



Northeast
Nuclear Energy

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Millstone Nuclear Power Station
Northeast Nuclear Energy Company
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The Northeast Utilities System

Donald B. Miller Jr.,
Senior Vice President - Millstone

Re: 10CFR50.73(a)(2)(ii)

August 19, 1994
MP-94-515

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

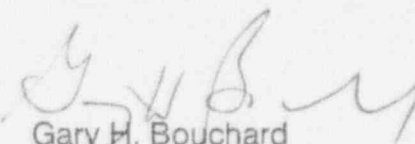
Reference: Facility Operating License No. DPR-65
Docket No. 50-336
Licensee Event Report 94-020-00

This letter forwards Licensee Event Report 94-020-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(ii) as an event or condition that was outside the design basis of the plant.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: Donald B. Miller, Jr.
Senior Vice President - Millstone Station

BY: 
Gary H. Bouchard
Director - Millstone Unit 2

DBM/SS:dlr

Attachment: LER 94-020-00

cc: T. T. Martin, Region I Administrator
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2

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PDR ADDCK 05000336
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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION
COLLECTION REQUEST 50.0 HRS FORWARD COMMENTS REGARDING
BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT
BRANCH (MNNB 7714), U.S. NUCLEAR REGULATORY COMMISSION,
WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION
PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET,
WASHINGTON, DC 20503

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

FACILITY NAME (1) Millstone Nuclear Power Station Unit 2										DOCKET NUMBER (2) 05000336		PAGE (3) 1 OF 3		
TITLE (4) DG Fuel Oil Supply Less than IEEE Standard														
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 NAME		DOCKET NUMBER			
07	22	94	94	020	00	08	19	94	FACILITY NAME		DOCKET NUMBER			
											05000			
											05000			
OPERATING MODE (9)		1		THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
POWER LEVEL (10)		100		20.402(b)		20.405(c)		50.73(a)(2)(iv)		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				
				20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(vii)(A)		(Specify in Abstract below and in Text. NRC Form 366A)				
				20.405(a)(1)(iv)		X 50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)						
				20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)						
LICENSEE CONTACT FOR THIS LER (12)														
NAME Philip J. Lutz, Site Licensing										TELEPHONE NUMBER (Include Area Code) (203) 447-1791 Ext. 6585				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)														
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS				
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)					X	NO								

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

On July 22, 1994, at 1605 hours, the plant was in mode 1, 100% power, when the determination was made that the plant was not in compliance with a design document. A recently revised engineering calculation determined the inventory (24,000 gallons) of safety-related emergency diesel generator (EDG) fuel oil was sufficient to support EDG operation for 6.17 days. IEEE Standard 308-1971 requires that a seven day fuel inventory be maintained on-site. An operability determination evaluated the situation and determined the EDGs were operable based on compliance with Technical Specifications. Conservatism exists in the new calculation and Millstone 2 has an underground storage tank that has two pumps (powered from vital power supplies) that automatically make-up to the 24,000 gallon technical specification supply. Additionally, emergency response procedures require that we evaluate the need to order additional fuel from off-site sources within four hours following the accident.

The root cause of the event is increasing the EDG loading scheme without re-evaluating the fuel consumption rates and the more conservative methods and assumptions used for calculating the fuel oil supply today versus the methods and assumptions used during original plant design. The original calculation utilized a best estimate methodology.

Beyond reporting, no operator actions were taken as a result of this event since the amount of fuel oil available complies with the technical specifications, and is sufficient to provide emergency power until fuel oil supplies can be replenished from off-site sources.

A technical specification change will be submitted that will clarify the fuel oil supply issue.

EXPIRES: 5/31/95

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Millstone Nuclear Power Station Unit 2	05000336	94	— 020 —	00	02 OF 03

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

I. Description of Event

On July 22, 1994, at 1605 hours, the plant was in mode 1, 100% power, when the determination was made that the plant was not in compliance with a design document. A recently revised engineering calculation determined the inventory (24,000 gallons) of safety-related emergency diesel generator (EDG) fuel oil was sufficient to support EDG operation for 6.17 days. This is not consistent with the original design basis of the plant. Section 8.3.1.2 of the Final Safety Analysis Report (FSAR) states "The emergency generators and their associated devices are designed, built, and tested in accordance with Section 5.2.4 of IEEE Standard 308 1971...". The NRC original safety evaluation dated May 10, 1974 states that "the onsite power system, satisfies GDC 17 and 18. IEEE-308 and IEEE-344. Regulatory Guides 1.6, 1.9, and 1.22." Section 5.2.4 (6) of IEEE 308-1971 states "Stored energy at the site shall have the capacity to operate the standby power supply while supplying post-accident power requirements to a unit for the longer of the following: (a) seven days; or (b) time required to replenish the energy from sources away from the generating unit's site following the limiting design basis event."

Our Engineering Department evaluated the situation and determined the EDGs were operable because the unit complied with the technical specifications. Technical Specifications require that a minimum of 12,000 gallons of fuel oil be stored within each day tank. Additionally, the new calculation has the following conservatisms: 1) Two Low Pressure Safety Injection LPSI pumps are assumed to operate after the accident, 2) An Auxiliary Feed Pump is assumed to operate unthrottled for the first 10 hours after the accident, 3) A Containment Spray Pump is assumed to operate continuously for 53 hours following an accident. In addition to the 24,000 gallons in the day tanks, Millstone 2 has an underground storage tank (total capacity of 24,000 gallons) that is administratively maintained at greater than 20% level or approximately 3400 gallons. This tank has two pumps (powered from vital power supplies) that automatically make-up to the 24,000 gallon technical specification supply. No credit is taken for this additional fuel oil because the connecting piping is not seismically supported. Also, emergency response procedures require that we evaluate the need to order additional fuel from off-site sources within four hours following the accident. There were no major operator actions taken as a result of this event. There were no automatic or manually initiated safety responses associated with this event.

II. Cause of Event

The root cause of this event is increasing the EDG loading scheme without re-evaluating the fuel consumption rates and the more conservative methods and assumptions used for calculating the fuel oil supply today versus the methods and assumptions used during original plant design. The original calculation utilized a best estimate methodology.

The emergency load profile used in the original calculation contained 5 steps versus 8 steps for the load profile utilized today. Two loading differences considered today. (Auxiliary Feed Pump is shut off after 10 hours and a Low Pressure Safety Injection Pump is restarted after 10 hours) are significant additions to the original load profile. The original maximum load was 2298KW versus 2616KW utilized today. The original fuel oil consumption was based on data obtained from the diesel generator manufacturer. The updated calculation utilizes fuel consumption data from the diesel engine manufacturer and the manufacturer provided the methodology for calculating fuel consumption into which the specific parameters of MP2 EDG operation are added. The updated calculation results in a fuel oil supply for 6.17 days of EDG operation.

EXPIRES: 5/31/95

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Millstone Nuclear Power Station Unit 2	DOCKET NUMBER (2) 05000336	LER NUMBER (6)			PAGE (3)
		YEAR 94	SEQUENTIAL NUMBER — 020 —	REVISION NUMBER 00	03 OF 03

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)**III. Analysis of Event**

This event is reportable pursuant to 10CFR50.73(a)(2)(ii), any condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant. The potential safety consequences of this event are minimal based on the conservative nature of the calculation methodology and the fact that Millstone Unit No. 2 continues to comply with the requirements of the technical specifications to maintain 12,000 gallons of fuel oil in each day tank.

Millstone Unit 2 has available on-site an underground storage tank with that is administratively maintained greater than 20% capacity or approximately 3400 gallons. The underground tank automatically makes-up to the EDG day storage tank(s) using transfer pumps powered from a vital power supply.

IV. Corrective Action

A new fuel oil consumption calculation will be performed which will determine the length of time the diesel generator can be operated at its full rated capacity of 2750KW. The current accident load is 2616KW. The new calculation will encompass the existing accident loads and will allow for future changes to the loading summary. Once this calculation is completed, a technical specification change will be submitted that will clarify the fuel oil storage issue. This change will be submitted prior to December 1, 1994.

V. Additional Information

There were no failed components associated with this event.

Similar Events: 93-016

LER 93-016: Inconsistency Between Safety Analysis and Plant Operating Procedures

This event is similar because a problem was discovered during a general review of the Final Safety Analysis Report, (FSAR). The corrective actions listed in LER 93-016 were not effective in preventing the Fuel Oil event described herein because the Fuel Oil event occurred prior to the implementation of the corrective actions.

EIIS Codes:

Emergency Diesel generator EK

Manufacturer:

Coltec Industries
Fairbanks Morse Engine Division
Model 38D series 8-1/8x10 OP