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Iowa Electric Light and Power Company

September 6, 1985
NG-85-4250

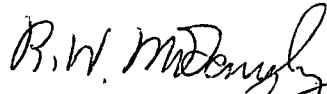
Mr. James G. Keppler
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Response to NRC Inspection Report 85-15

Dear Mr. Keppler:

This letter is provided in response to the subject inspection of activities at the Duane Arnold Energy Center on May 21 through July 22, 1985. Attachment 1 provides our response in accordance with your request.

Very truly yours,



Richard W. McGaughey
Manager, Nuclear Division

RWM/JS/kmf
Attachment: Response to IR 85-15

cc: L. Liu
S. Tuthill
M. Thadani
NRC Resident Office
Commitment Control
File A-102, NRC-4
J. Smith

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Response to IR 85-15

Attachment 1

NRC Item

Mr. J. S. Wiebe and Ms. N. Valliere, NRC Resident Inspectors, observed in their routine inspection conducted on May 21 through July 22, 1985 that Wet Well/Dry Well inerting operations at Duane Arnold Energy Center were inconsistent with information provided by DAEC to the NRC in response to General Electric Service Information Letter No. 402, "Wet Well/Dry Well Inerting".

As detailed in Section 12 of the Inspection Report, the inspector noted that the low nitrogen temperature alarm and the low steam pressure alarm for the vaporizer were locked in and the audible alarm turned off. No operator was at the local control panel where the alarms were. An operator later arrived and when questioned by the inspector, stated that he was continuously monitoring a temperature gage inside the building. The operator also stated that the alarms and temperature indicator at the outdoor control panel do not work.

The inspector determined that the nitrogen temperature was being adequately controlled to prevent cold nitrogen from causing damage to primary containment. The inspector noted, however, that having inoperable alarms and not having an operator at the local control panel is inconsistent with an Iowa Electric letter dated June 29, 1984 from R. W. McGaughy to H. Denton in response to GE SIL No. 402. The letter states, "the nitrogen inerting system design at the Duane Arnold Energy Center is adequate to prevent the injection of cold nitrogen into the containment given the local alarms and the fact that inerting cannot take place without an operator at the local control panel."

The inspector also determined in followup discussions with operators that there is no outstanding Maintenance Request to repair the alarms and they felt the failure of the alarms to work was due to the equipment design, equipment age, or because the local panel is located outside.

The inspector noted that continuous monitoring of the nitrogen temperature indication may be an acceptable alternative for short periods of time if the alarms have failed, repair is initiated and management has determined that this alternative is acceptable. This alternative is not acceptable, however, if as in this case, the alternative is the usual way of doing business and no action is taken to correct the equipment design or condition.

Response to Item

The inoperability of the outside local control panel for the nitrogen vaporizer is due primarily to its adverse outside environment. It is felt, therefore, that maintenance on the present system is excessive and is not considered a suitable long-term solution. However, repair of the outside control panel to restore the alarms to operable status and to provide additional temporary protection against the elements is being initiated.

A long-term solution to improve the system is also considered necessary. Isolation of the nitrogen supply system is available two ways. There is a small hand operated valve outside which shuts off the supply of liquid nitrogen to the vaporizer. This is the valve which operators would close in the event of low nitrogen temperature. There is also a series of motor-operated valves inside the building and downstream from the vaporizer which isolate the piping to containment. Moving downstream; there is one valve, followed by a vent pipe to the outside with its own valve, followed by another valve. All three valve motors are controlled by hand switches in the Essential Switchgear Room, which is fairly remote from the valves' location.

Considering the above, an Engineering Work Request has been initiated to develop a Design Change Package which will accomplish the following:

1. Relocate the nitrogen vaporizer local control panel to an inside location or otherwise insure that it will reliably operate. The control panel should be capable not only of providing sufficient indication and alarm functions in the event of low nitrogen temperature, but it should also be capable of controlling system operation and isolation.
2. Isolation of the nitrogen supply should be provided at the local control panel and automatically on low temperature by one of the following means:
 - a. Provide control at the local panel and automatic actuation of the liquid nitrogen supply valve to the vaporizer (presently a hand operated valve).
 - b. Provide control at the local panel and automatic actuation of the motor-operated valves mentioned above. In the event of unacceptably low nitrogen temperature, the valve downstream of the vent pipe should close to isolate containment and the vent valve should open to prevent piping overpressurization.

It is anticipated that this permanent design change will be implemented by June, 1986.