

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/85053(DRP)

Docket No. 50-461

License No. CPPR-137

Licenses: Illinois Power Company
500 South 27th Street
Decatur, IL 62525

Facility Name: Clinton Power Station

Inspection At: Clinton Site, Clinton, IL

Inspection Conducted: October 4 through November 18, 1985

Inspectors: T. P. Gwynn

P. L. Hiland

D. E. Keating

N. Valliere

RF Warnick for

Approved By: T. P. Gwynn
Chief, Projects Section 1B

11-22-85
Date

Inspection Summary

Inspection on October 4 through November 18, 1985 (Report No. 50-461/85053(DRP))

Areas Inspected: Routine safety inspection by resident inspectors of construction and preoperational testing activities including applicant action on previous inspection findings; employee concerns; review of allegations; functional or program areas (including site surveillance tours, fuel receipt and storage, and reactor vessel and internals); structural steel overinspection scope review; independent inspection effort (including control rod drive housing support steel installation, reactor vessel moisture separator installation, and radwaste building fire review); and site activities of interest. The inspection involved 242 inspector-hours onsite by four resident inspectors.

Results: Of the eleven areas inspected, no violations or deviations were identified. The plant staff needs to achieve and maintain effective control of plant areas as they are turned over by construction, as discussed in paragraph 5.a.

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DETAILS

1. Personnel Contacted

Illinois Power Company (IP)

*K. Baker, Project Engineer (Licensing), I&E Interface
G. Bell, Director, Construction and Procurement QA
J. Brownell, Staff Specialist Licensing
R. Campbell, Director - Quality Systems and Audits
*W. Connell, Manager - Quality Assurance
J. Cook, Assistant Power Plant Manager
E. Corrigan, Director - Quality Engineering and Verification
*H. Daniels, Project Manager
S. Fisher, Manager, Nuclear Support
D. Glenn, Director - Safeteam
*J. Greene, Manager - Startup
*D. Hall, Vice President, Nuclear
E. Kant, Assistant Manager, NSED
*J. Loomis, Construction Manager
J. Miller, Director - Startup Programs
R. Morgenstern, Director - Technical
H. Nodine, Supervisor, Control and Instrumentation
J. Palchak, Supervisor - Plant Support Services
*J. Perry, Manager - Nuclear Program Coordination
S. Razor, Supervisor - Construction QA
G. Reed, Assistant Director, Plant Operations
S. Richey, Director - Maintenance
*D. Shelton, Manager-Nuclear Station Engineering Department
*F. Spangenberg, Manager - Licensing and Safety
*J. Wilson, Manager - Clinton Power Station

Baldwin Associates (BA)

*R. Greer, Manager - Quality and Technical Services
*E. Rosol, Project Manager
*J. Thompson, Manager - Quality Engineering

Soyland/Wipco

*J. Greenwood, Manager - Power Supply

The Zack Company

M. Mead, Manager-Quality Assurance

*Denotes those attending the monthly exit meeting.

The inspectors also contacted others of the construction project and operations staffs.

2. Applicant Action On Previous Inspection Findings (92701/92702)

- a. (Closed) Open Item (461/82018-01e) as reopened by Inspection Report 50-461/85032, paragraph 2c: Corrective Action Request (CAR) 103 identified twenty-six individuals whose QC certifications were in question. Proposed corrective action was to reinspect their work on a sample basis using the ongoing BA Field Verification and IP Overinspection sample reinspection programs. Recently these programs have been suspended or terminated in several areas. Since the proposed corrective action in regards to the twenty-six individual's work will not necessarily be completed, the resident inspector requested that the applicant evaluate the closure of CAR 103 to determine the adequacy of corrective actions with respect to those portions relying on suspended or terminated reinspection programs.

BA CAR 259 was issued to readdress alternative corrective action. The inspector reviewed CAR 259 and determined that the alternative corrective action was satisfactory. A detailed review of QC certification deficiencies was performed for each individual by BA and compared to ANSI N45.2.6 requirements. A review of the QC inspection instructions in effect during the time frame in question was also factored into the comparison. Credit was taken for subsequent reviews of the individual's work by other groups such as the Document Review Group (DRG). Credit was also taken for attributes recorded by alternate inspection functions. The concluding justification noted that of the total hardware completed, inspection was performed by BA Field Verification and IP Overinspection in variations from 34% up to 80%. The inspector noted that IP QA evaluated all corrective action and found it acceptable.

- b. (Closed) Unresolved item (461/85005-47) (Allegation RIII-850075): A former BA document reviewer was terminated by BA for falsification of education on the resume he presented as part of the basis for his employment. NRC review of the individual's certification and training records confirmed that the individual was not properly certified. BA had not taken any corrective action as a result of their findings, other than to terminate the individual. This matter remained unresolved pending NRC review of BA corrective action commitments and results under Corrective Action Request (CAR) 221.

Earlier reviews related to this unresolved item were documented in inspection reports 50-461/85015, 85021, 85032, and 85045. Those reviews determined that the former BA document reviewer was adequately qualified to perform document review even though part of the basis for his certification was false (education) and that IP QA had determined through surveillance that the current BA QA program for verification of previous education and experience was functioning properly. In addition, the scope of this item was expanded to include a review of qualification records for three

specific individuals whose qualifications were allegedly inadequate and a review of results under BA CAR 240 which addressed the adequacy of work performed by another former BA document reviewer.

During this inspection period, the inspector completed reviews of certification and training records for eight BA document review group personnel certified prior to March 12, 1985, including the three individuals discussed above. The records were reviewed with respect to the BA program requirements contained in the BA QA Training Manual, Appendix 3, Document Review Personnel; IP commitments under IE Circular 80-22, Confirmation of Employee Qualifications; and the applicable requirements and recommendations of ANSI N.45.2.6-1978. No deficiencies were identified.

The inspector also reviewed record packages for BA CAR 240 and BA CAR 251. CAR 240 provided corrective action concerning the adequacy of work performed by a BA document reviewer who was terminated by BA for poor work performance. A random sample of the individual's work was selected in accordance with BA sampling procedures based on MIL-STD-105D, Sampling Procedures and Tables For Inspection By Attributes. Results indicated that, while no critical defects were identified (a defect which, based on an engineering evaluation, required hardware items to be physically reworked, repaired, or replaced per a NCR disposition), a significant number of other defects were identified which indicated the quality of the individual's work performance. BA and IP found the man's work to be acceptable "as is" based on this random sample (that is, no critical defects were identified). CAR 251 provided corrective action concerning the adequacy of work performed by another individual (in addition to the individual who was the subject of CAR 221) who had incorrectly listed his past education on his employment application (see Inspection Report 50-461/85015, paragraph 13). Again BA selected a random sample of the man's work in accordance with BA procedures. Results indicated no critical defects and a very small number of lesser significant defects. This individual's work was also judged by BA and IP to be acceptable "as is".

Based upon the results obtained in this and previous inspections, the inspector concluded that the current BA program for verification of previous education and experience for BA QA personnel was functioning properly; that past deficiencies in that program had been corrected by BA; and that those past deficiencies had no apparent adverse impact on the safety of Clinton Power Station. This item is closed.

- c. (Closed) Unresolved Item (461/83009-09): A Field Change Request (FCR) was written to identify a condition which would be nonconforming if work was to proceed. Additional review by the inspector, documented in Inspection Report 50-461/83009, revealed the following:

1. Four FCRs, 18233, 18226, 18127, and 17909, appeared to go beyond the scope of the FCR system in that generic changes to design specifications were requested. Examples of the changes included additional or revised welding tolerances or relaxed inspection criteria. The inspector believed that these types of changes should have been requested through the Engineering Change Notice (ECN) system.
2. The FCRs referred to in 1 above appeared to relax the weld inspection requirements as specified in the design specification and the American Welding Society (AWS) Code. The Quality organizations of IP and BA were requested to provide a comparison of code and subject FCR welding inspection requirements.
3. The inspector requested that IP review its involvement in the project FCR system through its QA organization. This request was made because several examples indicated that QA should perform some function in the initial review process of FCRs which would provide a system of checks and balances to prevent misuse of the FCR system. The existing system of quality audits and surveillances did not appear sufficient for this purpose.

During this inspection, the inspector reviewed procedure BAP 1.3, Field Change Request, which defines the FCR as "The means of changing a condition affecting design documents and/or specifications which, during or prior to construction, prevents meeting the requirements for installation, inspection, and/or testing." It appeared that the four cited FCRs were appropriately used to perform this function.

Two of the four FCRs, FCR 18127 and FCR 18226, dealt with relief from weld inspection acceptance criteria of AWS D-1.1. The inspector reviewed S&L letter SLS-I-4054 dated August 29, 1983, which provided the technical justification for the change to the design specification and a comparison to AWS D-1.1 requirements. No discrepancies were identified. The use of either an FCR or an ECN appeared to accomplish the desired change in an adequately controlled manner.

The applicant stated in the closure package that misuse of the FCR program would most likely occur in attempts to issue FCRs to resolve nonconforming conditions. In order to verify that the FCR program was not being abused, the applicant conducted surveillances of this program. The inspector selected for review IPQA Surveillance Y-17498; the surveillance identified no abuse of the FCR program. This item is closed.

- d. (Open) Open item (461/85015-07): Verify that revisions have been made to the CPS emergency procedure guidelines (EPGs), that emergency off-normal procedures (EOPs) have been upgraded, and that plant operators have been trained prior to fuel load (Safety Evaluation Report Supplement (SSER) 4, paragraph 13.6.3.1).

The inspector reviewed CPS 1450.00, CPS Emergency Procedure Guidelines, revision 1 dated August 15, 1985. Revision 1 was issued to incorporate both NRC and General Electric (GE) Company comments. The procedure provides plant specific, symptomatic technical guidelines for the preparation of EOPs for reactor pressure vessel control, containment control, and secondary containment/radioactivity release control. At the time of this inspection, the combustible gas control guideline had not been incorporated in the approved procedure.

Review of the CPS procedures manual, Operating Manual Status Report (OMSR), revealed that all but one of the emergency off-normal procedures had been revised since the date CPS 1450.00 was revised. The EOP for combustible gas control had not been approved at the time of this inspection.

Operator training was in progress for those EOPs which had been developed and revised; however, specific plans and schedules for completion of the combustible gas control EPG, approval of the EOP, and attendant operator training to the procedure were not reviewed during this inspection. This item remains open.

- e. (Closed) Open item (50-461/85015-08): Verify that the emergency procedure writers guide was revised in time to support upgraded Emergency Operating Procedures (EOPs) for operator training prior to fuel load (Safety Evaluation Report Supplement 4, paragraph 18.6.3.2).

The applicant provided CPS No. 1005.01, Preparation, Review, And Approval of Station Procedures and Documents, revision 13 dated March 7, 1985, for review. The inspector verified that the EOP writers' guide (Appendix C to CPS No. 1005.01) was revised to incorporate NRC comments. In addition, the inspector reviewed the most current revision of the procedure (revision 15) and verified that the writers guide had not been changed since revision 13.

Discussion with responsible plant staff personnel revealed that the applicable CPS procedures had been revised per NRC and General Electric Co. review comments and that the EOPs had been revised using the CPS EOP writers guide and emergency procedures guidelines contained in CPS No. 1450.00, CPS Emergency Procedure Guidelines, except as noted in paragraph 2.d. above.

The inspector reviewed the IP Nuclear Training Department licensed operator requalification training schedule. The review showed that training of licensed operators to the revised EOPs was scheduled to begin November 14, 1985, and would be completed by December 12, 1985. This item is closed.

- f. (Closed) Open Item (461/85015-12): IPQA surveillance of the Overinspection Program. During January 1985, IPQA conducted extensive surveillances of the Overinspection Program. As reported in Inspection

Report 50-461/85015, paragraph 9.b, several minor discrepancies were identified which pertained to procedural compliance and lack of attention to detail.

Corrective actions and closeout of the surveillance findings were reviewed by the inspector and determined to be adequate. This item is closed.

- g. (Closed) Open Item (461/84041-01): IPQA surveillance report Y-26374 identified that the Nuclear Station Engineering Department (NSED) did not have a procedure to disposition Overinspection Program inaccessible item reports.

In response to IPQA surveillance finding 0-85-024, NSED issued and implemented NSED procedure D.17, Inaccessible Item Reports, revision 1 dated March 28, 1985. The inspector reviewed NSED procedure D.17 and noted that responsibilities and required actions to evaluate inaccessible items had been defined. Closure of this surveillance finding by IP QA was reviewed by the inspector and determined to be adequate. This item is closed.

- h. (Closed) Open Item (461/85005-39): Verify that debris screens are installed in both the high and low volume containment purge systems prior to fuel load (SSER2, paragraph 6.2.4.1).

The inspector reviewed mechanical installation traveler titled FVQ Screen, and verified installation and QC inspection of the three debris screens. The inspector confirmed installation and location of the screens by visual inspection of the containment purge system. This item is closed.

- i. (Open) Unresolved item (461/85012-02): Plant administrative procedures did not require an independent technical review of procedures; and procedures were not properly classified in accordance with technical specification requirements.

The inspector continued to review the status of applicant actions to provide independent review of safety related procedures and to upgrade the classification of other procedures. The applicant has prepared a detailed schedule for implementation of all plant staff procedure revisions required to support fuel load, initial criticality, power ascension testing, and full power operation. The schedule addressed procedures requiring an independent technical review; procedures whose classification code has been upgraded; procedures currently having information missing ("Later"); and procedures previously identified as "exempt" from the biannual review process. That schedule provides for completion of the review and revision of safety-related procedures by June 1986. Based on the prioritized schedule, the required procedure reviews and revisions will be accomplished as needed to support critical milestone activities

rather than being fully complete prior to fuel load. The inspector will review the status of applicant actions under this item prior to fuel load to verify that applicable procedures have received the required reviews.

- j. (Open) Violation (461/85042-03): Controls for potential interaction reports involving electrical separation violations were inadequate. Incomplete dispositions were provided as permitted by Sargent and Lundy Instruction PI-CP-034.

The inspector reviewed the applicant's response to this and determined that results of the corrective actions taken were not available for review at the Clinton Power Station but were filed at the office of Sargent and Lundy. This item will remain open until the cited examples are received and review of the documented dispositions completed.

No violations or deviations were identified.

3. Employee Concerns (99014)

The inspectors reviewed concerns expressed by site personnel from time to time throughout the inspection period. Those concerns related to regulated activities were documented by the inspectors and submitted to Region III. Four concerns were transmitted to the regional office during this report period.

4. Review Of Allegations (99014)

- a. (Closed) Allegation (RIII-85-A-0159-01) (#163): An anonymous alleged contacted the Clinton resident inspector and stated that U. S. Testing Company was using improperly certified quality control inspectors to perform overinspection of mechanical equipment (valves). The alleged stated that individuals previously certified for inspection of heating, ventilating, and air conditioning (HVAC) equipment had been cross trained and were being certified "across the board" in the mechanical discipline for overinspection of mechanical equipment. These individuals, according to the alleged, had no previous mechanical background or experience and had been provided an inadequate mechanical training program.

NRC Review

The U. S. Testing Company Supervisor - Welding, Nondestructive Examination, and Testing (SWNDT) was contacted concerning this matter. He stated that 10 of 11 U. S. Testing HVAC overinspection inspectors had been recently cross trained, examined, and certified to perform as mechanical overinspection inspectors. The eleventh failed the certification examination. He stated that each individual had been properly certified in accordance with the IP Quality Assurance (QA) Department Training, Qualification, and Certification Manual, including background, education, and experience verification performed by the IP QA Training Coordinator.

Because of the potential impact on ongoing overinspection activities, the inspector requested the IP QA Director - Quality Systems and Audits to perform a prompt review of the ten individual's certification records to determine if they were properly certified. IP QA's review showed that each individual was adequately qualified and properly certified to perform within the limits of their certification; however, the certifications were not equivalent to Level II Mechanical Quality Control Inspector.

It was the intent of supervision that these personnel be used only to perform overinspection of valves for which they had been specifically trained.

The inspector also reviewed the previous education and employment certifications provided for each of the affected individuals by their employer (U. S. Testing Company) with respect to ANSI N45.2.6-1978 recommendations. This review indicated a need for additional information for five of the individuals. This information was subsequently provided and reviewed by the NRC. The other five individuals clearly had verified education and/or experience directly related to mechanical quality control inspection. Review of the additional information determined the five individuals met education and employment requirements.

The inspector interviewed the IP QA Training Coordinator who stated that background verifications had been completed for each of the ten individuals, and that they had been properly trained and certified in accordance with the IP QA Training Manual.

The inspector reviewed training, written examination, practical demonstration test, and certification records for a sample of the HVAC overinspection inspectors who had been cross trained, with reference to the applicable requirements of the IP QA Training, Qualification, and Certification Manual. Each individual had been evaluated, trained, examined (both written and practical demonstration), and certified in accordance with the applicable requirements. Limited on-the-job training had also been documented for each of the individuals certified.

The inspector interviewed the U. S. Testing trainer who was responsible for classroom training provided to the individuals affected. The classroom training was consistent with that provided to all other U. S. Testing overinspection personnel being certified as "Level II Mechanical Overinspection Inspector". The trainer was not knowledgeable of the background, education, and previous experience of the affected individuals; he stated that the IP QA Training Coordinator was responsible for that portion of the program. The inspector noted that the training program provided was a refresher course consisting of two hours of classroom training designed for experienced mechanical inspectors.

Additional information provided by IP showed that each of the ten individuals had extensive backgrounds in quality control inspection and had some experience directly related to inspection of mechanical components.

At this point in the review, an anonymous allegor contacted the Clinton Resident Office and stated that five specific individuals did not have sufficient experience to justify certification. The allegor stated that if the NRC interviewed those five individuals, it would be immediately apparent that they were not properly certified. Four of the five individuals alleged to be improperly certified were within the group of five individuals for whom IP had provided additional information.

The five specific individuals alleged to be improperly certified were interviewed by the resident inspector and one Region based inspector. The purpose of these interviews was to determine if there were any discrepancies between the documented certification files presented to the inspector and the individual's own statements of previous experience. In addition, the interviews were used to ascertain what minimum level of mechanical inspection knowledge the individuals possessed.

The above interviews revealed that one of the five individuals had been certified Level II Mechanical at another site but that the certification was used to perform HVAC inspection only; the individual stated he had no other prior mechanical discipline inspection experience. With that exception, the individuals interviewed appeared knowledgeable of the Overinspection checklists and the fundamental principles required to perform overinspection of valves. No discrepancies in the certification records were identified.

The results of the above interviews were discussed with IP management who agreed to review the qualification file, backup documentation and training records of the individual who appeared to be lacking the required mechanical inspection experience and knowledge level to perform as a Level II Mechanical Overinspection inspector. The IP review concluded that while the individual's experience and education met the direct requirements of ANSI N45.2.6-1978, additional training and experience for this individual would be necessary for him to perform all aspects of mechanical overinspection. The qualification file for this individual was annotated by IP to specifically identify that the certification had been issued for a limited scope of work. The inspector reviewed the individual's qualification package and verified that it had been annotated as follows: "visual reinspections of installed valves for general attributes only".

In addition, IP performed a 100% reinspection of the valves the individual had inspected. Results of this 100% reinspection confirmed the inspector's observation that the individual appeared to lack the requisite knowledge to perform as a Level II Mechanical Overinspection inspector. Of the 49 valves inspected by the individual, 12 inspection errors were identified during the 100% reinspection; one error was an elevation discrepancy and the remaining 11 were errors in documenting the code data plate serial number for the valves inspected. The inspector reviewed the checklists and documented findings of the 100% reinspection effort for the 49 valves in question. In addition, the inspector selected

7 of the affected valves and examined them in reference to the documented inspection results. One permanent tag giving the S&L identification number was noted as missing. This discrepancy was brought to the attention of IP and a nonconformance report was written.

More than 5,000 valves were included in the Overinspection Program scope. The required inspection attributes for these valves were general in nature and included: 1) flow direction verification; 2) valve tagging; 3) physical damage; 4) code data plate; and 5) arc strikes. Based on the simplicity of the inspection attributes, the small number of valves inspected by the subject individual, and the results of IP's 100% reinspection of the individual's work, the inspector concluded that none of the errors made by the individual adversely affected either the adequacy of the installed hardware or the results of the Overinspection Program. All ten individuals who cross trained from HVAC to mechanical overinspection were laid off during the course of this inspection as part of a planned reduction in force.

Results

This allegation was partially substantiated. One individual either lacked the mechanical experience necessary or was not provided the requisite training to perform at an acceptable level as a Mechanical Overinspection inspector. However, it was noted that the errors made by the individual did not adversely affect either the adequacy of the installed hardware or the results of the Overinspection Program. Reviews performed by IP revealed that this deficiency was an isolated case. Corrective actions taken by IP appeared appropriate to resolve the allegation.

This item is closed.

- b. (Closed) Allegation (RIII-85-A-0109) (#150): An individual alleged improper weld rod control at the Clinton Power Station. The concern dealt with control of weld rod following a loss of power to the warming ovens maintained by Zack at various locations at the Clinton Power Station.

NRC Review

The inspector reviewed the governing procedures used by the Zack Company for weld material control at the Clinton Power Station; Field Construction Procedure (FCP)-9.0, Weld Material Control, revision 3, dated May 28, 1985; and Field Quality Control Procedure (FQCP)-9.1, Quality Control Verification of Weld Filler Metal Control, revisions 0 and 1, dated February 27, 1985, and May 28, 1985, respectively. These procedures together defined the methods used by Zack to control weld filler material.

FCP-9.0, revision 3, paragraph 6.5 required the weld filler material holding ovens to be maintained at 250 F to 350 F. The temperature of the holding ovens was required to be monitored by Quality Control. FQCP-9.1, revision 0, paragraph 7.2.2.1 required the holding oven temperatures to be monitored each working day and the as-found temperature recorded on form CPS-118 (Oven Temperature Log).

The inspector reviewed the 1985 oven temperature logs for the ovens at the Zack weld test facility (ovens ZR03 and ZR05), and the Zack Fabrication Shop (oven ZR06). Since these ovens were the specific subject of the allegation, the inspector concentrated his review on these and performed only a cursory review of the records for the Zack ovens at other locations. The inspector also reviewed the Zack Rod Caddie Monthly Inspection Checklists (CPS-091/2) for January through October 1985 and the Weld Metal Control forms issued at the Zack Test Facility from February 1985 through June 1985. The purpose of this review was to ascertain whether governing procedures were followed and to determine if Zack records identified any deficiencies in weld rod control.

The inspector noted that there were several days when oven temperature recordings were not maintained on the applicable logs at the Weld Test Shop Facility. Zack QC surveillance reports numbers 43 and 63 identified this discrepancy at the time of occurrence in May of 1985. The inspector reviewed the response to the Zack QC surveillance finding and noted that Zack QC had accepted and closed the findings based on a Zack engineering log which provided an accurate record of the temperatures in question. In addition, the inspector noted a recorded power outage for greater than four hours on June 11, 1985. The affected weld rods were rebaked for two hours at a temperature of 500 F in accordance with American Welding Standard (AWS) D1.1, paragraph 4.5.2. The inspector noted that the requirements of the AWS D1.1 code were met for this rebaking process.

The inspector reviewed two Zack nonconformance reports (NCRs), #ZC-CB-967 and 910756 dated December 28, 1983, and August 14, 1984, respectively. These NCRs were selected for review by the inspector since they dealt with weld rod control problems experienced by the Zack company at the Clinton Power Station. NCR #ZC-CB-967 addressed a loss of power to rod ovens and NCR #910756 identified broken seals on hermetically sealed containers. In both cases, the approved disposition was to "scrap" the affected weld rod.

Rod ovens at Zack's weld test facility were placed out of service on July 24, 1985, due to the reduced work effort by Zack at the Clinton Power Station. The inspector was able to observe weld rod control at the Zack fabrication facility. The inspector interviewed the on shift Weld Metal Controller (WMC) at the Zack fabrication

facility. The WMC was knowledgeable of the governing procedure for rod control and issue. In addition, the inspector reviewed the current month's log for the Zack fabrication shop rod oven (ZRO-6) and compared it to the WMC's daily log; no discrepancies were noted. An electric clock was plugged into the same circuit as the rod oven to identify when power was lost. The inspector observed the rod storage area in the Zack fabrication facility and did not note any discrepancies. The inspector toured the Zack fabrication shop and observed work in progress. No weld rod control discrepancies were noted.

Results

This allegation was not substantiated. Zack quality records provided objective evidence that rod oven temperatures at the Weld Test Facility and the Fabrication Shop were properly maintained and that when temperatures were outside procedural requirements, proper corrective action was implemented. In addition, observations at the Zack fabrication shop and interviews with a Zack Weld Metal Controller indicated an accurate understanding of procedural requirements.

This item is closed.

- c. (Closed) Allegation (RIII-85-A-0164) (#165): Safety-related HVAC control panels installed at CPS by MCC Powers Company were manufactured by Illinois Fabricators without benefit of a QA program. The allegor was concerned that, since there was no QA program when the panels were constructed, there was no control of welding, special processes, inspection, and material control.

NRC Review

This allegation was referred to IP by letter C. E. Norelius to IP (Attn. W. C. Gerstner) dated October 3, 1985. IP responded to the allegation in letter D. P. Hall to J. G. Keppler dated October 22, 1985. Review of the results of IP's investigation revealed that Illinois Fabricators did fabricate control panel enclosures for MCC Powers Company; that two of the panel enclosures were installed in safety-related applications; that appropriate and adequate quality assurance measures were applied to this procurement by MCC Powers Company; that the enclosures were fabricated using drawings approved by S&L; that welding procedures used during fabrication of the enclosures were approved for use by S&L; that certified welders were used by Illinois Fabricators during fabrication of the enclosures; and that source surveillance inspections were conducted by MCC Powers at the Illinois Fabricators facility during the fabrication process. Acceptance of these panels was based on receipt inspection performed by MCC Powers Company. IP concluded that no corrective action was required since the procurement of the panel enclosures was in accordance with MCC Powers approved QA Program.

Results

Based on the results of IP's investigation of this matter, no further NRC action was deemed necessary. The inspector agreed with IP's conclusion concerning the adequacy of QA measures applied to the procurement in question.

This item is closed.

No violations or deviations were identified.

5. Functional or Program Areas Inspected

a. Site Surveillance Tours (71302/60501)

At periodic intervals during the report period, surveillance tours of selected areas of the site were performed. Those surveillances were intended to assess: cleanliness of the site; storage and maintenance conditions of equipment and material being used in site construction; potential for fire or other hazards which might have a deleterious effect on personnel or equipment; storage conditions of new fuel; and to witness construction, maintenance, and preoperational testing activities in progress.

In general, plant housekeeping throughout the power block was adequate; however, during this inspection period conditions observed in the plant were brought to the attention of IP management. The inspectors determined that the diesel generator fuel oil storage tank rooms, which are turned over to IP plant staff, were in a less than acceptable condition in regards to housekeeping, accumulation of combustible materials, and control of access. IP management took prompt corrective action to restore these areas to an acceptable condition and maintained this acceptable condition through the remainder of the inspection period.

The inspector noted that IP plant staff responsibility for plant housekeeping, fire protection, and similar functions has increased as more systems and areas are turned over to plant staff for control. The inspectors have increased their awareness of defined housekeeping responsibilities and will continue to monitor performance of IP plant staff in this area.

The inspector observed performance of maintenance activities on Main Steam Isolation Valve (MSIV) 1B21-F022A. The maintenance work was undertaken because the valve failed local leak rate testing. The inspector reviewed the applicable procedure, reviewed work control documents, and observed portions of the maintenance activity. Personnel interviewed were knowledgeable of the job requirements and applicable administrative controls. The detailed procedure was available and in use at the work location. Applicable QC hold

points had been observed in the work package. Appropriate controls were in place to provide for post maintenance testing of the valve and to determine what, if any, impact the maintenance may have on completed preoperational testing. The inspector noted that the maintenance procedure had been subjected to an independent technical review prior to performance of safety related work. In addition, the inspector noted that internal main steam system cleanliness in the area of the disassembled valve was very good and was being appropriately maintained.

No violations or deviations were identified.

b. Fuel Receipt And Storage (60501)

On October 11, 1985, the applicant completed receipt of all new fuel bundles required for initial fuel load. The inspector witnessed receipt of new fuel to ascertain whether it was properly accepted and safeguarded; and whether it was stored in accordance with the Special Nuclear Material (SNM) license issued August 7, 1985.

NRC inspectors have and will continue to monitor storage conditions of the new reactor fuel as part of routine plant tours.

No violations or deviations were identified.

c. Reactor Vessel and Internals (50053C) (50063C)

During the report period, the inspector observed the reactor vessel protection program being maintained by General Electric. Access control to the reactor vessel was maintained for both personnel and equipment. The inspector witnessed required training being administered, prior to granting personnel access; witnessed control point security enforcement; and witnessed control point material control. The inspector toured all accessible areas in the reactor vessel in order to ascertain if access controls were effective in maintaining adequate levels of cleanliness.

The inspector concluded, based on the in place controls observed and the physical condition of the reactor vessel and its internal components, that General Electric's program for reactor vessel protection was adequate.

No violations or deviations were identified.

6. Structural Steel Overinspection Scope Review (92705)

The inspector continued to review the scope of overinspection for structural steel and the applicant's justification for not inspecting certain structural steel applications. Information relevant to this matter was previously documented in inspection reports 50-461/85032 (paragraph 12.c.(1)) and 50-461/85042 (paragraph 2.j). The latter inspection report requested that IP provide a written response to Region III concerning the scope of structural steel overinspection.

During this report period, the inspector performed a walkdown inspection of selected areas of the containment and auxiliary buildings inspected by IP under the Overinspection Program for structural steel. The walkdown inspection included review of applicable drawings, visual observation of the installation, and discussion with cognizant IP personnel. One loose jam nut, identified on one four-bolt connection, was documented on a NCR by the applicant. That action was sufficient to provide resolution for this minor deficiency. No significant deficiencies were identified during this inspection.

In addition, the inspector walked down portions of the steel erected to support the Gas Control Boundary which is part of the secondary reactor containment. The gas control boundary steel had not been included in the scope of IP's Overinspection Program. This inspection included review of applicable drawings, installation records, visual observation of the installation, and discussion with cognizant IP personnel. No deficiencies were identified. The inspector suggested that IP provide an engineering justification for not inspecting this steel under the overinspection program.

The inspector will complete the review of this area when Region III receives the applicant's response to inspection report 50-461/85042. The applicant stated that the response was tentatively scheduled to be completed by November 25, 1985.

During visual observation of the gas control boundary steel, the inspector noted that tie holes had not been filled and fins had not been removed after stripping concrete forms from exterior concrete of the reactor containment building (located inside the annular area of the gas control boundary). Review of the S&L installation specification, K-2944, revealed that amendment 19 to that specification allowed this condition.

No violations or deviations were identified.

7. Independent Inspection Effort

a. Control Rod Drive Housing Support Steel Installation (55063C)

The inspector continued observation of the installation of the Control Rod Drive Housing Support Steel (CRDHSS). The CRDHSS is an engineered safety feature provided to limit the travel of a reactor control rod in the unlikely event of the failure of the control rod drive housing with the reactor vessel pressurized.

Activities during this inspection period included walkdown of the final as-built installation of the CRDHSS and review of the installation records. The walkdown included a check of installation tolerances and visual inspection of modifications made to several spacer bars. Records reviewed were traveler WBS-12.0, revision 1; GE NCR 046 and 047; and Field Deviation Disposition Request (FDDR) LH1-5427.

No discrepancies were identified during either the walkdown or the records review. Personnel interviewed appeared knowledgeable of the job requirements and installation procedures. Records reviewed were complete, legible, and provided both craft and QC acceptance of the installation.

No violations or deviations were identified.

b. Reactor Vessel Moisture Separator Installation (500' JC)

The resident inspector reviewed the applicant's activities during post-flow inspection of the reactor vessel moisture separator. During removal of the moisture separator from the reactor vessel, the applicant identified scoring of the mating surface for one of the moisture separator guide pins. This discrepancy was documented on FDDR LH1-5451 and was dispositioned to repair the scored surface. The repair methods specified grinding of the surface to remove the scoring and subsequent dye penetrant examination of the repair area. The inspector observed a portion of this activity and identified no discrepancies.

During the process of reinstalling the moisture separator in the reactor vessel to check for proper fit subsequent to the repair, the lens of a lighting fixture was broken and small shards of tempered safety glass were dropped into the reactor vessel. Shards of glass were found on the bottom and intermediate rings of the moisture separator, on the top guide, and on the core spray sparger. GE NCR 056 was written to document the condition and to provide necessary corrective actions. Corrective actions to be taken included removal of control rod blade guides to facilitate inspection of the lower core plate and chemical analysis of the tempered safety glass to verify its chemical composition. Approximately 75%, by weight, of the missing glass lens has been retrieved from the reactor vessel. IP has determined that the remaining glass will pose no contamination or corrosion hazard and will be removed by the Reactor Cleanup System. No further action is planned by the contractor or IP regarding this issue.

No violations or deviations were identified.

c. Radwaste Building Fire (71302)

On October 4, 1985, the applicant notified the inspector of a fire that occurred in the Radwaste Building at approximately 0045 a.m. on October 4, 1985. The fire resulted when cleaning solvent, being carried through a corridor on the 781' elevation of the Radwaste Building, leaked onto the floor and ignited. It was extinguished by another employee, who was in the immediate area, using a portable fire extinguisher. The inspector toured the area of concern that same day to ascertain if any damage to safety related equipment had occurred. The inspector determined that the applicant had isolated the affected area and was conducting an investigation to determine

the cause of the fire. The inspector observed that the path of the fire was confined to the concrete floor of the Radwaste Building, elevation 781' and the inspector observed no damage to plant equipment. The applicant provided the inspector with the results of their own investigation which found no damage to plant equipment as a result of this incident. The cause of the fire was determined by the applicant and the individual responsible for the fire was terminated.

No violations or deviations were identified.

8. Site Activities Of Interest (71302/92705)

a. Power Systems Branch (PSB) Site Audit (71302)

The NRC Office of Nuclear Reactor Regulation (NRR), PSB conducted a site audit of electrical cable separation and electrical power installations during the period October 28-30, 1985. No significant discrepancies were identified during the audit.

b. Detailed Control Room Design Review (CRDR) Audit (71302)

The NRC Office of NRR, Human Factors Engineering Branch (HFEB), assisted by contractor personnel from Lawrence Livermore National Laboratory, conducted a site audit during the period October 28 through November 1, 1985, of CRDR activities undertaken by IP to satisfy the requirements of TMI Action Plan Item I.D.1. No overall weaknesses were identified during the audit; however, several preliminary findings were discussed with the applicant which will require some corrective action.

c. Emergency Preparedness Preimplementation Appraisal (71302)

NRC Region III and the NRC Office of Inspection and Enforcement, assisted by contractors from Battelle Northwest Laboratories, commenced an emergency preparedness preimplementation appraisal inspection on November 12, 1985. The inspection was intended to assess the readiness of the applicant's emergency response personnel and facilities to respond to emergency conditions onsite and to provide protective action recommendations to state and local public officials. The inspection was scheduled for completion on November 22, 1985.

d. Overinspection Program Status (92705)

Region III completed review of three IP requests to terminate overinspection of additional commodities included in the Overinspection Program. Commodities for which termination requests were received include conduit, cable tray, conduit and cable tray supports, cable, cable terminations, HVAC duct, and HVAC duct supports. Initial review by Region III indicated that IP had not provided sufficient data and analysis to support the termination

requests. Additional information was submitted by IP to justify their requests. Additional onsite inspections were made by Region III and the resident inspectors to verify the information contained in the termination requests, to observe as-built conditions of the requested commodities, and to review NCRs related to the termination requests. Final Region III action on these termination requests was pending at the conclusion of the inspection period.

The following Overinspection Program status was determined after discussion with IP management on November 14, 1985:

<u>Commodity</u>	<u>Approximate Quantity Remaining To Be Inspected</u>
Structural Beams	20
Electrical Equipment	350
Mechanical Equipment	75
Fire Protection / Augmented	
Class D Items	90
Instrumentation	30

Completion of the above inspections is restrained by turnover from construction; forecasted completion was late November or early December.

No violations or deviations were identified.

9. Exit Meetings (30703)

The inspectors met with applicant representatives (denoted in paragraph 1) throughout the inspection and at the conclusion of the inspection on November 18, 1985. The inspectors summarized the scope and findings of the inspection activities. The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The applicant did not identify any such documents/processes as proprietary. The applicant acknowledged the inspection findings.

The resident inspectors attended exit meetings held between Region III and/or headquarters based inspectors and the applicant as follows:

<u>Inspector(s)</u>	<u>Date</u>
Love	10/9/85
DuPont, Valliere, Ring	10/10/85
Lazevnick, Love	10/30/85
Froelich, Johnson, Moore	11/1/85
DuPont	11/8/85
Westberg	11/12/85