



Commonwealth Edison

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January 12, 1984

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Generating Station Units 1 and 2
Inspector Qualification and Certification
Inspection Report Nos. 50-454/82-05 and
50-454/82-04

- References: (a) February 23, 1983 letter from W. L. Stiede
to J. G. Keppler
- (b) October 28, 1983 letter from L.O. DelGeorge
to J. G. Keppler
- (c) November 18, 1983 letter from R. L. Spessard
to Cordell Reed

Dear Mr. Keppler:

This letter provides a summary report of the actions taken to verify the adequacy of QC inspections performed during construction of Byron Generating Station. This reinspection program was undertaken as outlined in reference (a). Reference (b) provided a preliminary report. The enclosed report contains updated information and additional details requested by Region III in reference (c).

The enclosed report summarizes the results of the reinspection program described in reference (a). This report contains final data on physical reinspection activities for all contractors except one. The work of one Hatfield weld inspector is still being reviewed. The Hatfield data should be finalized by February 10, 1984. A supplement to this report will be provided at that time. That supplement will also document an additional engineering evaluation of the significance of some of the discrepancies encountered in the reinspection program.

The interim report provided in reference (b) documented the results of reinspections of the first three months' work of 104 of 356 QC inspectors involved in construction activities at Byron Station. Included in that report were the results of visual weld inspections made by a Commonwealth Edison Level III inspector. Our Level III inspector had reviewed some of the welds which were rejected by contractor Level II and Level III inspectors. In some situations the CECO Level III found the welds to be acceptable and his determinations were deemed to be conclusive in the results reported in reference (b). In reference (c) the NRC instructed Commonwealth Edison to discount the results of

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the CEC Co Level III reinspections in preparing our report and to rely entirely upon the results of the independent Level II and Level III reinspectors. Accordingly, the results of CEC Co Level III reinspections are not tabulated in the enclosed report.

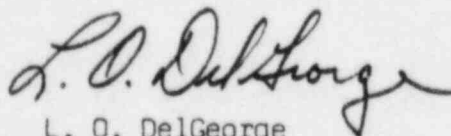
When only the results of the reinspections by independent Level II and Level III reinspections are considered, the acceptance criteria established in reference (a) for the initial 3 months work are not satisfied for six QC inspectors. The reinspection program calls for reinspection of additional 3 month samples in this situation. Accordingly, additional reinspections have been undertaken for three contractors. The extra reinspection work is complete for two of the three contractors. As described earlier, reinspection of one Hatfield inspector's work is still in progress. The results of the additional inspections are included in this report.

Also included in this report is a summary of engineering evaluations of the various types of deficiencies which were noted in the reinspection program. These evaluations showed that the type of deficiencies are insignificant from a safety standpoint. Engineering evaluation of Peabody deficiencies is still in progress but those evaluations are not expected to alter this conclusion. These evaluations indicate that the reinspection program is confirming the quality of construction at Byron Generating Station.

To the best of my knowledge and belief the statements contained herein and in the attachment are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison and contractor employees and consultants. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Please direct further questions to this office.

Very truly yours,



L. O. DelGeorge
Assistant Vice President

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REPORT ON REINSPECTION

CONDUCTED AS A RESULT

OF NONCOMPLIANCE ITEM

50-454/82-05-19 & 50-455/82-04-19

January 12, 1984

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I. SYNOPSIS

The reinspection program conducted as a result of concerns defined in IE Inspection Report Nos. 50-454/82-05 and 50-455/82-04 associated with the qualification and certification of inspection personnel is nearly completed. The results demonstrate the past and present capability of the quality control/quality assurance inspection personnel to perform the measurements, interpretations, comparisons, and judgements associated with evaluation of the quality of installation of structures, components, and assemblies at the Byron Generating Station.

A preliminary report dated October 28, 1983 was submitted to the Nuclear Regulatory Commission Region III office. Comments on the preliminary report were identified in NRC - Region III letter dated November 18, 1983. As a result of comment 1 of the November 18th letter, physical reinspection activities are complete except for one weld inspector at Hatfield. The compilation and analysis of data, and engineering analysis of the significance of discrepancies found is complete. The results of the Program, which are discussed in greater detail in subsequent sections, are summarized below by contractor.

TABLE 1.1 REINSPECTION PROGRAM SUMMARY (5)

<u>Contractor</u>	<u>Number of Objective Reinspections</u>	<u>Reinspection Results Acceptable(1)</u>	<u>Number of Subjective Reinspections</u>	<u>Reinspection Results Acceptable(2)</u>
Blount	2,390	98.8%	0	N/A
Johnson Controls	7,812	99.4%	1,459	95.5%
Hunter	69,624	99.0%	3,728	97.0%
Nisco	2,792	99.6%	229	100.0%
Hatfield Electric	58,718	96.7%	24,090(4)	92.6%(4)
Powers-Azco-Fope	8,036	95.8%	6,648	86.0%(3)
Pittsburgh Testing	7,269	99.1%	5,662	87.2%(6)
Peabody Testing	0	N/A	163	74.8%(3)

Note (1): Program Acceptance Criteria is 95.0%

(2): Program Acceptance Criteria is 90.0%

(3): 100% of accessible work was reinspected for those inspectors who did not achieve the required Program Acceptance Criteria.

(4): All inspections included except the remaining 60 day of one weld inspector.

(5): Results concurred in by Independent Third Party Inspector.

(6): Expansion made to include 100% of reinspectable inspectors.

A large percentage of the deficiencies recorded in the reinspection program involved subjective attributes. Subjective attributes are those in which review of the work performed required the inspector (and reinspector) to make an item-by-item judgment of attribute quality based on visual observation, as opposed to the quantifiable characteristics of objective attributes.

Examples of subjective attributes include weld overlap and undercut, while examples of objective attributes include component size and material type. A significant portion of the deficiencies identified upon initial reinspection involved subjective weld attributes. In August, a review of the initial reinspection effort by the NRC staff suggested that the inspectors performing the reinspections were interpreting criteria in an excessively conservative manner. Third party review of initial reinspections of subjective weld attributes confirm the excessive conservatism in applying criteria for the acceptability of such attributes. Thus in many situations attributes which were rejected upon initial reinspection were found to be acceptable upon third party reinspection managed by Sargent & Lundy. Engineering analysis has demonstrated that even those subjective weld attributes rejected after both levels of third party review provide an appropriate factor of safety.

Section II, BACKGROUND describes the evolution of events which lead to reinspection program and provides a brief description of the reinspection program criteria.

Section III, SCOPE describes in brief form the quantity of features reinspected and provides a brief description of the resources required to execute the reinspection effort.

Section IV, DEPTH OF REINSPECTION PROGRAM provides data in a format which describes the volume and extent of the reinspection program.

Section V, REINSPECTION RESULTS provides a summary by contractor of the results for the inspectors selected for reinspection against the threshold established by the criteria for demonstration or acceptability.

Section VI, QUALITY ASSURANCE CONTROL OF REINSPECTION PROGRAM describes the Quality Assurance activities performed to establish and verify that the reinspection program was properly implemented.

APPENDIX A, REINSPECTION RESULTS BY TYPE/AREA OF CERTIFICATION and APPENDIX B, REINSPECTION RESULTS BY INSPECTOR present the detailed statistics created by the reinspection program.

APPENDIX C, SUBJECTIVE INSPECTION DISCREPANCIES - EVALUATION OF SIGNIFICANCE and APPENDIX D, OBJECTIVE INSPECTION DISCREPANCIES - EVALUATION OF SIGNIFICANCE present a description of the types of discrepancies identified in the reinspection program, the corrective actions taken, and engineering analysis of significance of the identified discrepancies.

II. BACKGROUND

An NRC special team inspection was conducted at Byron Station during the period of March 29-31, April 1-2, 5-9, 12-14, and May 11, 1982. During the inspection several violations were identified, one of which was an apparent noncompliance with the requirements for the initial qualifications of personnel who perform inspection, examination and testing to verify conformance to specified requirements. The Notice of Violation dated June 24, 1982 identified this as noncompliance 82-05-19/82-04-19. The noncompliance letter also requested that Commonwealth Edison assure the validity of inspections performed by quality control inspectors who were deemed to be improperly trained and qualified.

The issue of noncompliance item 82-05-19/82-04-19, was one where the NRC Inspector found that the contractor programs for qualifying Q.A./Q.C. personnel at Byron were inconsistent with the current NRC interpretation of the requirements of ANSI N45.2.6-1978. Specifically, the Inspector found deficiencies in the contractor's evaluations of initial inspector capabilities, in documentation of initial certification, and in the criteria used to establish inspector qualification. The NRC staff did not find that these procedural deficiencies had compromised the quality of plant construction. However, in issuing the violation, they made it clear that the qualification programs were to be upgraded and the quality of work already completed was to be verified in some manner. With the completion of the reinspection program outlined below, those obligations have been met.

Over the years, inspector certification practices have been continually upgraded to remain consistent with the changing interpretation of the applicable standard, ANSI N45.2.6. Prior to this NRC inspection, Commonwealth Edison had relied largely upon reinspections, audits and surveillances to assure the effectiveness of contractor programs for certification of QC inspectors. As a result of NRC concerns stated during the inspection, on April 27, 1982, the Byron site contractors were instructed to revise their certification practices to incorporate standard features and methods established by Commonwealth Edison. These features and methods were further upgraded on June 9, 1982 based on comments from NRC inspectors. Contractor programs were all revised by September 30, 1982.

In the July 30, 1982 response to the Notice of Violation, Commonwealth Edison outlined a program which would validate previous QC inspections. This was to be accomplished by requalifying the inspector, reviewing the inspector's qualifications to new criteria, or by overinspection of a portion of the inspector's work. The NRC found that this verification program did not adequately address the quality of inspections performed early in the inspector's employment over the full course of the plant construction period. Alternate verification programs were discussed with the NRC during several meetings. Options discussed included a "vertical slice" reinspection program

involving complete multi-disciplinary reinspection of representative plant areas. Also discussed was a reevaluation of all inspectors' qualifications and experience according to a complex formula. Finally, an extensive program of reinspections was agreed upon and documented in a Commonwealth Edison letter dated February 23, 1983. A program of reinspections was initiated which would verify on a contractor-by-contractor basis the adequacy of past QC inspector training and certification practices at Byron Station.

A brief summary of the reinspection program follows:

- A(1) For 6 contractors, every 5th inspector selected (NRC Senior Resident Inspector added from 2 to 4 inspectors per contractor).
- A(2) For 2 contractors, every inspector selected.
- B For each selected inspector, each individual inspection performed during the inspectors first three months reinspected, where accessible.
- C Reinspection conducted utilizing inspection criteria applicable to initial inspection period.
- D(1) Inspections classified as objective require 95% agreement rate in repeat inspection.
- D(2) Inspections classified as subjective require 90% agreement rate in repeat inspection.
- D(3) Subjective inspections would be subject to independent third party review to establish true rejectability.
- E When selected inspector failed to achieve 95% agreement rate on objective inspections, or 90% agreement rate on subjective inspections; then additional three months of inspection work reinspected for the type of inspection which failed to achieve required agreement rate.
- F If selected inspector failed to achieve 95% agreement rate or 90% agreement rate, as appropriate, in second three month period, then all inspections performed by the inspector of the type which failed would be reinspected; and the original sample size of inspectors would be increased by 50%.

In an effort to identify deficiencies in certification programs, this reinspection program focuses on the quality of the work performed by QC inspectors immediately after their certification. It covers the entire period of a contractor's work on site and it acknowledges that all inspections are repeatable in varying degrees, depending upon the subjectivity of the feature

being inspected. It contains conservative acceptance criteria. It also provides for higher level overinspections to compensate for possible excessively conservative application of acceptance criteria by reinspectors and provides for expansion of the reinspections when a deficiency in the contractor's certification program is apparent.

In the course of development and execution of the reinspection program, it became necessary to establish a minimum quantity of items to be reinspected by each inspector chosen in order to create an adequate data base for evaluation. When the minimum quantity established was not obtained in the first three-month period, reinspection went beyond the initial three-month period in order to achieve the minimum quantity. In these cases where a selected inspector did not function as an inspector for a three month period and did not have the minimum inspection quantity in this period, the results of the reinspection were recorded and evaluated based on the population which existed. If, in such a case, the inspector failed to achieve the threshold established by the criteria for demonstration of acceptability, the next (sequentially by date) inspector certified was added to the selected population.

In order to assure that reinspection results were consistent and accurate, the program accepted by the NRC provided for a third party overinspection of subjective attributes to review the determinations made by the initial reinspectors. The provisions for the third party review recognized the judgmental nature of the reinspection of subjective attributes such as weld surface quality. As previously indicated to the Region III Staff, and as documented herein, Sargent & Lundy managed the initial third party review.

During the course of execution of the reinspection activities, the NRC Region III staff conducted numerous reviews of the activities and maintained a relatively high level of involvement in the proceedings. Inspection Report Nos. 50-454/83-26, 50-454/83-37, 50-454/83-38 and 50-454/83-39 summarize relevant site inspections.

III. SCOPE

The reinspection program began February 22, 1983 by meeting with contractors to identify purpose and content of the activities to be performed. The individual inspectors selected to be reinspected was established, and the process of record search to identify individual inspections to be reinspected was initiated.

The quantity of inspectors reinspected is presented in Table 3.1.

Table 3.1 Quantity Of Inspectors Reinspected

<u>Contractor</u>	<u>Total Population Of Inspectors</u>	<u>Number Of Inspectors Reinspected</u>	<u>Percent Of Inspectors Reinspected</u>
Blount	28	8	29%
Johnson Controls	7	5 (1)	71%
Hunter	84	22	26%
NISCo	8	4	50%
Hatfield Elec.	86	23	27%
Powers-Azco-Pope	21	19 (1)	90%
Pittsburgh Testing	85	23	28%
Peabody Testing	<u>37</u>	<u>6</u> (1)	<u>16%</u>
TOTAL:	356	110	31%

NOTE (1): 100% of the inspector population was reviewed for performance of the reinspection. Those inspectors not included had no reinspectable items.

The quantity of individual inspections reinspected is presented in Table 3.2.

Table 3.2 Quantity Of Items Reinspected

<u>Contractor</u>	<u>Number Of Objective Inspections</u>	<u>Number Of Subjective Inspections</u>	<u>Number Of Inspector Months Reinspected*</u>
Blount	2,390	0	89
Johnson Controls	7,812	1,459	22
Hunter	69,626	3,728	65
NISCO	2,792	229	12
Hatfield Elec.	58,718	24,090**	65**
Powers-Azco-Pope	8,036	6,648	149
Pittsburgh Testing	7,269	5,662	112
Peabody Testing	<u>0</u>	<u>163</u>	<u>20</u>
TOTAL:	156,643	41,979**	534**

The reinspection effort required a significant commitment of manhours and materials to execute. After February 22, 1983 it took three weeks to search inspection records to establish the initial volume of individual inspections to be reinspected. Actual conduct of reinspection began March 14, 1983. The reinspections were performed by quality control inspectors who were qualified and certified by the contractors to the methods established as a result of the corrective action in response to noncompliance 82-05-19/82-04-19. Through December 23, 1983 thirty weeks of reinspection have been conducted with the accumulation of 1166 inspector weeks expended. In order to perform the inspections it was necessary to erect scaffolding, remove paint, fireproofing, insulation, etc. These activities through December 23, 1983 have accumulated over 3144 man weeks of craft labor support. The reinspection operation has been functioning nominally on 58 hour work weeks. Through December 1983 over 247,556 manhours of effort have been expended in the execution of the reinspection program.

*NOTE: This is total amount of 3-month periods and any necessary expansion of original Inspector's activity.

**NOTE: Inprocess; actual amount greater than shown.

IV. DEPTH OF REINSPECTION PROGRAM

The method established for selection of inspectors to be reinspected was formulated to be representative of inspectors over the duration of the project from the beginning to the point where methods employed to qualify and certify inspectors were revised to address the NRC Inspectors concerns of noncompliance 82-05-19/82-04-19.

In order to test the selected population of inspectors relative to the areas of qualification of the total population of inspectors, a comparison was performed. The results of the comparison are presented on a contractor basis in Tables 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, and 4.8.

Table 4.1 - Blount

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Concrete	12	2	17%
Masonry	6	2	33%
Concrete Expansion Anchors	5	2	40%
Weld Inspection/Structural	11	4	36%
Post-Tensioning*	10	0	0%
Cadwelding*	4	0	0%
Calibration*	5	0	0%
Fire-Proofing*	3	0	0%
Receiving*	6	0	0%

NOTE: * areas of inspection which cannot be recreated for a reinspection.

Table 4.2 - Johnson Controls

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Visual Inspection	7	5	71%

Table 4.3 - Hunter

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Piping/Hangers	57	17	30%
Piping	6	1	17%
Piping As-Built	21	5	24%

Table 4.4 - NISCo

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Visual Welding	6	4	67%
Mechanical	6	4	67%

Table 4.5 - Hatfield

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Visual Welding	20	8	40%
Conduit Installation	21	6	29%
Cable Terminations	21	5	24%
Equipment Installation	14	2	14%
Equipment Modification	12	2	17%
Cable Pan Installation	21	1	5%
Cable Pan Hanger	22	2	9%
Conduit As-Builts	28	8	29%
A-325 Bolting Insp.	11	1	9%

Table 4.6 - Powers-Azco-Pope

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Welding Inspector	20	19	95%
Receiving Inspector*	2	0	0%

* Indicates areas of inspection which cannot be recreated for a reinspection

Table 4.7 - Pittsburgh Testing

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Concrete Expansion			
Anchors/Structural	43	9	21%
Visual Welding	23	14	61%
Concrete-Field/Lab/Plant*	93	0	0%
Soils - Field/Lab*	29	0	0%
Cadweld*	10	0	0%
Post-Tensioning*	3	0	0%
Fireproofing*	4	0	0%
Coatings*	2	0	0%
Calibration*	17	0	0%
Electrical*	12	0	0%

* Indicates areas of inspection which cannot be recreated for reinspection. For example, inspection of fireproofing and coatings are performed on the surfaces to be coated and during the coating process rather than after the application is complete. Electrical inspections were of cable tray cleanliness and cable pulling tension.

Table 4.8 - Peabody Testing

<u>Area Of Qualification</u>	<u>Number Of Inspectors Qualified In Area</u>	<u>Number Of Inspectors In Area Reinspected</u>	<u>Percent Included In Reinspection</u>
Visual Welding/ Structural Steel	6	6	100%
Concrete*	28	0	0%
Soils*	20	0	0%
Cadweld*	8	0	0%
Coatings*	1	0	0%
Calibration*	1	0	0%

* Indicates areas of inspection which cannot be recreated for a reinspection

In order to test the selected population of inspectors and their corresponding volume of time reinspected to the volume of time of inspections accumulated, a comparison was performed. The results of the comparison are presented in Table 4.9

TABLE 4.9

	<u>Total Accumulated Inspection Months</u>	<u>Reinspected Inspection Months</u>	<u>Percent of Inspection Months Reinspected</u>
Blount	424	89	21%
Johnson Controls	60	22	37%
Hunter	1,107	65	6%
NISCo	51	12	24%
Hatfield Elec.	628	68	11%
Powers-Azco-Pope	152	149	98%
Pittsburgh Testing	1,015	115	11%
Peabody Testing	<u>181</u>	<u>20</u>	<u>11%</u>
TOTAL:	3,618	540	15%

Tables 3.1 and 4.1 thru 4.8 demonstrate that the sampling basis achieved the selection of a significant portion of the population of inspectors, and achieved the selection of a significant portion of the inspector population in an area of certification. Tables 3.2 and 4.9 demonstrate that a significant quantity of items and percentage of inspection activities were covered through this sampling basis. The sample of one out of five on a chronological basis was a technique which resulted in inspections of work of many types and of varied types being reinspected. Even though the percentages varied somewhat, we are confident that the results are typical of the whole.

V. REINSPECTION RESULTS

The results of the reinspection program are presented on a by contractor basis in Tables 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, and 5.8. Performance of the individual contractors by type/area of certification can be found in Appendix A. Performance of individual inspector by each attribute can be found in Appendix B.

Table 5.1 - Blount

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	All 8 inspectors who performed objective inspections, acceptable at end of first 3 month period.
Subjective	Not Applicable	All inspections included in reinspection population classified as objective.

Table 5.2 - Johnson Controls

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	4 inspectors who performed objective inspections, acceptable at end of first 3 month period. 1 inspector who performed objective inspections did not have minimum quantity in first 3 month period, nor in second 3 month period, nor in total of inspections, all of his work was reinspected.
Subjective	Complete	All 4 inspectors who performed subjective inspections, acceptable at end of first 3 month period.

Table 5.3 - Hunter

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	<p>19 inspectors who performed objective inspections, acceptable at end of first 3 month period.</p> <p>1 inspector who performed objective inspections did not have minimum quantity in first 3 month period, nor in second 3 month period, nor in total of inspections, all of his work was reinspected.</p>
Subjective	Complete	<p>15 inspectors who performed subjective inspections, acceptable at end of first 3 month period.</p> <p>1 inspector who performed subjective inspections and failed his first 3 month period did not have minimum quantity in his second 3 month period. All of his work was reinspected and an additional inspector was substituted.</p> <p>The additional inspector's first 3-month's work was reinspected and found acceptable.</p>

Table 5.4 - NISCo

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	All 4 inspectors who performed objective inspections, acceptable at end of first 3 month period.
Subjective	Complete	All 4 inspectors who performed subjective inspections, acceptable at end of first 3 month period.

Table 5.5 - Hatfield Electric

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	All 16 inspectors who performed objective inspections, acceptable at end of first 3 month period.
Subjective	Inprocess	<p>6 inspectors who performed subjective inspections, acceptable at end of first 3 month period.</p> <p>1 inspector who performed subjective inspection, failed to achieve the necessary threshold (85.9% versus 90%) at end of first 3 month period and had no more reinspectable work. An additional inspector was substituted.</p> <p>Reinspection of the additional inspector's first three months work is about 50% complete and is expected to be complete in early February.</p>

Table 5.6 - Powers-Azco-Pope

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	12 inspectors who performed objective inspections, acceptable at end of period*.
		2 inspectors who performed objective inspections did not have minimum quantity in period*, all of his work was reinspected.
		5 inspectors who performed objective inspections unacceptable at end of period*, all of their work was reinspected.
Subjective	Complete	7 inspectors who performed subjective inspections, acceptable at end of period*.
		2 inspectors who performed subjective inspections did not have minimum quantity in period*, all of their work was reinspected.
		10 inspectors who performed subjective inspections unacceptable at end of period*, all of their work was reinspected.

* For this contractor, the period consisted of the first six month's work; that is, first and second three months results combined. A six month time frame was chosen due to the performance of original inspectors. The data generated during the reinspection program is not readily separable into first and second three month periods.

Table 5.7 - Pittsburgh Testing

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Complete	8 inspectors who performed objective inspections, acceptable at end of first 3 month period.
		1 inspector who performed objective inspections, acceptable at end of second 3 month period.
Subjective	Complete	6 inspectors who performed subjective inspections, acceptable at end of first 3 month period.
		1 inspector who performed subjective inspections was unacceptable at the end of the first 3 month period but acceptable at end of second 3 month period.
		2 inspectors who performed subjective inspections, unacceptable at end of first 3 month period, but did not have the minimum quantity of additional inspections available for reinspection in the second 3 month period. Additional inspectors were substituted as described below.
		1 inspector who performed subjective inspections, unacceptable at end of both first and second 3 month periods; all of his work was reinspected. Because of this, inspector's work was not found satisfactory after reinspection of his second 3 month period, the program required expansion of the sample by six inspectors. Only four of the remaining population has accessible work so the first 3 months work of all four was reinspected.
		The 4 inspectors added to the reinspection sample were acceptable at the end of first 3 month period.

Table 5.8 - Peabody Testing

Very few of this contractor's QC inspectors had reinspectable work. All of the reinspections involved visual welding. Because the quantities were small, the work of all the reinspectable inspectors was reviewed in the initial sample.

<u>Inspection Type</u>	<u>Status Of Reinspection</u>	<u>Condition</u>
Objective	Not applicable	All inspection included in reinspection population classified as subjective.
Subjective	Complete	<p>3 inspectors who performed subjective inspections were not acceptable at the end of first 3 month reinspection period. None of these 3 inspectors had any additional work. All of their reinspectable work was reinspected.</p> <p>3 inspectors who performed subjective inspections did not have minimum quantity in first 3 month period, nor in second 3 month period, nor in total of inspections. All of their reinspectable work was reinspected.</p>

VI. QUALITY ASSURANCE CONTROL OF REINSPECTION PROGRAM

The Commonwealth Edison Quality Assurance Department has been actively involved in the re-certification of current on-site Q.C. inspectors and the monitoring of the re-inspection of work performed by Q.C. inspectors who were on-site during the early stages of construction. In early 1982, Commonwealth Edison committed to re-certify all site Q.C. inspectors to ANSI N45.2.6-1978, in accordance with guidelines and interpretations established by Edison. The Site Quality Assurance Department and Project Construction Department each assigned personnel to work full time with the site contractors to implement the re-certification program. The results of the re-certification program were, in turn, audited by the Edison General Office Q.A. Department to assure compliance to the Edison guidelines. As a result, it has established that the site contractors have properly re-certified their Q.C. inspectors.

Audit of Re-inspection Program Implementation

When the re-inspection program was established in February, 1983, and re-inspections began in late March, the Site Q.A. Department performed audits and surveillances to monitor the re-inspection activity. The first audit was performed June 21 through July 6, 1983, which was about the expected mid-point of the re-inspection program. The audit (#6-83-66) was conducted by a six man team and covered the activities of the following seven site contractors: Hunter, Hatfield, Johnson Controls, Pittsburgh Testing Laboratories, Powers Azco Pope, NISCO, and Blount Brothers. The purpose of the audit was to verify that the re-inspection program was being implemented in accordance with the commitments made in the Edison letter dated February 23, 1983, from Mr. Stiede to Mr. Keppler. The audit examined:

- 1) Re-inspection sample size
- 2) Application of inaccessibility
- 3) Third party review
- 4) Disposition of discrepancies
- 5) Documentation of inspection results
- 6) Qualifications of re-inspection personnel

The audit identified two basic concerns. First, it was found that four contractors had not yet established the means for implementing actions to correct or disposition the discrepancies identified in the re-inspection process. The four contractors were Hunter, Hatfield, PTL, and Blount Brothers. This was classified as a finding.

Second, it was found that there was some misunderstanding among the contractors regarding how to handle special problems. For example, in one case a component had been inspected in January, 1980, and again in May, 1982. The contractor chose to classify the first inspection as "inaccessible"

without evaluating if the second inspection completely superseded the earlier inspection. In another case a contractor had a Q.C. inspector who had been certified in several different disciplines within the first three months of his employment, but the contractor had only re-inspected the first discipline in which he was certified. In total, eight observations were identified which addressed issues, such as these, which needed clarification.

Overall the audit team concluded that the contractors were actively implementing the re-inspection program. The audit however, served the purpose of clarifying how the re-inspection guidelines were to be interpreted.

Currently corrective action for deficiencies noted has been completed. Contractors have dispositioned discrepancies and have or are taking the appropriate corrective action. Secondly, the Project Construction Department has issued "Interpretations" to the contractors for areas in which clarification of the program was needed.

Special Audit of Hatfield

As the re-inspection program progressed beyond the early stages, Edison Quality Assurance and Project Construction personnel became aware of problems at Hatfield in determining which welds were to be included in the re-inspection. These problems were primarily due to the manner in which Hatfield generated and maintained inspection records during the early years of construction. Also, the NRC advised Edison of concerns with the Hatfield inspection records. As a result, Edison Site Q.A. performed an audit to specifically address these concerns. The audit (#6-83-124) was conducted by a three man team during the period 8/24/83 through 9/1/83.

The scope of the audit included the following:

- 1) Review documentation practices
- 2) Correlation of weld record cards to welders and inspectors
- 3) Identifying the latest weld record
- 4) Re-numbering hangers
- 5) Re-inspection - incorrect assumptions
- 6) Procedures not being followed

It was found that, in some cases, it could not be determined which inspector originally performed an inspection on a particular weld. As a result, the weld was removed from the re-inspection population in accordance with the guidelines of the re-inspection program. This helped achieve accuracy in associating weld inspections to the proper inspector. Because of the general manner in which the inspection records were kept, it was clear that personnel not familiar with all aspects of the record keeping process may misunderstand the manner in which the weld traveler records were selected for the re-inspection program. To resolve these issues, Hatfield is currently implementing a computerized data base management system to reconcile weld travelers to hangers. This should insure that the initial hanger inspections assigned to each inspector were correct and it should provide an accurate means for identifying those hangers which do not have complete inspection records.

Audit #6-83-124 remains open pending completion of corrective action. Hatfield Electric has completed the reconciliation of hanger and weld inspections (which are documented on the weld travellers). Those hangers of which there is a question of the completeness of weld travellers are being reinspected; this reinspection is expected to be complete on January 1984.

ADDITIONAL AUDITS

Subsequent to the issuance of the Preliminary Report, an additional audit has been performed. Audit #6-83-93 was conducted on November 14-17, 1983 to assure that conclusions drawn from the Reinspection Program would be valid and reliable.

The scope of the audit covered the following areas:

1. Accuracy of Reinspection Program results as reported to the NRC in the Interim Report.
2. The design basis for the engineering evaluation of Visual Weld Inspection Discrepancies as described in the Interim Report.
3. Qualifications of the third party inspectors.
4. Documentation of third party inspections.
5. Basis for PCD "Interpretations" in regards to the Reinspection Program.
6. Correction of deficiencies identified as a result of the Reinspection Program.

The following four (4) areas were reviewed at each of the seven (7) contractors involved in the reinspection Program.

1. Correction of discrepancies - All contractors with the exception of PTL and Hatfield Electric Co. were found to have identified and have or are correcting deficiencies in accordance with their approved nonconformance procedure. PTL and Hatfield have taken these actions on some deficiencies but have refrained on items in which an engineering evaluation is to be performed.
2. Expansion of an inspector's reinspection sample size and the number of inspectors to be reinspected upon a failure as defined by the Stiede-Keppler letter of February 1983 - All contractors were found to have expanded sample size accordingly with those results given in the Interim Report.

3. Independence of the Reinspection Personnel - The reinspection personnel at each contractor were verified to have not been involved in the reinspection of work that they had originally inspected or had reviewed and accepted.
4. Accuracy of results reported in the Interim Report - The items reviewed during the audit at all contractors matched up with the exception of PTL. During reiterations of the Reinspection Program, Pittsburgh Testing Laboratory overrode third party concurrence on some welding rejects. After implementation of Interpretation 11 given in the Reinspection Program which changed the visual weld inspection criteria in the areas of overlap and undercut, a review was performed by PTL on reinspections performed for applicability of the interpretation. In this review, PTL changed the deficient status of some welds which were rejected for reasons other than those changed by the interpretation. The welds had already received third party concurrence for true rejectability as defined in the Stiede-Keppler letter of February, 1983.

As corrective action, Pittsburgh Testing Laboratory will resubmit for concurrence by the independent third party inspector those PTL overcalls which changed the deficient status of welds rejected for reasons other than those addressed by Interpretation 11.

Also reviewed during the course of the audit were the following areas which were directed towards the Project Construction Department in their implementation of this program.

The engineering evaluation of the Visual Weld Discrepancies performed by Sargent and Lundy was reviewed for adequate design basis. Calculations which support the evaluation were performed in accordance with appropriate "Structural Design Standards" and the approved Design Control Summary. The Design Control Summary outlines assumptions to be followed in performing the calculations. These assumptions appeared to be based on industry standards and practices. This approach was presented to the NRC on September 22, 1983.

Those individuals who performed the third party review of subjective deficiencies were properly qualified for the task. Additionally, adequate documentation of these inspections exists.

Lastly, those Interpretations offered by the Project Construction Department during the Reinspection Program have adequate basis and fall between the guidelines of the program.

On the basis of this audit, Quality Assurance has concluded upon completion of corrective action for the deficiency noted that accurate and reliable conclusions can be drawn from the Reinspection Program.

Qualification of Inspectors During Re-inspection

In order to assure that Q.C. personnel performing re-inspections were fully qualified, Site Q.A. directed PTL to perform a surveillance to verify that their inspectors could independently arrive at the same inspection results as the contractors Q.A. inspectors who were performing the re-inspections. The surveillance ran from August 1, 1983 to September 19, 1983. The results show a correlation ranging from 94% to 100% and it appears that the contractor's Q.C. personnel doing re-inspections are doing accurate and acceptable work.

Conclusion

Based on the above information, Quality Assurance concluded the following:

- 1) Edison commitments in the February 23, 1983 letters were properly implemented.
- 2) Re-inspectors have done acceptable work.
- 3) Based on results to date, Q.C. inspectors who were on-site during the early stages of construction did acceptable work.

VII. SIGNIFICANCE OF DISCREPANCIES

All discrepancies identified as a part of the reinspection are being corrected either by physical rework to correct the condition or by detailing the condition on nonconformance reports to perform engineering analysis to determine acceptability of the condition without correction. The determination as to the course of action employed to disposition the condition is a function of the estimate of the more cost effective path to resolution. That is, when it appears that the cost to physically correct condition is less than the costs associated with detailing data and performing an engineering analysis, then physical correction is chosen, and vice versa.

In addition to the action taken to correct the individual discrepancies, an engineering analysis has been performed on selected discrepancies to establish their significance. The types of discrepancies identified are similar or identical to conditions which have previously been addressed in the history of the project and found acceptable. These types of quality discrepancies are insignificant from a safety stand- point. The results of these evaluations are provided in Appendices C and D.

As a result of comments 2 and 3 of the NRC - Region III letter dated November 18, 1983, the results of all the reinspections have been reviewed on the basis of inspection attribute to determine if additional inspections are warranted.

For subjective attributes each contractor was analyzed in Visual Weld Inspection using approximately 5 attributes. A total of nine subjective areas of certification were analyzed for the site contractors. Three contractors, Powers-Azco-Pope, Pittsburgh Testing Laboratory (PTL) and their predecessor Peabody Testing Services (PTS), had problems in recreating Visual Weld Inspection. A lack of fillet weld gauge usage and length tolerances produced inaccurate inspections by some Powers-Azco-Pope weld inspectors. Presently both a dimensional tolerance and weld gauges are being used to make these inspections more objective. Both PTL and PTS experienced an undesirable failure rate for the attributes of undercut and overlap. Constant training during the Visual Weld Inspectors' tenure has much improved the consistency of calls made in the areas of undercut and overlap. Because these types of deficiencies were shown to be insignificant as discussed in Appendix C, no additional inspections are warranted.

For the objective attributes each contractor was analyzed by area of certification each of which averaged approximately 5 to 10 attributes. A total of twenty-two objective areas of certification were analyzed for the site contractors. The final Hanger Inspection as performed by Powers-Azco-Pope showed approximately 73% of weld size and length accepted hangers were found to be rejectable. This problem was due to the lack of a length tolerance and fillet weld gauges during the initial inspection. Presently both a dimensional tolerance and weld gauges are employed by the contractor. No other objective inspections showed unacceptable performance. Because these types of deficiencies were shown to be insignificant as discussed in Appendix D, no additional inspections are warranted.

APPENDIX A

REINSPECTION RESULTS BY TYPE/AREA OF CERTIFICATION

A tabulation of inspection results by inspection type and by inspection area of certification is presented on a by contractor basis in Tables A.1, A.2, A.3, A.4, A.5, A.6, A.7, and A.8. Appendix B shows actual quantities of acceptable and rejectable results by attribute. Expansion sample period results indicate results for the reinspection of an inspector's second 3 months work.

Table A.1 - Blount Bros.

I. Results By Inspection Type

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review
Subjective	(2)	(1)
Objective	98.8%	(1)

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Weld Detail (Objective)	4	98.7%	(1)	(1)
2. Concrete (Objective)	2	100%	(1)	(1)
3. Masonry (Objective)	2	99.4%	(1)	(1)
4. Concrete Expansion Anchor (Objective)	2	96.1%	(1)	(1)

(1) Not required
(2) Not applicable

Table A.2 - Johnson Controls

I. Results By Inspection Type

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review*
Subjective	94.9% (1386/1459)	95.5% (1394/1459)
Objective	99.4%	(1)

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Visual Welding (Subjective)	4	95.5%	(1)	(1)
2. Mechanical (Objective)	4	99.4%	(1)	(1)

NOTE: *Results Cumulative. 73 Rejects Were Reinspected By Third Party Inspectors.

(1) Not required

Table A.3 - Hunter

I. Results By Inspection Type

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review*
Subjective	96.7% (3604/3728)	97.0% (3616/3728)
Objective	99.0%	(1)

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Visual Welding (Subjective)	17	97.0%	(1)	(1)
2. Documentation (Objective)	20	98.9%	(1)	(1)
3. Hardware (Objective)	17	99.3%	(1)	(1)

NOTE: *Results Cumulative. 124 Rejects Were Reinspected By Third Party Inspectors.

(1) Not required

Table A.4 - NISCo

I. Results By Inspection Type

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review
Subjective	100.0%	(1)
Objective	99.6%	(1)

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Visual Welding (Subjective)	4	100.0%	(1)	(1)
2. Mechanical (Objective)	4	99.6%	(1)	(1)

(1) Not required

Table A.5 - Hatfield Electric

I. Results By Inspection Type (Subjective Inprogress)

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review*
Subjective	88.4% (21296/24090)	92.6% (22305/24090)
Objective	96.7%	(1)

II. Results By Inspection Attribute (Subjective Inprogress)

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Visual Weld	8	92.6%*	(1)	(1)
2. Conduit	6	96.9%	(1)	(1)
3. Terminations	5	99.9%	(1)	(1)
4. Equip. Setting	2	100.0%	(1)	(1)
5. A325 Bolting	1	100.0%	(1)	(1)
6. Equip. Modification	2	100.0%	(1)	(1)
7. Conduit As-built	8	95.9%	(1)	(1)

(1) Not required

II. Results By Inspection Attribute (Cont'd)

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
8. Pan Hangers	2	96.9%	(1)	(1)
9. Pan	1	100.0%	(1)	(1)

NOTE: *Results Cumulative. Includes All Work Except 60 Days Of One Visual Weld Inspector.

(1) Not required

Table A.6 - Powers-Azco-Pope

I. Results By Inspection Type

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review*
Subjective	85.9% (5713/6648)	86.0% (5717/6648)
Objective	95.8%	(1)

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Pipe Material Verification (Objective)	19	97.7%	(1)	(1)
2. Pipe Weld Visual (Subjective)	19	93.4%	4	88.7%
3. Hanger/Mount Material Verification (Objective)	19	96.0%	1	98.9%
4. Hanger Weld Visual (Subjective)	19	73.6%	8	83.0%
5. Final Hanger (Objective)	10	73.5%	1	81.8%

(1) Not required

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
6. Flex Hose (Objective)	7	100.0%	(1)	(1)
7. Pipe Bend (Objective)	9	95.7%	(1)	(1)

NOTE: *Results Cumulative. 935 Rejects Were Reinspected By Third Party Inspectors.

(1) Not required

Table A.7 - Pittsburgh Testing

I. Results By Inspection Type (Subjective Inprogress)

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review*
Subjective	73.2% (4147/5662)	87.2% (4936/5662)
Objective	99.1% (7200/7269)	(1)

II. Results By Inspection Attribute (Subjective Inprogress)

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Visual Welding (Subjective)	14	87.2%	1	96.4%
2. Concrete Expansion Anchor (Objective)	9	99.1%	(1)	(1)

NOTE: *Results Cumulative. 1,515 Rejects Were Reinspected By Third Party Inspectors.

(1) Not required

Table A.8 - Peabody

I. Results By Inspection Type

Type	Reinspection Results (Acceptable)	
	Level II Reinspection	Independent Third Party Review*
Subjective	71.8% (117/163)	74.8% (123/163)
Objective	(2)	(1)

II. Results By Inspection Attribute

Attribute	Initial Sample Period		Expansion Sample Period	
	No. Of People Reinspected	Final % Acceptable	No. Of People Reinspected	Final % Acceptable
1. Visual Welding (Subjective)	6	74.8%	(1)	(1)

NOTE: *Results Cumulative. 46 Rejects Were Reinspected By Third Party Inspectors.

- (1) Not required
- (2) Not applicable

APPENDIX B

REINSPECTION RESULTS BY INSPECTOR

A tabulation of detail inspection results by Inspector and type of inspection is presented on a by contractor basis in Tables B.1, B.2, B.3, B.4, B.5, B.6, B.7, and B.8. Results shown are complete and have had Independent Third Party Review when required.

Table B.1 - Blount Bros.

Detailed Inspector Results

Insp.	Attr. #1	Attr. #2	Attr. #3	Attr. #4
A	636/640	-	-	-
B	-	70/70	-	-
C	437/440	-	-	-
D	427/443	-	-	-
E	-	-	253/255	49/51
F	-	75/75	-	-
G	335/335	-	-	25/26
H	-	-	55/55	-
Totals	1835/1858	145/145	308/310	74/77

NOTE:

No expanded sampling was required.

Attribute 1 - Weld Detail
Attribute 2 - Concrete
Attribute 3 - Masonry
Attribute 4 - Concrete Expansion Anchors

Table B.2 - Johnson Controls

Detailed Inspector Results

<u>Insp.</u>	<u>Attr. #1</u>	<u>Attr. #2</u>
A	-	25/28
B	222/230	3170/3178
C	628/660	2761/2781
D	80/84	499/499
E	<u>464/485</u>	<u>1310/1326</u>
Totals	1394/1459	7765/7812

NOTE:

No expanded sampling was required.

Attribute 1 - Visual Welding

Attribute 2 - Mechanical

Table B.3 - Hunter

Detailed Inspector Results

<u>Insp.</u>	<u>Attr. #1</u>	<u>Attr. #2</u>	<u>Attr. #3</u>
A	47/51	-	-
B	14/14	134/138	-
C	34/34	1181/1186	-
D	33/33	101/102	-
E	283/301	2088/2144	61/64
F	208/214	40/41	258/265
G	116/129	161/161	21/21
H	49/55	19/19	12/12
I	315/319	47/47	129/133
J	-	2195/2269	7836/7893
K	334/344	280/284	186/190
L	273/273	366/366	204/206
M	-	126/130	331/339
N	-	289/294	903/921
O	-	416/442	1246/1253
P	249/263	8143/8214	925/935
Q	383/392	6315/6381	5355/5372
R	232/237	8504/8520	81/81
S	181/181	329/331	949/952
T	-	1789/1804	6248/6323
U	803/822	3671/3759	8004/8032
V	<u>62/66</u>	<u>-</u>	<u>-</u>
Totals	3616/3728	36194/36632	32749/32992

NOTE:

No expanded sampling was required; a substitution (V) was made for (H) because (H) failed the first 3 month period but had no further inspections to reinspect.

Attribute 1 - Visual Welding
Attribute 2 - Documentation
Attribute 3 - Hardware

Table B.4 - NISCo

Detailed Inspector Results

<u>Insp.</u>	<u>Attr. #1</u>	<u>Attr. #2</u>
A	103/103	930/930
B	69/69	1567/1579
C	32/32	165/165
D	25/25	118/118
TOTALS	229/229	2780/2792

NOTE:

No expanded sampling was required.

Attribute 1 - Visual Welding
Attribute 2 - Mechanical

Table B.5 - Hatfield Electric

Detailed Inspector Results

Insp.	Attr. #1	Attr. #2	Attr. #3	Attr. #4	Attr. #5	Attr. #6	Attr. #7	Attr. #8	Attr. #9
A	876/906	-	-	-	-	-	-	-	-
B	-	-	-	-	-	-	4795/4974	-	-
C	608/708	-	-	-	-	-	-	-	-
D	-	32/32	770/770	24/24	8/8	-	-	-	-
E	10659/11762	37/38	60/60	-	-	-	-	-	-
F	-	137/137	132/132	-	-	2/2	-	-	-
G	1135/1218	289/304	562/564	-	-	1/1	-	-	-
H	-	-	-	-	-	-	3985/4112	-	-
I	4381/4639	-	-	-	-	-	-	-	-
J	-	539/561	-	-	-	-	-	-	-
K	-	1019/1046	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	193/198	-
M	-	-	-	-	-	-	10952/11457	-	-
N	3516/3621	-	-	-	-	-	-	-	-
O	51/51	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	2001/2081	-	-
Q	-	-	-	-	-	-	4918/5055	-	-
R	-	-	-	-	-	-	11734/12205	-	-
S	-	-	-	-	-	-	2753/2879	-	-
T	-	-	-	-	-	-	1917/2014	-	-
U	-	-	8201/8208	24/24	-	-	-	-	-
V	-	-	-	-	-	-	-	1696/1752	80/80
W	1079/1185*	-	-	-	-	-	-	-	-

Totals

22305/24090*2053/2118 9725/9734 48/48 8/8 3/3 42955/44777 1889/1950 80/80

NOTE: No expanded sampling was required, a substitution (W) was made for C in attribute 1 because C failed the first 3 month period but had no further inspections to reinspect

- Attribute 1 - Visual Weld
- Attribute 2 - Conduit
- Attribute 3 - Terminations
- Attribute 4 - Equipment Setting
- Attribute 5 - A325 Bolting
- Attribute 6 - Equipment Modification
- Attribute 7 - Conduit As-built
- Attribute 8 - Pan Hangers
- Attribute 9 - Pan

*-Inprocess, actual amount will be greater.

Table B.6 - Powers-Azco-Pope

Detailed Inspector Results

Insp.	Attr. #1	Attr. #2	Attr. #3	Attr. #4	Attr. #5	Attr. #6	Attr. #7
A	23/23	11/11	6/10	5/8	-	-	-
B	54/54	34/35	24/34	11/11	-	-	-
C	52/52	108/117	37/48	47/74	-	-	-
C(exp)	-	85/93	-	33/35	-	-	-
D	1/1	16/18	193/195	50/52	-	-	-
E	47/48	275/328	111/114	87/121	-	2/2	-
E(exp)	-	19/21	-	11/12	-	-	-
F	152/155	208/262	95/97	36/61	-	-	-
F(exp)	-	60/72	-	23/29	-	-	-
G	67/68	330/351	62/62	39/54	3/3	2/2	-
H	10/10	24/24	68/68	43/55	-	-	-
I	40/41	259/286	240/242	38/72	11/22	1/1	5/5
I(exp)	-	9/9	-	3/10	-	-	-
J	47/59	163/178	139/142	97/112	-	1/1	-
K	108/108	99/101	262/262	68/115	7/16	-	2/2
K(exp)	-	-	-	3/5	-	-	-
L	137/139	83/83	213/221	36/40	8/18	-	5/5
M	295/302	536/546	858/946	82/181	16/41	2/3	12/12
M(exp)	-	-	555/561	208/246	18/22	-	-
N	231/237	468/484	503/508	172/218	-	-	2/2
O	359/370	379/404	793/823	197/272	2/2	-	8/10
O(exp)	-	-	-	5/7	-	-	-
P	11/11	11/12	8/8	4/4	-	-	-
Q	321/321	381/395	710/729	478/591	6/6	8/8	1/1
Q(exp)	-	-	-	-	-	-	-
R	41/46	97/102	178/184	80/101	27/35	-	1/1
R(exp)	-	-	-	3/4	-	-	-
S	176/177	113/113	175/177	90/113	139/154	1/1	8/8

Totals

Initial-	2172/2222	3595/3850	4675/4870	1660/2255	219/398	17/17	44/46
Expanded-	-	173/195	555/561	289/348	18/22	-	-

NOTE:

The "exp" designation represents the expansion of an inspectors sample period when the acceptable threshold was not met.

- Attribute 1 - Pipe Material Verification
- Attribute 2 - Pipe Weld Visual
- Attribute 3 - Hanger/Mount Material Verification
- Attribute 4 - Hanger Weld Visual
- Attribute 5 - Final Hanger
- Attribute 6 - Flex Hose
- Attribute 7 - Pipe Bend

Table B.7 - Pittsburgh Testing

Detailed Inspector Results

<u>Insp.</u>	<u>Attr. #1</u>	<u>Attr. #2</u>
A	-	1625/1875
B	-	404/445
C	-	62/96
D	-	18/18
E	522/524	-
F	-	347/389
G	-	11/12
H	-	7/7
I	-	596/657
J	-	736/910
J(exp)	-	361/479
K	299/300	-
L	377/381	-
M	1057/1058	-
N	864/874	-
O	2218/2261	-
P	934/935	-
Q	883/890	-
R	46/46	-
S	-	109/113
T	-	68/69
U	-	482/482
V	-	78/79
W	-	31/31
Totals	7200/7269	4936/5662

NOTE:

Expanded sampling was required, T, U, V, and W were added due to failure of J. The "exp" designation represents the expansion of an inspectors sample period when the acceptable threshold was not met.

Attribute 1 - Concrete Expansion Anchors
Attribute 2 - Visual Welding

Table B.8 - Peabody

Detailed Inspector Results

<u>Insp.</u>	<u>Attr. #1</u>
A	14/26
B	13/14
C	16/24
D	15/16
E	28/41
F	<u>37/42</u>
TOTALS	123/163

NOTE:

100% of work was reinspected.

Attribute 1 - Visual Welding

APPENDIX C

SUBJECTIVE INSPECTION DISCREPANCIES - EVALUATION OF SIGNIFICANCE

The reinspection activity identified 3,659 discrepancies associated with visual weld inspection. The quantities by contractor are as follows:

Blount	N/A
Johnson Controls	65
Hunter	112
NISCO	0
Hatfield Electric	1,785**
Powers-Azco-Pope	931
Pittsburgh Testing	726
Peabody Testing	40
	<u>3,659**</u>

** NOTE: Inprogress

As identified below, for the engineering evaluation the weld discrepancies were categorized as:

Category A	Arc Strike Convexity Spatter
Category B	Crater Incomplete Fusion Overlap Porosity Undercut Underrun
Category C	Cracks

Of the 3,659 discrepancies, 10 to 20 percent would fall into Category A, 80 to 90 percent would fall into Category B, and less than 0.03 percent would fall into Category C.

ENGINEERING EVALUATION OF WELD DISCREPANCIES

The purpose of the engineering evaluation was to determine the design impact of weld discrepancies discovered as part of the reinspection of QC inspector work. The contractors included in the engineering evaluation were Hatfield Electric Company (HECo), Pittsburgh Testing Laboratory (PTL) and Peabody. The evaluation of the Peabody discrepancies is still in progress. The remaining contractors with subjective discrepancies have all been repaired.

Based on the total population of subjective discrepancies for HECo and PTL, a statistical sampling plan was developed for each contractor to perform an engineering evaluation. The statistical sampling plans shown below are in accordance with Military Standard 105D for multiple sampling.

<u>Contractor</u>	<u>Cumulative Sample Size</u>	<u>Cumulative Acceptance No.</u>	<u>Cumulative Rejection No.</u>
HECo	50	*	4
	100	2	5
	150	2	6
	200	3	7
	250	5	8
	300	7	9
	350	9	10

* = Acceptance not permitted at this sample size.

<u>Contractor</u>	<u>Cumulative Sample Size</u>	<u>Cumulative Acceptance No.</u>	<u>Cumulative Rejection No.</u>
PTL	32	*	2
	64	0	3
	96	0	3
	128	1	4
	160	2	4
	192	3	5
	224	4	5

* = Acceptance not permitted at this sample size.

In order to insure a conservative engineering evaluation, the first 50 welds chosen for each contractor were those welds which the independent third party inspectors identified as the welds with the most weld quality discrepancies. The results of the engineering evaluation of the first 100 welds were documented in the "Preliminary Report on Reinspection Conducted as a Result of Noncompliance Items 50-454/82-05-19 and 50-455/82-05-19" dated October 28, 1983.

The remaining welds to complete the sample were chosen based on random numbers in accordance with the statistical sampling plans. For Hatfield Electric Co, the minimum sample size at which acceptance is permitted is 100 welds with no more than 2 rejects. For Pittsburgh Testing Lab, the minimum sample size at which acceptance is permitted is 64 welds with no more than 0 rejects.

Once the additional welds to be evaluated were determined, all discrepancies which did not meet the AWS weld quality acceptance criteria for visual inspection, as included in the project work specifications, were indicated by the inspectors on weld maps. A weld map is a detailed sketch of the as-built weld, showing size and location of all weld discrepancies.

The weld maps were separated into one of three categories, based on the type of discrepancy reported. This categorization was used to quantify the significance of the weld discrepancies. Weld discrepancies that were considered structurally acceptable because they did not reduce the load carrying capacities were placed in Category A. The AWS weld quality criteria considered in Category A consist of arc strikes, convexity, and spatter. Arc strikes and spatter are cosmetic discrepancies and only have impact on weld strength when they appear in an extreme case. If the extreme case appeared, it would have been reported on the weld map and the weld discrepancy would have been re-categorized. In this evaluation, there were no discrepancies reported associated with arc strikes or spatter. Convexity is only considered a potential problem in fatigue design of welds. Fatigue is not an applicable loading condition in the design of structures/supports where AWS welding is specified.

If the reported weld discrepancy resulted in a reduction to the size, length, or capacity of a weld, it was placed in Category B. This category included all weld quality discrepancies which caused portions of a weld to be considered ineffective. The AWS weld quality discrepancies considered in Category B includes craters, incomplete fusion, overlap porosity, undercut, and underrun. The design procedure used to evaluate welds with Category B discrepancies was to consider these portions of the weld to be totally ineffective and then calculate the section properties of the remaining acceptable weld. This is a conservative approach because discrepancies only reduce the capacity of that portion of the weld where discrepancies are located, but there is always some reserve capacity even with the presence of the weld quality discrepancy.

Category B welds were further subdivided into Categories B1 and B2. Category B1 welds were those welds whose capacity, after subtracting weld discrepancies from the weld length, was reduced by less than 10%. Category B2 welds had capacity reductions greater than 10% after subtracting weld discrepancies from the weld length. This subdivision was used to quantify the significance of Category B discrepancies.

The last category used in the weld map classification was Category C. Welds in this category were considered to be unsuitable for load transfer and were rejected. A crack in the weld was the only AWS weld quality discrepancy considered for total weld rejection.

Only one weld was found to be in Category C. This was one of two "hold-down" welds for a cable tray to a cable tray hanger. Since both welds are part of the load transfer system, both were mapped by the independent third-party inspector. It was found that after subtracting the entire length of the cracked weld, that the other weld was sufficient to transfer the design loading. Thus, the load could be transferred as designed since only one of the welds was actually required.

The results of the engineering evaluation are presented in tabular form below. Since no weld rejects resulted after engineering evaluation, conformance to the statistical sampling plan was achieved for the 100 sampled Hatfield Electric Co. and 64 sampled Pittsburgh Testing Lab welds.

<u>Contractor</u>	<u>Weld Quality Category</u>			
	A	B1	B2	C
PTL	13	14	37	0
HECo	<u>5</u>	<u>31</u>	<u>63</u>	<u>1</u>
Total	18	45	100	1

Based on these results, it can be seen that 38% are in Categories A and B1. In other words, approximately 1/3 of the worst welds resulted in less than 10% weld capacity reduction. For 62% in Category B2 & C the factor of safety against the original weld design criteria is greater than one and in fact averages approximately three. This factor of safety is calculated as the ratio of allowable stress to actual stress wherein actual stress accounts for the weld discrepancies by subtraction from length of acceptable weld.

It is the conclusion of this engineering evaluation that the types and magnitude of weld quality discrepancies which were not reported under the original QC inspection are insignificant and do not compromise the safety of the plant.

APPENDIX D

OBJECTIVE INSPECTION DISCREPANCIES EVALUATION OF SIGNIFICANCE

The reinspection activity identified 3,130 discrepancies associated with objective type inspections. The quantities by contractor are as follows:

Blount	28
Johnson Controls	47
Hunter	681
NISCo	12
Hatfield Electric	1,957
Powers-Azco-Pope	336
Pittsburgh Testing	69
Peabody Testing	<u>0</u>
	3,130

ENGINEERING EVALUATION OF OBJECTIVE DISCREPANCIES

The purpose of the engineering evaluation was to determine the design impact of objective discrepancies discovered as a part of reinspection of QC inspector work. This approach was established in Appendix D of the "Preliminary Report on Reinspection Conducted as a Result of Noncompliance Items 50-454/82-05-19 and 50-455/82-05-19" dated October 28, 1983.

The table below shows, by contractor, the population of objective discrepancies line items and the sample size for engineering evaluation.

<u>Contractor</u>	<u>Population Of Objective Discrepancies Line Items</u>	<u>Sample Size</u>
BBC	25	25
PTL	45	45
Hunter	681	125
JCI	42	42
PAP	336	80
HECo	1,628	200
NISCo	12	12

The sample size for Hunter, PAP, and Hatfield are based on statistical sampling plans in accordance with Military Standard 105D for single sampling. Each sampling plan is delineated below.

<u>Contractor</u>	<u>Sample Size</u>	<u>Acceptance No.</u>	<u>Rejection No.</u>
Hunter	125	2	3
PAP	80	1	1
HECo	200	3	4

The results of the engineering evaluation are summarized in Tables D.1 through D.7 for BBC, PTL, Hunter, JCI, PAP, HECo, and NISCo respectively. In all cases the objective discrepancies have been dispositioned as acceptable based on evaluating their impact on design basis requirements. These objective discrepancies were similiar to conditions previously addressed throughout the construction stage of the project.

It is the conclusion of this engineering evaluation that the types of discrepancies which were not reported under the original QC inspection are insignificant and do not compromise the safety of the plant.

TABLE D.1 - BLOUNT BROTHERS CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
BBC-1	Q3-699	Cont. #1, El. 420' @ R2 at Pt. #7, Det. 1017. FCR 598, 3/4" x 7" x 12" stiffeners on the R1 side of column R2 are not level.	F42243	Yes	Stiffener plates on Detail 1017 not required.
BBC-2	Q3-700	Cont. #2, El. 382' 2-3/4", R23 @ Pt. #49, Det. 1009. Detail calls for 1" clearance; actual clearance is 5/8". Not per detail although clearance is present to allow for any axial lengthening requirements.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-3	Q3-701	Cont. #1, El. 401', R15 @ secondary shield wall, Pt. #33, Det. 981. Detail calls for 3/4" x 8" top plates. In field, top plates are 3/4" x 7-1/4". Top plates should overlap flange by 1/2". Top plates don't overlap at all.	F42458	Yes	Top plate works despite being 3/4" short, weld at 1/2" overlap in place on bottom of flange; no change required.
BBC-4	Q3-702	Cont. #1, El. 407'-6", R15 @ secondary shield wall, Pt. #2, Det. 981. Detail calls for 3/4" x 8" top plate. In field, top plate is 3/4" x 7", not installed to detail.	F42457	Yes	Top plate works despite being 1" short.
BBC-5	Q3-703	Cont. #1, El. 407'-6", R9 @ secondary shield wall, Pt. #5, Det. 981. Detail calls for 3/4" x 8" top plate. In field, top plate is 3/4" x 7", not installed to detail.	F42457	Yes	Top plate works despite being 1" short.
BBC-6	Q3-704	Cont. #1, El. 407', R3 @ secondary shield wall, Pt. #2, Det. 981, (Dwg. AB E117). Not installed to detail. Missing 3/8" fillet welds top & bottom flange to 3/4" plate. Right and left vertical side plate should be on piece.	N/A	Yes	Connection works without missing weld.
BBC-6	Q3-704	Both plates are cut into two pieces in field. Horizontal 1/2" plate should be installed. A bent plate installed in field.			Cutting of plates not critical. 1/2 " plate not required.

TABLE D.1 - BLOUNT BROTHERS CORPORATION

DISCREPANCY LOCATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
BC-7	Q3-705	Cont. #1, El. 407' 6", R4 @ Col. Pt. #15, Det. 1005. Detail calls for 1" clearance; actual clearance is 5/8". Not per detail although clearance is present to allow for any axial lengthening requirements.	N/A	Yes	Change in clearance does not significantly affect beam.
BC-8	Q3-706	Cont. #1, El. 382' 2-3/4", between R15 & R16 at secondary shield wall, Pt. #3, Det. 1002. Detail calls for 1" clearance from W12 to embed. In field, clearance is 1/2", not installed to detail although enough clearance is present for any axial lengthening requirements.	N/A	Yes	Change in clearance does not significantly affect beam.
C-9	Q3-707	Cont. #1, El. 382' 2-3/4", R15 @ Col. Pt. #11, Det. 1005. Detail calls for 1" clearance from W14 to column R15 flange. In field, clearance is 3/4". Not installed per detail although enough clearance is present for any axial lengthening requirements.	N/A	Yes	Change in clearance does not significantly affect beam.
C-10	Q3-708	Cont. #1, El. 382' 2-3/4", R16 @ Col. Pt. #14, Det. 1009. Detail calls for 1" clearance from W14 to column R16 flange. In field, clearance is 5/8". Not installed per detail although enough clearance is present for any axial lengthening requirements.	N/A	Yes	Change in clearance does not significantly affect beam.
BC-11	Q3-709	Cont. #1, El. 382' 2-3/4", R10 at secondary shield wall, Pt. #16, Det. 979. Detail calls for 1" clearance from crown of wall embed to edge of W14 flange. In field, clearance is 3/4". Detail calls for 8" clearance from crown of wall embed to back of horizontal plate. In field, distance is 7". Not installed to detail.	F42406	Yes	Change in clearance does not significantly affect beam. Reduction in length is not a problem.

TABLE D.1 - BLOUNT BROTHERS CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
BBC-12	Q3-710	Cont. #1, El. 382' 2-3/4", between R9 and R10 at secondary shield wall, Pt. #17, Det. 1002. Detail calls for 1" clearance from W12 to embed. In field, clearance is 3/8", although enough clearance is present for any axial lengthening if required.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-13	Q3-711	Cont. #1, El. 382' 2-3/4", between R8 and R9 at secondary shield wall, Pt. #20, Det. 1002. Detail calls for 1" clearance from W12 to embed. In field, clearance is 1/2", although enough clearance is present for any axial lengthening if required.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-14	Q3-712	Cont. #1, El. 382' 2-3/4", R8 at column Pt. #23, Det. 987. Detail calls for 1" minimum clearance from W14 flange to column R8 flange. In field clearance is 3/4". Not installed to detail although enough clearance is present for axial lengthening if required.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-15	Q3-713	Cont. #1, El. 382', 2-3/4", R8 at column Pt. #23, Det. 1005. Detail calls for 1" minimum clearance from W14 flange to column. In field, clearance is zero. Not installed to detail.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-16	Q3-714	Cont. #1, 422' 11", between R17 and R18. Diagonal beam at secondary shield wall, Pt. #25, Det. 1003. No top split plate present as called for by detail. In addition, the bottom plate overlaps the embed by 3-1/2" on one end and 4" at other end. Not installed per detail.	N/A	Yes	As-built drawing does not show split plate for this connection. Overlap does not affect capacity of stiffener plate.

TABLE D.1 - BLOUNT BROTHERS CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
BBC-17	Q3-715	Cont. #1, El. 425' 10-1/2", between R17 and R18 at secondary shield wall, Pt. #25, Det. 1002. Detail calls for 1" minimum clearance from W12 beam to embed. In field, clearance is 1/8". Not installed to detail.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-18	Q3-717	Cont. #1, El. 425' 10-1/2", at secondary shield wall. Detail calls for 3/4" x 8" x 8" bottom plate. In field, top plate is 3/4" x 6-3/4" x 9-1/2". Not install per detail.	F42411	Yes	Top plate works despite being 1" short.
BBC-19	Q3-718	Cont. #1, El. 425' 10-1/2", R3 at secondary wall, Pt. #10, Det. 1002. Detail calls for a minimum 1" clearance from W14 beam to embed. In field, clearance is 5/8". Not installed to detail although all axial lengthening requirements are met.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-20	Q3-719	Cont. #1, El. 425' 10-1/2", R5 at wing wall. Pt. #2, Det. 1002. Detail calls for a minimum 1" clearance from W12 beam to the embed. In field, clearance is only 3/4". Not installed to detail although all axial lengthening requirements are met.	N/A	Yes	Change in clearance does not significantly affect beam.
BBC-21	Q3-723	Not installed per detail. Installed similar to Det. A-464-1.	F41970	Yes	Block wall tee capacity acceptable.
BBC-22	Q3-724	Not installed per detail. Installed similar to Det. A-464-1.	N/A	Yes	Block wall tee capacity acceptable.
BBC-23	Q3-725	CEA installed with insufficient Le.	N/A	Yes	Deviation will not affect anchorage of rack to the floor.

TABLE D.1 - BLOUNT BROTHERS CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
BEC-24	Q3-727	Not installed per detail. Installed similar to Det. A-464-1.	N/A	Yes	Block wall tee installed according to schedule.

TABLE D.2 - PITTSBURGH TESTING LABRATORY

Concrete Expansion Anchors For Blount Bros.

<u>RANDOM POPULATION NUMBER</u>	<u>DISCREPANCY REPORT NUMBER</u>	<u>DISCREPANCY DESCRIPTION</u>	<u>FCR NUMBER</u>	<u>ACCEPT? YES OR NO</u>	<u>SARGENT & LUNDY RESOLUTION</u>
PTL-36	PTL 12805	Washer does not completely cover hole.		Yes	Plate assembly will work even if one anchor is neglected.
PTL-10	PTL 4948	Some concrete expansion anchors in blank off plates either rejected or inaccessible.		Yes	Forces on CEA's on blankoff plates do not exceed pullout capacities.

TABLE D.2 - PITTSBURGH TESTING LABRATORY

Concrete Expansion Anchors For Johnson Controls

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
PTL-2	PTL 11847	One concrete expansion anchor violates requirement for embedded length.		Yes	Plate assembly works with three of four CEA's.
PTL-31	PTL 9819	One concrete expansion anchor out of eight in an anchor plate violates out of plumb requirement.		Yes	Plate assembly works with seven of eight CEA's.
PTL-34	PTL 12139	Two concrete expansion anchors out of five in an anchor plate were rejected for embedded length.		Yes	Plate assembly works with three of five CEA's.

TABLE D.2 - PITTSBURGH TESTING LABRATORY

Concrete Expansion Anchors For Powers-Azco-Pope

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
PTL-21	PTL 6146	Concrete expansion anchor does not meet requirements for bolt projection beyond nut.		Yes	Anchor satisfies torqueing requirement, therefore sufficient capacity is developed by nut.

TABLE D.2 - PITTSBURGH TESTING LABRATORY

Concrete Expansion Anchors For Hatfield Electric

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
PTL-13	PTL 5040	Two holes in plate not covered by washers.		Yes	Holes have negligible effect on plate capacity.
PTL-15	PTL 5042	Two holes in plate not covered by plate washers.		Yes	Deficiencies not of a magnitude to affect plate capacity.
PTL-17	PTL 5044	All four concrete expansion anchors in an anchor plate assembly have reduced embedded length.		Yes	Hanger loads small. Anchor capacity is sufficient.
PTL-18	PTL 5048	Hole not covered by washer. Welds on three washers violate location requirements. One standard sized plate washer coped.		Yes	Deficiencies not of a magnitude to affect plate assembly capacity. Deviation is acceptable.
PTL-39	PTL 10047	Six holes in plates not completely covered by washers.		Yes	Washers off center of normal sized hole. Discrepancy not of a magnitude to affect plate assembly.
PTL-28	PTL 7091	Two concrete expansion anchors have reduced length. One anchor rejected due to plumbness, bolt projection and torque requirements. One anchor rejected for torque requirements.		No	One plate assembly with two concrete expansion anchors unable to establish Le.

TABLE D.2 - PITTSBURGH TESTING LABRATORY

Concrete Expansion Anchors For Hatfield Electric

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
PTL-30	PTL 7255	Four of six concrete expansion anchors are rejected for washer requirement.		Yes	Bearing capacity of nuts directly on plate is adequate.
PTL-1	PTL 11725	Two concrete expansion anchors rejected due to no end code. One CEA violates plumbness and bevel washer requirement.		Yes	One anchor plate assembly out of two works
PTL-7	PTL 4797	One concrete expansion anchor violates out of plumb requirement.		Yes	Anchor bent beyond nut. Bevel washer not required.
PTL-8	PTL 4800	One concrete expansion anchor violates 1/4" projection beyond nut requirement.		Yes	Sufficient capacity is developed by nut.
PTL-11	PTL 5031	Two concrete expansion anchors out of four in an anchor plate have reduced embedded length and a hole not completely covered by a washer.		Yes	Plate assembly works with reduced anchor capacities.
PTL-12	PTL 5039	Two holes in plate not covered by washers. Two concrete expansion anchors have reduced embedded length.		Yes	Plate assembly works with reduced anchor capacities.
PTL-16	PTL 5043	All four concrete expansion anchors have reduced embedded length and one washer does not cover a slotted hole in the anchor plate.		Yes	Hanger loads small. Anchor capacity is sufficient. Deviation acceptable.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HC-8		Support 1CC06045R - "M" shape substituted for "W" shape.	PMD CALC PSAG-24	Yes	NR 534 was dispositioned by ECN's 8542 and 8595.
HC-9		Support 1CC06045R - angle cut 12° out of tolerance.	PMD CALC PSAG-24	Yes	Same as HC-8.
HC-11		Support 1CC06045R - missed elevation dimension of pipe.	PMD CALC PSAG-24	Yes	Same as HC-8.
HC-13		Support 1CC28005S - pin to pin dimension of 1'-4" not shown on as-built.	PMD CALC PSAG-24	Yes	Does not adversely affect piping analysis or support design. Actual pin-to-pin is 1'-4".
HC-19		Support 1CV07046S - location of rear attach No. 1 is 2° off true vertical.	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-20		Support 1CV07046S - location of rear attach No. 2 is 2° off true vertical.	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-21		Support 1CV07046S - location of pipe attachment off by 1/2".	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-26		Support 1CV51006S - "C" connection on snubber is stripped.	PMD CALC PSAG-24	Yes	Clamp securely attached to function adequately for pipe load of +/- 60 lbs.
HC-31		Support 1MS92010X - location of pipe attachment is off by 1/2" and 2° perpendicular.	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-34		Penetration - 1PC-97 dimension of sleeve projection of by 1/2".	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-48		Support 2FP14056X - missed elevation dimension of pipe (5/8" off).	PMD CALC PSAG-24	Yes	Elevation dimension within M-919 tolerance. See ECN 8235.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HC-49		Support 2FP14056X - strut snap ring broken.	PMD CALC PSAG-24	Yes	Snap ring non-load bearing. Type 4 inspection would find this.
HC-50		Support 2FP14062R - missed elevation dimension of pipe (1/2" off).	PMD CALC PSAG-24	Yes	Elevation dimension within M-919 tolerance. Sec ECN 8918.
HC-59		ISO. SCC-100-10-A excessive bend, pipe ovality (9.7%) 3/4" pipe.	PMD CALC PSAG-24	Yes	NR 604 accepted by calcul- ation PSAG-22 dated 11-7-83
HC-60		ISO. SCC-100-52 excessive bend, pipe ovality (11.2%) 1 1/2" pipe.	PMD CALC PSAG-24	Yes	NR 604 accepted by calcul- ation PSAG-22 dated 11-7-83
HC-60		ISO. SCC-100-53 excessive bend, pipe ovality (9.4%) 1 1/2" pipe.	PMD CALC PSAG-24	Yes	NR 604 accepted by calcul- ation PSAG-22 dated 11-7-83
HC-66		ISO SCV-001-120 dimension off by 3 1/4".	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-71		ISO. SSX-100-65 dimension off by 2 1/4".	EMD CALC 041953	Yes	Accepted by EMD CALC 041953 11-9-83 within design tolerances.
HC-77		Whip restraint 1FWR-17 dimension off by 11/16".	SED CALC 19.1.3	Yes	Minor dimensional discrepancy.
HC-79		Whip restraint 1FWR-17 grinding below minimum wall on rods.	SED CALC 19.1.3	Yes	Same as HC-77.
HC-82		Whip restraint 1MSP-11 weld configuration drawn incorrectly.	SED CALC 19.1.3	Yes	See FCR 18606 for correction. Same as HC-77

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HC-86		Whip restraint 1MSP-11 dimension off by 1 1/2".	SED CALC 19.1.3	Yes	Same as HC-77.
HC-87		Whip restraint 1MSP-14 dimension off by 5 3/4".	SED CALC 19.1.3	Yes	Same as HC-77.
HC-90		Whip restraint 1MSP-6 incorrect dimensions.	SED CALC 19.1.3	Yes	Same as HC-77.
HC-96		Whip restraint 1MSP-32 dimension off by 11/16".	SED CALC 19.1.3	Yes	Same as HC-77.
HC-99		Whip restraint 1RC3-1 dimension off by 2 5/8".	SED CALC 19.1.3	Yes	Same as HC-77.
HC-107		ISO HFSK-137 dimension off by 1 1/2".	EMD CALC 044953	Yes	Same as HC-71.
HC-116		ISO SAB-100-47 dimension off by 1".	EMD CALC 044953	Yes	Same as HC-71.
HC-126		ISO SCC-001-18 dimension off by 3/4".	PCM CALC PSAG-24	Yes	Within design tolerances.
HC-128		ISO SCC-001-19 dimension off by 3/4".	PCM CALC PSAG-24	Yes	Within design tolerances.
HC-131		ISO SCC-001-19 dimension off by 2 5/8".	PCM CALC PSAG-24	Yes	Within design tolerances.
HC-135		ISO SCC-001-19 dimension off by 1".	PCM CALC PSAG-24	Yes	Within design tolerances.

TABLE D.3 - HUNTER CORPORATION

RANDOM PULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HC-142		ISO SCC-001-20 dimension off by 5/8".	PCM CALC PSAG-24	Yes	Within design tolerances.
HC-154		ISO SCC-001-39 dimension off by 3/4".	PCM CALC PSAG-24	Yes	Within design tolerances.
HC-157		ISO. SCC-100-11A dimension off by 5/8".	EMD CALC 044953	Yes	Accepted by EMD CALC 044953 11-9-83 within design tolerances.
HC-160		ISO. SCC-100-22 North direction arrow shown incorrectly.	PMD CALC PSAG-24	Yes	Drafting error. Column lines were shown and and dimensioned correctly.
HC-164		ISO. SCC-100-78 dimension off by 11/16" incorrectly.	EMD CALC 044953	Yes	Same as HC-157.
HC-189		ISO SCV-100-80 dimension off by 2".	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-190		ISO SCV-100-83 dimension off by 15/16".	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-198		ISO SCV-100-29 dimension off by 11/16".	EMD CALC 044953	Yes	Within design tolerances.
HC-201		<u>W</u> scope incorrect dimension ISO SI-1-5.	PMD CALC PSAG-24	Yes	Within design tolerances.
HC-214		ISO SSI-001-80 dimension off by 1 3/8".	PMD CALC PSAG-24	Yes	Within design tolerances.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HC-218		ISO SSX-100-18 dimension off by 1".	EMD CALC 044953	Yes	Accepted by EMD CALC 044953 within design tolerances.
HC-222		ISO SSX-100-24 dimension off by 13/16".	EMD CALC 044953	Yes	Same as HC-218.
HC-226		ISO SSX-100-67 dimension off by 3/4".	EMD CALC 044953	Yes	Same as HC-218.

TABLE D.3 - HUNTER CORPORATION

DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
	+ dimension not as-built. CTB 4943		Yes	Installed within design tolerances.
	Cut to suit dim. not as-built. CTB 8275		Yes	Installed within design tolerances.
	4° rotation of tube steel not as-built. CTB 10259		Yes	Installed within design tolerances.
	Cut to suit dim. not as-built. CTB 10259		Yes	Installed within design tolerances.
	Cut to suit dim. not as-built. CTB 9074		Yes	Installed within design tolerances.
<p>Note: NR473 El. documented incorr., tack welds rotated. was initat- See NOTE for non-related discrepancy. AB 36563 ed for 2 Hatfield supports attached to hgr. This would have been ident- ified at Type 4.</p>			Yes	Installed within design tolerances.
	Incorrect as-built. Deleted per S-1661 Rev. J.		Yes	Installed within design tolerances.
	Offset dim. not verified.		Yes	Dim. not required as it can be mathematically verified by as-built linear dim.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HC-212		Offset dim. not verified.		Yes	Dim. not required as it can be mathematically verified by as-built linear dim.
HC-43	NR 483 initiated use as is.	Hanger installed 3/4" off of design location.	NONE--NR 483	Yes	NR 483 - initiated use as is.
H-256		Insp. did sign off loc. but didn't check accept box.		Yes	Check entered by QCWI C. H. 7-9-83 per acceptable sign off, of 09-23-81.
H-257		Insp. did sign off loc. but didn't check accept box.		Yes	Check entered by QCWI C. H. 7-9-83 per acceptable sign off, of 10-01-81.
H-258		Insp. did sign off loc. but didn't check accept box.		Yes	Check entered by QCWI C. H. 7-9-83 per acceptable sign off, of 10-13-81.
H-262		Insp. didn't sign off process sheet for FW 1 & 2. Daily surveillance indicates he did perform insp.		Yes	FW 1 & 2 inspected and accepted by QCWI S. R. 05-26-83.
H-274		Insp. didn't sign off final review of doc. on comp. supp. process sheet. Daily surv. indicates he did review JIP.		Yes	Signed and accepted by QCWI R. M. 07-13-83 per daily surv. of 10-16-81.
H-278		Insp. didn't sign off final review of doc. on comp. supp. process sheet. Daily surv. indicates he did review JIP.		Yes	Signed and accepted by QCWI R. M. 07-13-83 per daily surv. of 10-16-81.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-282		Insp. didn't sign off final review of doc. on comp. supp. process sheet. Daily surv. indicates he did review JTP.		Yes	Signed and accepted by QCWI R.M. 7-13-83 per daily surv. of 10-21-81.
H-295		Prod. entry on process sheet ref. applicable ECN, not initial & dated.		Yes	Entry initial and dated by Prod. foreman S. G. 7-9-83
H-296		1. Concrete expan. anchor report No. not entered on form HC-106		Yes	1. CEA number entered by QCWI L.V. 8-24-83.
		2. Insp. didn't ref. doc. utilized for loc. acceptance on process sheet.		Yes	2. Location inspected per Rev. 2 by QCWI S. R. 7-14-83
H-299		Insp. #1130 didn't ref. doc. utilized for loc. acceptance on process sheet.		Yes	Corrected per reinspection by QCWI S. R. 5-9-83 utilizing F9654 which is referenced on checklist acceptance by insp. #1130. NOTE: D.R. QC-QC-2FP-12-002 incorrectly entered on this line. See line H029 on hardware reject document 0146H, for same support.
H-314		Prod. foreman didn't enter applic. weld proced. rev. No. on weld record of process sheet. Insp. missed this at Type 2 inspection.		Yes	Applicable WPS revision entered by QCWI C. H. 7-11-83.
H-315		Inspec. didn't sign Type 3 final insp. report.		Yes	Inspector #1533 should have signed FIR, however Level II QCWI J. C. did sign 11-10-81 to indicate acceptable inspection.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-320		Prod. foreman didn't enter appli. weld proced. rev. No. on weld record of process sheet on (3) entries. Insp. missed this at Type 2 inspection.		Yes	Applicable WPS revision entered by LQCWI MMT 7-11-83
H-322		Prod. foreman didn't enter appli. weld proced. rev. No. on weld record of process sheet. Insp. missed this at Type 2 inspection.		Yes	Applicable WPS revision entered by LQCWI MMT 7-7-83.
H-328		Inspector didn't check identification box on finished weld inspc. entry of FW 853.		Yes	QCWI R.W. physically verified system and weld I.D. 7-11-83. Entry corrected by LQCWI MMT 07-11-83.
H-329		Prod. foreman didn't initial lineout for requ. no. on weld record for FW 5718 insp. missed this at type 2 inspection.		Yes	Entry initialed by area foreman R.L.B. 7-11-83
H-331		Prod. foreman didn't initial lineout for mat. traceability record on item #1 for FW 5718 Inspector missed this at Type 2 inspection.		Yes	Entry initialed by area foreman R.L.B. 7-11-83
H-336		Insp. didn't verify dim. between FW3866 & 3867 at Type 2 inspection on CV24-1 Rev. O.		Yes	Dim. as-built at 0'-5 1/8" and verified by QCWI's M.B. & M.M.T. 2-14-81. DR-QC-CV-24-001 initiated to revise iso. CV-24 to reflect as-built conditions. CV-24 Rev. 5L closed out D.R.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-340		Prod. foreman didn't enter perf. by and date on weld record entry for FW 79. Inspec. missed this.		Yes	Performed by and date entered by production foreman M.D. 7-8-83
H-346		Insp. didn't sign off Part "D" of HC-106.		Yes	Signed off by LQCWI M.M.T. 7-15-83 per inspector #1130 daily surve. of 4-7-81.
H-350		Insp. didn't enter not applicable on Part "C" line 8 of HC-106.		Yes	Entry completed by Bldg. Supt. A.F. 7-15-83
H-353		Prod. Foreman didn't date lineout on weld record for FW 580, in weld desc. entry of Seq. 4. Insp. missed at Type 2 inspection.		Yes	Corrected by Bldg. Supt. A. F. 7-15-83
H-356		Insp. didn't sign const. copy dwg. at Type 3 insp.		Yes	Corrected per Type 3 inspection performed by QCWI G.I. and QCI D.N. 6-11-83.
H-360		Prod. Foreman entered incorr. date on weld record of process sheet. In entrys by & date column for FW 164 inspec. missed at Type 3 review of Type 2 doc.		Yes	Corrected by General Foreman C.P. 7-14-83.
H-362		Prod. Foreman didn't date lineout on weld record of process sheet. In weld proced. rev. no. column for FW 164 inspec. missed at Type 3 review of Type 2 doc.		Yes	Corrected by General Foreman C.P. 7-14-83.
H-365		Prod. Foreman didn't enter cust. ident. no. for comp. no. 2 on process sheet of FW 1616. Inspec. missed at Type 3 review of Type 2 doc.		Yes	Entered by General Foreman F.G. 7-16-83.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-368		Rod Issue Stat. attendant, issued weld mat. stores requis. no. 138139 with a write over on MRR entry. Insp. missed at Type 3 review of Type 2 documentation.		Yes	Entry corrected by weld dept. J.F. 7-18-83.
H-370		Rod Issue Stat. attendant, didn't make entry for mk. no. on weld mat. requis. no. 138165. Insp. missed at Type 3 review of Type 2 documentation.		Yes	Entry corrected by weld dept. J.F. 7-18-83.
H-372		Rod Issue Stat. attendant, issued weld mat. stores requis. no. 138169 with a write over in rod caddy no. entry. Insp. missed at Type 3 review of Type 2 documentation.		Yes	Entry corrected by weld dept. J.F. 7-18-83.
H-388		Prod. lined out Seq. 4 (second pass weld) on record of FW 447 & didn't date the line out.		Yes	Line out dated by Prod. Area Foreman F.G. 7-16-83
H-390		Prod. lined out Seq. 5 (remaining passes) on weld record of FW 448 & didn't date the line out.		Yes	Line out was dated by Prod. Area Foreman F. G. on 7-16-83.
H-392		Prod. issued WMSR 138156 on 3-24-81 but prod. foreman M.C.C. entered 3-23-81 for welded by & date on FW 449.		Yes	Prod. area foreman F. G. corrected the date on weld record to read 3-24-81 on 7-16-83.
H-397		Prod. lined out weld proced. that was entered under weld requis. & did not date the line out on FW 453.		Yes	Line out was dated by Prod. Area Foreman F. G. on 7-16-83.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-399		On weld mat. stores requis. 138163 the mk. no. didn't have an N/A on the required line.		Yes	N/A was applied by J.F. of the weld. dept. on 7-18-83.
H-401		On weld mat. stores requis. 138173, the mk. no. didn't have an N/A on the required line.		Yes	N/A was applied by J. F. of the weld dept. on 7-18-83.
H-410		Insp. didn't show verification of dim. on CCD Rev. O.		Yes	Dimensions verified by QCI D.N. on 5-19-83 by a later Type 3 inspection.
H-412		Insp. didn't sign CCD after perfor. Type 3 inspection.			Final inspection report was signed by his walkdown partner QCI R. M. on 3-2-81 verifying inspection.
H-419		Insp. didn't sign CCD after perfor. Type 3 inspection.		Yes	Final inspection report was lost in process A later Type 3 was performed to verify insp. by M.P.P. QCI on 5-16-81.
H-431		Inspec. didn't sign CCD after perform. Type 3 inspection.		Yes	Inspector did sign final inspection report validating the Type 3 inspection.
H-432		Inspec. didn't sign final inspection report after perform. Type 3 inspection.		Yes	Final inspection report was signed by R.R.C. LQCWI on 6-25-81 for inspector (9357) G. F.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-433		Inspector verified config. during Type 3. Valves on CCD were facing south instead of north.			CCD was changed on Rev. 48 to show valves facing north.
H-442		Inspector didn't sign CCD after perform. Type 3 inspection.		Yes	Inspector did sign final inspection report on the same day, thus verifying inspection.
H-451		Inspector didn't sign CCD after perform. Type 3 inspection.		Yes	Inspector did sign final inspection report on the same day, thus verifying inspection.
H-455		Inspector perform. review of Type 2 package didn't initiate new final inspection report.		Yes	New final inspection report, not required. FIR signed by L.E.H. LQCWI on 3-28-81 is still valid.
H-465		Inspc. didn't sign const. copy dwg. at Type 4 inspection.		Yes	Corrected per Type 4 inspection performed by QCWI H.H. 6-19-81.
H-468		Inspc. didn't sign const. copy dwg. at Type 4 inspection.		Yes	Corrected per Type 4 inspection performed by QCWI H.H. 6-19-81. Final inspection report for Type 3 accepted by LQCWI R.R.C. 3-14-81.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-477		Inspc. performed Type 3 inspection 3-14-81. But didn't sign const. copy dwg. until 3-25-81.		Yes	Inspector did sign final inspection report 3-14-81, validating this inspection. Verified per Type 4 inspection performed by QCI L.L. 5-6-83.
H-481		Inspec. performed Type 3 inspec. 3-14-81, but didn't sign const. copy dwg.		Yes	However, LQCWI R.R.C. signed final inspection report 3-14-81 validating this inspection. Verified per Type 4 inspection performed by QCI D.N. 5-3-83.
H-482		Inspec. performed Type 3 inspec. 3-14-81, but didn't sign const. copy dwg.		Yes	However, LQCWI R.R.C. signed final inspection report 3-14-81 validating this inspection. Verified per Type 4 inspection performed by QCI D.N. 5-3-83.
H-493		Inspector didn't enter his name on his daily surv.		Yes	Entered by LQCWI R.J.W. 7-19-83.
H-496		Inspector didn't sign const. copy dwg. at Type 4 inspection.		Yes	Corrected per Type 4 inspection performed by QCI D.N. 4-30-83.
H-518		Inspector didn't date const. copy dwg. at Type 3 inspection.		Yes	Inspector did sign final inspection report 5-2-81 validating this inspection.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-541		Insp. didn't check surface discont. box for Non NF weld entry on comp. supp. process sheet. Insp. 1782 performed final review of doc. & missed this error.		Yes	Physically verified by QCWI G.I. and entered 7-9-83.
H-542		Insp. #1090 didn't check ident. box for Non NF weld entry on comp. supp. process sheet. Insp. #1782 performed final reveiw of doc. & missed this error.		Yes	Entered by QCWI G.I. 7-9-83.
H-553		Insp. #1562 didn't check connection accept. box for loc. accept. on comp. support process sheets. Insp. #1782 performed final review of doc. & missed this error.		Yes	Physically verified by QCWI G. I. and entered 7-16-83.
H-558		Prod. foreman didn't initial & date entry of appli. ECN 44607 & CTB2035 on comp. supp. process sheet. Insp. # 1782 performed final review of doc. and missed this error.		Yes	Entry initialed & dated by QCWI G.I. 7-12-83.
H-562		Insp. #1638 didn't check weld size box for FW 1 on comp. support process sheet. Insp. #1782 performed final review of doc. & missed this error.		Yes	Physically verified & entered by QCWI G.I. 7-7-83.
H-588		Prod. foreman didn't comp. entrys on Part C, line 10 on CEA traveler form HC-106. Insp. #1782 missed this error at Type 2 inspection.		Yes	Entrys made by QCWI G.I. 7-7-83 per acceptable NDE report no. CEA 10344 dated 7-23-82.
H-590		Insp. #1213 didn't check loc. accepted box for loc. insp. on comp. supp. process sheet. Insp. #1782 performed final review of doc. & missed this error.		Yes	Physically verified & entered by QCWI G.I. 7-14-83.

TABLE D.3 - HUNTER CORPORATION

DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-592	Insp. #1092 didn't check accept box for loc. insp. on comp. support process sheet. Insp. #1782 performed final review of doc. & missed this error.			Physically verified & entered by QCWI G. I. 7-9-83.
H-597	Insp. #1226 didn't check loc. accepted box for loc. insp. on comp. supp. process sheet. Insp. #1782 performed final review of doc. & missed this error.		Yes	Physically verified & entered by QCWI G.I. 7-16-83.
H-604	Insp. didn't check connection accepted box for loc. insp. Insp. missed this at Type 2 inspect.		Yes	Physically verified and entered by QCWI G.I. 7-13-83.
H-612	Insp. didn't sign process sheet for loc. acceptance.		Yes	Location accepted by QCWI T.R.J. 1-29-83.
H-620	Insp. didn't sign off process sheet for FW 1 as daily surv. indicates.		Yes	FW 1 was re-inspected by T.R.J. QCWI on 3-22-83.
H-622	Insp. didn't sign off loc. on process sheet as daily surv. indicates.		Yes	Original location inspection by M.S. QCWI on 6-11-80 is still valid.
H-626	Insp. didn't sign off loc. on process sheet as daily surv. indicates.		Yes	Original location inspection by R.B.S. on 4-9-82 is still valid.
H-628	Insp. missed weld. tolerance for add. weld. (weld had add. reforc).			Hanger was re-worked to ECN 48894. Re-inspected by V.T. QCWI on 10-10-83.

TABLE D.3 - HUNTER CORPORATION

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
H-629 thru H-680		Insp. signed off wrong process sheet.		Yes	52 Entrys on large bore piping process sheet due to inspector signing wrong process sheet. 52 rejected attributes were given. QA Inspector S.S.B. corrected 1-29-82. FW 601 was accepted by QCWI L.E.H. 4-17-79.

TABLE D.4 - JOHNSON CONTROLS

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
JC-1		AA-6 fit up gap between L and CEA is 1/8" and weld is 1/4" fillet.	SED CALC 19.1.3	Yes	Reduced weld stress calculation performed and accepted.
JC-2		AA-10 Same as JC-1.	SED CALC 9.6.3	Yes	Same as JC-1.
JC-3		AA-70 Same as JC-1.	SED CALC 9.6.3	Yes	Same as JC-1.
JC-4		AA-6 Loose tube track bolts.	N/A	N/A	Tube track was removed by other contractors and temporarily reinstalled. Reinspection did not reflect original install. Johnson Controls final inspection prior to system turnover would identify condition and rework would occur.
JC-5		AA-32 Loose tube track bolts.	N/A	N/A	Same as JC-4.
JC-6		AB-9 Missing bolts.	N/A	N/A	Same as JC-4.
JC-7		AA-41 Tube track damaged.	N/A	N/A	Same as JC-4.
JC-8		AA-44 Tube track damaged.	N/A	N/A	Same as JC-4.
JC-9		AA-6 Same as JC-1.	Yes	SED CALC 9.1.3	Same as JC-1.
JC-10		AB-7 Missing weld across unistrut.	Yes	SED CALC 9.1.3	ECN 5573 makes weld across unistrut optional.

TABLE D.4 - JOHNSON CONTROLS

RANDOM PULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
JC-11		AB-6 Same as JC-10.	SED CALC 9.1.3	Yes	Same as JC-10.
JC-12		1AB33/35 Tube track joint weld was ground flush.	SED CALC 9.1.3	Yes	Weld is through full thickness of tube track, crown was removed.
JC-13		1AB13/14 Loose tube clamps.	N/A	N/A	Same as JC-4.
JC-14		1AB14/15 Loose tube clamps.	N/A	N/A	Same as JC-4.
JC-15		AA-11 Loose tube clamps.	N/A	N/A	Same as JC-4.
JC-16		AA-32 Loose tube clamps.	N/A	N/A	Same as JC-4.
JC-17		AA-38 Loose tube clamps and part of 1 clamp is missing.	N/A	N/A	Same as JC-4.
JC-18		AB-7 Loose clamp.	N/A	N/A	Same as JC-4.
JC-19		AA-7 & AA-9 Tube touching tube track.	N/A	N/A	Same as JC-4.
JC-20		1A8-151 Hanger attached 2 1/4" off of beam.	SED CALC 9.1.3	Yes	FCR F17114 approved beam off center attachment.
JC-21		1AB-146 Gap between end of unistrut and end of connection plate (1/8" to 1/4").	SED CALC 9.1.3	Yes	FCR F16313 approved gap max. load 71lbs.
JC-22		1AB-148 Same as JC-21.	SED CALC	Yes	Same as JC-21.
JC-23		1AB-149 Same as JC-21.	SED CALC	Yes	Same as JC-21.
JC-24		1AB-142 Same as JC-21.	SED CALC 9.1.3	Yes	FCR F17001 similarity. Hanger was subsequently deleted. Gap acceptable.

TABLE D.4 - JOHNSON CONTROLS

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
JC-25		1AB-143 Same as JC-21	SED CALC 9.1.3	Yes	Same as JC-24.
JC-26		AB-3 Hanger is welded to embedment plate instead of beam.	SED CALC 9.1.3	Yes	Detail shows only beam. Embedment plate is sufficient to carry unistrut load.
JC-27		AZ-1 Lack of weld penetration.	SED CALC 9.1.3	Yes	Lack of penetration is normally limited to either first and last 1/4" (or both) of weld. Weld was checked for reduced length.
JC-28		AZ-Z Lack of weld penetration.	SED CALC 9.1.3	Yes	Same as JC-27.
JC-29		AZ-3 Hanger installed with 1/4" gap; base metal Gouged.	SED CALC 9.1.3	Yes	Gap between plate and beam.
JC-30		AF-1 Hanger stiffener missing.	SED CALC 9.1.3	Yes	FCR F15400 addressed missing stiffeners. Load is 12.
JC-31		AA-1 Missing weld across unistrut	SED CALC 9.1.3	Yes	ECN 5513 makes weld across unistrut optional.
JC-32		AB-3 Same as JC-26.	SED CALC 9.1.3	Yes	Same as JC-26.
JC-33		AB-3 Same as JC-31.	SED CALC 9.1.3	Yes	Same as JC-31.
JC-34		AK-1 Z bar weld made only an weld outside of flanges overlap.	SED CALC 9.1.3	Yes	Eliminated weld accepted by FCR13514. Overlap not critical.

TABLE D.4 - JOHNSON CONTROLS

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
JC-35		AK-2 Same as JC-34.	SED CALC 9.1.3	Yes	Same as JC-34.
JC-36		AM-1 Tube steel 47 1/4" long instead of 36".	SED CALC 9.1.3	Yes	Longer cantilever available. Hanger was deleted.
JC-37		AF-1 Gap between end of unistrut and end of connection plate.	SED CALC 9.1.3	Yes	See M-3393 Sht. 4. Reduced weld thickness is acceptable.
JC-38		AB-4 Same as JC-21	SED CALC 9.1.3	Yes	Same as JC-21. Load 11 lbs.
JC-39		AC-2 Base metal gouged.	SED CALC 9.1.3	Yes	Angle weld checked for reduced length due to base metal gouging. Load 12 lbs 75% of weld length considered.
JC-40		AC-12 Base metal gouged.	SED CALC 9.1.3	Yes	Same as JC-39.
JC-41		AC-19 Base metal gouged.	SED CALC 9.1.3	Yes	Same as JC-39.
JC-42		2VX04J Relocated 1"-3" due to blockwall column interference.	FCR 19720	Yes	Minor relocation due to block wall column interference.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
PAP-8		Hanger 1PI-SX019-14 Size substitution.	SED CALC 9.1.3	Yes	2 x 2 x 3/8 angle used instead of 3 x 2 x 3/8 angle. Load 8 lbs.
PAP-35		Hanger 1PT-SI048-12 Hanger configuration.	SED CALC 9.1.3	Yes	Stiffener omitted. Load 39 lbs.
PAP-41		Hanger 1PT-SI048-18 Hanger configuration.	SED CALC 9.1.3	Yes	Stiffener omitted. Load 72 lbs.
PAP-54		Hanger 1PT-SI048-32 Incomplete weld.	SED CALC 9.1.3	Yes	Incomplete weld acceptable per ECN 4835.
PAP-64		Hanger 1PT-SI048-35 Incomplete weld.	SED CALC 9.1.3	Yes	Incomplete weld acceptable per ECN 4835.
PAP-120		Hanger 1PT-546-1 Hanger Configuration.	SED CALC 9.1.3	Yes	CEA relocation acceptable per FCR18163.
PAP-162		Twisted flex hose 1FT-426.	SED CALC 044953	Yes	Flex hose twist due to misalignment of anti-torque lines (approx. 20°).
PAP-180		Hanger 1PI-SX019-12 Hanger Configuration.	SED CALC 9.1.3	Yes	2 x 2 x 3/8 angle used instead of 3 x 2 x 3/8 angle. Load 8 lbs.
PAP-182		Hanger 1PI-SX019-14 Hanger Configuration.	SED CALC 9.1.3	Yes	2 x 2 x 3/8 angle used instead of 3 x 2 x 3/8 angle. Load 8 lbs.
PAP-197		Hanger 1FT-444-14 Size substitution.	SED CALC 9.1.3	Yes	Acceptable per M-919 Sht 9A tolerance dwg. item 3 R 1/2 x 4 x 10 changed to 1/2 x 4 x 6 attachment plates moment decrease.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
PAP-233		Documentation Error - Material Verification. OPC-W0019 Hanger #6.	N/A	Yes	Records correction only.
PAP-320		Documentation Error - Material Verification. 1LT-503 Mount.	N/A	Yes	Records correction only.
PAP-309		Documentation Error - Material Verification. 1LT-459 Pipe mat.	N/A	Yes	Records correction only.
PAP-145		Documentation Error - Material Verification. 1LT-539 Hanger #22.	N/A	Yes	Records correction only.
PAP-207		Documentation Error - Material Verification. 1PT-RH002 Pipe mat.	N/A	Yes	Records correction only.
PAP-156		Documentation Error - Material Verification. 1FIS-646 Hanger #23.	N/A	Yes	Records correction only.
PAP-159		Documentation Error - Material Verification. 1LT-557 Hanger #35.	N/A	Yes	Records correction only.
PAP-212		Documentation Error - Material Verification. 1PDS-D0064 Pipe mat.	N/A	Yes	Records correction only.
PAP-295		Documentation Error - Material Verification. OLI-W0010 Pipe mat.	N/A	Yes	Records correction only.
PAP-87		Documentation Error - Material Verification. OPI-W0026 Hanger #2.	N/A	Yes	Records correction only.
PAP-119		Documentation Error - Material Verification. 1PR-02J Hanger #10.	N/A	Yes	Records correction only.
PAP-314		Documentation Error - Material Verification. 1LT-930 Hanger #1.	N/A	Yes	Records correction only.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
PAP-60		Documentation Error - Material Verification. 1PT-SIO48 Hanger #35.	N/A	Yes	Records correction only.
PAP-187		Documentation Error - Material Verification. 1FT-436 Hanger #16.	N/A	Yes	Records correction only.
PAP-326		Documentation Error - Material Verification. 1FI-SX037 Pipe mat.	N/A	Yes	Records correction only.
PAP-291		Documentation Error - Material Verification. 1PT-MS043 Hanger #7.	N/A	Yes	Records correction only.
PAP-83		Documentation Error - Material Verification. 1PI-W0026 Hanger #1.	N/A	Yes	Records correction only.
PAP-308		Documentation Error - Material Verification. 1LT-459 Pipe mat.	N/A	Yes	Records correction only.
PAP-78		Documentation Error - Material Verification. 1FI-SX104 Hanger #5.	N/A	Yes	Records correction only.
PAP-139		Documentation Error - Material Verification. 1LT-503 Mount.	N/A	Yes	Records correction only.
PAP-96		Documentation Error - Material Verification. OPI-W0026 Hanger #4.	N/A	Yes	Records correction only.
PAP-86		Documentation Error - Material Verification. OPI-W0026 Hanger #2.	N/A	Yes	Records correction only.
PAP-325		Documentation Error - Material Verification. 1FI-SX037 Piping.	N/A	Yes	Records correction only.
PAP-222		Documentation Error - Material Verification. 1FIS-646 Hanger #2.	N/A	Yes	Records correction only.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
PAP-200		Documentation Error - Material Verification. 1FT-688 Hanger #2.	N/A	Yes	Records correction only.
PAP-184		Documentation Error - Material Verification. 1PI-SX019 Hanger #5.	N/A	Yes	Records correction only.
PAP-330		Documentation Error - Material Verification. 1PT-SI048 Hanger #27.	N/A	Yes	Records correction only.
PAP-170		Documentation Error - Material Verification. 1PT-SX007 Pipe mat.	N/A	Yes	Records correction only.
PAP-171		Documentation Error - Material Verification. OLI-W0009 Pipe mat.	N/A	Yes	Records correction only.
PAP-92		Documentation Error - Material Verification. OPI-W0026 Hanger #3.	N/A	Yes	Records correction only.
PAP-333		Documentation Error - Material Verification. 1PT-SI048 Hanger #27.	N/A	Yes	Records correction only.
PAP-136		Documentation Error - Material Verification. OTS-SX090 Hanger #218.	N/A	Yes	Records correction only.
PAP-204		Documentation Error - Material Verification. 1FT-618 Hanger #13.	N/A	Yes	Records correction only.
PAP-327		Documentation Error - Material Verification. 1PT-SI048 Hanger #24.	N/A	Yes	Records correction only.
PAP-183		Documentation Error - Material Verification. 1PT-964 Pipe mat.	N/A	Yes	Records correction only.
PAP-329		Documentation Error - Material Verification. 1PT-SI048 Hanger #27.	N/A	Yes	Records correction only.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
PAP-82		Documentation Error - Material Verification. OPI-W0026 Hanger #1.	N/A	Yes	Records correction only.
PAP-198		Material Verification error/class "D". Material installed 1/2 x 1/4 compression fitting. 1FT-918.	N/A	Yes	None/Material removed & replaced with class 'H' fitting. Would be ident- ified during final QC review. (FIS #1936)
PAP-228		Documentation Error - Material Verification. 1FT-AF011 Mount.	N/A	Yes	Records correction only.
PAP-190		Documentation Error - Material Verification. 1FT-522 Pipe mat.	N/A	Yes	Records correction only.
PAP-219		Documentation Error - Material Verification. 1FT-AF013 Hanger #15.	N/A	Yes	Records correction only.
PAP-304		Documentation Error - Material Verification. 1LT-459 Pipe mat.	N/A	Yes	Records correction only.
PAP-44		Documentation Error - Material Verification. 1PI-SI048 Hanger #21.	N/A	Yes	Records correction only.
PAP-312		Documentation Error - Material Verification. 1LT-459 Pipe mat.	N/A	Yes	Records correction only.
PAP-174		Documentation Error - Material Verification. 1PI-SX019 Hanger #5.	N/A	Yes	Records correction only.
PAP-305		Documentation Error - Material Verification. 1LT-459 Pipe mat.	N/A	Yes	Records correction only.
PAP-298		Documentation Error - Material Verification. 1PI-SX019 Hanger #16.	N/A	Yes	Records correction only.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
PAP-307		Documentation Error - Material Verification. 1LT-459 Pipe mat.	N/A	Yes	Records correction only.
PAP-256		Documentation Error - Material Verification. 1LT-518 Pipe mat.	N/A	Yes	Records correction only.
PAP-107		Documentation Error - Material Verification. OPI-W0026 Hanger #8.	N/A	Yes	Records correction only.
PAP-259		Documentation Error - Material Verification. 1FT-444 Hanger #18.	N/A	Yes	Records correction only.
PAP-62		Documentation Error - Material Verification. 1PT-SIO48 Hanger #35.	N/A	Yes	Records correction only.
PAP-74		Documentation Error - Material Verification. 1FI-SX104 Hanger #9.	N/A	Yes	Records correction only.
PAP-164		Documentation Error - Material Verification. 1LT-932 Mount.	N/A	Yes	Records correction only.
PAP-21		Documentation Error - Material Verification. 1FIS-610 Hanger #10.	N/A	Yes	Records correction only.
PAP-201		Documentation Error - Material Verification. 1PI-D0010 Hanger #5.	N/A	Yes	Records correction only.
PAP-235		Documentation Error - Material Verification. 1PI-SX020 Hanger #4.	N/A	Yes	Records correction only.
PAP-17		Documentation Error - Material Verification. 1LS-D0023 Hanger #6.	N/A	Yes	Records correction only.
PAP-328		Documentation Error - Material Verification. 1PT-SIO48 Hanger #24.	N/A	Yes	Records correction only.

TABLE D.5 - POWERS-AZCO-POPE

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
PAP-313		Documentation Error - Material Verification. 1FT-445 Hanger #14.	N/A	Yes	Records correction only.
PAP-244		Documentation Error - Material Verification. 1FI-SX105 Mount.	N/A	Yes	Records correction only.
PAP-149		Documentation Error - Material Verification. 1LT-503 Hanger #4.	N/A	Yes	Records correction only.
PAP-191		Documentation Error - Material Verification. 1PT-RY020 Pipe mat.	N/A	Yes	Records correction only.
PAP-116		Documentation Error - Material Verification. 1PR-02J Hanger #9.	N/A	Yes	Records correction only.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HE-3	2295	(1) Conduit bends. (2) Ground jumper. (3) Missing WS hgr.		Yes	(1) Excess bends OK (because allowable cable pulling tension was not exceeded.) (2) #2 AWG jumper OK for 1/0 AWG power conductor per NEC. (3) Missing hangers OK because installed hangers temporarily removed due to anchor failure.
HE-14	2337	LX length less than allowed.		Yes	Short length OK because two ends of flex supported from same surface; i.e., flexi- bility not required.
HE-29	2264	Hgr. type/configuration.		Yes	Installed plate size meets design requirements.
HE-32	2273	Hgr. type/configuration.		Yes	Shorter tube-steel installed meets design requirements.
HE-34	2274	Hgr. type/configuration.		Yes	Installed plate size meets design requirements.
HE-70	2267	Aux. steel length.		Yes	Shorter tube-steel installed meets design requirements.
HE-76	2894	Dimensions out of tolerance.		Yes	Installed hanger dimensions meet design requirements.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HE-79	2908	Location out of tolerance.		Yes	Installed hanger dimensions meet design requirements.
HE-94	3686	LX longer than allowed per EB-146 (Hatfield NCR #776).		Yes	Flex length added to Dwg. 6E-1-3312 (Rev. BD) - Resolution required no hardware change.
HE-123	2193	J. Box cover missing gasket.		Yes	No gasket required because no terminal blocks in box - resolution required no hardware change.
HE-311	2089	Incorrect conduit size recorded.	23148	Yes	FCR approved - resolution required no hardware change.
HE-322	2170	Incorrect conduit bend radius recorded.	23154	Yes	FCR approved - resolution required no hardware change.
HE-326		Incorrect dimension recorded for HBT-500.	22324	Yes	FCR approved - resolution required no hardware change.
HE-414	2129	Incorrect dimension recorded.	23129 & 21809	Yes	FCR 23129 rejected because correction previously covered by FCR 21809 (approved) - Resolution required no hardware change.
HE-551	2850	Incorrect dimension recorded.	23574	Yes	FCR approved - resolution required no hardware change.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HE-594	3034	Incorrect plate size recorded.	23618	Yes	FCR approved - resolution required no hardware change.
HE-611	2498	Incorrect dimension recorded.	23421	Yes	FCR approved - resolution required no hardware change.
HE-611	2499	Incorrect dimension recorded.	23421	Yes	FCR approved - resolution required no hardware change.
HE-611	2500	Incorrect dimension recorded.		Yes	Dwg. revised to correct drafting error - resolution required no hardware change.
HE-622	2477	Incorrect dimension recorded.	23421	Yes	FCR approved - resolution required no hardware change.
HE-628	2513	Incorrect attachment recorded.		Yes	Design was changed after, but not as a result of, reinspection. Installation would have been changed independent of discrepancy.
HE-632	2516	Incorrect dimension recorded.	23421	Yes	FCR approved - resolution required no hardware change.
HE-676	3050	Incorrect dimension recorded.	23619	Yes	FCR approved - resolution required no hardware change.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HE-725	3018	Incorrect dimension recorded.	23616	Yes	FCR approved - resolution required no hardware change.
HE-726	3018	Incorrect dimension recorded.	23616	Yes	FCR approved - resolution required no hardware change.
HE-727	3018	Incorrect dimension recorded.	23616	Yes	FCR approved - resolution required no hardware change.
HE-755	3022	Incorrect dimension recorded.	23616	Yes	FCR approved - resolution required no hardware change.
HE-762	3023	Incorrect dimension recorded.	23616	Yes	FCR approved - resolution required no hardware change.
HE-819	3375	Incorrect dimension recorded.	23811	Yes	FCR approved - resolution required no hardware change.
HE-863	3379	Incorrect conduit size recorded.	23811	Yes	FCR approved - resolution required no hardware change.
HE-870	3399	Incorrect conduit size recorded.		Yes	Discrepancy report incorrect; i.e., previously resolved by ECN-2756, no hardware change required.
HE-934	2808	Incorrect dimension recorded.	23577	Yes	FCR approved - resolution required no hardware change.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNDY RESOLUTION
HE-1111	2511		Yes	Paper error only. Dwg. & installation now agree. Installed anchors meet design requirements.
HE-1115	2542	23417	Yes	FCR approved - resolution required no hardware change.
HE-1153	2517		Yes	Drafting error - Seg. code corrected to "KLR" on dwg. 1-3352 - resolution required no hardware change.
HE-1159	2485	23407	Yes	FCR approved - resolution required no hardware change.
HE-1229	2351	23413	Yes	FCR approved - resolution required no hardware change.
HE-1235	2357	23413	Yes	FCR approved - resolution required no hardware change.
HE-1415	3117	23617	Yes	FCR approved - resolution required no hardware change.
HE-1422	3170	23680	Yes	FCR approved - resolution required no hardware change.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	SARGENT & LUNNEY RESOLUTION
HE-1489	3296	Incorrect dimension recorded.	23723	Yes	FCR approved - resolution required no hardware change.
HE-1505	3334	Incorrect dimension recorded.	23807	Yes	FCR approved - resolution required no hardware change.
HE-1530	2235	Incorrect dimension recorded.	23251	Yes	FCR approved - resolution required no hardware change.
HE-1540	2064	Incorrect attachment elevation recorded.	23111	Yes	FCR approved - resolution required no hardware change.
HE-1548	2066	Incorrect dimension recorded.	23111	Yes	FCR approved - resolution required no hardware change.
HE-1553	2067	Incorrect dimension recorded.	23148	Yes	FCR approved - resolution required no hardware change.
HE-1562	2088	Incorrect dimension recorded.		Yes	Conduit support (as installed) meets design requirements - resolution required no hardware change however, missing support will be replaced.
HE-1574	2170	Incorrect conduit bend radius recorded.		Yes	10" radius is acceptable sidewall pressure is not a limiting factor.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM PULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1094	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-457	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-683	N/A	Incorrect dimension recorded.	N/A	Yes	Attachment correct in field.
HE-221	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-685	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1339	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-621	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-482	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-295	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1434	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-842	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-306	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-824	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-672	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-239	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-866	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1256	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-137	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM OPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-521	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1288	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-925	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1007	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-465	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-933	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-504	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1342	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-934	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1430	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-733	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-507	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-257	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-987	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1401	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-1127	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-324	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1110	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-224	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-489	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1370	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-904	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1190	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-554	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-427	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-409	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-173	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-513	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1367	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1271	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1078	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-914	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-1447	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1221	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-349	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-902	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-801	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-910	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-143	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-299	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-864	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-984	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1357	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-386	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1035	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-548	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1292	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1012	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-552	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-576	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-833	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-550	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1005	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-822	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-1523	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-689	N/A	Incorrect dimnson recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-139	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-249	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-743	N/A	Incorrect dimnson recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-562	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-453	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-993	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-978	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-532	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1358	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1408	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1329	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-939	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-742	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-244	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-318	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-207	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-917	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-922	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-760	N/A	Attachment Description incorrect.	N/A	Yes	Attachment correct in field.
HE-500	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1405	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1525	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1059	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-575	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1248	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-702	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-976	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-1031	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1201	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-369	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-592	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-983	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1461	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-262	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1022	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-351	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1056	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-452	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-657	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-334	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-563	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-1003	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-200	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-1550	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-815	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-642	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1169	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-1223	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1014	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-905	N/A	Incorrect attachment recorded.	N/A	Yes	Attachment correct in field.
HE-540	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1441	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-410	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1558	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-942	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1039	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-216	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1284	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-1209	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-861	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-969	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1454	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-413	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1016	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1482	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-729	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-241	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1450	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1565	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-1522	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1409	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1224	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-188	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.
HE-1446	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-0-3393V, Rev "J" acceptable.

TABLE D.6 - HATFIELD ELECTRIC COMPANY

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
HE-1112	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-912	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-498	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-1313	N/A	Incorrect attachment description.	N/A	Yes	Attachment correct in field.
HE-418	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.
HE-81	N/A	End of hanger not galvanized.	N/A	Yes	Paint end of hanger.
HE-580	N/A	Incorrect dimension recorded.	N/A	Yes	Per note #10, Dwg. 6E-O-3393V, Rev "J" acceptable.

TABLE D.7 - NISCO

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
NISCO-1	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 3/4" long.	N/A	Yes	Accept as is.
NISCO-2	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 7/8" long.	N/A	Yes	Accept as is.
NISCO-3	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 7/8" long.	N/A	Yes	Accept as is.
NISCO-4	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 3/4" long.	N/A	Yes	Accept as is.
NISCO-5	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 3/4" long.	N/A	Yes	Accept as is.
NISCO-6	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 3/4" long.	N/A	Yes	Accept as is.
NISCO-7	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 7/8" long.	N/A	Yes	Accept as is.

TABLE D.7 - NISCO

RANDOM POPULATION NUMBER	DISCREPANCY REPORT NUMBER	DISCREPANCY DESCRIPTION	FCR NUMBER	ACCEPT? YES OR NO	PCD RESOLUTION
NISCO-8	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 7/8" long.	N/A	Yes	Accept as is.
NISCO-9	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 3/4" long.	N/A	Yes	Accept as is.
NISCO-10	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 3/4" long.	N/A	Yes	Accept as is.
NISCO-11	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 7/8" long.	N/A	Yes	Accept as is.
NISCO-12	NCR-103	3/16" x 1" x 12" Stainless Steel shim on Transfer System track per CBE-FDR-10010. Shim to be welded with a 1/8" fillet, 1" long every 3" - actual length of fillet 7/8" long.	N/A	Yes	Accept as is.