



INT 231

ADMITTED

50-456/457-02

12/4/86

I-Rorem-231

L. K. Comstock Engineering Company, Inc.

Memorandum '87 MAY 13 AB:40

To: R. Marino

From: R. M. Saklak/T. F. Corcoran

Subject: Major Problem Affecting
Q.C. Inspection Backlog Filing

Office: BraidwoodDate: April 28, 198

I As requested during our conversation on Tuesday, April 26, 1983, I have prepared, for your review, a short summary on a very large problem that has become a Quality concern.

I had stated that Installation Reports being handed in by Comstock Construction were not being properly reviewed by construction as required in all of the installation procedures. Added to this problem was the acknowledgement by CEC Co Q.A. recently that their department inadvertently accepted a revision to Procedure 4.3.12, REV. 6-10-81 (Hanger Installation) which removed the foremans responsibility of verifying and signing installation reports indicating that the journeymans work and the installation report were properly completed. This procedure existed for approximately eight (8) months until a new revision came out reinstating the foremans responsibilities. The result from this has been an added workload involving reinspection of the files for the ight (8) months worth of installations in order to evaluate the scope of corrective action needed.

This lack of review and verification has allowed a multitude of problems (in these reports) pass through the paper flow system eventually dumping on to the Quality Control Department for Quality Control to resolve.

A fine example of how this has affected Q.C.'s inspections, backlog and filing can be found in the area of hanger inspections. Since March 16, 1982, when this problem was formally addressed to Comstock in a CEC Co audit QA-20-82-31, Finding #2, (which by the way is still open) an on going crusade of memos, internal audits, surveillances and manhours have been generated to cleaning up this identified topic. Over one year later Quality Control is still receiving unacceptable installation reports, our backlog still exists and our inspection reports are reflecting the unsatisfactory conditions created by Construction. In hanger installations alone M. Kast has recently sent back over 440 Installation Reports to Construction for their corrective actions in an effort to satisfy the subject Q.A. Audit.

Through CEC Co direction F. Rolan has asked Q.C. management what aspects of Quality Control would be desirable for incorporating changes in the Comstock Construction computer. Your office, via K. Graybill, had started to identify the subjects that would be considered applicable in providing a closed loop system. R. Cosaro's response to this was that Graybill's ideas were not necessary at that time, subsequently you were informed through T. F. Corcoran. T. F. Corcoran now informs me that R. Cosaro may possibly charter the system that Graybill proposed.

8705200669 861204
PDR ADOCK 05000456
G PDR

HR000092

The lack of an effective scheduling department (and computer) which normally acts as a focal point between Construction and Quality Control has inhibited the requirement for maintaining, retrieving and tracking important documents.

Attached you will find a small sample of audits, surveillances and memos received and generated along with reduced copies of installation reports (deficient and duplicates) which represent typical problems seen on installation reports.

Prepared By: Richard M. Saklop
Concurred By: James J. Corcoran

RMS/dar

cc: W. A. Gardner
QC Mgrs. File

HR000093



To: Chuck Stone
From JFC
L. K. COMSTOCK ENGINEERING COMPANY, INC.

Memorandum

Please read initials & return to:

To: Frank Rolan
From: T. F. Corcoran
Subject: Installation Reports

Office: Braidwood

Date: 3/3/82

CONTROL NO: 83-03-03-01

In order to reduce excessive ICR's the Foreman should state on the installation reports "incomplete fabrication topics." They should also initiate Field Trouble Reports for known problems, and not rely on QC reporting nonconformances that they should be reporting.

It is apparent to me that to really solve this on-going problem that the solution is for Area Supervisors to get directly involved with the Foremen to make it happen consistently. Your support in this area would be appreciated and benefit subsequent actions to reduce really unnecessary ICR's. In-process activities are both of our objectives and time/cost reduction can thusly be achieved.

Thank you.

T. F. Corcoran

T. F. Corcoran
QC Manager

TFC/tjm

cc: R. M. Saklak
M. Kast
Wers file copy

C.K. S
3/4/83

HR000094

CECO Q.A. AUDIT

QA-20-82-31

ISSUED 3-16-82

Finding #2

Contrary to 10CFR50, App. B, Criteria X, which states that "... inspection shall be performed by individuals other than those who perform the activity being inspected...", L. K. Comstock craft personnel have been initialing various installation/verification reports indicating acceptance of the installations.

Discussion:

L. K. Comstock's procedures 4.3.1 rev 8-20-81, 4.3.5 rev 5-27-81, and 4.3.12 rev 6-10-82 for the installation of conduit, cable pan, and hangers, were revised in mid-1981. These revisions shifted the responsibility for a 100% production installation verification from the foreman to the journeyman. The foreman now signs the installation verification report to signify that the report is complete.

Corrective action required to close this item shall include procedure revisions and a documentation review to assure that all inspections were performed by individuals other than those who performed the activity.

FOR INFORMATION ONLY
APPLICABLE E C N'S AND
F C R'S NOT INCLUDED.

UNRECORDED
COPY

HR000095

QUALITY ASSURANCE SURVEILLANCE REPORT No. S-014

PROJECT: BRAIDWOOD NUCLEAR PLANT UNITS 1 & 2

COMPANY: Commonwealth Edison Company

LOCATION: Braidwood, Illinois

SURVEILLANCE DATE: 11/23/82

AUDITOR(S): C. K. Stiles *C.K.S.*

PERSONS CONTACTED: T. Corcoran, Frank Rolan, D.A. Brown-CECo

REFERENCE: In violation of Braidwood Procedure 4.8.12, paragraph 3.1, the construction department has not been using a valid hanger installation report (see Procedure 4.3.12).

FINDING: It is observed that there are great numbers of time card backups entitled "Hanger Installation Report." These bogus HIR's are not approved by any present or past LKC Braidwood Procedures. (Exhibit attached).

CORRECTIVE ACTION & ACTION

to PRECLUDE REPETITION: To the attention of the Quality Control Manager.

FOR REFERENCE ONLY

Response Date:

Author:

Reply Due Date: 12/15/82

Date Item Closed:

Disposition Acceptable:

HR000036

PREPARED	APPROVED	REVISED	TITLE	ORIG. DATE	REV. DATE	FOR
RAB	RPR	RAB	PROCEDURE	7/1/82		#69-



L. K. Comstock Engineering Company, Inc.
Memorandum

To: ✓ File
From: M. Kast/LKCE QC Supervisor
Subject: Incomplete Hanger Installation Reports

Office: Braidwood

Date: December 8,

A discussion was held on December 8, 1982, a.m. with D. A. Brown, CECQA Supervisor, Braidwood Nuclear Power Plant, concerning incomplete hanger installation reports. Four (4) different deficiencies talked about were as follows:

- 1.) Hanger Installation Reports without procedure number.
- 2.) "Foreman" signed but "Installed By" not signed.
- 3.) "Installed By" but no "Foreman's" signature.
- 4.) "Foreman" and "Installed By" not signed.

(SAMPLES ATTACHED)

FIFTH DEFICIENCY NOT MENTIONED IN THIS MEMORANDUM RM 4-2783

5.) HANGER INSTALLATION REPORTS HANDED IN MORE THAN ONCE ON SAME WA

His comments to me were that LKCE QC would have to inspect all hangers listed on discrepant installation reports to verify that they were in fact installed and they show no deficiencies. No comments were added as to what should be done or would be done if there were deficiencies noted.

All hangers listed on discrepant installation reports would be acceptable if in fact the inspection was performed.

M. Kast
Mike Kast
QC Supervisor

MK/tjm

cc: T. Corcoran
C. K. Stiles
file

BR00037

1702-41

FOR REFERENCE ONLY

15.03.19

FOR REFERENCE ONLY

FOR RELEASE ON

DEFICIENCY #4

H-03-4

HANGER INSTALLATION REPORT							Q. A. Sect. 4.3.12
DRAWING NO./ DETAIL	REVISION	SUPPORT/HANGER NO.	ELEVATION	COORDINATES	FOREMAN		
					INSTALLED BY	TORQUE WRENCH USED	DATE
0-3063 H	K	H 563	439	P-25			12-4-81
0-3063 H	K	H 136	439	M-26			12-4-81
0-3364 A	R	CC-12	439	P-20			12-4-81
					FOR REFERENCE ONLY		
					RECEIVED		
					DEC 08 1981		
					L.K. COMSTOCK ENG. CO., INC.		

DEFICIENCY #3

H-02-41

HANGER INSTALLATION REPORT							Q. A. Sect. 4.3.12
DRAWING NO./ DETAIL	REVISION	SUPPORT/HANGER NO.	ELEVATION	COORDINATES	FOREMAN		
					INSTALLED BY	TORQUE WRENCH USED	DATE
0-3331 A	S	WS 38	401 AUY	M-10	COOK		7-13-82
0-3331 A	S	WS 39	" "	M-10	"		"
0-3331 A	S	WS 40	" "	M-10	"		"
					FOR REFERENCE ONLY		
					RECEIVED		
					FEB 16 1982		
					L.K. COMSTOCK ENG. CO., INC.		

HANGER INSTALLATION REPORT

[illegible]

EFFICIENCY #5

HANGER INSTALLATION REPORT

[illegible]

HANGER NO.	DRAWING REV	DATE INSTALL	SIGN OFF	COMMENTS	INSPEC	INSPEC
AUX H 36	0.3064 H	2-13-81		No Valid Sign off		N/A
H024	0.3064 J			No Area/Elevation - No Coordinates No Valid Sign off - No Date		N/A
AUX ST. H052	0.3064 H	4-13-81		No Valid Sign off		N/A
AUX ST. H033	0.3064 H			No Area/Elevation - No Coordinates No Valid Sign off - No Date		N/A
AUX ST. H049	0.3064 H	1-12-81		No Valid Sign off - No Area/Elevation No Coordinates		N/A
AUX ST. H045	0.3064 H	2-24-81		No Valid Sign off - No Area/Elevation No Coordinates		N/A
AUX ST. H040	0.3064 H	2-22-81		No Valid Sign off - No Area/Elevation No Coordinates		N/A
AUX ST. H032	0.3064 H	1-7-81		No Valid Sign off - No Area/Elevation No Coordinates		N/A
AUX ST. H048	0.3064 H	1-12-81		No Valid Sign off - No Area/Elevation No Coordinates		N/A
AUX ST. H044	0.3064 H	2-19-81		No Valid Sign off		N/A
AUX ST. H034	0.3064 H	2-4-81		No Valid Sign off		N/A
AUX ST. H057	0.3064 H	1-19-81		No Valid Sign off		N/A
AUX ST. H044	0.3064 H	2-19-81		No Valid Sign off		N/A
AUX ST. H032	0.3064 H	1-16-81		No Valid Sign off - No Area/Elevation No Coordinates		N/A

PARTIAL LIST OF 440 HANGER INSTALLATIONS TURNED BACK TO CONSTRUCTION

HANGER INSTALLATION CHECKSHEET

HANGER NO.	DRAWING REV	DATE INSTALL	VALID SIGN OFF	COMMENTS	WELD INSPEC	CONFIG INSPEC
PCA 4715 US4-A	0-3323 T	8-10-82		missing "A" suffix on drawing		NA
PCA 4715 US4-B	"	"		" " " " "		NA
SST-6	"	8-31-82		elaboration in remarks column		NA
PCA 4715 CC-61	0-3322A K	4-7-82		" " location "		NA
CC-23	0-3321A K	3-5-81		NTW		NA
WA-9	"	3-22-82		wrong rev. and wrong inst. set no.		NA
WA-10	"	3-22-82		" " " " " " " " " " " "		NA
WCP1-3	0-3321 S	4-15-82		missing "A" suffix on drawing and wrong inst. set no.		NA
WOS-22	0-3321 N	6-14-82		" " " " " " " " " " " "		NA
PCA 4296 CA-B	0-3315A K	5-3-82		elaboration in remarks column		NA
CC-1-A	0-3315 M	5-13-82		missing "A" suffix on drawing		NA
CC-84	"	5-16-82		" " " " " " " " " " " "		NA
PCA 4295 CC-CT5	"	10-4-82		" " " " " " " " " " " "		NA
PCA 4294 WOS-B	"	10-24-82		" " " " " " " " " " " "		NA

Concern No. 1 (Audit Point No. 2)
(Directed to the Project Manager)

In violation of BP 4.3.12, pg. 3.1.4.2 two field welds were made perpendicular to the web of the supporting steel.

NCR #637, issued 8/10/82, was dispositioned by CECs on 12/16/82. This NCR is still open.

The NCR is written against the welding of Conduit Hangers CC-9 & CC-10. These hangers are located in the Auxiliary Building, 346' Elevation, at M-21. Drawing O-3302A is referenced on the NCR.

Date of Corrective Action &
Action to Preclude Repetition:

Finding No. 1 (Audit Point No. 3)
(Directed to the Project Manager)

In violation of BP 4.3.12, pg. 3.1.4.2, the welder has not stamped his symbol adjacent to the weld.

The following was observed:

ICR #	DATE	HANGER #
2405	4/6/83	CC-110 CC-102 CC-73 CC-5 CC-9 (P-Q/14-15) CC-6 CC-19 CC-14 CC-12
2404	4/5/83	CC-9 (M-P/15)
2392	4/4/83	CCC-1075
2375	4/4/83	2-003
2351	3/23/83	Hanger on LJB1413A
2349	3/23/83	Hanger on LJB1240A
2303	3/1/83	CC-2

This same problem was reported on Internal audit #I-018, Finding #1.

Corrective Action & Action to
Preclude Repetition:

Finding No. 2 (Audit Point No. 5)
(Directed to the Project Manager)

In violation of BP 4.3.12, pg. 3.4 requires:
"The Foreman has inspected the hanger/support and
signified the inspection by his signature/date".

The welder's stamp was not affixed adjacent to the weld
as detailed in Audit Point No. 3, as follows:

ICR #	Hangers
2405	9
2404	1
2392	1
2375	1
2351	1
2349	1
2303	1

File folder labeled "Configuration 20E-O-3072HA" Installation Report attached to Form #7, Hanger N2A, no foreman's signature/date. This is repeated in this folder.

Corrective Action & Action
to Preclude Repetition:

Finding No. 3 (Audit Point No. 7)
(Directed to the QC Manager)

In violation of BP 4.8.12, pg. 3.2, which states:
"On a random basis an LXC Inspector shall perform a
surveillance on in-process supports/hangers installations
and document on Form #7.

No in-process inspections were found in the vault that
are documented on a Form #7.

Corrective Action & Action
to Preclude Repetition:

RECEIVED

Concern No. 1 (Audit Point No. 2)
(Directed to the Project Manager)

In violation of BP 4.3.12, pg. 3.1.4.2 two field welds were made perpendicular to the web of the supporting steel.

NCR #637, issued 8/10/82, was dispositioned by CECO on 12/16/82. This NCR is still open.

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Date of Corrective Action &
Action to Preclude Repetition:

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(Directed to the Project Manager)

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The following was observed:

<u>ICR #</u>	<u>DATE</u>	<u>HANGER #</u>
2405	4/6/83	CC-110 CC-102 CC-73 CC-5 CC-9 (P-Q/14-15) CC-6 CC-19 CC-14 CC-12
2404	4/5/83	CC-9 (M-P/15)
2392	4/4/83	TCC-10TS
2375	4/4/83	N-003
2351	3/23/83	Hanger on LJB1413A
2349	3/23/83	Hanger on LJB1240A
2303	3/1/83	CC-2

This same problem was reported on Internal audit #I-018, Finding #1.

Corrective Action & Action to
Preclude Repetition:

Finding No. 2 (Audit Point No. 5)
(Directed to the Project Manager)

In violation of BP 4.3.12, pg. 3.4 requires:
"The Foreman has inspected the hanger/support and
signified the inspection by his signature/date".

The welder's stamp was not affixed adjacent to the weld as detailed in Audit Point No. 3, as follows:

<u>ICR #</u>	<u>Hangers</u>
2405	9
2404	1
2392	1
2375	1
2351	1
2349	1
2303	1

File folder labeled "Configuration 20E-O-3072HA" Installation Report attached to Form #7, Hanger H2A, no foreman's signature/date. This is repeated in this folder.

Corrective Action & Action
to Preclude Repetition:

Finding No. 3 (Audit Point No. 7)
(Directed to the QC Manager)

In violation of BP 4.8.12, pg. 3.2, which states:
"On a random basis an LEC Inspector shall perform a
surveillance on in-process supports/hangers installations
and document on Form #7.

No in-process inspections were found in the vault that
are documented on a Form #7.

Corrective Action & Action
to Preclude Repetition:

BR-00102

CONDUIT INSTALLATION REPORT

Draw No.	Rev No.	Conduit No.	Act Lgth	Size	Loc Per Dwg.		Equip ID		Journeyman's Signature	Date	Remarks (Cap Screws Torqued, etc.)
					Yes	No	From	To			
1-3544	V	CIR 4484	12'	1"	✓		128 679R	128 701R	T. Hays	3-2-77	RCN 3347
1-3544	V	CIR 4485	9'	3"	✓		421'6" 128 679R	128 701R	T. Hays	3-2-77	RCN 3347 RCN 4071 CS-107 Corn Run-

QA Sect. 4.3.1 Bradwood

Inspected By

Screman

3-31-77

Date

TORQUE WRENCH NO. A90

Rev. 3/20/82

DUPLICATED INSTALLATIONS
CONDUIT

CONDUIT INSTALLATION REPORT

Dwg. No.	Rev. No.	Conduit No.	Act Lgth	Size	Loc. Per Dwg.		Equip. ID		Journeyman's Signature	Date	Remarks (Cap Screws Torqued, etc.)
					Yes	No	From	To			
1-3544	V	CIR 4484	12'	1"	✓		128 679R	128 701R	T. Hays	4-7-77	RCN 3347
1-3544	V	CIR 4485	9'	3"	✓		128 679R	128 701R	T. Hays	4-2-77	RCN 3347 RCN 4071

QA Sect. 4.3.1 Bradwood

Inspected By

Screman

4-1-77

Date

TORQUE WRENCH NO. A926

Rev. 3/20/82

HR00C1C3

27.95.

Cable Tray Identification No.	Electrical Installation Description	Rev.	Area	Elev.	OC
11300 C (C/E)	11300 C-3381	T	11, N	163'-5"	
11990 C (C/E)	11990 C-3381		"		
11994 C (C/E)	11994 C-3381		"		
11993 C (C/E)	11993 C-3381		"		
11993 C (C/E)	11993 C-3381		"		
11992 C (C/E)	11992 C-3381		"		
12034 C (C/E)	12034 C-3381		11, N		
12011 C (C/E)	12011 C-3381		12, N		
12010 C (C/E)	12010 C-3381		"		
12009 C (C/E)	12009 C-3381		"		
12008 C (C/E)	12008 C-3381		12-13, N		

DUPLICATED INSTALLATIONS / CABLE RUN

CHECK LIST	JOURNEYMAN'S INITIALS	DATE
Installation as Per Drawing	df	6-4-81
Elevation Correct		
Anchored Down		
Roll Outs or Protection Installed		
Correct Splice Plates Installed		
Boles Tight on Splice Joints/Torque Wrench No. <u>11257K</u> <u>1158</u>		
Cable Tray Number & Location Correct		
Grounding Jumpers Installed		
Sharp Bends or Projections Removed		
Cables		

Foreman *Jim Purney*
(Signature)

Form No. 120
OC Sect. 4.3.8

CABLE TRAY INSTALLATION REPORT

Cable Tray Identification No.	Electrical Installation Drawing	Rev.	Area	Elev	QC
12006C(CIE)	12006C(CIE)	1	1-15-20	0.005	
11894C(CIE)	11894C(CIE)				
11893C(CIE)	11893C(CIE)				
12018C(CIE)	12018C(CIE)				10-2-81
12010C(CIE)	12010C(CIE)				
12009C(CIE)	12009C(CIE)				
12008C(CIE)	12008C(CIE)				
11899C(CIE)	11899C(CIE)				
11890C(CIE)	11890C(CIE)				
11984C(CIE)	11984C(CIE)				
11209C(CIE)	11209C(CIE)				

CHECK LIST	JOURNEYMAN'S INITIALS	DATE
Installation as Per Drawing	S. G.	9-10-81
Elevation Correct	T. G.	9-10-81
Anchored Down	T. G.	9-10-81
Roll Outs or Projections Installed	T. G.	9-10-81
Correct Splice Plates Installed	T. G.	9-10-81
Bolts Tight on Splice Joints/Torque Wrench No. <u>1173</u>	T. G.	9-10-81
Cable Tray Number & Location Correct	T. G.	9-10-81
Grounding Jumpers Installed	T. G.	9-10-81
Sharp Bends or Projections Removed	T. G.	9-10-81
Cleanliness	T. G.	9-10-81

For more information —
(800) 451-7243

Form No. 120
OC Sect. 435

[illegible]

DUPLICATED INSTALLATIONS/JUNCTION BOX FOREMAN Don Chap DATE 3-12-82

Q. A. Sect. 4.3.13

11-20-16

L. K. COMSTOCK & COMPANY, INC.
EQUIPMENT SET REPORT

[illegible]

FOREMAN J. W. Ernst DATE 11-18-92

~~HR~~500105