the reason for the reportable event was the failure to establish a compensatory measure within an appropriate time frame.

CORRECTIVE ACTIONS

1. Perform remediation training for the individual.

2. Develop an Individual Development Plan for the individual that performed the human performance error.

3. Deliver a presentation to the security force on expectations, conservative decision-making, procedure use and adherence, teamwork, and advocacy.

4. Develop and deliver a case study on the events with a focus on use of human performance error prevention tools.

A separate condition report was generated to determine the apparent cause and corrective actions for the I/O board failures. These are not addressed in this licensee event report, because the reason for the reportable event was the failure to establish a compensatory measure within an appropriate time frame.

NARRATIVE

SAFETY ASSESSMENT

An assessment of the actual consequence to the physical security of the protected area was performed in response to this event. As this report documents and YAEC acknowledges; YAEC failed to properly establish the requirement for a time sensitive compensatory measure. Notwithstanding, continued review of this event identified several significant mitigating factors that substantially reduce potential consequences.

Initially, all security computer alarm functions were fully functional. A properly equipped and qualified Security Officer was in the protected area prior receipt of the I/O Board #2 lost communication alarm, the Security Officer remained in the PA for the duration of the alarm (approximately 75 seconds) and exited the area after I/O Board #2 alarm functionality was restored. I/O Board #2 represents approximately one-sixth of the PA detection/surveillance/alarm capability. The remainder of the PA capability remained functional and was not impacted during this event. Subsequent, vendor laboratory testing determined that the average time of actual inability for an alarm to be received during an I/O Board lost communication event is approximately 15 seconds out of the nominal 75 second total lost communication time. Following the restoration from the event, the I/O Board lost communication did not impact the function of the alarm initiating device.

Additionally, the SAS Operators were able to observe the activities within the Independent Spent Fuel Storage Installation's PA via cameras throughout the event; and a compensatory measure was established within 2 hours after I/O board #2 lost communication alarm.

Unauthorized intrusion into the Independent Spent Fuel Storage Installation's protected area did not occur during the time that the compensatory measure was not in place. There is no evidence of unauthorized individuals, contraband, or sabotage being introduced into the PA during the time periods of concerns.

Therefore, this event was determined to be of very low actual safety significance.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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Yankee Nuclear Power Station	05000-	029	2021	- 001	- 00

NARRATIVE

ADDITIONAL INFORMATION

Section 3.2 of Regulator Guide 5.62, "Reporting of Safeguards Events," requires the licensee event report to include the following:

1. Date and time of event (start and end time). Response: This information is provided in the Event Description section of the licensee event report.

2. Location of actual or threatened event in a protected area, material access area, controlled access area, vital area, or other (specify area). Response: The security vulnerability occurred in a protected area due to an action that occurred in an access controlled area (Security Alarm Station).

3. For power reactors, the operating phase, for example, shut-down, operating. Response: The Yankee Nuclear Power Station has been decommissioned, and spent fuel and Greater-Than-Class-C radioactive waste is stored in dry storage at an Independent Spent Fuel Storage Installation.

4. Safety systems affected or threatened, directly or indirectly. Response: No important to safety systems were affected or threatened, directly or indirectly.

5. Type of security force on-site (proprietary or contract). Response: Yankee Atomic Electric Company employs a contract security force.

6. Number and type of personnel involved, for example, contractors, security, visitors, NRC personnel, other (specify). Response: Two security force members were involved in the failure to promptly take a compensatory measure.

7. Method of discovery of incident, for example, routine inspection, test, maintenance, alarm, chance, informant, communicated threat, unusual circumstances (give details). Response: This information is provided in the Event Description section of the licensee event report.

8. Procedural errors involved, if applicable. Response: This information is provided in the Event Description section of the licensee event report.

9. Immediate actions taken in response to event. Response: This information is provided in the Event Description section of the licensee event report.

10. Corrective actions taken or planned. Response: This information is provided in the Corrective Action section of the licensee event report.

11. Local, State, or Federal law enforcement agencies contacted. Response: No law enforcement agencies were contacted for this Safeguards event. The NRC was verbally notified in accordance with 10 CFR 73.71(b)(1).

12. Description of media interest and press release. Response: No press release was made and no media interest.

13. Indication of previous similar events. Response: No similar events regarding the failure to establish a compensatory measure occurred in 2019, 2020, or 2021.

14. Knowledgeable contact. Response: This information is provided on Page 1 of the licensee event report.