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ComEd

May 30, 1997

JSPLTR: #97-0104

U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3 Supplemental Response 2 to NRC Generic Letter (GL) 96-06, "ASSURANCE OF EQUIPMENT OPERABILITY AND CONTAINMENT INTEGRITY DURING DESIGN-BASIS ACCIDENT CONDITIONS"
NRC Docket Numbers 50-237 and 50-249

Reference:
(a) J. Hosmer Letter to USNRC, ComEd Response to Generic Letter 96-06, "ASSURANCE OF EQUIPMENT OPERABILITY AND CONTAINMENT INTEGRITY DURING DESIGN-BASIS ACCIDENT CONDITIONS" dated January 28, 1997

(b) J. S. Perry Letter to NRC, Dresden Nuclear Power Station Units 2 and 3 Supplemental Response to Generic Letter (GL) 96-06, "ASSURANCE OF EQUIPMENT OPERABILITY AND CONTAINMENT INTEGRITY DURING DESIGN BASIS ACCIDENT CONDITIONS" dated March 28, 1997

This letter provides supplemental response 2 to NRC Generic Letter 96-06 for Dresden Units 2 and 3, and to provide additional details on the schedule for modifications to prevent thermal overpressurization of the eleven Unit 3 penetrations discussed in reference (b). Seven penetrations were modified in the current D3R14. Two penetrations will be controlled by procedure until D3R15 when they will be modified to avoid reliance on procedure. One penetration was drained to prevent thermally induced pressurization and the other is not subject to thermal overpressurization. Unit 2 penetrations will be modified during D2R15. Additional information is provided in the attachment to this letter.

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If there are any questions concerning this letter, please refer them to Frank Spangenberg, Dresden Station Regulatory Assurance Manager, at (815) 942-2920, extension 3800.

Sincerely,

J. Stephen Perry
Site Vice President
Dresden Station

Subscribed and Sworn to before me
on this 30 day of
May, 1997.
Notary Public

OFFICIAL SEAL
SHERRY L BUTTERFIELD
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES:05/23/00

Attachment

cc: A. Bill Beach, Regional Administrator, Region III
P. L. Hiland, Branch Chief, Division of Reactor Projects, Region III
J. F. Stang, Project Manager, NRR (Units 2/3)
Senior Resident Inspector, Dresden Station

ATTACHMENT
Dresden GL 96-06 Supplemental Response

Dresden Station

NRC Docket 50-237 and 50-279
Response to NRC Generic Letter 96-06,
"Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions", dated September 30, 1996

NRC REQUEST:

Within 120 days of the date of this generic letter, addressees are requested to submit a written summary report stating actions taken in response to the requested actions noted above, conclusions that were reached relative to susceptibility for waterhammer and two-phase flow in the containment air cooler cooling water system and overpressurization of piping that penetrates containment, the basis for continued operability of affected systems and components as applicable, and corrective actions that were implemented or are planned to be implemented. If systems were found to be susceptible to the conditions that are discussed in this generic letter, identify the systems affected and describe the specific circumstances involved.

NRC REQUESTED ACTIONS:

"Addressees are requested to determine:

if containment air cooler cooling water systems are susceptible to either water hammer or two-phase flow conditions during postulated accident conditions

if piping systems that penetrate the containment are susceptible to thermal expansion of fluid so that overpressurization of piping could occur."

RESPONSE TO ITEM 1:

The original Dresden response dated January 28, 1997 (reference a) explained why the Dresden Reactor Building Closed Cooling Water (RBCCW) piping inside drywell will not develop any significant voids due to the post accident drywell environment, and the water hammer and two-phase flow issues identified in NRC GL 96-06 are not significant for Dresden Units 2 and 3. In a subsequent telephone conversation on March 6, 1997, the NRC restated their concerns related to reestablishing RBCCW flow to the drywell following an accident. The follow-up and final response was included in the letter dated March 28, 1997 (reference b).

ATTACHMENT
Dresden GL 96-06 Supplemental Response

RESPONSE TO ITEM 2:

A summary of the review performed to address the post Loss of Coolant Accident (LOCA) thermally induced pressurization issue identified in NRC GL 96-06 was included in the original Dresden response dated January 28, 1997 (reference a). The follow-up response dated March 28, 1997 (reference b) included the systems reviewed, scope of the review, susceptible piping sections, basis of operability, long term resolutions under consideration, and the tentative implementation schedule.

Initially eight systems were identified to be susceptible to thermally induced pressurization conditions discussed in the NRC Generic Letter 96-06. The penetrations and associated systems are as follows:

X-139B and X-144 (Unit 2), and X-139C (Unit 3)	- Control Rod Drive (CRD)
X-119 (Unit 2 and 3)	- Demin Water Piping
X-109B (Unit 2) and X-109A (Unit 3)	- Isolation Condenser
X-117 and X-118 (Unit 2 and 3)	- Drywell Building Equipment Drain
X-122 (Unit 2 and 3)	- Reactor Recirc System Sample Line
X-113 (Unit 2 and 3)	- Reactor Water Cleanup
X-111A and X-111B (Unit 2 and 3)	- Shutdown Cooling
X-123 and X-124 (Unit 2 and 3)	- Reactor Building Closed Cooling Water

ComEd is actively working with Electric Power Research Institute (EPRI) and Nuclear Energy Institute (NEI) in determining the best options with respect to resolution of the concerns identified in GL 96-06. The outcome of ongoing efforts by these industry groups may be used to modify the long term plans at the Dresden Station. This follow-up response provides the current status of the long term resolutions and the implementation schedule.

A. Dresden Unit 3

Initially eleven Dresden Unit 3 penetrations were identified to be susceptible to post accident thermally induced pressurization and one was later found to be not susceptible. Seven penetrations were modified, two will be controlled by procedure and one was drained. Therefore, Dresden Unit 3 will be within the design basis at the conclusion of the current refueling outage.

ATTACHMENT
Dresden GL 96-06 Supplemental Response

1. Dresden Unit 3 penetration X-109A

   Based on an initial review the piping at Unit 3 penetration X-109A was identified to be susceptible to thermally induced pressurization in reference a. As documented in reference b, this penetration is not susceptible to thermally induced pressurization.

2. Dresden Unit 3 penetration X-139C

   The piping at penetration X-139C is 3/4 inch in size and has manual containment isolation valves. The line is isolated during all plant operating modes except shutdown and the line is partially drained to prevent thermally induced pressurization. Therefore, this penetration is no longer susceptible to thermally induced pressurization.

   ComEd is actively working with EPRI and NEI in determining the best options with respect to thermally induced pressurization. The outcome of the subject industry efforts may be used to finalize the long term resolution for this penetration. If, the industry efforts are unsuccessful, Dresden intends to install a relief valve on the penetration piping inside drywell to eliminate reliance on draining to prevent thermally induced pressurization by D3R15.

3. The Dresden Unit 3 penetrations X-113 and X-122

   The flow path, at these penetrations are normally open and the piping is normally hot and is not susceptible to thermally induced pressurization. However, when the line is isolated for maintenance during plant operation, the penetration may become susceptible to thermally induced pressurization. Dresden will revise procedures in D3R14 to prevent thermally induced pressurization at these penetrations.

   To eliminate reliance on procedures to prevent thermally induced over pressurization, Dresden will install a bypass line with a spring check valve around the inboard isolation valve. The check valves will function as a normally closed inboard isolation valve open during accident condition to relieve thermally induced pressurization and then close after the pressure is relieved to the reactor pressure vessel (RPV). The designs are completed and the design change packages are issued. Dresden intends to install the check valves in the refueling outage D3R15.

4. The Dresden Unit 3 penetrations X-123 and X-124

   Dresden will install two relief valves to provide thermal relief for RBCCW penetrations X-123 and X-124. One relief valve provides over pressure protection for the closed volume between the inboard and outboard isolation valves at the return penetration X-124 and the other provides thermal relief for the non-safety related closed volume inside drywell between the inboard isolation valve at the supply penetration X-123 and the inboard isolation valve at the return penetration X-124. The relief valves were installed in the current refueling outage D3R14.

5. Dresden Unit 3 penetrations X-117, X-118, X-119, X-111A/B.

   Dresden will install relief valves to provide over pressure protection between the inboard and outboard isolation valves at penetrations X-117, X-118, X-119, and X-111A/B. The relief valves were installed in the current refueling outage D3R14.

B. Dresden Unit 2

The long term solutions for Dresden Unit 3 penetrations as presented above are planned for the corresponding Dresden Unit 2 penetrations. Further, Dresden Unit 2 has an additional unused CRD return line penetration X-144 that may be susceptible to thermally induced pressurization. Dresden intends to install a blind flange to isolate the unused piping at the above penetration from the active part of the CRD system and drain the water in the penetration piping to eliminate the potential for thermally induced pressurization at penetration X-144. Dresden intends to install the relief valves in the refueling outage D2R15.

ComEd is actively working with EPRI and NEI in developing better options with respect to resolution of the thermally induced pressurization concerns identified in GL 96-06. The outcome of ongoing efforts by these industry groups may be used to modify the long term solutions under consideration for Dresden Unit 2. Dresden intends to install the necessary hardware changes and complete the long term resolution of the thermally induced pressurization issue by D2R15.