

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/83-31(DE); 50-374/83-30(DE)

Docket Nos. 50-373; 50-374

Licenses No. NPF-11; CPPR-100

Licensee: Commonwealth Edison Company
P. O. Box 767
Chicago, IL 60690

Facility Name: LaSalle County Station, Units 1 and 2

Inspection At: LaSalle Site, Marseilles, IL

Inspection Conducted: August 1-2 and 9-10, 1983

Inspectors: *D. H. Danielson*
for K. Ward

8/25/83
Date

D. H. Danielson
for R. Cilimberg

8/25/83
Date

Approved By: *D. H. Danielson*
D. H. Danielson, Chief
Materials and Processes Section

8/25/83
Date

Inspection Summary

Inspection on August 1-2 and 9-10, 1983 (Reports No. 50-373/83-31(DE);
50-374/83-30(DE))

Areas Inspected: Previous inspection findings: IE Bulletin and
10 CFR 50.55(e) items; induction heating stress improvement (IHSI) of re-
circulation system piping welds; post weld heat treatment of MSIV drain line
welds. The inspection involved a total of 38 inspector-hours onsite by two
NRC inspectors.

Results: No items of noncompliance or deviations were identified.

DFTAILS

1. Persons Contacted

Commonwealth Edison Company (CECo)

*J. Woldridge, QA Supervisor
*D. Skoza, QA Engineer
*E. Wendorf, QA Engineer
*D. Ewright, QA Engineer
W. Vahle, Lead Mechanical Engineer
M. Wendell, QA Engineer

General Electric (GE)

T. Palmer
M. Fitzsimmons

Morrison Construction Company (MCCo)

M. Wherry
H. Thibodeaux

The inspectors also contacted and interviewed other licensee and contractor employees.

*Denotes those present at the exit interview.

2. Licensee Action on IE Bulletins

(Closed) IE Bulletin 82-01 and Revision 1 and 2 (374/82-01-EB, 373/82-01-1B, 373/82-01-BB): Alteration of radiographs of welds in piping subassemblies. For information only. The inspector verified that the licensee management received the IE Bulletin and that it was reviewed for applicability. The inspector has reviewed radiographs of several Associated Piping and Engineering Company welds. (Reference NRC Report 373/83-10; 374/83-04) This Bulletin is considered closed.

(Closed) IE Bulletin 82-03 (374/82-03-1B): Stress corrosion cracking in thick wall, large diameter, stainless steel, recirculation system piping. For information only. The inspector verified that the licensee management received the IE Bulletin and that it was reviewed for applicability. This Bulletin is considered closed.

3. Licensee Action on 10 CFR 50.55(e) Items

(Closed) 50.55(e) Item (374/82-04-EE): Elcen spring hangers have high carbon nuts welded to low carbon turnbuckles. The inspector reviewed the final response. A review of Unit 2 hangers revealed that there is

one Elcen spring hanger installed and this hanger is a Type 2 size 120 which is not one of the spring hangers in question. This item is considered closed.

4. Licensee Action on Unresolved Item

(Closed) Unresolved Item (373/82-40-04; 374/82-10-04) Alleged falsification of weld data reports by Morrison Construction Company. Inquiry Report No. Q3-83-017.

- a. This inquiry was initiated at the request of the Region III Division of Engineering, Test Program Section, after a special safety inspection of activities at LaSalle County Station conducted on August 4-27, 1982, identified possible falsification of weld data report records by the Morrison Construction Company (MCCo). During the conduct of the inspection it was observed that out of a random sampling of 21 weld data report records, several discrepancies including possible falsification of records were identified. Specifically, of the same 21, 10 were found to contain photocopied quality control (QC) inspector signatures on pre-weld fitup inspection reports, in addition to possible premature QC approval affixed to weld data documents prior to the actual completion of work.

On June 20, 1983, Mr. Robert Schulz Division of Engineering, Region III, NRC, was interviewed by OI Investigator D. M. Galanti. Schulz provided the following information pertaining to normal QC procedures while employed in the QC section of MCCo.

Robert Schulz worked in the Quality Control Administrative Section of the Morrison Construction Company from the period 1974-1979. His signature, as the MCCo QC approving authority, is affixed to the weld data report. Schulz, who presently works for NRC, Region III, responded to questions concerning either weld data reports or the MCCo QC procedure program.

Schulz related that original weld data reports are physically prepared by MCCo on any work requirement that is to be accomplished within the LaSalle County Nuclear Station. Schulz stated the weld data report in question was prepared by the MCCo engineering section by D. Dillard on July 10, 1978, and once the proper weld procedures were identified by the welding section, the weld data report was forwarded to the MCCo QC Administrative Section.

Schulz stated he was responsible for placing the MCCo QC approval stamp, the nondestructive examination stamp and the inspection/hold record stamp on the weld data report in question. Upon Schulz's review of the QC mini-specs for this type of weld, Schulz would subsequently determine, and indicate, if a nondestructive examination (NDE) was necessary, and if that particular weld required any additional hold inspection by the QC inspector upon completion of the work.

Schulz stated the weld data report is not a QC acceptance approval of the work, but stated it was a QC section approval of work that was scheduled to be done at a later date. Schulz stated that once the weld was accomplished the MCCo QC inspector would then "sign-off" on the weld data report in compliance with the physical inspection signifying the work had been accomplished in accordance with all established procedures.

Schulz explained that as far as the allegation of photocopied QC inspector's signatures being contained on weld data reports was concerned, the QC section sometimes would reproduce the original weld data report already containing prior approval signatures prior to sending the report to the field, and apparently the reproduced report became the original approving report for all subsequent transactions.

Schulz reiterated that the weld data report is simply a determination by MCCo of the mini-specifications for material and NDE requirements in compliance with work scheduled to be accomplished and not the acceptance standard of the completed work.

- b. During the period May 25 to July 11, 1982, the NRC Region III (RIII) Division of Engineering and Technical Program (DETP) conducted a special inspection of allegations/concerns of construction deficiencies at the LaSalle County Station. As a part of the RIII inspection various records of the Morrison Construction Company were reviewed, including torque wrench calibration records. The Region III inspectors questioned various entries on the torque wrench calibration records and believed the records may have been falsified. Subsequently, investigators of the RIII Enforcement and Investigations Staff (EIS) were assigned to interview the various employees of the Morrison Construction Company to determine their knowledge of the alleged records falsification.

Several MCCo personnel were interviewed and it was determined that wrench readings were difficult to take and it was possible to make mistakes in the paperwork and it was not known of any intentional changes to the records.

This item is considered closed.

(Open) Unresolved Item (374/83-13-01; 373/83-10-01): Section III of the ASME Boiler and Pressure Vessel Code requires that post weld heat treating (PWHT) be performed on SA 335 P5 (5% chromium) steel pipe welds.

During an exit meeting at the licensee's technical center on April 21, 1983, it was stated that this code requirement would be difficult to meet in light of the experience with cracks in similar welds on Unit 1.

During this inspection the inspector reviewed the PWHT procedure and observed the PWHT on 3 welds connecting 2 inch drain lines to the Main Steam Isolation Valves (MSIV) of Unit 2. The PWHT was performed in accordance with the procedure and meets the code requirements. This action is acceptable but this unresolved item will remain an open item until PWHT has been completed on the drain line welds of the remaining 5 MSIV.

The corrective action for the MSIV drain line welds on Unit 1 was considered acceptable pending availability of the final metallurgical report. This item 373/83-10-01 remains open because the final metallurgical report has not been made available for review.

5. Licensee Action on Open Items

(Closed) Open Item (373/82-40-08; 374/82-10-08): Deviations from code requirements. Based on the violations closed in the following section of this report all code requirements have been met. All of the ASME Section III work is completed and signed off by the Authorized Inspector. The MCCo authorized inspector for Section III is no longer on site. This item is considered closed.

6. Licensee Action on Violations

(Closed) Violation (373/82-40-10; 374/82-10-10): Failure to adequately implement voltage/amperage welding surveillance procedure. The inspector reviewed the final report dated April 4, 1983. A reanalysis of the Morrison Construction Company (MCCo) voltage/amperage surveillance indicated that approximately 15% of the 1862 inspections contained errors in the logging of voltage/amperage ranges or procedure revisions. The inspector reviewed three cases that were identified where the readings were not within the weld procedure ranges. These have been acceptably dispositioned.

The inspector reviewed an audit dated September 22, 1982 that was of a sampling of other documents which required verifications by the QC inspectors involved with the voltage/amperage surveillance. No general error trend relating to these individuals was noted.

The inspector reviewed the MCCo Procedure #PC-41 and found that it was revised to include:

- . Revised form to obtain better control of production and inspection activities, including a QC acceptance or rejection signature.
- . Disposition of voltage/amperage readings found outside the parameters of the procedures.
- . Personnel have been trained in the subject procedure.

This item is considered closed.

(Closed) Violation (373/82-40-11; 374/82-10-11; 373/82-40-12; 374/82-10-12): Failure to complete NDE required by design drawings prior to accepting work and failure to include certain rework items in NDE control procedure. The inspector reviewed the final report dated April 4, 1983. The controlled system to assure NDE is performed on supports/restraints is described in Morrison Construction Company (MCCo) Work Instruction No. WI-17-3. The inspector reviewed the MCCo Procedure No. WI-17-3 and it requires the following steps:

- . The QC Traveler Group indicates NDE requirements on Form PC-113, Item 3A and in the Component Support Progress and QC Review Form PC-63, Column 5 (The inspector also reviewed the forms).
- . QC Record Group reviews the completed NDE activities and signs PC-113, Item 3D, when the documents are found acceptable and complete. This was verified by the inspector.
- . QC Record Group indicates on Form PC-63, Column 5 that the NDE is complete. This was also verified by the inspector.

Relative to drawing RH03-2895C, Revision C and PT Report No. 9657, the following discrepancies were noted:

- . The PT requirement was incorrectly marked on the drawing. This owner requirement is for containment liner attachments and not for embed plates in the sacrificial steel. It was not corrected when QC signed Item 3D on the PC-113 Form. The PC-63 entry was left open.
- . When snubber RH03-2844S near support RH03-2895C was removed the incorrect support number was referenced on PT Report No. 9657 and logged as complete in the PC-63 review log. Similarly, a PT of the embed plate removal area was not required, but was meant to apply to containment liner temporary attachment removals.

Subsequently, PT Report #9657 and PC-63 log were corrected to reference the correct snubber number of RH03-2844S. Drawing RH03-2895C, Revision C was corrected to indicate a PT was not required. This was verified by the inspector.

The Mechanical Revision Directive (MRD) or repair-rework order controls required NDE. Either document is used for tracking.

Relative to the procedural requirements on containment liner removals, specifically, the requirement is to document the work after the full liner inspection prior to the containment Integrated Leak Rate Test (ILRT). This has been accomplished per MCCo Work Instruction No. WI-18 in Unit No. 1 and will be similarly performed in Unit 2. The inspector reviewed Work Instruction No. WI-18. This item is considered closed.

7. Induction Heating Stress Improvement (IHSI)

This inspection was initiated to review the IHSI program being implemented at LaSalle Unit 2 to prevent the initiation of intergranular stress corrosi cracking (IGSCC) in sensitized austenitic stainless steel BWR recirculation piping.

Discussions with Commonwealth and General Electric (GE) personnel combined with a document review and a walkdown of the Unit 2 recirculation system and IHSI power supply and instrumentation and control system revealed the following:

IHSI is a process which uses induction coils to heat the outer circumference (similar to 3/8" deep) of recirculation piping in weld areas to a temperature of 720° to 1099°F while maintaining the inner circumference at 125°F with a water flow through the pipe of 1.6 feet per second. During the heating cycle the inside diameter (I.D.) is in tension and the outside diameter (O.D.) is in compression and the metal in the O.D. yields due to the higher temperature while the I.D. does not change dimensions. When the power to the induction coil is turned off, the water flow in the pipe quickly reduces the temperature of the pipe wall which puts the O.D. in tension and the I.D. in compression. IGSCC does not initiate in austenitic stainless steel which is in compression. If the I.D. of the piping which is exposed to reactor coolant water has been put into compression by IHSI then IGSCC will not initiate in that piping.

IHSI has been performed on 50 welds in the recirculation piping of Unit 2 with 27 welds remaining. A decision has not been made as to what action will be taken on welds at safety system isolation valves which are exposed to reactor coolant and there are 3 welds which are inaccessible.

The inspector reviewed GE procedure Number P50YP214 which was used to perform the IHSI.

Temperatures and times on heating and cooling curves were in accordance with the above procedure as indicated by thermocouple readings from a number of welds which were observed during the inspection.

The inspector reviewed the program including the following documents:

- . Mechanical Revision Directive (MRD)
- . Traveler Package Checklist
- . Inspection and Verification Reports
- . Weld Data Reports
- . Bolt Up Reports
- . NDE Reports
- . Drawings

To date there has been five supports that have been disassembled and reassembled. The inspectors visually examined the following assembled supports and verified that they were in accordance with the program.

- . 537-19740 Hanger RR02038V
- . 537-19595 GE Support 2SA21 RR002025S
- . 537-19592 GE Support 2HA27 RR002038V
- . 537-19653 GE Support 2SA29 RR002030S
- . 537-19694 GE Support 2SA20 RR00201S

This item will remain open until the licensee advises what disposition will be made on those welds which have not received IHSI. (Open Item 373/83-31-01; 374/83-30-01)

8. Exit Interview

The inspectors met with the representatives (denoted in Persons Contacted Paragraph) at the conclusion of the inspection. The inspectors summarized the scope and findings of the inspection noted in this report.