

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/85022(DRS)

Docket No. 50-461

License No. CPPR-137

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

Facility Name: Clinton Nuclear Power Station, Unit 1

Inspection At: Clinton Site, Clinton, Illinois and
Region III Office, Glen Ellyn, Illinois

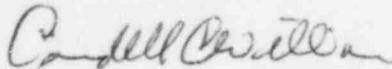
Inspection Conducted: April 16-19, 22-26, April 29-May 4, May 16, 17, 20,
29, 30 and June 8-11, 1985

Inspector: R. S. Love



2/19/85
Date

Approved By: C. C. Williams, Chief
Plant Systems Section



7/24/85
Date

Inspection Summary

Inspection on April 16 through June 11, 1985 (Report No. 461/85022(DRS))

Areas Inspected: Special, unannounced inspection of allegations and applicable work activities, procedures, and records. Also performed an in-office review of overinspection program data submitted by the licensee to the Region III Office. This inspection involved a total of 204 inspection-hours by one NRC inspector, including 10 hours conducting personnel interviews off-site and 98 hours of in-office review of procedures and overinspection program data.

Results: No violations or deviations were identified. With respect to the review of the overinspection program data, this information is contained in Inspection Report 461/85024(DRP).

DETAILS

1. Persons Contacted

Illinois Power Company (IP)

*D. P. Hall, Vice President
*J. Greenwood, Manager Power Supply (Soyland/WIPCO Coop)
*J. E. Loomis, Construction Manager
*J. G. Cook, Assistant Plant Manager
*J. Wilson, Plant Manager
*J. S. Perry, Manager, Nuclear Program Coordination
*F. A. Spangenberg, Director, Nuclear Licensing
*H. R. Lane, Director, Construction/Startup Engineering
*R. E. Campbell, Director, Quality Systems and Audits
*J. Greene, Manager, Startup
*H. R. Victor, Manager, NSED
*J. R. Sprague, Station QA Specialist
J. A. Miller, Director, Startup Programs
J. F. Palchak, Supervisor, CCCD
W. Connell, Manager, Quality Assurance
H. E. Daniels, Jr., Project Manager
D. Antonell, Supervisor, Plant Operations
G. W. Bell, Director, Construction and Procurement QA
J. Brownell, Station QA Specialist
R. J. Kennedy, Quality Assurance Engineer (Surveillance)
T. Parrent, Quality Assurance Engineer (Surveillance)
G. Bousquet, Quality Assurance Engineer (Surveillance)
M. M. Desai, Quality Assurance Engineer (Special Projects)
S. E. Rasor, Supervisor, Construction QA
A. Sherwood, Lead QA Engineer (Surveillance)
R. Hoem, Supervisor, Maintenance Planning
F. C. Edler, Supervisor, Construction/Startup (NSED)

Baldwin Associates (BA)

*A. E. King, Jr., Project Manager
*L. W. Osborne, Manager, Quality and Technical Services
*J. L. Thompson, Quality Engineering Manager
E. D. Rosol, Deputy Plant Manager
T. Black, Senior Electrical QC Supervisor
P. Suchanoff, Office Manager (Electrical)
R. Mannville, Administrative Assistant (Electrical)
T. Massey, Lead Quality Control Inspector (Electrical)
S. Brown, Lead Quality Control Inspector (Electrical)
D. Arnold, Quality Control Manager
J. Devine, Resident Engineer (Instrumentation)

Sargent and Lundy (S&L)

P. Schaffer, Electrical Project Engineer
G. Blattner, Mechanical Project Engineer

The inspector also contacted and interviewed other licensee and contractor personnel during this reporting period.

*Denotes those present at the exit interview on May 3, 1985.

2. Followup on Allegations

a. (Closed) Allegation RIII-84-A-0103 (92):

The allegor stated that the QC training and procedures were not adequate based on the fact that BA Field Verification is finding just as many items (deficiencies) being missed by QC inspectors doing current work as those QC inspectors doing pre-1982 inspections.

NRC Review

During this inspection, the Region III inspector reviewed the reject rate of old and new work as identified by the BA Field Verification Program and the IP QA Overinspection Program. Old Work is defined as those work activities accomplished prior to June 28, 1982. New Work is defined as those work activities accomplished after June 28, 1982. The following is a compilation of the conformance rates for Old Work and New Work as identified by BA Field Verification and IP QA Overinspection. This compilation is reproduced from Table V-5 of the licensee's submittal (Blue Book) to the NRC, dated April 11, 1985. The licensee is in the process of reviewing this data for clerical errors. The licensee stated that their review, to date, only identified minor errors and that the conformance rate is not expected to change more than 0.1 or 0.2 percent.

Field Verification Inspections

<u>Discipline</u>	<u>Work</u>	<u>Number of Attributes Inspected</u>	<u>Number of Nonconforming Attributes</u>	<u>Conformance Rate (%)</u>
Structural	Old	273,609	16,956	93.8
	New	N/A	N/A	N/A
Electrical/ Instrumentation	Old	228,159	9,327	95.9
	New	462,228	3,590	99.2
Piping/ Mechanical	Old	77,080	1,412	98.2
	New	<u>631,338</u>	<u>8,437</u>	<u>98.7</u>
TOTALS	Old	578,848	27,695	95.2
	New	1,093,566	12,017	98.9

Overinspections

<u>Discipline</u>	<u>Work</u>	<u>Number of Attributes Inspected</u>	<u>Number of Nonconforming Attributes</u>	<u>Conformance Rate (%)</u>
Structural	Old	366,985	7,111	98.1
	New	N/A	N/A	N/A
Electrical/ Instrumentation	Old	99,631	759	99.2
	New	99,373	394	99.4
Piping/ Mechanical	Old	54,873	313	99.4
	New	<u>110,095</u>	<u>456</u>	<u>99.6</u>
TOTALS	Old	520,589	8,183	98.4
	New	209,468	850	99.6

N/A = Not applicable. All structural is old work.

Example: As can be seen from the above figures, the reject rate is smaller for new work. It is also important to note that this occurred while the number of inspection attributes increases dramatically for field verification inspection and some increased also occurred for overinspections. In the Electrical and Instrumentation areas, approximately 63% of the total attributes inspected were on new work and only 28% of the total nonconforming attributes identified by Field Verification and Overinspection were on new work. This indicates a conformance rate of 99.3% on new work in the Electrical and Instrumentation areas. In addition, no safety-significant nonconformances were identified by Field Verification or Overinspection (Ref: IP letter U-0834, D. P. Hall to Harold R. Denton and James G. Keppler dated April 11, 1985).

With respect to the allegor's concern that procedures were not adequate, based on previous Region III inspections of Clinton procedures, this allegation is substantiated. As a result of NRC concerns, IP QA audit and surveillance findings, Corrective Action Requests (CAR), Management Corrective Action Requests (MCAR), etc., procedures are constantly being upgraded. Examples of procedure concerns identified by the NRC were as follows:

- (1) Inspection Report 461/84032(DRS) identified that the cable installation procedure was not clear as to the acceptable methods for supporting coiled cables.
- (2) Inspection Report 461/85002(DRS) identified that the termination checklist did not address the inspection of electrical conductor butt splices although it was covered in the body of the procedure.

- (3) Inspection Report 461/85013(DRS) identified that the instrument sensing line installation procedure did not address the color code tagging and separation of instrument sensing lines.

The above listed items are being followed by the NRC staff until they are adequately resolved. In addition, additional procedures are reviewed as part of the ongoing NRC Routine Inspection Program.

With respect to the alleged concern that QC training is not adequate, the Region III inspector reviewed the BA training program, training and certification of QC inspectors, training of QC personnel after certification, and interviewed QC inspectors and lead QC inspectors. In general, the training was found to be adequate. The one weak area identified was with the use of the MO 9 series drawings. These drawings provide installation tolerances (as an example) for instrumentation sensing lines and their supports. The MO 9 series drawings were being addressed during on-the-job training (OJT), however, the QC inspectors interviewed stated that more emphasis was needed on the MO 9 drawings. The BA QC Training Supervisor took immediate action to revise lesson plan QC-P/M-016 to incorporate classroom instructions on the MO 9 drawings. This revision was effective May 3, 1985. Also with respect to training, it was observed that in one case, the practical examination for raceway installation addressed conduit installation but did not cover cable tray installation. This item was also corrected on May 3, 1985.

Conclusions

With respect to QC training, in general, the training was found to be adequate in the electrical and mechanical instrumentation areas. With respect to procedures, this concern was substantiated, however, the procedure deficiencies were previously identified by the NRC and the licensee is taking corrective action to correct the deficiencies. With respect to the concern that Field Verification is finding just as many items (deficiencies) being missed by QC inspectors performing current work as those QC inspectors doing pre-1982 inspections, this item could not be substantiated based on the above listed data.

- b. (Closed) Allegation RIII-84-A-103 (93): The alleged stated that he felt that problems being found by the Field Verification group are not being trended and factored back into current inspections to correct those problems.

NRC Review

The Region III inspector reviewed the Field Verification trend analysis report for February 1985. This analysis identifies the total defects per attribute as well as one percentage compared to total defects identified. Example: For the reporting period

reviewed, a total of 157 defects were identified. For the attribute, arc strikes - 52 were identified. This is 33% of the total defects identified.

Weekly meetings are conducted to discuss the previous week's Field Verification findings. The attendees at these meetings include one or more representatives from Technical Services (T/S), Quality Control (QC) and Field Verification (FV). These meetings allow for immediate corrective action to be initiated prior to a trend being established. Issues identified by the trending program are part of the licensee's routine corrective action program.

Following are several examples of corrective action taken as a result of the weekly meetings:

- (1) Due to the quantity of NCRs being generated on lack of fusion and overlap, T/S developed a specific training program to address these attributes. All T/S and FV welding inspectors received this specific training. This specific training ensures that FV inspection criteria is compatible with TS acceptance criteria.
- (2) QC management conducted meetings with QC inspectors to review the type of defects being identified by FV, thus identifying first line inspection weaknesses.
- (3) FV was identifying instrument sensing line violations before QC had performed first line inspections. It appeared that FV inspectors were not aware that QC was inspecting for slope on a "Z" traveler, after all hangers had been installed. The FV inspectors were instructed not to inspect for slope until the "Z" travelers had been vaulted.

Conclusions

Based on the observations by the Region III inspector, this concern could not be substantiated.

c. (Closed) Allegation RIII-84-A-0165 (108):

- (1) QC inspectors have been directed to perform courtesy inspections of instrumentation lines. These inspections are deemed courtesy inspections in that unstated drawings (no design organization approval) are being used for acceptance inspections. Additionally, QC inspectors are directed to omit such things as slope, configuration and interferences from the inspection. As directed by the traveler, the final walkdown will be performed per a supplemental traveler. There is a concern that these inspections may be overlooked after the completion of the hydro.

- (2) It was suggested by the QC Manager that portions of spools which are concealed inside a penetration should be accepted for no obvious damage. Inspections should have been performed and documented prior to the operation which concealed the spools.
- (3) The QC Manager sent a memo directing QC to stamp all material possible in lieu of utilizing green cards for traceability as directed by approved procedures.

NRC Review

- (1) With respect to unstated drawings being used for acceptance inspections, this concern was not substantiated. However, construction is permitted by BA Procedure BAP 2.6, Revision 8, "Instrumentation." Paragraph 4.8 of this procedure states, "Prior to issuance of an unstated ISO (isometric drawing) to the field for work and concurrent review by S&L, BA Resident Engineering will perform an engineering review and signoff, in accordance with BAP 1.18." If this ISO should receive anything except a "Status 1" (approved without comments) from S&L, the ISO would have to be revised and resubmitted to S&L for approval. In conjunction, the traveler would have to be revised to show the new ISO revision, and the system reworked and reinspected to the revised drawing. It should be noted that no unstated drawings were observed in the field. In that the issuing of unstated drawings may not meet the intent of the licensee's QA program, the licensee was requested to review the BA procedures in conjunction with their QA program and determine if they are compatible. Pending a review of the licensee's actions this item is open (461/85022-01(DRS)).

With respect to the concern that instrument sensing lines will not be inspected for slope, configuration, and interferences after the completion of the hydrostatic test, this concern could not be substantiated. To support the flush and hydrostatic test, instrument sensing lines were installed with temporary hangers, (Ref: Inspection Report 461/85002(DRS)). During this reporting period, the Region III inspector verified that permanent hangers are being installed and QC is in fact verifying slope, configuration, etc. through the use of a "Z" traveler. In addition, these attributes are also verified by BA Field Verification and IP QA Overinspection under the IP Overinspection Program. These attributes are also being inspected by the NRC's inspection program.

- (2) During the walkdown of instrument sensing lines, it appears that the allegor was alluding to the bio-shield wall penetrations, in that this is the only type of penetration that involves instrument sensing lines. The bio-shield wall penetrations have a large enough opening on one end to permit visual inspection of the sensing lines with a flashlight and inspection mirror. In that the sensing lines were inspected by

the Region III inspector, it was concluded that the sensing lines are not concealed where they pass through the bio-shield wall. Since this concern was received by an anonymous letter, the alleger could not be interviewed. Also, the QC Manager that is alluded to is no longer employed at the Clinton Power Station. The Region III inspector also interviewed four QC inspectors involved in the inspection of instrument sensing lines and they stated that they had not had problems performing the required inspections.

- (3) This concern was substantiated, however, it did not violate procedures. BA Procedure BAP 1.6, "Material Identification," Revision 11B, Paragraph 4.2 states, "All item, material, parts, an components shall be identified by marking or tagging unless specifically exempted by this procedure." Paragraph 4.4 of this procedure states, "If the application of identification marking is not possible due to size limitations or when application of the markings may cause harmful discontinuities, identification shall be maintained by application of individual or container Material ID Accept Tags, Form JV-1251." On October 12, 1984, the manager of Quality Control issued a memo that stated in effect that all possible items and materials shall be stamped with the QC accept stamp in lieu of tagging where it is possible to do so without causing damage to the item or material. During personnel interviews, the inspector was informed that their understanding of the reasoning behind the memo was that some QC inspectors were using the green tag rather than their stamp, because the procedure provided the option, and green tags were being lost.

Conclusions

- (1) The concern that QC inspections are being performed to unstated drawings was not substantiated. Final QC inspections are performed to status 1 (approved) drawings. However, the item may have been installed to an unstated drawing in that it was permitted by approved procedures, although no unstated drawing were observed in the field. The concern that instrument sensing lines would not be inspected for slope, configuration, and interferences after the hydrostatic test could not be substantiated based on Region III inspector's observations.
- (2) The concern that the QC manager suggested that portions of spools "concealed" inside penetrations should be accepted without inspection could not be substantiated nor refuted. However, based on the inspection effort by the Region III inspector and personnel interviews, it was determined that the portion of the instrument sensing line inside the bio-shield wall could be inspected for acceptance.

(3) The concern that the QC manager sent a memo directing QC to stamp material in lieu of using a green card for acceptance was substantiated, however, this was in accordance with the approved procedures.

d. (Closed) Allegation RIII-85-A-0029 (117):

An anonymous allegor stated that S&L, IPCo, and BA are approving inconsistent and/or contradicting dispositions on NCRs. In some cases, S&L is stating that criteria doesn't exist when cables are bundled together, after exiting tray, that are of two different levels such as instrumentation and control. S&L does have criteria for Clinton Power Station for this and NCRs that exist for 1985 with these type dispositions discredits all that are involved. No examples were provided.

NRC Review

At Clinton Power Station, all NCRs are entered into the computer tracking system. Using the trending code and key word search, the inspector was provided with a printout, listing approximately 2,000 NCRs, with a description of each NCR prepared between March 1984 and May 1985. The inspector reviewed this printout and identified 21 NCRs that pertained to electrical separation violations. A detailed review of these 21 NCRs was performed. During this review, it was observed that for conduit separation violations, some of the NCRs were dispositioned as "rework" (BA, NSED, S&L) and some were dispositioned "use-as-is" (NSED, S&L). This could be the basis for the allegor possibly perceiving that there are inconsistent and contradicting dispositions on those types of NCRs. In accordance with IEEE Standard 384-1974 (as endorsed by USNRC Regulatory Guide 1.75, Revision 2) lesser separation distances may be utilized provided that adequate basis have been established by analysis. This analysis is normally performed by the Architect-Engineer (S&L). Regarding NCRs 27482, 28126, 28255 and 29382, there was evidence on-site to indicate that an adequate analysis had been performed to justify the "use-as-is" disposition. Regarding NCRs 27475 and 27481, it appears that NSED dispositioned these NCRs without performing an analysis. Regarding NCR 27481, this separation violation was also identified by the Interaction Analysis Group and an analysis had been performed by S&L.

With respect to cable separation, S&L does in fact have separation criteria. Additionally, when separation criteria is not complied with an NCR is issued and an analysis is required to justify the exception. During the review of cable separation NCRs, it was observed that an analysis was not available for a "use-as-is" disposition on NCR 28664 that was dispositioned by S&L.

Pending a review of the analysis for NCRs 27475 and 27481 that were dispositioned by NSED and the analysis for NCR 28664 that was dispositioned by S&L, this item is open (461/85022-02(DRS)).

Conclusion

With respect to the concern that there are inconsistent and contradicting dispositions on NCRs, this concern could not be substantiated. With respect to cable separation, acceptance criteria is provided by S&L, any violations are required to be documented on NCRs and an appropriate analysis is required to resolve the exception. This allegation could not be substantiated.

e. (Closed) Allegation RIII-85-A-0050 (123):

During the interview, the allegeder stated the following concerns:

- (1) IP management circumventing problems instead of meeting head on (slow evaluations). No examples were provided.
- (2) With respect to NCRs and CARs, the problems are not being dealt with effectively. No examples were provided.
- (3) QC inspectors are missing 15-20% of blatant violations, e.g., wrong cable routing, electrical conductors not terminated, missing welds. No specific examples were provided.
- (4) The disposition on NCR 64192 is wrong (Type A vs B).
- (5) General feeling that NRC will not followup on any allegations. The allegeder also stated that if the NRC does nothing with the above listed concerns, the Clinton Power Station will still be built properly.

NRC Review

- (1) In that no specific examples were provided, it appears that this was a general feeling by the allegeder and relates to the firing of two QC and two engineering personnel in January 1984. If this was part of the individuals concern, the firing of these personnel and the affects on the overall quality program is addressed in Inspection Reports 461/84014(DRP) and 461/85002(DRS).

Following are several examples where the licensee has taken prompt action when potential problem areas were brought to the attention of management:

- (a) On January 21, 1985, the Region III inspector requested that the licensee followup on a potential intimidation of a BA engineer. The licensee took prompt action to investigate this matter, keeping Region III personnel informed.

- (b) During a routine inspection on January 7-25, 1985, the Region III inspector expressed a concern on the documentation of butt splice inspections. This concern was brought to IP management's attention during the exit interview on January 25, 1985 (Ref: Inspection Report No. 461/85002(DRS)). On January 28-30, 1985, an IP QA surveillance was conducted in this area. As a result of this surveillance, Corrective Action Request (CAR) 223 was issued on January 31, 1985. As a result of CAR 223, a 100% reinspection of butt splices has been initiated. Again, the licensee took prompt corrective action to resolve an inspectors concern.

Based on the lack of specificity and the review by the Region III inspector, this allegation could not be substantiated.

- (2) The allegor stated that problems identified on NCRs and CARs are not being dealt with effectively. It appears that the allegor, based on concern (3) below, is concerned with the corrective action to prevent recurrence on NCRs generated by Field Verification and CARs in general. With respect to NCRs, this concern is addressed in Paragraph 2.a above (Allegation RIII-84-A-103).

During a review of CARs, the Region III inspector was able to identify two CARs that were generated as a result of discrepancies identified by the Field Verification Group. Following is a brief background on the deficiencies identified on these CARs and corrective action taken:

- (a) CAR-234 dated February 26, 1985. Procedure BAP 3.3.6 requires that high strength bolted connections on electrical cable tray hangers be installed and inspected by the turn-of-the-nut method. Field Verification Procedure BQAI-190-8 requires that these bolts be reinspected, using the torque wrench method. As documented on NCRs 64826, 64827, 64960, 66420, 66426, 67102 and 67131, Field Verification identified that many of these high strength bolts (7 out of 11 travelers) did not meet the minimum tension values required by AISC specifications for structural joints using ASTM A325 or A490 bolts. The corrective action was:

- . Revise Procedure BAP 3.3.6 to meet the requirements of the AISC specifications,
- . Retrain the craft and QC inspectors to the revised procedure,
- . BA QA to determine the need for additional reinspections, utilizing procedures BQA-191, "Field Verification Sampling Plan," and BQA-196, "Field Verification Evaluation Analysis."

The Region III inspector determined that the corrective action and corrective action to prevent recurrence for CAR 234 was adequate.

- (b) CAR-237 dated March 19, 1985. As documented on NCRs 69218, 69239, and 69222, Field Verification identified 6 instrumentation cables, type 02163, with minimum bend radius violations. The corrective action was:

- . Craft and QC Inspectors were retrained in the cable/conductor bend radius requirements.
- . Resident Engineering supplied QC with a list of safety related instrument cables, type 02163, that had been installed.
- . QC will conduct a reinspection of all twisted pair instrument cables, type 02163, to ensure that minimum bend radius requirements have not been violated. This reinspection is being performed concurrently with reinspections required by CAR-220 and CAR-223-1.

The Region III inspector determined that the corrective action and corrective action to prevent recurrence for CAR-237 was adequate.

- (3) The allegor stated that QC inspectors are missing 15-20% of blatant violation such as wrong cable routing, electrical conductors not terminated, and missing welds. During this reporting period, the Region III inspector reviewed the reject rate for cable routing, termination errors, and missing welds as identified by the IP Overinspection Program. This program includes reinspections by BA Field Verification and IP QA Overinspection groups. Following are the results of this review:

- . In the area of cable installation, 29,892 attributes were inspected and 22 routing errors were identified.
- . In the areas of cable terminations, 165,313 attributes were inspected and 106 termination errors were identified.
- . In the area of weld inspections, it is impractical to determine the total number of welding attributes reinspected through out the plant, however, the Region III inspector did not observe any missing welds as alleged. Following is a listing of the nonconforming welding attributes identified:

<u>Attribute</u>	<u>Number of Nonconforming Attributes</u>
Weld size	8,081
Arc strikes	7,206
Undercut	6,791
Overlap	2,379
Slag	1,225
Lack of fusion	1,184
Porosity	193
Cracks	188
Reinforcement	145
Concavity	105
Convexity	60
Transition	4
Wrong type weld	1,859

Also see Paragraph 2.a above for additional information on the efforts and findings of the BA Field Verification and the IP QA Overinspection Groups. The inspector determined that violations are being properly identified by the IP overinspection program.

- (4) The allegor stated that the disposition on NCR 64192 was wrong in that the NCR was designated as a Type B instead of a Type A NCR. Type A NCRs require the approval of the design organization, S&L or GE.

A review of the NCR 64192 indicates that a Field Verification inspector identified a material discrepancy (3/8"x8"x9" plate was required and a 1/2"x8"x9" plate was actually installed) and welding defects on a conduit electrical hanger. In accordance with approved procedures, BA Resident Engineering approved the disposition for this NCR. The following disposition was provided: The material discrepancy was "use-as-is" in that the plate size was changed from 3/8" to 1/2" by FCR 5033, dated May 4, 1981, which was incorporated into the traveler. The weld discrepancies (undercut, craters, incomplete welds, and arc strikes) were reworked, documented and accepted in accordance with approved procedures. This NCR was subsequently closed.

All of the above actions were found acceptable by the Region III inspector.

- (5) The allegor stated that there is a general feeling that NRC will not followup on any allegations. As of May 3, 1985, a total of 141 allegations have been received by Region III that pertain to the Clinton Power Station (CPS). Each of these allegations lists one or more concerns. As an example, this allegation was assigned an NRC case number as previously stated and the allegation consisted of five individual concerns.

Of the 141 allegations received, 107 have been reviewed and closed, 18 have been reviewed and tentatively closed and of the 16 remaining, 11 are under review and 5 are scheduled for review.

Conclusions

Based on the Region III inspector's review, the allegers five concerns could not be substantiated.

- (1) Based on the inspector's experience and the examples provided, IP management has been responsive to identified quality concerns.
- (2) Corrective action and action to prevent recurrence on the NCRs and the CARs reviewed was found to be adequate. Also, many of the deficiencies being identified by the IP Overinspection Program is on old work (prior to June 28, 1982) and the lack of confidence in the old work is what initially precipitated the Overinspection Program (Reference: Inspection Report 461/82002).
- (3) The Overinspection Program did identify 22 cable routing errors and 106 termination errors, making the rejection rate for these two attributes less than 0.1%. This did not approach the 15-20% deficiency rate alluded to by the allexer. The inspector was unable to identify any instances where QC failed to identify a missing weld.
- (4) The disposition on NCR 64192 was adequate and in accordance with approved procedures.
- (5) The NRC has followed up on allegations at the Clinton Power Station and plans to continue our followup in accordance with agency policy.

f. (Closed) Allegation RIII-85-A-0051 (124)

During the personnel interviews, the following concerns were provided:

- (1) The allexer stated that he though that approximately five of the 50 electrical QC inspectors were intimidated by the firing of two electrical engineering and two electrical QC personnel by BA on January 3, 1984.
- (2) The allexer stated that a previous BA QC training coordinator (by name) was directed by management to reduce the QC inspector training requirements so they could be qualified faster. This was accomplished by revising the QC training manual.

- (3) Field Verification personnel are inspecting to new criteria (latest drawing/specification revisions), they should be using the same criteria that was utilized for installation. Examples provided were return welds and bolt torquing.
- (4) Controls for BA vault access for training files are not restrictive enough to prevent tampering. Examples provided, as documented by an IP QA audit report, two civil/structural QC inspectors (by name) were missing documentation in their training files. Based on his previous employment as a training coordinator, the allegor was concerned that someone may be sabotaging vaulted training files.
- (5) The allegor expressed a concern with the qualifications of the current BA QC training coordinator (by name). The allegor stated that based on his discussions with Mr. XXX, the training coordinator is not aware of ANSI N45.2.6 requirements and does not have the quality background required for the job.

NRC Review

- (1) With respect to the possible intimidation of QC inspectors by the firing of the four individuals in January 1984, no intimidation was identified. This item was previously reviewed by the Region III staff as documented in Inspection Reports 461/84014(DRP) and 461/85002(DRS) as part of the followup on allegation RIII-84-A-0010(71). As documented in these two inspection reports, the firing of the four individuals did not have an intimidating or chilling effect on the QC inspectors interviewed.
- (2) With respect to the allegation that the training manual was revised to reduce QC inspector training requirements, this allegation was partially substantiated. The training manual specifies the minimum requirements as stated in ANSI N45.2.6 and Regulatory Guide 1.58, Revision 1, however, by procedure, the Senior Discipline QC Supervisor may increase or decrease the recommended training (OJT) depending upon the previous experience and qualifications of the trainee. During the interview of Mr. XXX, a previous training coordinator, the inspector was informed that:
 - . A previous Senior Electrical QC Supervisor had the attitude that training should be "done my way" and forget the procedure. Mr. XXX also stated that this supervisor revised a "fair" electrical test and made it into a very good test.
 - . All supervisors have, on a case by case basis, either increased or decreased the OJT (on-the-job-training) requirements for their inspectors.

- . Most of the Senior Discipline QC Supervisors followed the training procedure to the letter (Electrical Supervisor excepted).
- . The previous Senior Electrical QC Supervisor discussed above is no longer employed at Clinton Power Station.

The Region III inspector reviewed the listing of electrical inspectors and identified 20 individuals that had been hired since June 1, 1984. The inspector selected nine of these individuals, based on the month of employment, and performed a detailed review of the training, qualification, and certification records. In that BA has made a concerted effort to hire nothing but experienced inspectors, all records reviewed were for previously certified Level II inspectors. Four of the inspectors selected were qualified under the previous training coordinator's administration and five were certified under the current training coordinator's (TC) administration. Following is a summary of the training received:

- . One inspector received 3 hours less than the minimum training in one area (electrical hangers and supports), however, he had approximately 10 years experience in this area (certified under current TC).
- . Three inspectors received more than the minimum training in two areas (one certified under previous TC and two were certified under the current TC).
- . Except as noted above, the nine inspectors received the recommended minimum OJT and class room (formal) training in the six areas of certification.

It should also be noted that these nine inspectors were certified under the administration of three different Senior Electrical QC Supervisors (Level III inspectors).

Based on the Region III inspectors observations, it was concluded that the training received by the new experienced inspectors has been consistent and meets the intent of ANSI N45.2.6 and Regulatory Guide 1.58.

- (3) With respect to Field Verification personnel inspecting to a criteria different than the initial installation criteria, this concern was substantiated. Examples: If the drawing indicates a 2" return weld, the tolerance provided under previous criteria was -0" with no + tolerance provided, i.e., the weld was acceptable if it was 2" or greater in length and rejectable if it was less than 2" in length, assuming that all the other welding attributes were acceptable. The latest

criteria for return weld length specifies $+1/4"-0"$; i.e., in the case cited, the return weld length would only be acceptable if it measured between 2" and $2\ 1/4"$.

In accordance with approved procedures, all inspections for acceptance are required to be performed with the use of the latest approved drawings, specifications, procedures and instructions. If the installation does not comply with this latest criteria when inspected, a nonconformance report (NCR) must be issued to document the deficiency. After evaluation/analysis, the NCR may be dispositioned as rework, repair, scrap, or use-as-is. The allegation as stated was substantiated; however, the system being implemented was found to be in accordance with approved procedures and acceptable to the NRC.

- (4) With respect to the concerns that the BA vault access for training files are not restrictive enough to prevent tampering and that someone may be sabotaging the vaulted training files could not be substantiated. During this reporting period, the Region III inspector had occasion to review training, qualification, and certification files of Quality and Technical Services personnel on first and second shift. Even though the inspector was known by the Document Records Center Senior QA Engineer and many of the records center staff, authorization had to be obtained prior to showing the records to the Region III inspector. The authorization form, JV-1370 (5/84), lists the inspector's name and the names of the individual's files reviewed. In addition, a member of the records center staff was seated next to the inspector while he reviewed the files. In addition to the vaulted files, a duplicate file is maintained in the training office. In addition, the files of the two civil/structural QC inspectors discussed in this allegation were reviewed. The only discrepancy noted in these two files was a missing "hire date". This missing information was available from other controlled files. It would appear that the missing documentation, as identified by the IP QA audit, from the vault files was a clerical error during the transmission of records from the training area to the vault. Based on the inspector's observations, the BA vault personnel files are very well controlled, the records center staff properly controlled the access of personnel, including the NRC inspector, and there was no evidence of sabotage of the personnel files.
- (5) With respect to the qualifications and quality background of the present training coordinator (TC), the TC performs administrative functions only and is not required to be a qualified inspector. In accordance with approved procedures and ANSI N45.2.6-1978, the Senior Discipline QC Supervisor (Level III inspector) is responsible for the adequacy of the specific programs utilized for training and testing of QC

inspectors. The technical training of QC personnel is provided by certified QC inspectors in the applicable discipline. An interview of the TC and several of his staff revealed they were knowledgeable of N45.2.6 and their program requirements with respect to the training and certification of QC inspectors.

Conclusions

- (1) With respect to the possible intimidation of QC inspectors by the firing of four individuals in January 1984, based on Inspection reports 461/84014(DRP) and 461/85002(DRS), this concern could not be substantiated.
- (2) With respect to training requirements being reduced so that QC inspectors could be certified faster was substantiated in that the Senior Discipline QC Supervisor has the option to increase or decrease the recommended training on a case by case basis. This practice was found to meet licensee commitments and was acceptable to the NRC.
- (3) With respect to Field Verification personnel inspecting to a different criteria than the initial installation criteria, was substantiated; however, all inspections are required to be performed to the latest drawing, specification, instruction, and procedure revisions. This practice is in accordance with approved procedures and was found to be acceptable to the NRC.
- (4) Based on the inspectors observations, the concerns that the BA vault access was not restrictive enough to prevent tampering or sabotage of the personnel training files could not be substantiated.
- (5) With respect to the qualifications and quality background of the present training coordinator, this concern was partially substantiated in that the TC is not a certified QC inspector. However, in that he performs administrative functions only, there is no requirement that he be a certified inspector.

g. (Closed) Allegation RIII-85-A-0052 (125)

During an interview, the allegor provided the following concerns:

- (1) Field Verification personnel are inspecting to a new acceptance criteria, they should be using the same criteria that was utilized for initial installation of the item.
- (2) New Level II QC inspectors on first shift are missing conduit and conduit hanger traveler sign-offs. What about the hardware, is it good? No examples were provided.

- (3) Every now and then, Resident Engineering fails to include an FECN (Field Engineering Change Notice), FCR (Field Change Request), etc., in traveler packages. No examples were provided.

NRC Review

- (1) With respect to Field Verification inspection to a new criteria, this concern was substantiated. However, all inspections are required to be performed using the latest drawing, specification, instructions, and procedure revisions. See Paragraph 2.f.(3) above for additional details.
- (2) During this reporting period, the Region III inspector performed a general inspection on approximately ten conduit runs, including the applicable conduit hangers. With the exception of conduit separation, all unacceptable attributes had been previously identified on NCRs by QC. The inspector also selected two new inspectors (certified in 1985) and reviewed installations that they had inspected and accepted/rejected. Example of a rejected installation by a new inspector is as follows: NCR 30465 was issued on conduit C9630-K2E. Discrepancies identified included: (1) The hole in the cable tray side rail for the conduit termination was cut 1/4" out of tolerance (3 3/4" vs 3 1/2" allowable) and (2) the flexible conduit was installed 1/2" out of tolerance (26 1/2" vs 27" minimum length). No discrepancies with the QC inspection effort was identified; i.e., attributes had been inspected and accepted by the QC inspector and discrepancies had been identified on NCRs. With respect to conduit separation, this attribute is being inspected by the IP Interaction Analysis Group rather than BA first line (QC) inspectors. During an interview of the BA field QC supervisor in charge of the conduit/conduit hanger inspectors, he stated that during his review of travelers, there have been occasions where an inspector (old and new) has failed to sign off an attribute or initial and date a line-out on a traveler. When this occurs, the Supervisor directs the applicable inspector to reinspect the subject attribute and document the inspection.

As a result of the inspector's observations and personnel interviews, it was concluded that an inspector may occasionally miss a traveler sign off, however, the item is reinspected and documented and identified deficiencies are documented on NCRs.

- (3) During this review effort, the Region III inspector reviewed in-process and final traveler packages and did not identify any missing FECNs, FCRs, ECNs, or NCRs. During a review of IP QA Surveillance Reports pertaining to this area, it was noted that reports Y-23348, dated December 10, 1984, and Y-26579, dated March 6, 1985, did not identify any missing FECNs, ECNs,

FCRs, or NCRs from the traveler packages reviewed. Based on the inspector's observations and the review of IP QA Surveillance Reports, this concern could not be substantiated.

Conclusions

- (1) With respect to field verification personnel inspecting to a different acceptance criteria than the criteria that was utilized for initial installation was substantiated, however, all inspections are required to be performed to the latest drawing, specification, instruction, and procedure revisions. This practice was in accordance with approved procedures and was found to be acceptable to the NRC.
- (2) With respect to new Level II inspectors missing conduit and conduit hanger traveler sign offs, based on personnel interviews, this concern was substantiated. However, these missed sign offs had been identified by supervision and subsequently reinspected.
- (3) With respect to Resident Engineering failing to include FECNs, ECNs, CRs, and NCRs in traveler packages, based on the Region III inspector's observations and reviews of IP QA Surveillance Reports, the allegation was not substantiated.

h. (Closed) Allegation RIII-85-A-0053 (126)

During interviews, the allegor provided the following concerns:

- (1) Field Verification personnel are inspecting to a new acceptance criteria, they should be using the same criteria that was utilized for initial installation.
- (2) With respect to the Storage and Maintenance program, QC is currently only performing a quarterly sample inspection and one sample inspection identified there was a 33% reject for those activities inspected. QC used to perform 100% in-process inspections and it took all month (November 1984) to do the scheduled maintenance. Without in-process QC inspections, it only took ten days in January 1985 to complete the scheduled maintenance. Additionally, when an item (valve) is turned over to IP, the BA storage and maintenance activities stops on the item (valve operator).
- (3) With respect to hanger material traceability, the allegor stated that he heard that some steel plates had failed the tensile tests. He also stated that an IP QA engineer (by name) knew all about this problem.
- (4) The allegor stated that this same IP QA Engineer also knows about bolt problems.

NRC Review

- (1) With respect to field verification inspecting to a new criteria, this concern was substantiated. However, all inspections are required to be performed, using the latest drawing, specification, instruction, and procedure revisions. See Paragraph 2.f.(3) above for additional details.
- (2) With respect to the Storage and Maintenance (S&M) Program, the NRC is not concerned with the amount of time it takes to perform the S&M activities as long as those activities are properly performed and within the correct time period as prescribed by procedures. Typically, S&M activities are scheduled to be performed on a monthly, quarterly, semi-annual, annual, and a bi-annual basis. For example, for a motor driven pump, the monthly activities may be to: (1) verify that the item is covered and protected; (2) the motor heaters are energized; (3) verify oil level by checking the site-glass; and (4) check for visible rust. In this case, it would probably take longer to prepare all the required documentation (prepare and close the S&M work order, document S&M activities) than it would to perform the actual S&M activities. Conversely, the monthly quarterly, semi-annual, annual, and bi-annual S&M activities could all be due at the same time. In this case, it could take many hours rather than a few minutes to perform the required S&M activities on a given item. In addition, as more and more items are turned over to the licensee, the BA S&M activities are being reduced.

To verify that the S&M activities are being performed on items with shared responsibility (BA and IP), and in order ensure continuity of maintenance activities when turned over from the BA to IP, the inspector selected six Motor Operated Valves (MOV) and six motor driven pumps for review. In each case, a portion of these items had been turned over to IP. For three of the MOVs, the valve operators had been turned over to IP and for the other three MOVs, the valve bodies had been turned over to IP. For the motor driven pumps, all six motors had been turned over to IP. The BA and IP records indicated that the S&M activities on these items had been performed on schedule. A physical observation of these items did not reveal any discrepancies. Based on the Region III inspector's observations, this concern could not be substantiated.

With respect to the 33% reject rate on one sample inspection of the S&M activities, this statement was confirmed. During October 1984, a sample inspection of 32 S&M units, QC identified 13 attributes that were not acceptable. NCR 22812 was prepared to document one of the discrepancies, the contamination of stainless steel material. The other 12 discrepancies were corrected at the time of identification by QC. During December 1984, QC performed 100% in-process

inspections of the S&M activities, no discrepancies were identified. During personnel interviews, the inspector was informed by S&M QC personnel that, when required, they have increased their sample from "Normal Inspections" to "Tightened Inspections" in accordance with their program. This controls for S&M activities and inspection of those activities was found to be acceptable to the NRC.

- (3) The allegor stated that he heard that some steel plates had failed the tensile test and that an IP QA engineer (by name) knew all about this problem. The individual referred to was IP QA's committee chairperson assigned to investigate the 300 1/2"x15"x15" A-36 steel plates that failed the yield and tensile strength tests. This item was reported to the NRC Region III office in accordance with the requirements of 10 CFR 50.55(e) and will be further reviewed as part of the NRC's inspection program (461/84018-EE).
- (4) The allegor stated that this same IP QA Engineer also knows about bolt problems and was also assigned the responsibility to investigate these problems. This issue identified that A307 bolts were not marked per ASTM requirements, and was subsequently reported to Region III per 10 CFR 50.55(e) requirements and will be further reviewed as part of the NRC's inspection program on reportable matters (461/84002-EE).

It was also identified that Cardinal Industrial Products Corporation may have supplied bolts to the Clinton Power Station (CPS) whose quality is indeterminate due to an inadequate quality program as identified by IE Information Notice 84-52. IP is in the process of investigating this matter for applicability for CPS. This item will be further reviewed as part of the NRC's inspection program on reportable matters (461/84012-PP).

Conclusions

- (1) With respect to Field Verification inspecting to a new acceptance criteria, this concern was substantiated. However, all inspections are required to be performed to the latest drawing, specification, instruction, and procedure revisions. This process is in accordance with approved procedures and was found to be acceptable to the NRC.
- (2) In the area of storage and maintenance (S&M): (1) The NRC is not concerned with the time duration it takes to perform the S&M activity as long as it is properly performed and within the correct time period; (2) For items with split responsibility, the NRC observed that both IP and BA were performing the S&M activities on that portion of the item for which they were responsible.

- (3) With respect to steel plates failing tensile and yield strength tests, this concern was substantiated. However, this concern had previously been identified by the licensee and a construction deficiency report 50.55(e) was submitted to Region III (461/84018-EE). The NRC will followup on this issue as part of our routine inspection program.
- (4) With respect to bolt problems, the licensee had previously identified a problem with A307 bolt marking and had submitted a construction deficiency report 50.55(e) to Region III (461/84002-EE). In addition, IP is in the process of reviewing a potential problem with bolts supplied by Cardinal Industrial Products Corporation. The NRC will follow up on these issues as part of our routine inspection program.

i. (Closed) Allegation RIII-85-A-0054 (127)

During interviews, the allegor provided the following concerns:

- (1) Quality Engineers (QE) are missing training, they are not up to date on procedure changes. The QEs have had only 1 or 2 training classes since June 1984.
- (2) The allegor questions the disposition on NCR 21322. This NCR pertains to the generic acceptability of A-36 steel based on a sampling plan.
- (3) The allegor stated that he heard that some steel plates delaminated when cold bent.

NRC Review

- (1) During this inspection, the Region III inspector determined that there were approximately 85 personnel assigned to the Quality Engineering Department. From the QE organization chart, the inspector selected the first and every eighth individual thereafter for a review of training scheduled and training received since June 1984. The individuals required training is determined by their supervisor. The supervisor utilizes work assignment and area of expertise of the individual to determine the training requirements. Utilizing the information provided by the supervisor, the QE training department then schedules the individual for the training required. A review of the computer print out indicates that, since June 1984, 11 individuals were scheduled for 128 training classes (average 11.6 per individual) and they had received 70 training classes, for an average of 6.8 classes per individual, between July 1, 1984 and April 25, 1985. Based on records reviewed, this concern could not be substantiated.

- (2) The inspector determined after some research that the allegor was alluding to NCR 23422 and not NCR 21322. As a result of a significant number of NCRs and DRs (deficiency reports) being written to document electrical hanger support members installed with incorrect or missing material identification markings, the licensee prepared a potential construction deficiency report (CDR), number 461/84002-EE. In addition, an IP QA audit disclosed problems regarding adherence to procedures related to material identification and traceability.

As part of the corrective action related to the CDR, BA took the following action: BA revised Procedure 1.5, "Material Identification"; IP QA conducted site surveillances to assure proper implementation of the material traceability requirements; and a sampling program was implemented to establish the quality of items used in earlier construction when material traceability requirements were not adhered to. See Paragraph 2.f of Inspection Report 461/85015(DRP) for Region III's previous acceptance of the licensee's sampling program.

Selected samples were removed from the installed locations and were sent to St. Louis Testing Laboratories (an independent test lab under contract to the licensee) for chemical and physical testing. The disposition on NCR 23422 documented the nonconforming materials subject to the sampling plan.

One sample was determined to have a yield and tensile strength that was less than that required for the application. The matter of low strength steel being supplied by Interstate Steel was identified by the licensee on CDR 461/84018-EE and is the subject of IE Information Notice 85-15.

Based on this inspectors review and Inspection Report 461/85015(DRP), the disposition of NCR 23422 was found to be adequate.

- (3) With respect to laminated 3/8" steel plates, as supplied to CPS by Interstate Steel, this concern was previously identified by the licensee in CDR 461/83011-EE. This item will be reviewed further as part of the NRC's routine inspection program.

Conclusions

- (1) Based on the Region III inspector's review, the concern that the Quality Engineering group is not being provided training could not be substantiated.
- (2) Based on the Region III inspector's observations and Inspection Report 461/85015(DRP), it was determined that the problem had been identified and adequately dispositioned on NCR 23422.

- (3) With respect to the laminated 3/8" steel plates, this concern was substantiated. However, this concern had been previously identified by the licensee in CDR 461/83011-EE.

j. (Closed) Allegation RIII-85-A-0056 (129)

During interviews, the alleged provided the following concerns:

- (1) There are too many procedure changes, approximately 20 per week.
- (2) With respect to hanger support steel material traceability, the alleged thinks that non-safety-related material is being marked with a safety-related heat (HT) number and Receiving Inspection Report (RIR) number. Example provided was 1/2"x2" flat bar with HT number 110737 and RIR number S11661. For this example, the alleged questions how much was received and how much was issued/installed.

NRC Review

- (1) With respect to the large number of procedure changes (20 per week), this concern was substantiated. During one time period, there were as many as 150 procedure revisions per month by BA. These revisions were the results of: changes to specifications by the design organization; IP QA audits and surveillances that identified program weaknesses; feedback from BA Quality and Technical Services (Q&TS) personnel; corrective action on NCRs, CARs, and MCARs; NRC inspection findings that identified program weaknesses; and discrepancies between procedures. Interviews with various individuals revealed that there has been substantial reduction in the number of procedure revisions being submitted to IP QA for approval. As previously stated, there were a large number of procedure revisions. It was determined, however, that in most cases, procedure revisions were required to meet the requirements of the BA quality program. Also see Paragraph 2.k below.
- (2) With respect to hanger support material traceability, as discussed in Paragraph 2.i above, the licensee had identified material traceability problems at CPS. Corrective action on these problems has been or is being taken by the licensee. With respect to non-safety-related material being marked with a safety-related HT and RIR numbers, this concern could not be substantiated. This determination was made by reviewing audit and surveillance reports and personnel interviews. With respect to the amount of 1/2"x2" flat bar received at CPS (with HT 110737 and RIR S11661 numbers) versus the amount issued/installed, the following observations were made:
 - (a) On October 1, 1980, 3000 feet of 1/2"x2" flat bar was received at CPS on RIR number S11661. This material was

received from U.S. Steel and was identified as A36 steel with HT number 1-10737 and was identified as safety-related material.

- (b) A manual search of the material requisition records, Form JV-028, indicated that this material had been issued on 25 requisitions.
- (c) A review of these 25 requisitions indicates that 3030 feet of 1/2"x2" A36 steel flat bar material had been issued to the following locations: fab shop, turbine building, fuel building, auxiliary building, screenhouse, control building, and containment for fabrication and installation. As was revealed by this review, there was 30 more feet issued than received. During personnel interviews, the inspector was informed that when electrical items, including steel, were returned from the field/fab shop, the items were placed back into stock without records. This is one possible explanation to account for the 30 feet discrepancy. The other possibility is an accounting error during requisition of material for insurance. As an example, there were 11 instances where between 100 and 500 feet were issued on the same requisition and the warehouse issue clerk could have erred during measurement or could have mixed in a piece of the same size stock with a different HT or RIR number.
- (d) In reviewing the application for this size of flat bar material, it was determined that in most cases, this material was being used as a spacer and provided little or no structural strength.

Based on this application of the material and the small error in accountability (1%), the amount received versus the amount issued for this HT and RIR number, the end results were found acceptable and to be of no safety significance.

Conclusions

- (1) With respect to the large number of procedure changes, this concern was substantiated. However, procedure revisions were required so as to meet the changing requirements of BA quality program.
- (2) Based on the inspectors review, it could not be substantiated that non-safety-related material was being identified with a safety-related HT and RIR number so it could be used in safety-related applications. With respect to the A36 1/2"x2" flat bar material with HT number 110737 and RIR number S11661, records indicate that 30 feet more was issued for construction than was received. The inspector concluded that the 30 feet

discrepancy was in all probability an accounting error and based on the application of this type of material, this concern had no safety significance.

k. (Closed) Allegation RIII-85-A-0057 (130)

During interviews, the alleged provided the following concerns:

- (1) Stone and Webster (S&W) people are "ramrodding" changes thru without S&L approval. Example provided: FCR 24390, as approved by S&L, was missing the arc radius for an instrumentation pipe bend. When this was brought to the attention of the BA Drafting Supervisor (by name), the supervisor entered an arc radius on the FCR in pencil and directed the draftsman to utilize that dimension in preparing isometric drawing (ISO) MS-963.

NOTE: S&W is supplying personnel to the BA organization. The subject supervisor is in fact employed by S&W.

- (2) With respect to flexible piping (flex) as used in instrumentation sensing line installations, NCR 25551 and FECNs 7504, 7505, 7506, 7507, and 7508 all relate to damaged flex welds. The disposition on the NCR is, however, different than the disposition on the FECNs.
- (3) The original training program on instrumentation installation tolerances was run by instrumentation drafting personnel. The training group has taken over this program and it is now a farce.
- (4) S&W is pushing out procedure revisions to suit construction needs. The alleged was told by a Tech Services (welding) inspector that S&W rewrote procedure BAP 2.6, "Instrumentation," to reduce quality control inspection requirements.
- (5) BA is issuing non-statused drawings to the field for construction, (non-statused means that the drawing has not been reviewed and approved by S&L).
- (6) S&L is dispositioning drawings as Status 2, approved with comments, without providing comments (i.e., incorporate an approved NCR, FCR, FECN, etc.) Examples provided were:
 - . ISO RR922, Sheet 1, Revision 6
 - . ISO RR1005, Revision 3
 - . ISO RR926, Revision 4
 - . ISO RR990, Revision 2
 - . ISO NB966, Revision 2

NRC Review

- (1) The Region III inspector reviewed FCR 24390 and observed that the FCR did not contain a pipe bend and was not associated with ISO MS-963. During a review of the ISO, it was observed that NCR 24390 had been incorporated into Revision 2 on January 16, 1985. When comparing the NCR and ISO, it was observed that the arc radius of the pipe bend was shown on the ISO but not on the NCR. However, there is adequate information on the NCR to calculate the pipe bend radius. In addition, the revised ISO has been submitted to the design organization (S&L) for review and approval (statusing). During the review of the drafting department's file copy of NCR 24390, no erasures were observed.
- (2) With respect to the alleged concern that the disposition on NCR 25551 was different than the disposition on FECNs 7504 thru 7508 for the same type discrepancy, this concern could not be substantiated. NCR 25551 identified defective/damaged welds on the inside diameter of the flexible tubing for various instrument sensing line installations. The disposition on this NCR was to remove the flex assembly and return the assemblies to Resident Engineering for further evaluation (repair or replace).

FECN 7504 was prepared to add valves to certain RR sensing lines due to the required repair or replacement of the flex. Addition of the valves was to allow the RPV cold hydrostatic test to occur while the flex was being repaired or replaced. FECNs 7505 thru 7508 were prepared to provide physical routing and dimensions for valves added by FECN 7504.

- (3) With respect to the training program on installation tolerances for instrument sensing lines and their associated supports, the Region III inspector identified a minor weakness in the training program that was corrected during the inspection. These installation tolerances are provided on the M09 series drawings. After reviewing the overall training program on the installation and inspection of instrument sensing lines and their associated hangers, the inspector selected four newly certified, experienced QC inspectors for interview. All four interviewees had been previously certified as Level II QC instrumentation inspectors on other nuclear power construction projects. Newly qualified inspectors were selected because the training program would still be fresh in their minds.

During these interviews, all four interviewees stated that the training program was adequate, however, they stated that their inspection effectiveness would have been increased if they had been provided "up front" training on the M09 drawings. They all stated that the M09 drawings were covered during OJT (on-the-job-training) but were not covered during formal

portion of their training. The Region III inspector discussed the QC inspector's comments with IP QA, BA QC Training Supervisor, BA Senior QC Supervisor and the BA QC Manager. Immediate action was taken to place more emphasis on classroom training on the M09 drawings by revising Lesson Plan QC-P/M-016. With exception to the one minor weakness discussed above, the Region III inspector found the training program to be adequate for the installation and inspection of instrument sensing lines and their associated hangers.

- (4) The allegor expressed a concern that S&W was pushing out procedure revisions to suit construction needs. This concern could not be substantiated, however, numerous procedure revisions were and are being made as discussed in Paragraph 2.j.(1) above. With respect to procedure BAP 2.6, "Instrumentation," being revised to reduce quality control inspection requirements, this concern could not be substantiated. However, it was substantiated that Technical Services inspections (weld fit-up) requirements were reduced for structural welding performed in accordance with AWS D1.1, "Structural Welding Code."

During an interview of the Technical Service Manager (not an S&W employee), the inspector was informed that due to the small number of rejectable weld fit-ups, the in process fit-up inspections for AWS D1.1 welding was reduced from 100% inspection to random sampling inspection. These welds still receive 100% final welding inspection by Tech Services inspectors. This reduction of in process fit-up inspections still meets the minimum requirements of the Structural Welding Code.

- (5) With respect to unstatused drawings being issued to the field for construction, this concern was substantiated. However, this is in accordance with Procedure BAP 2.6. See Paragraph 2.c.(1) above for additional details.
- (6) The allegor stated that S&L is dispositioning their drawing review as "approved-with-comments" without providing the comments. This concern was substantiated, however, this is in accordance with S&L Procedural Deviation No. 47 to S&L Project Instruction CP-040, Revision 4, "S&L Review of Contractors Isometric Piping Drawings." To facilitate a faster turn around on ISO reviews, S&L indicates a Status 2 on the drawings if the ISO meets all the design requirements, except S&L has not completed their design calculations on all the applicable change documents. This allows BA to proceed with construction while S&L is performing the final design analysis. The final BA QC/TS inspections will be performed to a Status 1 (approved) drawing. In that the final inspection is to an approved drawing, this meets the intent of the approved IP QA quality program.

Conclusions

- (1) With respect to the concern that S&W is "ramrodding" changes through without S&L approval, this concern could not be substantiated. It is a fact that NCR 24390 did not contain an arc radius for the pipe bend described, however, this arc could be determined from the information provided. In addition, the ISO that was revised as a result of this NCR was submitted to S&L for approval.
- (2) With respect to the allegor's concern that the disposition on NCR 25551 was different than the disposition on FECNs 7504 thru 7508 for the same type discrepancy, this concern could not be substantiated. The FECNs were prepared as a result of the disposition on NCR 25551.
- (3) With respect to the training program on instrument sensing line tolerances being a farce, this concern could not be substantiated. However, the Region III inspector did identify a minor weakness in this area, which was corrected during the inspection.
- (4) The concern that S&W is pushing out procedure revisions to suit construction needs could not be substantiated. The inspector did identify the fact that Tech Services did reduce their in process weld fit-up inspections from 100% to random sampling of fit-up inspections; however, this meets the minimum requirements of the Structural Welding Code.
- (5) The allegor stated that BA is issuing unstatused drawing to the field for construction. This concern was substantiated; however, this is in accordance with BA Procedure BAP 2.6.
- (6) The allegor stated that S&L is dispositioning drawings as approved with comments without providing comments. This concern was substantiated, however, this is in accordance with Procedural Deviation No. 47 to S&L Project Instruction CP-040.

1. (Open) Allegation RIII-85-A-0041 (120)

The allegor expressed concern with the justification for "use-as-is" dispositions on NCRs. The allegor stated that NCRs come back to the inspectors with use-as-is justifications worded, "The installation appears to meet design criteria;" or "The installation should meet design criteria." Example provided was NCR 26217. The allegor also stated that two NCRs with similar deficiencies were received with dissimilar dispositions, one was "use-as-is" while the other required rework. Examples provided - NCRs 24632 and 25198.

NRC Review

With respect to justification for "use-as-is" disposition on NCRs, the allegor is quoting from the "Recommended Disposition" as provided by BA. When BA provides a recommended disposition to an NCR, they may or may not have all of the design requirements to make a final disposition. This is the prime reason for sending NCRs to the design organization. For CPS, the NSSS design organization is General Electric and the BOP design organization is Sargent and Lundy. NCRs with a "repair" or "use-as-is" disposition are sent to the designer for final approval. BA can disposition an NCR as "rework" or "reject" without designer approval. Type B "use-as-is" (written in error) NCRs only require IP-NSED approval.

In the example provided, NCR 26217, BA provided the recommended disposition "use-as-is" (Type A): "Installation appears to meet the functional requirements of design." This is a typical BA disposition for "use-as-is" (Type A) NCR. The designers disposition on this NCR stated, "Use-as-is: Installed Plate Size Meets Design Intent." In the example provided, the disposition was found to be adequate by the NRC. It should be noted that during previous inspections, the Region III inspector identified potential problems with "use-as-is" dispositions on NCRs in that the design organization did not have adequate backup documentation to justify their disposition. (Ref: Inspection Report 461/85013(DRS)).

With respect to the concern that two NCRs with similar deficiencies being received with a disposition of "rework" on one NCR and a "use-as-is" disposition on the other NCR, this concern was substantiated. However, in the examples provided (NCRs 24632 and 25198), both dispositions are acceptable. When dispositioning an NCR, there are several factors that must be considered. Example: Prior to making a "rework" disposition, the engineer must consider: (1) can the item be brought back into compliance with design requirements by rework or must some other disposition be considered; (2) could reworking the item cause more damage than what is being fixed. NCR 24632 identified a cracked synthetic ring bushing at a sleeve termination. This purpose of this bushing is to protect the cables during installation. The subject NCR pertaining to four cables that were previously installed.

To replace the bushing, the cables would have to be determined, pulled back, repulled after the bushing was replaced, and reterminated. The disposition was to leave the cracked bushing in place. Each NCR must be evaluated and dispositioned on its own merits. The NCRs were found acceptable to the NRC and had no safety significance.

Conclusions

With respect to the allegers statement on justification for "use-as-is" dispositions on NCRs, this concern was not substantiated in that the allegor was quoting the BA recommended disposition and not the design organizations and final disposition.

With respect to the concern that two NCRs with similar deficiencies being received by QC with dissimilar dispositions was substantiated. However, in the examples provided, both dispositions were acceptable. Each NCR must be dispositioned on its own merits and not on a similar NCR.

m. (Closed) Allegation RIII-85-A-0018 (116)

The following concerns were received by an anonymous letter:

- (1) JIM P020 was not incorporated into any of the BAPs. It said some very specific things about traveler ISO revisions. The practice of "red lining" has started again. For instance, BAP 2.6, Paragraph 5.1.2.3 allows you to calculate tolerances and document on an ISO in the traveler, but the procedure does not tell what to do with the "red line" when it is superseded. What about if it was lost?
- (2) Drawings are never revised for any reason until final review of the traveler. As a result of this, the field is missing change documents and design drawing revisions and some of the information is being incorporated incorrectly. This is due to level of "engineering check" involved in an addendum vs a drawing revision. On an addendum, the level of "engineering check" is three, the draftsman, the checker, and the reviewer. This is not counting the S&L review of the ISO.
- (3) Instrumentation drawings are being issued unstated. This is in violation of K2882 form 278. (This relates back to form 270 and 130.) This is in Procedure BAP 2.6.
- (4) Per Procedure BAP 2.41 document change requests (JV 1361) are to be issued by the design review engineers, yet per managements direction, they are being issued by other personnel, such as Traveler Package Review Group (TPRG) and Document Review Group (DRG). Also per the procedure, DCRs are to be logged on form JV-919. They are not at this time.

NRC Review

- (1) With respect to the allegation that Job Instruction Manual (JIM) Instruction P020, "Piping Traveler Revisions" was not incorporated into any of the BAPs, this concern could not be substantiated. Applicable portions of instruction P020 was incorporated into applicable BAPs. From the concerns stated,

it would appear that the allegor was talking about the instrument piping area. The inspector performed a detailed review of instruction P020 and procedure BAP 2.6, "Instrumentation," and determined that the applicable portions of P020 were transcribed into BAP 2.6.

With respect to the allegor's concern that "red lining" has started again, the example provided is not considered "red lining of a drawing." For various installations, the design will normally provide an installation tolerance of \pm XX inches. For the installation of instrument sensing line hangers, the allowable installation tolerances must be calculated for each hanger in accordance with the M09 series drawings. In accordance with BAP 2.6, these calculations may be shown on the applicable ISO or on a traveler supplement, Form JV-488-2. The QC inspector utilizes these calculations to determine acceptability of the hanger location, i.e., if the hanger is installed per the design drawing, \pm the calculated installation tolerance, the hanger location is acceptable. If the hanger is located outside the tolerance, it is rejected by the QC inspector. The only time that these calculations would be superseded is when the hanger location was changed by the designer. This would normally be shown on a revised ISO.

However, this hanger relocation could also be as a result of an NCR, FCR, etc. These latter documents will also result in an ISO revision but this may occur after the work is accomplished. In any event, if the hanger was not located per these documents, installation tolerances would have to be re-calculated to determine location acceptance. If the calculations were lost, they could be recreated. A review of IP QA surveillance reports in this area indicated that IP QA did not identify any missing pages/documents from the travelers reviewed.

- (2) The allegor stated that drawings are never revised for any reason until final review of the traveler. This statement could not be substantiated. Based on this and previous inspections, it was observed that ISOs are being revised as needed.

Following are several examples:

ISO RI-929

Revision 2, 9/10/84, Revised per S&L K-drawing.

Revision 3, 10/19/84, Revised per BA review.

Revision 4, 1/7/85, Revised per FCR 30328.

ISO RI-927

Revision 1, 7/14/83, Revised per S&L comments.

Revision 2, 2/14/84, Revised per S&L comments.

Revision 3, 9/10/84, Revised per S&L comments.

Revision 4, 11/18/84, Revised per FCR 30006.

Revision 5, 12/20/84, Revised per FCRs 30328 and 30712.

In the process of being revised per DCR TG-314, and will be issued as Revision 6.

It should be noted that the above examples are typical cases.

With respect to the remaining portion of the concern, it appears that the allegor is alluding to traveler addendum/revisions. As an example, field engineering may initiate a traveler revision to:

- . Incorporate a later drawing/design revision which affects the scope of work defined in the traveler.
- . Incorporate an NCR that affects the scope of work defined in the traveler.
- . Indicate additions, deletions, or changes of welds, spools, or material. A typical occurrence for this type of change would be as follows: The ISO indicates pipe spool "A" is joined to spool "B" with a socket weld fitting. During installation, construction finds that they can make the installation without the socket weld fitting. This is permissible and in accordance with approved procedures. The field engineer would revise the traveler to delete: two welds; socket weld fitting; pipe spool number "B" and increase the length of spool "A".

When traveler revisions are made, the revision receives the same level of review as the initial traveler, i.e., typically, representatives from Resident Engineering, Quality Control, Technical Services, and the Authorized Nuclear Inspector (ANI) review the travelers and their revisions.

- (3) With respect to document change requests (DCR) being issued by traveler package review group (TPRG) and document review group (DRG) personnel, this is in accordance with BAP 2.41. TPRG and DRG is part of the design review group. This is clear when the Resident Engineering organization chart is reviewed. It was also observed that DCRs are being logged on the JB-919 form.

As stated in the anonymous letter, the above listed concerns were also provided to the CPS SAFETEAM. On June 10, 1985, the Region III inspector contacted SAFETEAM and provided them with a summary of the concerns. From this summary, it was determined that SAFETEAM had received and assigned tracking number 11854A to these concerns. A review of their investigation indicates that they had arrived at basically the same conclusions as the Region III inspector.

Conclusions

- (1) Based on the Region III inspector's observations, this concern could not be substantiated. JIM Instruction P020 has been incorporated into the BA procedures and was found acceptable to the NRC.

- (2) Based on the Region III inspector's observations, this concern could not be substantiated. Drawings are being revised as necessary and traveler revisions receive the same level of review as the initial traveler. This practice is in accordance with an approved procedure and was found to be acceptable to the NRC.
 - (3) With respect to unstatused drawings being issued to the field, this concern was substantiated and will be reviewed further as documented in Paragraph 2.c above as an open item.
 - (4) Based on the Region III inspector's observations, this concern could not be substantiated in that TPRG and DRG are part of the design review group. In addition, DCRs are being logged on a JV-919 form. This process was found to be acceptable to the NRC.
- n. During this inspection, an allegor contacted the NRC Resident Inspectors office at the CPS with a concern that conduit C72216 was in the process of being installed 4' out of tolerance without approved documentation. An immediate inspection was initiated. It was observed that the subject conduit was in fact non-safety-related. The pertinent information was turned over to IP QA for followup. As a result of IP QA's investigation, NCR 30127, dated April 25, 1985, was prepared to document a procedural violation.

3. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involves some action on the part of the NRC or licensee or both. Open items disclosed during this inspection are discussed in Paragraphs 2.c and 2.d.

4. Exit Interview

The Region III inspector met with the licensee representatives (denoted under Paragraph 1) at the conclusion of the onsite portion of the inspection on May 3, 1985. The in-office portion of the allegation inspection was discussed telephonically with Mr. J. R. Sprague, IP Station QA Specialist, on June 10, 1985. The licensee acknowledged this information. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed during the inspection. The licensee did not identify any such documents/processes as proprietary.