

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-358/82-06(OSC)

Docket No. 50-358

License No. CPPR-88

Licensee: Cincinnati Gas and Electric Company
139 East 4th Street
Cincinnati, OH 45201

Facility Name: Wm. H. Zimmer Nuclear Power Station

Inspection At: Wm. H. Zimmer Site, Moscow, OH

Inspection Conducted: April 9, 12-16, 19-23, 26-30, May 3-7, 10-14, 17-21,
24-28, and June 1-4, 1982

Inspectors: <i>E. R. Schweibing for</i> W. F. Christianson	<u>11-1-82</u>
<i>E. R. Schweibing for</i> T. P. Gwynn	<u>11-1-82</u>
<i>E. R. Schweibing</i> E. R. Schweibinz	<u>11-1-82</u>
<i>E. R. Schweibing for</i> J. L. Schapker (RII)	<u>11-1-82</u>
<i>D. E. Keating</i> D. E. Keating	<u>10/20/82</u>
<i>K. D. Ward</i> K. D. Ward	<u>10/29/82</u>
Approved By: <i>D. R. Hunter</i> D. R. Hunter, Chief Section 1 - Zimmer	<u>11/1/82</u>

Inspection Summary

Inspection during the period of April 9, 12-16, 19-23, 26-30, May 3-7, 10-14, 17-21, 24-28, and June 1-4, 1982 (Report No. 50-358/82-06(OSC))

Areas Inspected: Routine and reactive inspection by resident and regional personnel of previously identified items, Indoctrination and Training of Personnel, Review of Nonconformance Reports, Quality Confirmation Program, Review of Site Quality Control Inspector Concerns, and Plant Tours. A meeting between the NRC and CG&E was held on May 27, 1982, to discuss general issues. This inspection involved a total of 634 inspector-hours onsite by two NRC resident inspectors and four Region III inspectors, including 77 inspector-hours onsite during off-shifts.

Results: Of the fifteen areas inspected, two items of noncompliance were identified in two areas (Details II, Paragraph 2. - failure to provide qualified personnel; and Files II, Paragraph 3.a. - failure to follow procedures).

DETAILS I

1. Personnel Contacted

Cincinnati Gas and Electric Company

- *E. A. Borgmann, Senior Vice President, Engineering Services and Electrical Production
- *B. R. Sylvia, Vice-President Nuclear Operations
- +J. R. Schott, Plant Manager
- +H. R. Sager, QAD Manager
- +J. F. Shaffer, QA Document Director
- +B. K. Culver, GCD Manager
- +B. A. Cott, Senior Engineer
- +R. N. Taylor, Quality Confirmation Program (QCP) Director
- +G. P. Padula, Program Development Director
- +D. J. Schulte, QA Engineering Director
- +D. C. Kramer, QC Director
 - R. Arthurs, QCP Task III Coordinator
 - F. K. Pfeifer, QA Engineer
 - M. Carpenter, QCP Task IX Coordinator
- +E. D. Rolf, Director, Program Development and Administration
 - G. Orlov, Quality Engineer
 - R. E. Spence, QA Document Verification Group
 - R. Vannier, Quality Engineer
- +J. C. Buck, Supervisor, QA Audits
- +M. F. Rulli, Independent Safety Review Group
- +W. B. Murray, Engineer, GED

Henry J. Kaiser Company

- +M. Albertin, Construction Project Manager
 - W. Hedzik, Site QA Manager
- +R. A. Davis, QC Manager
 - M. Goedecke, Weld Manager
- +C. H. Stanfield, Construction Coordinator
- +N. Vitale, Quality Engineering Manager
- +H. C. Chandon, QA Auditor
- +D. Varchal, QA Administrative Manager
- +W. P. Fritz, QA Auditor
- +J. Warkins, QA Consultant

and others of the station and construction project staffs.

*Attended management meeting in Region III on May 27, 1982.

+Attended meetings during inspection periods.

2. Licensee Action on Previously Identified Items

(Open) Unresolved Item (358/82-01-07): The certification of personnel into broad disciplines rather than for specific activities.

ANSI N45.2.6 - 1978, "Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants," Paragraph 2.4 requires in part that the qualification of personnel be certified in writing in an appropriate form, including activities certified to perform. During a previous inspection, the inspector took exception to the licensee's practice of certifying personnel into broad disciplines (i.e., Mechanical, Electrical, Civil/Structural) rather than for specific activities.

Review of CG&E procedures for certifying the qualifications of inspection, examination, and test personnel indicated that they have been recently revised to require certification of personnel for the performance of specific activities within each of the applicable disciplines.

Review of certification files for Quality Confirmation Program inspectors who had been recently terminated revealed that their certification of qualification included the specific activities certified to perform. The inspector noted that in several cases, personnel certified Level II for visual weld inspection had little or no previous experience in visual weld inspection to the AWS code prior to certification. Training records indicated that these individuals had been given a refresher course in the AWS code (intended for experienced inspectors) and a practical examination prior to certification as Level II for visual weld inspection. This item of concern was discussed with the CG&E Manager of Quality Assurance and the QAD Training Coordinator, who initiated Condition Evaluation Request 82-007 on April 21, 1982.

This item remains open pending review of H. J. Kaiser certification files and disposition of CER 82-007.

(Open) Open Item (358/82-05-05): CRD Housing Support configuration did not agree with drawing supplied by station document control.

The inspector reviewed two GE FDDR's No. KN 1-1055 and KN 1-1055 Revision 1. These FDDR's identified (1) that the Zimmer CRD housing support is built to GE Drawing 761E740, Revision 4; and (2) that the hardware is interchangeable with hardware built to GE Drawing 761E740, Revision 7. The GE site operations manager has requested that the as-built drawing (761E740 Revision 4) be supplied to the site for record purposes. This item remains open pending receipt of that drawing and verification of as-built condition of the CRD housing support.

(Open) Noncompliance (358/82-05-06): Failure to follow the procedural requirements of OPP-7.1 for reporting under 10 CFR 50.55(e).

The licensee commenced a review of previously identified potential deficiencies for reportability. This review to date has identified several deficiencies which have been reported either as reportable or potentially. Further followup of this item will be taken upon receipt of the licensee's formal response to the notice of violation.

(Closed) Open Item (358/81-32-03): Corrective Action for NR Q-QAD-81-09-E.

The licensee reported under the requirements of 10 CFR 50.55(e) (Report M-50) that a review of field radiographs of power piping welds revealed surface indications that could and did mask unacceptable discontinuities. The corrective action for this condition will be tracked and reviewed with the 50.55(e) report.

(Closed) Unresolved Item (358/82-02-02) Upgraded to an item of noncompliance: Described in Details II, Paragraph 2.

(Closed) Noncompliance (358/81-21-01): Discrepancies in radiographs of two welds. Described in Details III, Paragraph 2.

(Closed) Unresolved Item (358/82-01-14): Need to review and revise QCP procedures with regard to AWS D1.1-72 weld acceptance criteria. Described in Details IV, Paragraph 2.

Except as noted above, no items of noncompliance or deviations were noted.

3. Indoctrination and Training of Personnel

The inspector performed a continuing review of records of personnel qualifications to verify that personnel performing activities affecting quality had been trained and indoctrinated as necessary to assure that suitable proficiency had been achieved and maintained.

a. Documentation Reviewed

- (1) CG&E QA Manual, Paragraph 2.10, "Training"
- (2) Indoctrination and Training records for personnel in the Generation Construction Department, Nuclear Engineering Department, Electric Operating Test Department and Quality Assurance Department.
- (3) Owners Project Procedure 2.4, Revision 0, Indoctrination, Training, and Certification dated October 2, 1981.
- (4) Procedure EC-19, Revision 0, EOTD Certification and Qualification of Personnel (Unapproved Draft)
- (5) Procedure ADMIN-6, Revision 2, Indoctrination, Training, and Certification of GCD Personnel (Unapproved Draft)
- (6) NPP-2.1, Revision 1.a, Indoctrination, Training, and Certification of NED Personnel (unapproved draft)

b. Findings

- (1) The CG&E QA Manual, Paragraph 2.10, Training, requires in part, "Personnel performing quality-related activities are properly trained and indoctrinated, and the effectiveness of such training or indoctrination is established by appropriate tests as required by recognized codes and standards... Retesting of personnel may be required to ascertain that their proficiency is maintained."

This requirement is implemented by Owners Project Procedure 2.4. Contrary to the requirements of this procedure (Paragraphs 5.1.3, 5.2.3, and 5.3.3), records of personnel indoctrinations, personnel qualifications and certifications, and/or training were not available for review at the time of the inspection for personnel in the Generation Construction Department (GCD), Nuclear Engineering Department (NED), and the Electric Operating Test Department (EOTD). In the case of GCD and NED, training coordinators had been recently assigned by responsible department managers to compile the records and assure that necessary training and retraining was accomplished. Further review in this area is required in order to verify the adequacy of the established training program (Open Item 358/82-06-01).

- (2) The inspector found that confusion existed as to who was responsible for providing indoctrination and training for new employees and for personnel who had never been indoctrinated in GCD and EOTD, respectively. The inspector suggested that the company policy be clarified to assure that this responsibility was carried out.
- (3) GCD and EOTD procedures referenced in Paragraphs a.(4), a.(5) and a.(6) above were in a draft form at the time of the inspection. The inspector discussed this item with the CG&E Director of Quality Engineering who stated that the review and approval of these procedures would be expedited.
- (4) Review of indoctrination and training of EOTD personnel resulted in the following additional observations:
 - (a) Indoctrination training records for EOTD personnel presently performing quality-related activities were not available; the only objective evidence that any indoctrination training had been provided to EOTD personnel consisted of a training attendance list dated June 10, 1976.
 - (b) Results of tests/evaluations were not available onsite for review. The EOTD site supervisor stated that these records were maintained by the individual who certifies EOTD personnel to ANSI N45.2.6 at the downtown CG&E company office. The inspector noted that this individual was not certified and was not included within the scope of the CG&E QA program (as defined in Figure 1-1 of Chapter 1 of the CG&E QA Manual).

The inspector discussed the organizational relationship of EOTD to GCD and other organizations with the CG&E Manager of Generation Construction on May 13, 1982. At this time, the Manager, GCD committed to review the organizational ties to EOTD and to ensure QA awareness of and involvement in EOTD functions. The Manager, GCD committed to informing the resident inspector of actions taken to resolve these items by June 11, 1982. This item is open pending licensee action and further inspection in this area (358/82-06-02).

- (5) During the initial inspection of QA staffing and training under the Immediate Action Letter of April 8, 1981, (Inspection Report No. 50-358/81-15) the licensee identified that CG&E QAD planned to hire several inexperienced recent college graduates as quality engineers. The NRC resident inspectors expressed concern that those individuals be properly trained prior to performing quality-related activities. The licensee stated that those inexperienced individuals would be trained in a formal training program and would work under the direct supervision of experienced contract personnel until they had achieved a suitable level of proficiency. Followup inspection (Inspection Report No. 50-358/81-19) identified that the licensee was still in the process of developing a formal training plan for those individuals. During this inspection, review of training records for two CG&E junior quality engineers revealed that there was neither objective evidence that a formal training program had been established, nor was there significant training documented for those individuals prior to February 1982. This item of concern was discussed with the CG&E Director of Quality Engineering who stated that these individuals had been and would continue to be properly trained. The inspector stated that their training should be adequately documented as required by regulatory requirements. This item is open pending licensee action and further inspection (358/82-06-03).

No items of noncompliance or deviations were noted.

4. Review of Nonconformance Reports

The inspector monitored nonconformance reports issued by both H. J. Kaiser and CG&E. This monitoring included review for proper preparation, processing, and to ensure that dispositions were adequate prior to closeout. Also, the inspector maintained an overview of reported deficiencies in order to determine trends and generic issues. Activities in this area included the following:

- a. Five H. J. Kaiser NRs were initiated (E-4808, 4814, 4865, 4911, and 4912) related to welding deficiencies on control room panel mountings. These welds were identified by this inspector to have been previously inspected and accepted by quality control inspectors. This item is considered to be open and was referred to an NRC Region III specialist inspector for followup and resolution (358/82-06-04).
- b. The inspector identified that in at least one case, H. J. Kaiser quality engineering had submitted an NR to the site Authorized Nuclear Inspector (ANI) for his approval prior to acceptance of the disposition by the H. J. Kaiser Quality Engineer. Involving the ANI in the NR disposition prior to its being approved could decrease the independence of the ANI function. This matter was discussed with the H. J. Kaiser Quality Engineering Manager who immediately issued instructions to all H. J. K. Quality Engineers reiterating the Zimmer Procedures Manual, Procedure ZAPO-5 requirements for processing NRs.

- c. Review of NR N-777, Revision 1, revealed that nonconforming conditions (i.e., conditions of installed pipe hangers) in the auxiliary building floor drain system had been dispositioned "Accept As Is" because the items listed in the NR had never been turned over for final inspection. This NR was initiated on August 25, 1979 and closed after disposition acceptance on May 12, 1982.

The inspector took exception to the disposition of this nonconformance report because, in accordance with H. J. Kaiser Procedure ZAPO-5, the items affected would be marked with an "Accept As Is" Tag, allowing the nonconforming conditions to remain. This item was discussed with the CG&E Manager, QAD who stated that further review was necessary prior to his action. This item remains open pending that further review. (358/82-06-05)

- d. The inspector noted that several NRs reviewed indicated a continuing problem with crafts bypassing quality control hold points on KEI-1 (weld control) cards. This item was discussed with the H. J. Kaiser Weld Manager who indicated that this concern had been identified by weld engineering and that training was conducted for the responsible individuals (i.e., craft supervisors) to ensure that hold points were met. The inspector subsequently noted a decreased frequency of NRs related to hold point violations. No further questions are required of this matter at this time.

No items of noncompliance or deviations were noted.

5. Quality Confirmation Program (QCP)

a. QCP NRs

The inspector maintained review of the issuance and disposition of quality confirmation program nonconformance reports. Approximately 2385 NRs have been received to date, including initial issues and revisions to initial issues. These NRs are broken down by QCP Task as follows:

	<u>Received</u>	<u>Dispositioned</u>
Task I	1295*	58
Task II	434*	33
Task III	269	3
Task IV	68	21
Task V	0	0
Task VI	197	162
Task VII	95	0
Task VIII	0	0
Task IX	5	0
Task X	0	0
Task XI	0	0

*This does not include a substantial number of NRs written concerning welder qualifications and unapproved suppliers by the H. J. Kaiser Verification Program for QCP Tasks I and II.

The dispositioned NRs are reviewed by the resident inspector for completeness, adequacy of corrective action, and then filed. The files are being reviewed by Region III NRC Technical Specialist Inspectors.

During this inspection period, the inspector discovered that due to misinterpretation of a memo directed to the QCP Coordinator from the Senior Resident NRC inspector, CG&E stopped sending dispositioned copies of QCP NRs to the NRC for review. This condition lasted for approximately two months and was in the process of being corrected at the conclusion of this inspection period. No further questions are required of this matter at this time.

b. QCP Task III

Review of the method for determining traceability of small bore piping system components revealed a potential discrepancy in the methodology. In the case where no heat number appeared on the component in the field and there were multiple pieces of documentation associated with the component (i.e., several ISK drawing revisions showing that the piping system was either installed in sections over a period of time or reworked in place) the heat number on the documentation must be directly traceable to the component in the field (ie, the component must have been installed to that revision of the ISK drawing upon which the heat number appears).

The inspector walked down several sections of RHR system small bore piping and compared results with the results of QCP Task III for the same piping sections. This comparison revealed that the QCP Task III methodology had erroneously assumed that the heat number on the documentation was traceable to the component in the field. This item of concern was discussed with the director of the QCP, the Task III coordinator, and was the subject of a meeting between QCP Task III, HJK verification personnel, and the NRC resident inspector to assure the adequacy of material traceability. The licensee is evaluating the items of concern. This matter is considered open pending review at a future inspection (358/82-06-06).

c. QCP Task IX

The inspector met with the QCP Task IX coordinator, the QCP Coordinator, and the CG&E Manager, QAD in order to determine the status of Task IX. At this time, QCP Task IX involved eleven full time personnel (including five registered professional engineers) plus two file clerks. Pipe hanger DDCs had been removed from the task because of the extensive redesign and rework being performed in that area. The inspector questioned why DDCs initiated by the site HVAC contractor (WYB) were excluded from the task. The Manager, QAD directed that Task IX confirmation include essential WYB DDCs.

No items of noncompliance or deviations were noted.

6. Review of Site Quality Control Inspector Concerns

a. Concerns On The Quality Program and QC Inspector Harassment

A CG&E Quality Control inspector visited the resident office to express concerns on the quality program and possible harassment of the HJK QC inspectors. The inspector released six names of QC inspectors who felt they were being intimidated in the performance of their inspections.

The resident inspector immediately responded by contacting several of the named QC inspectors, two of which stated they were intimidated by a lead electrical inspector, whom they believed was not qualified to hold the position.

The resident inspector requested a management meeting with the involved inspectors and the lead electrical inspector. Management responded by getting all of the twenty-eight electrical QC inspectors in a meeting with Kaiser Engineer QA Management and CG&E QA Management to air program concerns, communications, administration, the electrical lead qualifications, intimidation and harassment. Management stated all concerns would be evaluated and a response and action initiated.

The inspectors reviewed the qualifications of the lead electrical inspector and determined that he was a mechanical inspector and was not qualified for the position he held. Management agreed and the individual will be replaced by a qualified person. This item is another example of the noncompliance issued in Inspection Report No. 50-358/82-01(DPRP).

The inspector conducted a followup discussion with the two QC inspectors alleging intimidation. They both stated they did not believe they were intimidated and made the intimidation statement out of frustration with the lead electrical inspector.

Resolution of the quality program concerns will be monitored by the inspectors.

b. Water Dumping Incident

On May 27, 1982, a water dumping incident took place wherein the inspectors were notified that three Quality Control Inspectors were wetted by a suspended bucket of water manipulated by unknown persons. The incident was immediately perceived as QC inspector harassment and the licensee and HJK Management took action to determine the perpetrators.

Ten persons known to be in the area at the time of the incident were questioned by the inspector. All persons questioned denied knowledge of the incident and seven of the ten refused to sign a statement disclaiming knowledge of or identity of the perpetrators.

The following day all craft personnel were sent home at noon as a result of the incident. All site personnel were notified that on return to work they must sign a statement acknowledging that they understand the Federal Law regarding QC inspector intimidation and harassment and that failure to sign the statement would result in termination. After some minor, expected difficulties all but seven employees signed the statement. These seven employees were terminated. The licensee is conducting an investigation of the incident utilizing a private investigator. The licensee investigation is being monitored by Region III.

The three QC inspectors that were wetted in the incident, on being informed that the bucket apparently contained only the ingredients of normal, dirty water, signed a statement a week after the incident that they did not feel they were harassed.

c. Quality Control Inspector Automobile Accident

The inspector reviewed the circumstances surrounding the death of a quality control inspector. A formal police investigation and the autopsy report revealed no unusual circumstances associated with the death. The victim's automobile was checked by the state police with no abnormalities detected. The victim's blood analysis revealed an alcoholic content of 0.19%, about twice the level of "legally intoxicated."

d. Quality Control Inspector Concerns

An HJK QA Analyst visited the office to discuss perceived intimidation and harassment concerns. He expressed verbal concerns on a perceived demotion, salary, and QA programmatic concerns. Later in the week, written concerns were presented to his management.

The inspector met with H.J. Kaiser QA management to address the individuals concerns on intimidation and harassment. These concerns are presently under investigation.

No items of noncompliance or deviations were noted.

7. Plant Tours

The inspector conducted frequent tours of the plant during the inspection period. These tours included observation of ongoing construction activities, maintenance activities, equipment controls, cleanliness controls, instrumentation, fire equipment and security controls. The below listed items were identified and the licensee is taking or has taken appropriate corrective action.

- a. The Low Pressure Core Spray (LPCS) Pump suction line had been cut to remove non-traceable piping pieces from the line. Visual inspection of the internal surface of the LPCS suction line revealed a thick layer (approximately 1/2 inch) of sediment which could contain contaminants. This condition was identified to the licensee who took a sample of the sediment for chemical analysis. The licensee reported

that initial analysis revealed the main constituent of the sediment to be iron oxide in a water solution. Chloride content was relatively low (on the order of 0.5 ppm) with a maximum possible organic content (from biological activity) of 0.7% by weight. The licensee noted that the sediment was similar in appearance to that found previously in the reactor building closed cooling water system. The present preoperational test schedule includes a final water flush of this system which should remove the sediment prior to plant operation.

- b. On Tuesday, May 18, 1982, the inspector observed an electrician welder (symbol LJS) performing welding on an auxiliary steel beam which was identified with two quality confirmation program Task I "HOLD" tags. (NR Q-QAD-82-642-E and Q-QAD-82-647-E). The inspector questioned the welder concerning the hold tag violation and determined that the man had actually moved the tag to avoid burning it. He did not appear to know or understand the significance of the tag. This item of concern was discussed with the CG&E Manager of Quality Assurance and the H. J. Kaiser Construction Project Manager. They identified a site communique (number 12) which was intended to assure compliance with the NR procedure by supplying informal training to the crafts and their supervisors. Also, all electricians were instructed to stop work if a hold tag was on the item being worked. This matter was considered an isolated case and licensee corrective actions were considered appropriate to prevent recurrence.
- c. On June 2, 1982, the inspector found a CG&E NR hold tag which had been cut from its intended location (NR Q-QAD-82-2290-E). This tag was supplied to CG&E QAD for their action.

The inspector is presently following actions taken by CG&E to ensure the proper operation of the NR tagging system. These actions include (1) Procedural changes to make the CG&E NR system similar in operation to the H. J. Kaiser NR system; (2) Changes to the tags used to ensure they will be identifiable and understandable by the crafts; and (3) construction of display boards to be placed in strategic locations around the plant to ensure crafts are continually aware of the tags and their significance. This matter was considered an isolated case and the licensee corrective actions were considered appropriate to prevent recurrence.

- d. The inspectors toured the plant to determine the success of the "graffiti irradiation." Most of the questionable graffiti has been irradiated. The "graffiti criteria" has not been clearly defined by the licensee which makes it difficult to determine acceptability.

No items of noncompliance or deviations were noted.

8. QA Audit Program

The CG&E QA Audit program, QCP Task X, Subcontractor QA Program, and QCP Task XI, Audits, were reviewed. The preliminary review included the following:

- . 1982 Vendor Audit Schedule, dated March 5, 1982
- . 1981 and 1982 CG&E Site QA Audit Schedules
- . 1981 and 1982 H.J. Kaiser Zimmer Project QA Audit Schedules

The inspection of the QA Audit programs will be continued at a subsequent date. This item is considered to be open. (358/82-06-07)

During the inspection it was revealed that the procurement of services did not appear to be fully controlled by CG&E in that the QA Department was not formally involved in all of the purchases and issuances of bills of material. A number of service contracts were outstanding at the time of the inspection and included the following:

- . Butler (QA activities)
- . General Physics (Program activities)
- . Gilbert Commonwealth (QA activities)
- . McDaniel (Program activities)
- . Nuclear Energy Services (NES) (QA activities)
- . University of Cincinnati (Operator training)
- . S. Martin (QA activities and training)

This matter was discussed with the licensee representatives and will be reviewed further at a subsequent inspection. This item is considered open. (358/82-06-08)

No items of noncompliance or deviations were noted.

9. Nonconformance Reports (NRs), Inprocess Inspection Deficiency Records, (IIDRs), and Surveillance Programs

Discussions were conducted with the licensee on April 21, 1982, regarding the NR, IIDR, and Surveillance programs. The review of the areas by the Resident Inspectors will be pursued further during future inspections. The review of these programs and procedures is considered an open item. (358/82-06-09)

10. Management Meeting

- a. A management meeting was held in the Region III Office on May 27, 1982, at the request of CG&E to discuss general items concerning Zimmer. No commitments were made at the meeting.

b. Persons in Attendance

Cincinnati Gas and Electric Company

E. A. Borgmann, Senior Vice President, Engineering Service and
Electric Production

B. R. Sylvia, Vice President, Nuclear Operations

Nuclear Regulatory Commission

J. G. Keppler, Regional Administrator

R. L. Spessard, Director, Division of Project and Resident Programs

D. R. Hunter, Chief, Reactor Projects Section 2B

J. F. Streeter, Chief, Projects Branch 2

c. Items discussed included the following:

- . Recent staff briefings - NRC and congressional
- . Future open meetings
- . Plant cleanliness and graffiti
- . Applicant image
- . Plant completion schedule
- . Communications
- . Intimidation and harassment
- . Request to reopen operating license hearings

11. Management Exit Interview

The inspectors met with licensee representatives on several occasions throughout the report period (denoted in Paragraph 1).

DETAILS II

Prepared By: J. L. Schapker (RII)
Reviewed By: D. H. Danielson, Chief
Materials and Processes Section

1. Persons Contacted

Cincinnati Gas and Electric Company

*H. R. Sager, QA Manager
*D. Schulte, Director, Quality Engineering
B. K. Culver, Manager, QCD
*J. F. Shaffer, Director, Documentation
*J. C. Buck, Supervisor Audits
*W. B. Murray, Engineer, GCD
*B. A. Gott, Senior Engineer, GCD
*E. Rolf, Director Administration, QAD
*J. R. Schott, Plant Manager
*R. N. Taylor, Director, QCP

G. E. Orloj, Quality Assurance Engineer
K. R. Spitzer, Quality Assurance Engineer
S. Hoover, Inspector, GCD
R. Murphy, Lead QC Inspector

Henry J. Kaiser

*M. Albertin, Project Manager
*R. A. Davis, QC Manager
*H. C. Chandon, QA Auditor
*J. Watkins, QA Consultant
*B. D. Varchol, QA Administrative Manager
*N. A. Vitale, QE Manager
*C. H. Stanfield, Construction Coordinator
M. Goedecke, Welding Manager
T. Zeak, QC Inspector
D. Hang, QC Inspector

General Electric Company

M. Fitzsimmons, Field Engineer

Authorized Nuclear Inspector

L. Burton, Hartford Boiler

*Denotes those attending exit interviews on April 23 and May 21, 1982.

Other members of the technical and administrative staffs were contacted.

2. Previously Identified Items

- a. (Closed) Unresolved Item (358/82-02-02) Upgraded to an item of noncompliance: The inspector reviewed action taken by the licensee's contractor, H. J. Kaiser, in regard to the failure of the Project Welding Engineer to sign the KEI-1 and KEI-1A forms.

Findings:

An interoffice memorandum was issued describing the program to be implemented to assure adequate review of the KEI-1 and KEI-1A forms, hanger drawings, and ISK Drawings. The following corrective actions taken included:

- . The FSAR is currently being revised to reflect the ability of the Project Welding Engineer to have a designee perform certain "administrative functions" previously required of the Welding Engineer.
- . The Project Welding Engineer will review 10 percent of historical welding documents to determine their adequacy. If a significant problem is found during this review, each historical document will be reviewed and judged for adequacy and appropriate action will be taken.
- . The current welding documents will continue to be completed and signed by personnel trained by the Welding Engineer. These documents will be completed based upon criteria and parameters established by the Welding Engineer. The Project Welding Engineer will review and sign 20 percent of all completed documents prior to distribution, in order to verify adequacy. If problems are encountered during this review, additional training will be conducted and a larger percentage will be reviewed to ensure all forms are properly completed.
- . HJK's Quality Engineering Department will monitor this program to assure compliance with the requirements established and to add an additional level of confidence that these documents are being adequately completed and reviewed.

The actions taken by the licensee contractor (referenced above) are not considered adequate. The inspector reviewed the previous education, experience, and training records of the Engineering Assistants. The Engineering Assistants are not considered fully qualified to perform the assigned tasks, the preparation and approval of KEI-1 Weld Card forms.

The initiation and approval of special process instructions to be utilized in safety-related construction or fabrication is not an administrative function (see above) and requires specialized education and training. The H. J. Kaiser procedure WIP-7 Welding Control, Revision 2, and WCP-7 Welding Control, Revision 1, specifically require the "weld engineer" to prepare and sign the approval block of the form for the Construction Weld Engineer. The background and

training of the Engineering Assistants would not qualify them as "Welding Engineers"; therefore, the action taken is not in compliance with the H. J. Kaiser procedures and not in accordance with good engineering practices.

The failure to utilize adequately qualified personnel for safety-related functions was identified to the licensee to be in noncompliance with Criterion IX of Appendix B to 10 CFR 50, Sections NA 4220 and 4451 of the ASME Boiler and Pressure Vessel Code, and the Wm. H. Zimmer Quality Assurance Manual, Section i.3. (358/82-06-10).

Note: This item was addressed in the management exit on April 23, 1982, and subsequently procedure WCP-7, was revised, changing the wording from "Welding Engineers" to "Weld Engineer or his designee." This procedural change does not satisfy the requirements referenced above because the designees did not possess the necessary qualifications to perform the quality activity, and therefore, the procedure change is considered inadequate.

3. Review of IHSI (Induction Heating Stress Improvement) Work Activities

- a. The inspector reviewed IHSI procedures and work activities in progress. IHSI is a heat treatment process for stainless steel welds designed to improve the capability to withstand stress corrosion cracking which is experienced in such welds. The IHSI technique is one of the methods which produces compressive residual stresses at the inner surface of the weld heat affected zone for austenitic stainless steel piping. Heating processes need to be carefully controlled within the predetermined process parameters, Essential Variables. Essential Variables, described in CG&E Procedure IHSI-611K204, Revision 1, "IHSI Plan," included:

- . Temperature Differential at Weld HAZ (Heat Affected Zone)
- . Heating Duration
- . Coil Length
- . Coil Setting Location

While observing the IHSI in progress on weld RRB6, the inspector noted that Procedure IHSI-5149, Revision 1, "Calibration Procedure" was not fully completed. Paragraphs 6.3.4 through 6.3.9 were not performed. During the review of the deleted steps it was also discovered that the procedure had only been performed once at one work station (D) of the four work stations (A, B, C, and D). The purpose of the calibration procedure was to verify thermocouple alignment and accuracy between the remote reading temperature devices and the devices at the work site regarding Essential Variable, "Temperature difference at Weld HAZ."

The inspector informed the licensee that failure to follow approved procedures was in noncompliance with Criterion V of Appendix B to 10 CFR 50 and the Wm. H. Zimmer Quality Assurance Manual, Sections i.3 and 5.0 (358/82-06-11).

- b. The inspector reviewed H. J. Kaiser and CG&E inspector training and certification records regarding the IHSI procedures. Training records for two H. J. Kaiser QC inspectors were not available at the time of the inspector's review. During the management exit interview on April 23, 1982, H. J. Kaiser indicated that such training had been given and records were available; although, the records had not been included in the respective inspector's file. Subsequent inspection on May 17, 1982, confirmed that the two QC inspectors had received training in the IHSI procedures.
- c. Procedures for IHSI Reviewed

<u>Title</u>	<u>Procedure Number</u>	<u>Revision</u>
IHSI Plan	IHSI-611 K204	1
List of Essential Variables	IHSI-611 K207	1
Delta T Calculated Method	IHSI-611 K208	1
Training Manual	IHSI-611 K233	1
Dummy Test Procedure	IHSI-611 K235	1
Thermocouple Setting Procedure	IHSI-611 K237	1
Coil Setting Procedure	IHSI-611 K238	1
IHSI	IHSI-611 K239	1
Calibration Procedure	IHSI-5149	1

Except as noted above in Paragraph 3.a., no items of noncompliance or deviations were identified.

4. Review of Nonconformance Reports (NRs) for Reactor Coolant Piping

The inspector reviewed the following NRs and associated records.

<u>NR Number</u>	<u>Weld Number</u>	<u>Line Number</u>
E-4359, Revision 2	RRB2	1RR01A820
E-4352, Revision 1	RRA22	1RR02AA20
E-4352, Revision 1	RRA12	1RR02BA16
E-4352, Revision 1	RRA14	1RR02CC10
E-4351, Revision 1	RRB20	1RR02CJ10
E-4357, Revision 2	RRB7	1RR02AB20

The NRs were written concerning weld records indicating that carbon steel weld material was incorporated in the austenitic stainless steel welds. Review of the KEI-2, weld cards, and the KEI-2, weld rod issue sheets confirmed the possibility of carbon steel inclusion in the stainless steel welds. These welds are ASME Section III, Class 1, pipe welds in the Reactor Coolant System.

Final disposition by the licensee of the welds had not been made at the time of this inspection. The Authorized Nuclear Inspector (ANI) had not accepted the proposed disposition to accept the welds based on the entries being made on the weld cards and weld issue slips as "clerical errors."

In order to "prove" no carbon steel weld rods were incorporated in the welds and to satisfy the ANI, the licensee has proposed to examine the welds nondestructively with a special ultrasonic examination (UT) machine which, the licensee claimed, can detect the presence of carbon steel in stainless steel.

The inspector informed the licensee in the management exit interview on April 23, 1982, that the NRs would have to be dispositioned in accordance with the applicable code requirements and the proposed ultrasonic examinations may not be conclusive evidence that no carbon steel is incorporated due to the dilution of the carbon steel in the stainless steel. It may be impossible to detect the carbon steel inclusion by ultrasonic (UT) examinations since the velocity of the material changes very little. Furthermore, some weld issue slips indicated only a small amount of carbon weld rod was withdrawn for these welds. The inspector requested notification in order to observe the ultrasonic standard utilized to demonstrate sensitivity to detect the carbon steel in the stainless steel. (The licensee stated that the calibration standard may have already been prepared. The inspector requested the weld map of the standard as an alternate.) On May 19-20, 1982, the inspector observed the ultrasonic (UT) examination on the calibration standards which did show reflections at the appropriate depth where the mild carbon steel weld electrodes had been deposited. The mockups which were being utilized had not been radiographed for defects; therefore, it was not conclusive that the reflections detected by the ultrasonic machine were carbon steel or flaw detections. The constructor then decided to radiograph (RT) the mockups to determine the types of indications the UT was picking up. The results of the RT were conclusive that the reflections picked up by the UT machine were defects or voids in the weld where the mild stainless steel electrodes were utilized. The UT was inconclusive. The examination was not necessarily picking up carbon steel in the stainless steel weld, but was detecting flaws.

The reactor recirculation system pipe welds have been radiographed and have been accepted; but, this is not conclusive evidence that mild steel electrodes were not utilized. Although it is very difficult to weld soundly to stainless steel with carbon steel electrodes, it is never-the-less possible. This item is considered open and will be reviewed further in future inspections. (358/82-06-12)

No items of noncompliance or deviations were identified.

5. Review of CG&E Quality Assurance Surveillance Reports (QASRs)

The inspector reviewed selected QASRs and corrective actions for identified deficiencies. QASRs 317, 318, and 321 were reviewed.

Deficiencies noted in the QASRs have not been acted on (dispositioned) and these items have been open for an excessive period of time. The licensee QA procedures, 10-QA-01 Surveillances, Revision 2, Paragraphs 6.7.1 and

6.7.2, define the process for implementing corrective action. Paragraph 6.7.1 requires that safety-related deficiencies, other than procedural, be addressed on Nonconformance Reports (NRs) Paragraph 6.7.2 requires procedural deficiencies be addressed to the individual responsible for resolution. However, in the case of the above QASRs, neither has been accomplished. Additionally, it was noted that a duplication of numbers for assigned QASRs exist. Further review revealed that the above deficiencies were identified on CAR 86-42 on May 4, 1982, by a licensee QA Engineer (QAE). Review of QASR 321 (file number), dated January 17, 1982, identified potential safety significant deficiencies; however, no action has been taken to date.

Criterion XVI of Appendix B to 10 CFR 50 requires that measures shall be established to assure that conditions adverse to quality, such as deficiencies, are promptly identified and corrected. Although these deficiencies were identified on January 19, 1982, no corrective actions have been taken to date. Because the licensee has identified the above deficiency on a corrective action report (CAR 82-42) this item is considered unresolved pending review of licensee corrections in a future inspection. (358/82-06-13)

6. Unresolved Items

Unresolved items are matters about which information is required in order to ascertain whether they are acceptable items, items of non-compliance, or deviations. One unresolved item is addressed in paragraph 5 above.

7. Management Exit Interview

The inspector met with the licensee representatives (denoted in Details II Paragraph 1 of this report) on April 23 and May 21, 1982, and summarized the scope and findings of the inspection activities. The licensee acknowledged the inspector's findings.

DETAILS III

Prepared By: K. D. Ward
Reviewed By: D. H. Danielson, Chief
Materials Processes Section

1. Persons Contacted

Cincinnati Gas and Electric Company (CG&E)

*D. J. Schulte, QA Engineering Director
*J. Vannier, NDE Level III (S&L)
*R. Armstrong, QA Engineer (Gilbert)
*F. Pfeifer, QA Engineer
R. Taylor, Director, QCP
R. Roe, QA Engineer, (Gilbert)
D. Fortuna, Field Engineer

Henry J. Kaiser Co. (HJK)

*W. Hedzik, Site QA Manager
*N. Vitale, QE Manager
W. Kitchen, QA, NDE Level III

Nuclear Energy Services, Inc. (NES)

J. Nolting, NDE Level III, Site Manager
R. Zieber, NDE Level III

The inspector also contacted and interviewed other licensee and contractor technical and administrative employees.

*Denotes those attending the exit interview on April 25, 1982.

2. Licensee Action on Previously Inspected Findings

(Closed) Noncompliance (358/81-21-01): Discrepancies in radiographs of two welds. One weld was cut out and replaced and the other weld was repaired. The inspector reviewed the documentation and found the welds to be acceptable. This item is closed.

3. Examination of Immediate Action Letter Items

During the week of April 27-29, 1982, the inspector reviewed the following items concerning the April 8, 1981 Immediate Action Letter.

a. Radiographs (Pullman)

The review of Pullman shop radiographs consisting of 4,248 welds was recently completed by NES. Re-radiography has started, but to date there are no radiographs that have had the final acceptance reviews by all concerned.

b. Radiographs of As-welded Condition

The program for re-review of a sampling of field weld radiographs under the direction of the CG&E NDE Level III, interpreted by CG&E, started in February, 1982. To date 363 field welds radiographs have been reviewed and approximately 25% will be blended to remove stringer or weave beads on the surface because of defects that may be masked. The inspector reviewed radiographs of the following welds that were in the as-welded condition and are to be blended.

<u>Line No.</u>	<u>Weld No.</u>	<u>Diameter</u>	<u>Thickness</u>	<u>Date RT</u>
1RH12B-8	RH-197-C	8"	0.500"	4/25/77
1RH12B-8	RH197-B	8"	0.500"	4/1/77
1RH12A8	RH-197	8"	0.500"	4/26/77
1RH12A-8	RH-196-B	8"	0.500"	4/4/77
1RH12A-8	RH-196-C	8"	0.500"	4/14/77
1RH12A-8	RH-196-D	8"	0.500"	4/12/77
1HP01A20	HP-6A	20"	0.375"	2/1/77
1HP01A20	HP4A	16"	0.365"	5/15/77

Class I and II field welds are to be re-reviewed for surface/interpretation condition.

c. Mismatch

Pipe samples for pipe mismatch were ultrasonically examined and a profile of each weld was produced. A procedure is being prepared to be used when a mismatch may be questioned by radiography.

d. NDE Personnel Certification

The inspector reviewed NDE personnel certification of the new HJK QA NDE Level III in the methods of radiography, liquid penetrant, and magnetic particle and visual examinations in accordance with SNT-TC-1A, 1975 Edition.

No items of noncompliance or deviations were identified.

4. Preservice Inspection (PSI)

A meeting was held April 8, 1982, between NES and CG&E concerning PSI updated codes, extensive plant modifications, and questions on PSI data. Approximately 25% of the PSI systems have been walked down in an attempt to corrolate the baseline data with the as-built configuration. These walkdowns have resulted in approximately 32% discrepancies which will require re-examination. The discrepancies include the following:

- a. Lack of weld identification.
- b. Incorrect weld numbers in the field compared with the inspection reports and the NES isometrics.

- c. Welds in the as-welded condition indicating non-examination.
- d. New welds.

There is to be a decision in May if PSI will start over or if PSI will continue with more control by CG&E.

For the next inspection, the inspector has requested to review documentation of the monitoring of the PSI as monitored by qualified CG&E NDE personnel in accordance with 10 CFR 50 Appendix B, Criterion X "Inspection." Furthermore, the CG&E surveillance program will be reviewed prior to the restart of the PSI activities.

No items of noncompliance or deviations were identified.

5. Exit Interview

The inspector met with the licensee representatives (denoted in Paragraph 1 of this report section) on April 29, 1982, and summarized the scope and findings of the inspection activities. The licensee acknowledged the inspector's findings.

DETAILS IV

Prepared By: D. E. Keating
Reviewed By: D. H. Danielson, Chief
Materials and Processes Section

D. R. Hunter, Chief
Projects Section 2B

Inspection period May 3 through 7 and May 11 through 14, 1982.

1. Persons Contacted

CG&E

Harlan Sager, QA Manager
*Roger Taylor, QCP Director
Dale Stringer, QCP Task I Coordinator
*Don Kramer, QC Inspection Supervisor

Sargent & Lundy

Bernie Larsen, Struct. Design Field Lead Engineer
Russ Vannier, NDE Level III and CWI

H. J. Kaiser Company

*R. Davis, QC Manager
Wayne Smith, QC Inspection Supervisor
Norm Vitale, QE Manager
Dave McCaulghly, QA Engineer

*Denotes those attending exit interview on May 14, 1982 and others of the station and construction project staffs.

2. Licensee Action on Previously Identified Items

(Closed) Unresolved Item (358/82-01-14): A new procedure, 19-QA-28, has been written for the Quality Confirmation Program (QCP), in the Control Room and the Drywell. This procedure combines and replaces Procedures 19-QA-06 and 07.

All inspections and reinspections of material installed prior to April 8, 1981 shall be conducted within the guidelines provided by this new procedure and all other procedures applicable to the Quality Confirmation Program. This item is closed.

3. Welding of Essential Electrical Panels

A review of Corrective Action Report (CAR) 109 dated May 18, 1982, the associated Nonconformance Reports (NRs) (i.e., E-4808, E-4814, E-4865, E-4911 and E-4912) and a field inspection of welding for mounting of

essential electrical control panels and motor control centers was conducted by the Resident Inspector and the Region Inspector. The review and visual inspection was performed of the mounting of the following panels:

- . Blue Switchgear Room - Panel No. 1DC 14EB
- . Blue Switchgear Room - 480V ABMCC 1B, 1AP 16EB
- . Blue Switchgear Room - 4160V Essential, Div. 2 Main, Power Distribution, Panel No. 1AP04EB
- . Green Switchgear Room - 480V Essential Substation 1C, No. 1AP13E
- . Green Switchgear Room - Essential Relay, Panel 1C No. 1PL12C
- . Green Switchgear Room - 480V ABMCC 1C, No. 1AP 16EC

The inspection revealed welding deficiencies in the permanent anchorage of the control panels and control centers to their bases, and that one (1) welder and two (2) inspectors were involved with these activities.

This matter was discussed with the HJK QE Manager and the licensee, including the potential expansion of CAR 109, as written, to include all essential electrical panels and motor control centers to identify any other essential electrical panels worked by the same individuals. The CAR should address the corrective action to be taken to rectify this situation and to prevent recurrence.

This item is considered unresolved pending further review during subsequent inspections (358/82-06-14).

4. Bolted Expansion Connections

Based on findings of a team inspection at LaSalle Nuclear Power Plant, CG&E agreeded to do a 100% re-inspection of friction and expansion connections in the drywell and in other areas.

A review of Sargent and Lundy (S&L) structural detail drawings and general notes for construction and structural steel erection, and discussions with S&L structural project staff personnel revealed the inconsistencies that had existed previously concerning the use of terms such as "finger tight," "hand tight," and "snug tight" for expansion connections have been re-defined as meaning a maximum of "snug tight" as defined by the American Institute of Steel Construction (AISC). This definition appears in the "Specification for Structural Joints Using ASTM A325 or A490 Bolts" which is approved by "The Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation," dated May 8, 1974, and this specification is endorsed by both the AISC and the Industrial Fastener Institute.

Pending receipt and review of the report concerning LaSalle and its applicability to Zimmer, this is considered an open item (358/82-06-15).

5. Unresolved Items

Unresolved items of matters about which information is required in order to ascertain whether they are acceptable items, items of non-compliance, or deviations. One unresolved item is addressed in paragraph 3 above.

6. Management Exit Interview

The inspector met with the licensee representatives (denoted in Details IV Paragraph 1 of this report) on May 14, 1982, and summarized the scope and findings of the inspection activities. The licensee acknowledged the inspector's findings.