Niagara Mohawk

May 17, 2000
NMP2L 1963

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

RE: Docket No. 50-410
Licensee Event Report 00-08

Gentlemen:

In accordance with 10 CFR 50.73(a)(2)(ii)(B), we are submitting Licensee Event Report 00-08, "Unanalyzed Environmental Qualification Areas."

Very truly yours,

Michael F. Peckham
Plant Manager - NMP2

MFP/JFR/cr
Attachment

cc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Records Management

IE22

RGN-001

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES:

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), U.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)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 2	05000410	01 OF 05

TITLE (4) Unanalyzed Environmental Qualification Areas

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)
04	18	00	00	008	00	05	17	00	N/A	
									N/A	

OPERATING MODE (9): 2

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

POWER LEVEL (10: 0

☐ 20.2201(b)	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(I)	☐ 50.73(a)(2)(viii)
☐ 20.2203(a)(1)	☐ 20.2203(a)(3)(I)	☒ 50.73(a)(2)(ii)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(I)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(iii)	☐ 73.71
☐ 20.2203(a)(2)(ii)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iv)	☐ OTHER *(Specify in Abstract below and in Text, NRC Form 366A)*
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(v)	
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
W. R. Yaeger, Manager Engineering Services	315-349-7834

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
☐ YES *(If yes, complete EXPECTED SUBMISSION DATE)*	☒ NO				

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

In 1995, Niagara Mohawk Power Corporation modified the containment atmospheric monitoring system by installing standpipes to remove excess moisture from the sample lines. Following a loss of coolant accident, these standpipes could fill with reactor coolant. On April 18, 2000, Niagara Mohawk Power Corporation identified that the effect of this condition was not fully evaluated when the modification was developed.

The cause of this condition has been determined to be inadequate change management. The personnel involved in the preparation of the change did not identify or evaluate the potential for the standpipes filling with reactor coolant following a loss of coolant accident. Contributing to the cause were inadequate independent reviews.

Immediate corrective actions included the relocation and closure of the standpipe isolation valves to minimize the volume that could potentially be filled with reactor coolant, and the installation of temporary shielding. The design change and design change review process has been substantially enhanced since this error was made. To provide assurance that the radiological assumptions and consequences have been properly assessed, an evaluation of Nine Mile Point Unit 1 and Unit 2 modifications that affected either standpipes or lines that remove containment atmosphere from the containment following a LOCA will be performed.

I. DESCRIPTION OF EVENT

In 1995, Niagara Mohawk Power Corporation (NMPC) modified the containment atmospheric monitoring system by installing standpipes to remove excess moisture from the sample lines. These standpipes could fill with reactor coolant following a loss of coolant accident (LOCA) from airborne droplets, spray, or condensation. These conditions were not evaluated when the modification was developed.

On April 18, 2000, during startup, NMPC recognized this omission and completed an evaluation of the potential for these standpipes to collect or condense reactor coolant following a postulated LOCA. The evaluation showed that the postulated radiation doses would have exceeded the current mild environment or current radiation levels used to qualify selected equipment.

Immediate corrective actions were taken to eliminate this potential by relocating Valves 2CMS*V100A/B, the isolation valves for each standpipe, closer to the sample lines thereby creating a smaller volume for reactor coolant to collect following a LOCA and closing the valves. Temporary shielding was also installed to minimize the potential doses in the area following a LOCA.

When this design change was implemented in 1995, the personnel involved in the preparation and review of the change did not identify or evaluate the potential for the standpipes to fill with reactor coolant following a LOCA. While the standpipes were intended to collect condensation in the sample lines during normal operation, the personnel involved in preparing and reviewing the modification failed to recognize that the standpipes would fill more quickly due to high humidity conditions in the drywell following a LOCA. The initial design used a simplified conceptual design description, and the investigation revealed that there was a lack of rigor associated with the design inputs from various disciplines. The required design reviews also failed to identify this concern during the review process.

II. CAUSE OF EVENT

The cause of this condition has been determined to be inadequate change management. The personnel involved in the preparation of the change did not identify or evaluate the potential for the standpipes to fill with reactor coolant following a loss of coolant accident. Contributing to the cause were inadequate independent reviews.

III. ANALYSIS OF EVENT

This condition is reportable in accordance with 10 CFR 50.73(a)(2)(ii)(B), "Any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or that resulted in the nuclear power plant being: (B) In a condition that was outside the design basis of the plant." The failure to consider the potential for the standpipes to fill with reactor coolant following a LOCA resulted in the potential for doses in the area to be higher than previously considered. As a result, the doses could have exceeded the current mild environment or current radiation levels used to qualify selected equipment.

This event does not affect the core damage frequency because this condition would only exist if an accident resulting in core damage were to occur.

This event does not affect the large early release frequency because if the Updated Safety Analysis Report realistic source term was assumed, the environmental qualification designation for most of the affected area would not change. Some equipment would be exposed to slightly increased radiation levels above the current mild environmental limits, but not to a level that would affect their operability. There would also be no impact on the environmentally qualified equipment in the area.

Based on the above, the failure to consider the standpipe liquid source term following a LOCA posed no threat to the health and safety of the general public or plant personnel.

IV. CORRECTIVE ACTIONS

1. Design Change DDC 2M11738 was implemented to move the standpipe isolation valves closer to the sample lines, and the valves were closed. The remaining susceptible volume was shielded to prevent the postulated doses from exceeding the doses assumed for these areas following a LOCA.
2. The NMPC engineering design change and design change review process has been substantively enhanced since 1995 with the establishment of the design review board, the completion of specific training on design document checking and review, and significant enhancements to the project management process.

IV. CORRECTIVE ACTIONS (Cont'd)

3. To provide assurance that the radiological assumptions and consequences have been properly assessed, an evaluation of Nine Mile Point Unit 1 and Unit 2 modifications that affected either standpipes or lines that remove containment atmosphere from the containment following a LOCA will be completed by July 13, 2000.

V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events:

- NMPC reviewed prior events where modification activities failed to consider design input factors that later were discovered to have resulted in safety concerns.
- Licensee Event Report (LER) 95-11 involved the failure of NMPC and General Electric engineering personnel to consider all control rod drive system flow in calculating core thermal power, which resulted in core operation slightly in excess of 100 percent rated core thermal power. A later NMPC modification also failed to consider the impact of this flow.
- LER 96-10 involved the inoperability of safety related chillers due to a modification to raise the low flow trip setpoint of the chillers without considering the consequences of a LOCA with a coincident loss of offsite power, which would have tripped both chillers.
- LER 97-14 involved the failure of a modification to the rod worth minimizer to consider the interaction between it and the rod sequence control system, which resulted in an inadequate surveillance test on the rod sequence control system following the modification.
- While the corrective actions described in each of these LERs were specific to the event reported, subsequent major improvements to the modification process described above in the Corrective Actions section have resulted in no additional LERs as a result of these kinds of deficiencies in the modification process.

C. Identification of components referred to in this LER:

Component	IEEE 803A Function	IEEE 805 System ID
Containment Atmospheric Monitor	AI	IK
Standpipe	N/A	IK
Valve	V	IK