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Docket No. 50-461

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

Subject: Illinois Power Response to Notice of
Violation 50-461/92005-02

Dear Sir:

The attachment to this letter provides the Illinois Power (IP) response to the Notice of Violation documented in NRC Inspection Report 50-461/92005 (DRS). The Notice of Violation discusses the failure to correct deficiencies in Division III Emergency Diesel Generator small tubing restraints.

IP believes that this response addresses the concerns identified in the Notice of Violation.

The Inspection Report also requested IP respond in writing with specific plans for improving the temporary modification program. That response will be provided under separate cover.

Sincerely yours,

F. A. Spangenberg, III
Manager, Licensing and Safety

RSF/ah

Attachment

cc: NRC Clinton Licensing Project Manager
NRC Resident Office
NRC Regional Administrator, Region III
Illinois Department of Nuclear Safety

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IP Response to Notice of Violation 50-461/92005-04

The Notice of Violation states in part:

"Contrary to the above, in March 1992, conditions adverse to quality, Division III EDG small bore tubing restraint deficiencies identified in 1985, had not been corrected."

Background

During a routine inspection, an NRC inspector identified an extensive use of plastic tie wraps for tubing supports and bundle-ups, a tubing restraint installed on an oil cooler expansion joint, and loose and touching tubes in a number of places. The inspector questioned the seismic qualification of the Division III Emergency Diesel Generator (EDG) tubing restraint system. The NRC inspection report states that these conditions were seismic qualification deficiencies.

On March 20, 1992, in response to the NRC inspector's questions, a search of documentation identified that a design change directed by General Electric (GE) Field Deviation Disposition Request (FDDR) LHI-3311 was not completely implemented. FDDR LHI-3311, Revision 0 was issued October 8, 1985. In paragraph C of the FDDR, General Electric (the Division III EDG supplier) stated that instrument lines for several instruments on the Division III EDG at Clinton Power Station (CPS) were supported using nylon ties which were not considered qualified for use. Paragraph C of the suggested disposition for the deviation required installation of stainless steel clamps at no more than forty-eight-inch intervals. The FDDR also specified that the tie wraps were to be left in place. The implementing traveler (construction installation document) prepared by the CPS constructor addressed electrical work also directed by the FDDR, but did not include installation of the improved tubing supports. Therefore, the FDDR was not fully implemented and the improved tubing supports were not installed.

Illinois Power (IP) agrees with the NRC conclusion that the plastic tie wraps used for tubing supports and tubing bundles and the loose and touching tubes found in a number of places could be considered seismic qualification deficiencies, although an evaluation of the safety significance determined that the tubing would not have failed under a design basis seismic event. IP also agrees that the tie wrap deficiency was identified in FDDR LHI-3311 Revisions 0, 1, and 2.

With respect to the tubing restraint installed on an oil cooler expansion joint, as identified in NRC Inspection Report 50-461/92005 dated June 24, 1992, IP offers the following clarification. The oil cooler expansion joint is a four-inch diameter flexible coupling, and the tubing restraint was attached to one of the two clamps which connect the flexible coupling to the piping. IP considers this to be an acceptable design configuration and has confirmed via calculation CQD-755127 that this configuration does not impact the seismic qualification of the flexible coupling. The flexible joint clamp was found adequate to support the tubing loads and

maintain the flexible connection seal. Therefore, no deficiency exists.

The NRC inspection report states that the Condition Report (CR) was issued to document loose and touching tubes and the tubing restraint installed on an oil cooler flexible coupling clamp. Actually, CR 1-92-03-058, issued on March 20, 1992, was written to document that metallic clamps were not installed as required by FDDR LH1-3311, Revision 2, and that this condition was considered a potential seismic qualification concern.

The NRC inspection report states that the loose and touching tubes and the tubing restraint installed on an oil cooler expansion joint issues were identified in the FDDR. However, IP's investigation of these issues determined that the tie-wrap concern was the only issue identified in the FDDR.

The NRC inspection report states that two FDDRs identified the deficiencies; one dated September 1985, and a second dated January 1987 (incorrectly identified as November 1987 in the inspection report). In actuality, the FDDR dated January 1987 (LH1-3311, Revision 2) was a revision to the FDDR dated September 1985 (LH1-3311, Revision 0).

The NRC inspection report states that the problem was compounded by IP's failure to uncover the problems during follow-up actions in response to NRC Information Notice Number 89-07, "Failures of Small-Diameter Tubing in Control Air, Fuel Oil, and Lube Oil Systems Which Render Emergency Diesel Generators Inoperable." This notice was received at Clinton Power Station on February 2, 1989. The Information Notice was provided to alert licensees to events involving vibration-induced failures of small diameter tubing which can render Emergency Diesel Generators inoperable. The Information Notice made no mention of a seismic issue. The Information Notice advised licensees to review the information for applicability to their facilities and consider actions to avoid similar problems. Illinois Power determined the Information Notice condition was applicable to Clinton Power Station and evaluated each of the three EDGs for similar problems in accordance with Nuclear Station Engineering Department (NSED) Action Plan CPS 89-265 and Maintenance Work Request D10568.

NSED Action Plan CPS 89-265 had eight actions; however, it did not include an action to assess the distance between or location of tubing supports and seismic restraints since the Information Notice advised licensees about vibration-type tubing failures, fretting, rubbing, and cracking. The action plan required an examination (by touch) of tubing from end-to-end, paying particular attention to bends, fittings, lengths of tubing exposed to external damage, and points of contact with fasteners, supports, or other tubing; and inspection for kinks on the inside of bends, evidence of leaks or cracks at fittings, external damage due to personnel interaction, and wear patterns at points of contact. Numerous discrepancies similar to those examples described in the Information Notice were identified, and corrected as necessary. Although IP considers the action plan to have been well planned, implemented and responsive to the Information Notice issue, a further evaluation into the tubing support seismic qualification adequacy would have identified earlier that FDDR LH1-3311 was not fully implemented.

Reason for the Violation

Illinois Power (IP) performed a detailed investigation of this issue and has concluded that the violation was originally caused by a failure to completely translate all the requirements of the FDDR into construction work documents in accordance with Baldwin Associates (the CPS constructor) Procedure BAP 2.10, "Equipment Installation". The reviews performed to ensure the work was completed were apparently based on completion of work documents rather than review of the original FDDR requirements, and therefore, these reviews, including the close-out review by GE, did not reveal the inadequate implementation.

The FDDR included both electrical work and mechanical (tubing supports) work for the Division III diesel generator. Construction Work Request (CWR) 18190 was issued by IP Startup personnel. This document requested Baldwin Associates (BA) to perform the field work described in the FDDR. BA issued traveler DG-152 to perform the electrical work, but did not ensure the traveler received a review for the mechanical work. As a result, the mechanical work was not considered, and therefore, was not completed.

No falsified records were identified during the investigation of this issue.

FDDR LHL-3311, Revision 1 was issued by General Electric on February 7, 1986, to specify applicable testing for the electrical work done under Revision 0 of the FDDR. The revision did not affect the mechanical portion of the FDDR.

FDDR LHL-3311, Revision 2 was issued by General Electric on January 23, 1987 to identify additional documents affected by earlier versions of the FDDR and to supersede the earlier versions. Revision 2 also clarified that a quality control visual inspection to the requirements of paragraph C was required, but this requirement was not indicated in the section of the FDDR which provides the scope of the FDDR revision. The visual inspection requirement for paragraph C provided an opportunity to identify that the mechanical work was not implemented, but the visual inspection requirement itself was apparently overlooked because it was not identified in the FDDR's scope of revision section.

On September 21, 1989, IP authorized General Electric to close FDDR LHL-3311, Revision 2. The letter authorizing the closure provided a list of implementing documents for Revisions 0 and 1 and justification for closing Revision 2. However, the implementing documents did not address the mechanical work.

Corrective Steps Taken and Results Achieved

An engineering evaluation of the as-found condition was performed. The evaluation determined that the instrument tubing and tubing supports would have been capable of performing their intended safety functions.

Although the engineering evaluation determined the as-found condition was not safety significant, IP designed and implemented modification DG-063 to install seismic tubing supports on the Division III diesel generator in accordance with the intended design. Modification DG-063 was installed prior to plant startup from the third refueling outage.

After implementation of modification DG-063, an inspection of the Division III EDG tubing confirmed that the configuration remained acceptable with respect to the issues identified in Information Notice 89-07.

Corrective Steps to Avoid Further Violations

An inspection was performed on the Divisions I and II emergency diesel generator process and control tubing. This inspection identified that tubing for these diesel generators is correctly supported.

Based on a review of Condition Report records, IP has concluded that the failure to completely implement FDDR LHI-3311 was an isolated incident and no generic corrective actions are necessary. A Baldwin Associates (BA) construction procedure was in place that correctly described how design changes were to be handled including a requirement for interdisciplinary reviews. Since the Condition Report research confirms that BA did not have problems of routinely violating this procedure resulting in problems of this type, this violation is considered to be an isolated incident.

A recurrence of a similar failure to translate all FDDR requirements into work documents is not likely under current CPS programs. All FDDRs are considered to be plant modifications and are processed as such in accordance with NSED procedure D.55, "Modification and Configuration Change Control." Procedure D.55 requires NSED to perform multidisciplinary reviews of modifications and to conduct other reviews that ensure design accuracy and adequacy, completion of the installation and acceptable completion of testing.

Date When Full Compliance Will Be Achieved

IP is currently in full compliance.