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MINECK,D.L. Iowa Electric Light & Power Co.
RECIP.NAME RECIPIENT AFFILIATION
DAVIS,A.B. Region 3, Ofc of the Director

SUBJECT: Responds to NRC 890323 ltr re violations noted in Insp Rept 50-331/88-23.

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RIDS/ADDS

Iowa Electric Light and Power Company
April 12, 1989
NG-89-1199

Mr. A. Bert Davis
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
Revised Response to Notice of Violation
Transmitted with Inspection Report 88-023
Reference: Letter, Mineck to Davis, NG-89-0910,
dated March 23, 1989
File: A-102, A-103

Dear Mr. Davis:

This letter and attachment supersede our response to Inspection Report 88-023 dated March 23, 1989. It is provided as a result of our telephone discussion with Region III personnel on April 5, 1989. We trust this adequately addresses the concerns addressed in that telephone discussion.

If you have any questions regarding this response, please feel free to contact our office.

Very truly yours,

Daniel L. Mineck
Manager, Nuclear Division

DLM/JCT/pjv+

Attachment: Revised Response to Notice of Violation
Transmitted with Inspection Report 88-023

cc: U. S. NRC Document Control Desk (Original)
L. Liu
L. Root
R. McGaughy
J. R. Hall (NRR)
NRC Resident Inspector - DAEC
J. Thorsteinson
Commitment Control No. 890035

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Iowa Electric Light and Power Company
Revised Response to Notice of Violation
Transmitted with Inspection Report 88-023

FORWARD

Your letter transmitting Inspection Report 88-023 identified four significant areas for improvement: (1) work practices by instrumentation maintenance personnel, (2) lack of root-cause analysis and timely corrective action, caused by lack of sufficient engineering support, (3) a large backlog of unevaluated Deviation Reports and open Engineering Work Requests and (4) weak audits and self-assessment of maintenance. We have communicated our corrective actions regarding audits and self-assessment in our response (NG-89-0538) to the SALP 7 report. With respect to the backlog of unevaluated Deviation Reports, we have applied the resources to reduce the backlog from 1025 in February, 1987 to under 200 at present. Resources are in place that ensure that Deviation Reports generated in the future are evaluated in a timely manner. Our responses to the individual items of violation address the work practices by instrumentation personnel and our reduction of the backlog of Engineering Work Requests. The lack of engineering support that contributed to untimely corrective action and insufficient root cause analyses is addressed as follows:

We agree that lack of effective engineering support caused the problems associated with root-cause analysis and timely corrective action. After reviewing the situation, we have concluded that engineering support in these areas was lacking due to duplication and gaps in organizational responsibilities and poor interfaces between departments. We have conducted a series of meetings between key managers and supervisors to review the division of responsibilities and work interfaces. Further review meetings will be conducted with the specific intent of assigning specific responsibilities and defining the interface process. Upon completion of this review, we will revise the appropriate procedures and work documents to formally implement the changes.

We will implement the above described actions prior to October 20, 1989.

NRC NOTICE OF VIOLATION 1 (SEVERITY LEVEL IV)

10 CFR 50 Appendix B, Criterion XVI, as implemented by section 14 of the Iowa Electric Quality Assurance Manual, "Corrective Action", requires that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, the licensee failed to:

1.0 Take timely corrective action in the upgrading of 4.16 kV circuit breakers. The replacement of the RHR pump breakers Tuf-LOC sleeve bearings was completed two years after

recommendation. As of November 1988, the licensee has not replaced the Tuf-LOC sleeve bearings on 44 breakers, including 19 that are safety-related.

RESPONSE TO ITEM 1 OF NOTICE OF VIOLATION

1.1 Corrective Actions Taken and the Results Achieved:

We have developed a schedule to replace the Tuf-LOC sleeve bearings.

1.2 Corrective Actions to Be Taken:

Replacement of the Tuf-LOC sleeve bearings on the remaining forty-four breakers will be completed during the current operating cycle and the next refueling outage.

As the availability of parts permit, we will replace bearings while operating or when it is possible to do so, as during forced outages or when in an appropriate LCO. Of the 44 breakers, 16 will require that the reactor be shutdown.

The breakers have been inspected since February 1985 as a result of our review of Information Notice 84-29. We have not experienced any breaker failures related to Tuf-LOC sleeve bearings. Based on our ability to predict failures via inspections and demonstrated operating history, we are confident that these breakers will continue to perform well until they are replaced.

1.3 Date When Full Compliance Will be Achieved:

The replacement of the Tuf-LOC sleeve bearings will be completed by startup from the next refuel outage (Spring 1990), as discussed at Region III on March 9, 1989.

2.0 Perform a root-cause analysis in a timely manner for a thermal overload problem on the EDG jacket cooling pump motors. The problem was documented in Engineering Work Request 87-196, dated August 28, 1987; however, the root cause analysis was completed in March 1988.

RESPONSE TO ITEM 2 OF NOTICE OF VIOLATION

2.1 Corrective Action Taken and the Results Achieved:

We have issued a maintenance instruction which is now used whenever thermal overload relays are changed. Data needed for an engineering evaluation is now assembled as part of the maintenance process. The

evaluation must be completed before the maintenance action can be closed.

2.2 Corrective Actions to Be Taken:

Programmatic corrective actions have been described in the FORWARD to this attachment.

2.3 Date When Full Compliance Will be Achieved:

Compliance was achieved with the establishment of directives in form of a maintenance instruction to assume timely review and action. This was completed October 21, 1988. The remaining actions described in the FORWARD to this attachment will be complete by October 20 ,1989.

3.0 Provide timely corrective action for the refurbishment of the Reactor Water Level Switches. A history of problems with the switches was documented in 11 Deviation Reports from May 1985 through December 1987. Refurbishment was recommended in July 1986; however, the switches were not refurbished until the 1988 refueling outage.

RESPONSE TO ITEM 3 OF NOTICE OF VIOLATION

3.1 Corrective Actions Taken and the Results Achieved:

We are now using the Preventive Maintenance Program for refurbishment of the Reactor Water Level Switches. This task has been included in the program and the parts have been ordered. This will ensure availability of parts for the next instrumentation rebuild.

The preventive maintenance referred to above will serve as the needed control mechanism.

3.2 Corrective actions To Be Taken:

We will trend equipment performance and use the analysis of trends to identify equipment that should be added to the preventative maintenance program.

3.3 Date When Full Compliance Will be Achieved:

Full compliance was achieved by the inclusion of the Yarway reactor water level switch refurbishment task into the preventive maintenance program on February 21, 1989.

4.0 Provide corrective action to address the agitation of instruments that resulted in the masking of instrument problems and potential common mode failure.

RESPONSE TO ITEM 4 OF NOTICE OF VIOLATION

4.1 Corrective Actions Taken and the Results Achieved:

We emphasized to our maintenance workers at a meeting on February 17, 1989 that the practice of agitating instruments is unacceptable. Furthermore, the continuing training program for maintenance employees will now reiterate that the agitation of instruments is unacceptable.

Through additional investigation, we have identified the source of the problem to be directions provided to the instrument technicians. A previous engineering evaluation of problems with the switches of concern led to a recommendation to manually reset the switches. This recommendation was not properly followed in this instance.

Our investigation showed that our typical instrument practices do not allow instrument agitation and that the agitation noted by the inspector was an exception. It resulted from unusual circumstances that allowed an irregular practice to become an accepted technique.

We have interviewed the instrument technicians and the interviews indicate that these specific switches were the only switches agitated.

We have confirmed the interview observations by reviewing the performance of 38 similar switches which we consider critical. This review, taken together with results from our instrument trending program, confirm that proper instrument performance is not being masked by agitation practices.

4.2 Corrective Actions To Be Taken:

No further actions are planned.

4.3 Date When Full Compliance Will be Achieved:

Full compliance was achieved on February 17, 1989 when the new direction on instrument agitation was provided to the maintenance workers.

5.0 Provide timely corrective action for the welding of the retaining nut of globe valves manufactured by Anchor/Darling. An engineering evaluation, dated July 19, 1985, determined that tack welding would prevent disc-stem separation that had already been experienced on one RHR valve. Only two of 11 affected valves have had the corrective actions implemented.

RESPONSE TO ITEM 5 OF NOTICE OF VIOLATION

5.1 Corrective Actions Taken and the Results Achieved:

A July 19, 1985 Engineering Work Request was generated to consider welding the retaining nut of the remaining 9 affected globe valves manufactured by Anchor/Darling. An engineering evaluation of those remaining affected valves was completed February 13, 1989 after discussion with the vendor. It was determined that disassembling the 9 globe valves for the sole purpose specified in the Engineering Work Request (EWR 85-203) was not warranted (the one valve failure experienced was due to excessive throttling). The disc nut on the remaining 9 valves will be tack welded when they are open to permit other work. The Maintenance Action Requests for this work have been initiated and will be completed when the valves are open for other work.

5.2 Corrective Actions To Be Taken:

In addition to the corrective actions specific to the item of violation:

* We will reduce the backlog of EWR's with safety impact to a level that allows for timely corrective action;

* There are approximately 900 open EWRs, with about half of these involving document updates which will be completed by December 1989;

* The backlog also includes approximately 250 requested engineering studies. These engineering studies will be scoped and prioritized by December 1989;

* The approximately 200 remaining Engineering Work Request are being prioritized by the responsible System Engineer and the EWR Committee and those with a safety impact will be closed in a timely manner.

We also have a process for prioritization and initial evaluation of future initiated EWR's. An EWR initiated by any member of our staff is forwarded to the EWR committee which evaluates it and recommends a priority to management. The EWR is also forwarded to the responsible system engineer for a preliminary evaluation.

Periodically, the responsible system engineer reports to the EWR committee, composed of plant and engineering staff personnel, about the status of existing EWR's. It is the committee's duty to assure that appropriate actions are being pursued in a timely manner. Through this process, initiated one year ago, we can track progress on a given system and advise management about the timeliness of appropriate action. This process is defined in procedures 1403.1 and 1203.1.

5.3 Date When Full Compliance Will be Achieved:

The evaluation completed February 13, 1989 confirms full compliance for the specific item of violation. The remaining actions will be complete by December 15, 1989.

6.0 Provide timely corrective action for the modification of Size 2 Limitorque MOV actuators as recommended in a Limitorque Corporation letter dated August 13, 1985. Seven valves required the modification to prevent the possibility of a worm shaft gear failure. The was no objective evidence that the modification was ever issued to the field.

RESPONSE TO ITEM 6 OF NOTICE OF VIOLATION

6.1 Corrective actions Taken and the Results Achieved:

On February 25, 1989 we evaluated Engineering Work Request 85-293 which dealt with the potential for failure of worm shaft gears on seven valves. Two valves had been modified in accordance with the vendor's recommendation during the 1988 refuel outage. Five valves remain to be modified. Maintenance Action Request have been initiated for these modifications which will be completed during the next refuel outage (Spring 1990).

6.2 Corrective Actions to Be Taken:

The recommendations generated in disposing of EWR's not disposed of via a design control process are transmitted to the plant staff via memo. In the past these memos did not always include documentation which would allow the organization to track completion of the recommendation (typically a Corrective Maintenance Action Request or a Preventive Maintenance Input form). By letter dated April 6, 1989, the Manager, Design Engineering, has directed his staff to include such documentation when transmitting any recommendation. To verify that other recommendations are not outstanding, we will review the internal documentation that closed EWR items. We will complete this review prior to December 1, 1989.

6.3 Date When Full Compliance Will Be Achieved:

The evaluation completed February 25, 1989 confirms full compliance for the specific item of violation. The remaining corrective action will be completed prior to December 1, 1989.

7.0 Provide timely root-cause analysis to determine corrective action for the malfunction of the microswitches for Yarway instruments. The malfunction was reported in Deviation Report 87-921, issued December 29, 1987, and had not been evaluated at the time of this inspection.

RESPONSE TO ITEM 7 OF NOTICE OF VIOLATION

7.1 Corrective Actions Taken and the Results Achieved:

We completed the evaluation of Deviation Report 87-921 on February 8, 1989. The root cause was determined to be inadequate preventive maintenance which may have contributed to faster microswitch wearout, and inadequate compensatory measures for microswitch performance characteristics. The Preventive Maintenance mentioned in response to item 3 includes actions which will ensure the operability of the level switches.

7.2 Corrective Actions To Be Taken:

We have revised the Deviation Report form to include the assignment of priority for completion by the Operations and Technical Support departments. The supporting procedure is being revised and will be implemented by May 1, 1989. This procedural change will help to assign proper evaluation priority to each deviation.

7.3 Full compliance was confirmed when DR 87-921 was formally evaluated on February 8, 1989. The remaining corrective action will be completed prior to May 1, 1989.

8.0 Failure to take timely corrective action to resolve discrepancies identified in 1984-1986 during an Electrical Distribution Information Systems review. Some of these discrepancies could have an adverse affect on plant operations.

RESPONSE TO ITEM 8 OF NOTICE OF VIOLATION

8.1 Corrective Actions Taken and the Results Achieved:

The Electrical Distribution Information System (EDIS) walkdown documented discrepancies with tags or engineering work requests.

We evaluated and cleared the only remaining EDIS tag on February 6, 1989. The operational discrepancies noted on this tag were resolved.

8.2 Corrective Actions To Be Taken:

The fifteen open EDIS engineering work requests have been evaluated and discrepancies will be resolved by December 1989. Twelve of these fifteen open EDIS EWRs were design document changes. The three remaining EDIS items were evaluated for their potential impact on the operability of systems or components. The

evaluation demonstrated that none can affect the operability of systems and components. These three EWR's involve two lighting panel breakers and a transformer trouble alarm.

8.3 Date When Full Compliance Will Be Achieved:

EDIS inspection discrepancies will be resolved by December 1989.