

Surveillance Date August 18, 1980

File No J-2590.22

LASALLE Q.A. SURVEILLANCE REPORT NO. 80-402

Contractor/Organization Observed: The Zack Company Category: (9)

Audit Trend Analysis

SUMMARY:

On May 19, 1980, a trend analysis was performed by site Quality Assurance on Commonwealth Edison audit's of Zack Company between the period of January 12, 1979 and May 17, 1980 (See Surveillance Report #80-231 Memo To File). During this time frame, a total of 12 audits resulted in 32 findings and 13 observations. As a result of that review, the following areas were identified as possible trends.

- 1) Zack's failure to adequately document and/or perform QC inspections.
- 2) Zack's failure to adequately document and control nonconformances and design changes.
- 3) Zack's failure to adequately address and perform all required audit's/subcontractor surveillances.
- 4) Zack's failure to adequately qualify and certify both auditors or inspection personnel.

At that time, Zack Company had just hired a new Q.A. Manager, a new site Q.C. Manager and four(4) new inspectors for LaSalle, who were in the process of revising an extensive number of work procedures. It was hoped that these procedural revisions would eliminate misunderstandings and help clarify to what extent required inspections were to be performed.

Since that time, Zack has had approximately two months to implement these procedures, as well as, train the new inspectors. On August 15, 1980, Commonwealth Edison finished two extensive audits covering Zack's Design Control and QC Inspections. The results of these audits were less than satisfactory and resulted in a "stop work" order being issued by Station Construction on August 6, 1980.

Discussion: In order to group the deficiencies so a meaningful review could be made, nine categories were established which had the following number of deficiencies in each:

A.30

NO.	AREA OF CONCERN	FINDINGS	OBSERVATIONS
1.	Design Control	5	---
2.	Procurement/Receiving	3	1
3.	Document Control	4	2
4.	Welding	4	2
5.	Inspections	7	3
6.	Nonconformances	6	2
7.	Audits	6	0
8.	Personnel Qualifications	5	1
9.	Calibration	1	1
Total:		41	17

Below is a detailed list of deficiencies found during both the original trend analysis and the subsequent two special audits performed on Zack Company:

Audit Number	Results
✓ 1-80-49 (Design) Report Date: 8/15/80	<p>(1) <u>Finding #1:</u> Zack Company failed to received prior approval for design alterations.</p> <p>(1) <u>Finding #2:</u> Zack Company failed to document review of all drawing changes as required.</p> <p>(3) <u>Finding #3:</u> Zack Company failed to maintain an adequate document control system for drawings and procedures.</p>
✓ 1-80-43 - - (QC Inspections) Report Date: 8/15/80	<p>(8) <u>Finding #1:</u> Zack auditor and Q.C. Inspector qualifications were found deficient.</p> <p>(6) <u>Finding #2:</u> A) Nonconforming items were found not being adequately segregated to prevent use. B) Nonconforming items were not being identified on Zack's final Inspection Reports. C) Zack's Nonconformance system failed to adequately control the number of nonconformances written and dispositioned.</p> <p>(9) <u>Finding #3:</u> Zack failed to maintain suitable tool history calibration cards.</p> <p>(5) <u>Finding #4:</u> Final Inspections being performed by Zack Q.C. were being inadequately completed for the following:</p> <p style="margin-left: 400px;">A) Hangers</p> <p style="margin-left: 400px;">B) Duct</p> <p style="margin-left: 400px;">C) Equipment Installations</p> <p style="margin-left: 400px;">D) Storage</p> <p>(2) <u>Finding #5:</u> A) Zack failed to sufficiently document their weld rod receiving. B) Zack failed to follow their daily issuance requirements for weld rod. C) Zack failed to adequately control welding materials in the field.</p>

Audit NumberResults

- ✓ 1-SO-48 (con'd)
- (4) Finding #6: A) Zack failed to document welder identification. B) Zack failed to sufficiently review welder qualifications.
- (5) Observation #1: Zack failed to make provisions for subcontractor's work to be "final" inspected
- (3) Observation #2: Zack failed to adequately maintain an inspection status program.
- (6) Observation #3: Zack failed to regularly review the status and adequacy of the QA program.
- (5) Observation #4: Three (3) CECO surveillances remain open pending Zack's corrective action.
- ✓ 1-SO-19
Report Date: 4-10-80
- (5) Finding #1: The Zack Company has not adequately implemented the provisions necessary for assuring cleanliness of installed duct work.
- (6) Finding #2: Zack failed to implement a system to remove all hold tags from equipment prior to installation.
- (5) Finding #3: Zack has failed to implement procedure necessary to assure acceptable installation of Zack and CECO furnished equipment.
- (2) Finding #4: The site procedure for receiving Zack furnished material is inadequate.
- ✓ 1-SO-16 Corp. Office
Report Date: 4-7-80
- (7) Finding #1: Zack's Corporate Management failed to review the Q.A. program at least annually.
- (8) Finding #2: Zack failed to meet inspector certification levels necessary to perform inspection.
- (8) Finding #3: Zack lacked evidence that the audit qualification program had been implemented.
- (7) Finding #4: Zack has failed to implement a system of planned and periodic audits.
- (3) Finding #5: Zack did not submit their revised organizational chart to CECO Corporate Q.A. for review.
- (7) Finding #6: Zack Audits contained insufficient evidence to support determinations made on the audited items.
- ✓ 1-SO-6
Report Date: 2-13-80
- (3) Finding #1: Zack failed to maintain the latest welding procedure in the field.
- (1) Finding #2: During the installation of seismic hangers, Zack failed to follow approved instructions, procedures, or drawings.

Audit Number

Results

1-80-1D

Report Date:
2-4-80

(8) Finding #1: Zack QCP lacked the detailed methods for meeting the requirements of ANSI N45.2.6

(8) Observation #1: Zack has failed to meet certification for a level II according to ANSI Guidelines.

✓ 1-79-97

Report Date:
12-12-79

(5) Finding #1: Zack has failed to establish a complete comprehensive final inspection procedure.

(5) Observation #1: Zack inspections were not complete because the Inspection forms failed to include provisions to identify which procedures were used to accomplish the work.

✓ 1-79-77

No Findings/No Observations

* 1-79-70

Report Date:
10/3/79

(8) Finding #1: Zack has failed to perform training sessions on the Q.A. Manual and has not documented results of examinations.

(5) Observation #1: Zack was unable to provide documentation of evaluation of hoisting and rigging equipment.

✓ 1-79-60

Report Date:
10-15-79

(2) Finding #1: Zack has failed to properly document their receipt inspection of equipment received from CECO.

(5) Finding #2: Zack has failed to document deficiencies and their resolutions for storage area inspections.

(5) Observation #1: The Zack Company does not document that special storage requirements are being complied with.

(5) Observation #2: Zack has failed to establish acceptance criteria for inspection of rigging and handling equipment.

✓ 1-79-50

Report Date:
8/6/79

(3) Finding #1: Procedures used in testing were not controlled and contained missing pages. Design drawings did not contain revision numbers making verification of current drawing for testing impossible.

(8) Finding #2: Zack has failed to establish and maintain Qualification Records of personnel.

(7) Finding #3: Audits were not performed on the HVAC system according to Zack Q.A. Manual

(3) Observation #1: Revised drawings were transmitted to the site and were in use without being reviewed and accepted.

(5) Observation #2: Zack has failed to correctly identify each welders work.

<u>Audit Number</u>	<u>Results</u>
✓ 1-79-50 (Con'd)	(9) <u>Observation #3:</u> Failure to establish and maintain a tool history card of calibration frequency. (4) <u>Observation #4:</u> Test reports of welder qualifications were not being reviewed. (4) <u>Observation #5:</u> Failure to maintain welding material issuance log.
✓ 1-79-40 Report Date: 6-1-79	(1) <u>Finding #1:</u> Zack failed to generate control measures for field changes from the installation drawings. (5) <u>Finding #2:</u> Zack failed to properly inspect installed work which resulted in acceptance of deficient work. (4) <u>Finding #3:</u> Zack failed to maintain a qualified procedure in accordance with AWS Welding Code.
✓ 1-79-27 Report Date: 5-10-79	(5) <u>Finding #1:</u> The field Q.C. inspector failed to conduct checklist inspections of material when removed from storage. (6) <u>Finding #2:</u> Zack failed to control non-conforming material until corrective action was completed. (4) <u>Finding #3:</u> Welders Qualification results were not reviewed properly. (6) <u>Finding #4:</u> Zack failed to receive approval for repair work performed on GECO furnished equipment. (5) <u>Observation #1:</u> Zack discontinued the use of the Q.C. weekly inspection report.
✓ 1-79-2 Report Date: 2-20-79	(2) <u>Finding #1:</u> Zack Company failed to maintain a copy of the open purchase order on-site for verification of conformance during receipt inspection. (6) <u>Finding #2:</u> Zack failed to control nonconforming material until corrective action was completed (6) <u>Finding #3:</u> Zack's Field Superintendent failed to sign the "corrective action complete" on completed NCR's. (7) <u>Finding #4:</u> Zack's Q.C. Manager failed to perform an internal audit on sections 10-15 of Zack's Q.A. Manual in 1978. (7) <u>Finding #5:</u> Zack failed to assure timely close-out of site audits. (6) <u>Observation #1:</u> Copies of NCR's sent off site for the project managers signature have not been kept on file. (2) <u>Observation #2:</u> Shipping-Receiving documents were missing from shipment package.

Conclusions:

Due to the large number of deficiencies found during this time frame and the possibility of these trends reoccurring, the Zack Company is requested to respond to this surveillance concerning these four areas of trends by September 5, 1980. Zack's response should specifically state all corrective measures taken to date on these areas to prevent the likelihood of future problems reoccurring. This response should be addressed to T. E. Quaka, Q.A. Supervisor, LaSalle County Station.

Reported by: Bruce A. Ward Date: 8-19-

Approved by: T. E. Quaka Date: 8/20/80

FU Action Verified: _____ Date: _____
Q.A. Eng./Insp.

FU Action Approved: _____ Date: _____
Q.A. Supervisor

cc: W. J. Shewski/C. F. Marcus
L. J. Burke
Contractor
T. E. Quaka/Q. A. File

cc: K. W. Lambie
A. Jalandoni

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640
November 5, 1980



15

The Zack Company
4600 West 12th Place
Chicago (Cicero), IL 60650

Attention: C. L. Eichstaedt, Jr.

Job 7220 Midland Project
Subcontract 7220-M-151
Material Shipments
M-151-B-947

Dear Mr. Eichstaedt:

Material shipments from Chicago to the Zack site continue to arrive with nonconforming conditions. This practice is consuming substantial time and effort at the site for all parties concerned; Zack, Consumers, and Bechtel. We hereby request that shipments with nonconformances be discontinued and be held in Chicago until nonconformances are cleared.

Further, we direct the Zack site to return any nonconforming material to Chicago by the same truck in which the delivery was made. The truck must be held until the receipt inspection is completed and nonconformances, both hardware and software, are found to be nonexistent with the exception of limited shipping damage.

Very truly yours,


L. E. Davis
Site Manager

LED/JWL/DFP/ear

cc: R. B. McCarley
R. L. Akers

A31

17

the **ZACK** co.

(18a)
CUSTOM METAL FABRICATION
February 6, 1981.

Seas, Inc.
7535 W. Roosevelt Rd.
Forrest Park, Ill. 60131

Subject: ASTM Standard for Carbon and Alloy Steel Nuts

Gentlemen:

In reviewing our purchases with your company since January 1978 we have specified the hex nuts to be ASTM-A307, ASTM-A325, ASTM-A354 and/or ASTM-A490. In turn your certificate of compliances and/or material test reports state that the nuts were manufactured to the above standards. In researching this further, the above is not fully accurate. The above mentioned standards are for externally threaded fasteners, bolts, studs, etc. The above mentioned standards all refer to "suitable nuts are covered in Specification A563".

We require a letter from your company stating that the "nuts" furnished to us by your company since January 1978 conform to Standard Specification ASTM-A563-72 or 78a.

Your most expeditious handling would be greatly appreciated.

Yours very truly,
THE ZACK COMPANY

Carl L. Eichstaedt, Jr.
Carl L. Eichstaedt, Jr.
Vice President-Nuclear Const.

CLE/nw

cc: C.Z.DeZutel

~~CONFIDENTIAL~~
R.Hagen
File

A32

(112)

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the ZACK co.



(18c)

CUSTOM METAL FABRICATION

February 6, 1981

Thiele
1644 N. Mannheim Rd.
Melrose Park, Ill. 60165

Subject: ASTM Standard for Carbon and Alloy Steel Nuts

Gentlemen:

In reviewing our purchases with your company since January 1978 we have specified the hex nuts to be ASTM-A307, ASTM-A325, ASTM-A354 and/or ASTM-A490. In turn your certificate of compliances and/or material test reports state that the nuts were manufactured to the above standards. In researching this further, the above is not fully accurate. The above mentioned standards are for externally threaded fasteners, bolts, studs, etc. The above mentioned standards all refer to "suitable nuts are covered in Specification A563".

We require a letter from your company stating that the "nuts" furnished to us by your company since January 1978 conform to Standard Specification ASTM-A563-72 or 78a.

Your most expeditious handling would be greatly appreciated.

Yours very truly,
THE ZACK COMPANY

Carl L. Eichstaedt, Jr.
Carl L. Eichstaedt, Jr.
Vice President-Nuclear Const.

CLE/nw

cc: C.Z.DeZutel

~~Handwritten signature~~
R. Hagen
File

A33

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(115)

18d



CUSTOM METAL FABRICATION

February 6, 1981

Delta Screw Co.
2036 N. Campbell Ave.
Chicago, Ill. 60647

Subject: ASTM Standard for Carbon and Alloy Steel Nuts

Gentlemen:

In reviewing our purchases with your company since January 1978 we have specified the hex nuts to be ASTM-A307, ASTM-A325, ASTM-A354 and/or ASTM-A490. In turn your certificate of compliances and/or material test reports state that the nuts were manufactured to the above standards. In researching this further, the above is not fully accurate. The above mentioned standards are for externally threaded fasteners, bolts, studs, etc. The above mentioned standards all refer to "suitable nuts are covered in Specification A563".

We require a letter from your company stating that the "nuts" furnished to us by your company since January 1978 conform to Standard Specification ASTM-A563-72 or 78a.

Your most expeditious handling would be greatly appreciated.

Yours very truly,
THE ZACK COMPANY

Carl L. Eichstaedt, Jr.
Carl L. Eichstaedt, Jr.
Vice President-Nuclear Const.

CLE/nw

cc: C.Z.DeZutel

~~cc: [redacted]~~
R.Hagen
File

A34

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(186)

CUSTOM METAL FABRICATION

February 6, 1981

Key Crest, Inc.
428 Greenwood Ave.
Barrington, Ill. 60010

Subject: ASTM Standard for Carbon and Alloy Steel Nuts.

Gentlemen:

In reviewing our purchases with your company since January 1978 we have specified the hex nuts to be ASTM-A307, ASTM-A325, ASTM-A354 and/or ASTM-A490. In turn your certificate of compliances and/or material test reports state that the nuts were manufactured to the above standards. In researching this further, the above is not fully accurate. The above mentioned standards are for externally threaded fasteners, bolts, studs, etc. The above mentioned standards all refer to "suitable nuts are covered in Specification A563".

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Your most expeditious handling would be greatly appreciated.

Yours very truly,
THE ZACK COMPANY

Carl L. Eichstaedt, Jr.
Carl L. Eichstaedt, Jr.
Vice President-Nuclear Const.

CLE/nw

cc: C.Z.DeZutel
~~CONFIDENTIAL~~
R. Hagen
File

A35



430



CUSTOM METAL FABRICATION

April 16, 1981

TO: Zack Company Personnel

RE: Purchase Orders/Sub-Contracts for
Nuclear Power Station Projects

All Purchase Orders and/or Sub-Contracts issued for material, equipment, services, etc., for our Nuclear Power Station projects will have the following statement included as part of the order.

"Provisions of Zack Company letter, dated December 19, 1978, in regards to Federal regulation 10 CFR, Part 21, are included as an integral part of this Purchase Order/Sub-Contract".


JOSEPH C. DE ZUTEL,
EXECUTIVE VICE-PRESIDENT

JCDZ/art

A36

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(33)



CUSTOM METAL FABRICATION

April 16, 1981

TO: THE ZACK COMPANY'S SUPPLIERS/VENDORS/MANUFACTURERS OF
MATERIAL USED FOR NUCLEAR POWER STATION PROJECTS.

FEDERAL REGULATION 10 CFR, PART 21 -

"REPORTING OF DEFECTS AND NONCOMPLIANCE" APPLIES TO WORK
DESCRIBED IN THIS PURCHASE ORDER/SUB-CONTRACT AGREEMENT.

FEDERAL REGULATION 10 CFR 21 IS NOT APPLICABLE TO WORK
IN PROCESS - ONLY TO COMPLETED WORK WHICH HAS BEEN ACCEPT-
ED BY THE PURCHASER. THE FOLLOWING REQUIREMENTS ARE BASED
ON THE ASSUMPTION THAT THE SUPPLIER/VENDOR HAS DISCOVERED
A POTENTIAL DEFECT SUBSEQUENT TO ACCEPTANCE OF THE WORK.

1. SUPPLIER/VENDOR SHALL NOTIFY THE ZACK COMPANY
IN WRITING WITHIN THIRTY (30) DAYS AFTER NOTI-
FICATION OF AWARD WHO SHALL HAVE THE RESPONSI-
BILITY WITHIN HIS ORGANIZATION FOR IMPLEMENTING
THE REQUIREMENTS OF 10 CFR 21.
2. SUPPLIER/VENDOR SHALL, PRIOR TO THE START OF
WORK, DEVELOP PROCEDURES FOR IMPLEMENTATION OF
THESE REQUIREMENTS. SUCH PROCEDURES SHALL EN-
SURE THAT THE RESPONSIBLE INDIVIDUAL DESIGNAT-
ED PURSUANT TO "1" ABOVE RECEIVES INFORMATION
OF POSSIBLE DEVIATIONS WITHIN THE MEANING OF
10 CFR 21 AND PROMPTLY REFERS THAT INFORMATION
TO THE ZACK COMPANY IF, IN HIS OPINION, SUBSE-
QUENT EVALUATION MAY RESULT IN A DETERMINATION
THAT A REPORTABLE DEFECT OR NONCOMPLIANCE EXISTS.
3. REFERRALS TO THE ZACK COMPANY WILL BE EVALUATED
JOINTLY BY THE ZACK COMPANY AND THE SUPPLIER/
VENDOR. THEY WILL BE REPORTED TO THE NUCLEAR
REGULATORY COMMISSION (NRC) BY THE ZACK COMPANY
IF THEY ARE DETERMINED TO BE REPORTABLE DEFECTS
WITHIN THE MEANING OF 10 CFR 21. SUCH REPORTS
TO THE NRC SHALL BE MADE WITHIN THE TIMES PRE-
SCRIBED BY 10 CFR 21, AND THE ZACK COMPANY SHALL
PROVIDE THE SUPPLIER/VENDOR WITH WRITTEN EVIDENCE

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A37

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THAT SUCH REPORTS HAVE BEEN MADE.

4. SUPPLIER/VENDOR MAY REPORT INDEPENDENTLY TO THE NRC IF IT HAS REASON TO BELIEVE THAT THE ZACK COMPANY MAY NOT FILE AN APPROPRIATE REPORT IN TIME TO COMPLY WITH THE REQUIREMENTS OF 10 CFR 21 OR IF SUPPLIER/VENDOR DISAGREES WITH THE ZACK COMPANY EVALUATION THAT NO REPORTABLE DEFECT EXISTS.
5. IF SUPPLIER/VENDOR DECIDES TO FILE AN INDEPENDENT REPORT, PRIOR NOTICE (VERBAL OR WRITTEN) SHALL BE GIVEN TO THE ZACK COMPANY, AND A COPY OF THE REPORT SHALL BE TRANSMITTED TO THE ZACK COMPANY.
6. SUPPLIER/VENDOR SHALL REQUIRE PROVISIONS SUBSTANTIALLY SIMILAR TO THOSE SET FORTH IN THIS SECTION TO BE INCLUDED AT ALL APPROPRIATE LEVELS OF PROCUREMENT IN CONNECTION WITH THIS PURCHASE ORDER.

IT IS THE INTENT OF THIS CONTRACT THAT THE REQUIREMENTS OF 10 CFR 21 SHALL BE MET BY THE ZACK COMPANY AND ITS SUPPLIERS SO THAT THE STATUTORY RESPONSIBILITIES OF EACH PARTY ARE PRESERVED, A DETERMINATION OF DEFECTS IS MADE, AND THE REPORTING OF DEFECTS TO THE NRC IS ACCOMPLISHED EFFECTIVELY, EFFICIENTLY, AND IN A MANNER WHICH MINIMIZES SUPPLICATION, CONFUSION AND MISINFORMATION.

the **ZACK** Co.

CUSTOM METAL FABRICATION

MEMO

TO: Carl L. Eichstaedt
FROM: Christine Zack DeZutel
SUBJECT: Memo dated 6/30/81

I agree with your evaluation of the evidence regarding the foreign steel. As I also instructed our QA Manager and Purchasing Agent to suspend ordering from Edgcomb, U S Steel Supply, Northwestern Steel and Wire, and Reliable Galvanizing pending the results of the investigation, I now rescind that directive conditionally. Steel procurement may proceed normally.

All nuclear-related steel being galvanized by Reliable Galvanizing will be receipt inspected by Zack's Quality Control inspection force at the Reliable facility, and reinspected there after galvanizing by our inspectors before being released for shipment to us. As heat numbers may become illegible after galvanizing, I suggest some method of marking during the initial inspection that absolutely circumvents any possibility of error. I also encourage back charging Reliable for these increased costs Zack must assume. If, during the next 90 days, any discrepancies are found, Reliable must be removed from Zack's Approved Vendors List and the industry appraised accordingly.

CZDZ

bn

cc J. DeZutel
D. Ma'zahn
D. Calkins
R. Hagen

DATE June 5, 1981

P W/ NCR #511

TO Dave Calkins From Christine Z. DeZutel SUBJECT _____
ATTENTION _____
STREET _____
CITY _____

This is to inform you of a situation which has recently come to our attention.

A piece of foreign (Argentinian) steel was discovered incorporated into an installed hanger on the Clinton Project.

The Zack Company, upon notification from the site, began an immediate investigation of the problem.

We have ascertained, thus far, that Northwest Steel and Wire, Edgecomb Metal, and Reliable Galvanizing caused the confusion in the suspect order.

We have tested the suspect channel through Charles C. Kawn Company and have ascertained that the suspect steel conforms to AWS Standards for A-36 steel.

We have ceased purchasing and/or galvanizing with the aforementioned organization pending total clarification of this situation.

REPLY - DATE

As The Zack Company's investigation thus far has not pinpointed the cause or causes for this problem, our investigation is continuing. When all the facts are ascertained, your input will be required for proper disposition.

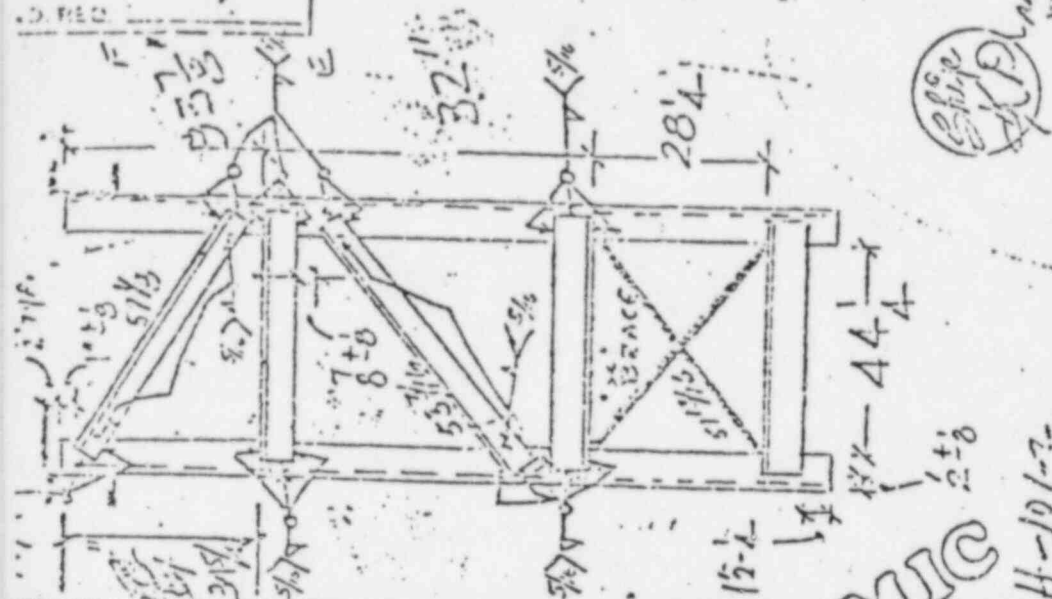


JOB NO. 2900 DATE: 4-17-56

JOB NO. 2900 DATE: 4-17-56

CUSTOMER HOLD POINTS NONE
WELD PROCEDURE CCW-1-PRCS
DIMENSIONAL TOLERANCES ± 1/4"

CUTTING LIST



4 x 1 1/2 x 1/2

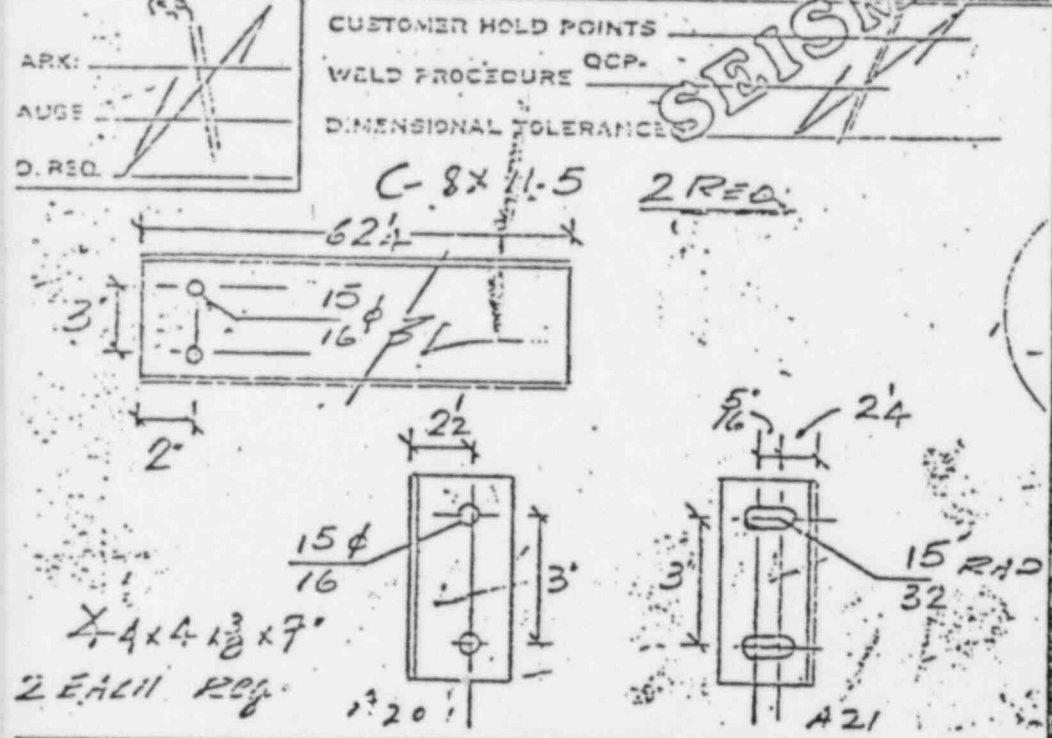
2-Pcs.	99 1/2	-16	✓
3-	51 1/2	-	✓
1-	57 1/4	-	✓
1-	53 1/2	-	✓

1/4" x 2" BNC
2-Pcs. 51' 3/16" ✓

8" x 11.5" (H.M.S.)
2-Pcs. 62 1/4" - LG.
4" x 4" x 1 3/8" L.
4-Pcs. 7" - LG. 1

CUSTOMER HOLD POINTS
WELD PROCEDURE QCP
DIMENSIONAL TOLERANCE

CUTTING LIST



QUALITY ASSURANCE

MATERIAL USED

TOP TICKET APPROVED BP 7/14/80

FILE CONTROL NUMBER

FILE IRON CONTROL NUMBER 1113, 1045, 1153-1 Call 26-107

INSPECTOR *181* 7/30/80

IPPING FINAL INSPECTION 7/13 8/3/50

A38

SHOP TRAVELER

2.6
8/24/81

The following is a list of QA/QC personnel's training/qualification record that violated Zack procedures as noted:

James Michalik - QC Level II

- (1) Contrary to Zack PQCP-11, Rev. 1, para. 6.2.4, the Zack Co. vision test form (ZQF-21) dated 6/2/81, does not reflect documented evidence of a near vision (or equiv) test for J. Michalik.
- (2) Contrary to Zack PQCP-11, Rev. 1, para. 6.2.4, J. Michalik was overdue for his annual eye exam. He was due on 5/6/81, the actual test was performed on 6/2/81.
- (3) Contrary to Zack PQCP-11, Rev. 1, para. 6.3.1.4, J. Michalik was not given a written examination as a Level I.
- (4) Contrary to Zack PQCP-11, Rev. 1, para. 6.3.1.1, no Level I Q.C. Reading List (ZQF-22A) was on file for J. Michalik.
- (5) Contrary to Zack PQCP-11, Rev. 1, para. 6.5.1, J. Michalik was qualified as Level I on 10/14/80, and no 30 day re-evaluation was performed.

Charles Richards - QC Level II

- (1) Contrary to Zack PQCP-11 Rev. 1, para. 6.5.1, C. Richards was qualified on 4/16/80 and no annual re-evaluation was performed.

Ken Schaefer - QA/QC

- (1) K. Schaefer's qualifications of 10/22/80 does not meet the requirements of ANSI N45.2.6 for education, experience & training.

COMMENTS AS NOTED DURING THE AUDIT:

- (1) Though records were retrievable, all QA/QC records should be purged and maintained in accordance with the requirements of ANSI N45.2.9.
- (2) None of the forms utilized in Zack PQCP-11, & PQCP-17 had the form numbers, designated in the procedure, on the forms.
- (3) For uniformity, all forms in PQCP-11 & PQCP-17 should be given the same form number designation.
- (4) To preclude a procedure violation, it is recommended that D. Calkin be given the assignee status for Zack President in evaluating and certifying QA/QC Personnel.
- (5) Also, to preclude a procedure violation incorporate Form ZQF-05, (Record of Lead Auditor Qualification) into the procedure.

cc: D.E. Calkins
C.Z. DeZutel
J.C. DeZutel
C. Richards
Q.A. Tiler

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- (3) Contrary to Zack PQCP-11, Rev. 1, para. 6.3.1.4, J. Michalik was not given a written examination as a Level I.
- (4) Contrary to Zack PQCP-11, Rev. 1, para. 6.3.1.1, no Level I Q.C. Reading List (ZQF-22A) was on file for J. Michalik.
- (5) Contrary to Zack PQCP-11, Rev. 1, para. 6.5.1, J. Michalik was qualified as Level I on 10/14/80, and no 30 day re-evaluation was performed.

Q.A. AUDIT CHECKLIST

Page 1 of 5QA N/AN/ASUBJECT: QC/QA PersonnelDATE 8/24/81REVIEW [Signature]APPROVAL [Signature]POCP-11, POCP-17

AUDIT POINTS	FINDINGS	SAT. UNSAT. OR N/A	INITIALS/DATE
Verify that QCI's meet qualification requirements POCP-11, Rev. 1. (POCP-11, Rev. 1, para. 6.2)	(See attachment)	unsat.	
Verify that eye tests evaluated and documented the Zack Co. vision test (ZQP-21) annually.	(See attachment)	unsat.	

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Q.A. AUDIT CHECKLIST

Page 2 of 5ER N/ADATE 8/24/81N/ASUBJECT: QC/QA PersonnelREVIEW (initials)MOAM, PQCP-11, PQCP-17APPROVAL (initials)

AUDIT POINTS	FINDINGS	SAT. UNSAT. OR N/A	INITIALS/DATE
Verify that training & proficiency testing of QCI's met the requirements of PQCP-11, Rev. 1. (PQCP-11, Rev. 1 para 6.3)	(See attachment)	unsat.	
Verify that certification documented on the Certification of Qualification Form (CF-24)	(See attachment)	unsat.	

Q.A. AUDIT CHECKLIST

Page 3 of 5LIER N/ADATE 8/24/81N/ASUBJECT: OC/QA PersonnelREVIEW ZQAM, PQCP-11, PQCP-17APPROVAL

AUDIT POINTS	FINDINGS	BAT. UNSAT. OR N/A	INITIALS/DATE
(5) Verify that QCI's are evaluated 30 days after certification & every twelve (12) months thereafter. (PQCP-11 Rev. 1, para 6.5)	(See attachment)	unsat.	
6) Verify that The Zack Co. resident (or designee) is responsible for the evaluation certification of Auditors/Lead Auditors. (PQCP-17, Rev 1, para 5.2)	NONE	Sat/ during the audit, D. Calkins, QA Mgr. was named as designee for The Zack Co. Pres. for evaluation and certification of Auditors/Lead Auditors. This action was taken to preclude a procedure violation.	

O.A. AUDIT CHECKLIST

Page 4 of 5

IER N/ADATE 8/24/81N/ASUBJECT: OC/OA PersonnelREVIEW / / / / / / / / / / / / / / / /PQCP-11, PQCP-17APPROVAL / / / / / / / / / / / / / / / /

AUDIT POINTS	FINDINGS	SAT. UNSAT. OR N/A	INITIALS/DATE
7) Verify that Lead Auditor and Auditor are qualified per Zack PQCP-17, Rev. 0, para 2.	NONE	Sat./ Qualifications for the following personnel were reviewed: D.B. Calkins J. O'Connell K. Schaefer	
8) verify training and proficiency Testing per Zack PQCP-17, Rev. 0, para 6.3:	NONE	Satisfactory	

Q.A. AUDIT CHECKLIST

Page 5 of 5USER N/ADATE 8/24/81N/ASUBJECT: CC/OA PersonnelREVIEW [Signature]ZOP, PQCP-11, PQCP-17APPROVAL [Signature]

AUDIT POINTS	FINDINGS	SAT. UNSAT. OR N/A	INITIALS/DATE
(9) Verify that all Auditors/ Lead Auditors are evaluated annually. (PQCP-17, Rev. 0, para. 6.5.	NONE	Satisfactory	

THE ZACK CO.

CERTIFICATE OF QUALIFICATION

(ANSI N 45.2.6-1973)

EMPLOYER: THE ZACK COMPANY

4600 WEST 12TH PLACE

CHICAGO (CICERO), IL 60650

PERSON CERTIFIED: KENNETH D. SCHAEFER

ACTIVITY QUALIFIED TO PERFORM: All actions as detailed in
The Zack Company Quality Program

LEVEL OF CAPABILITY: LEVEL II QCI

EFFECTIVE PERIOD OF CERTIFICATION: March 13, 1981 to March 13, 1984

BASIS OF CERTIFICATION: Education, experience, training, and
test results

TEST RESULTS: GENERAL/SPECIFIC: 80.8

PRACTICAL: N/A

COMBINATION: 80.8

M. E. D'Haem
M. E. D'Haem QAM

3/13/81

CERTIFIED BY / DATE

A39

705-24

EVALUATION OF PERFORMANCE (AUDITORS AND LEAD AUDITORS)

NAME Kenneth Schaefer CLASSIFICATION Auditor

DATE OF EVALUATION 2-20-81 DATE QUALIFIED 2-27-81

	ABOVE AVERAGE	AVERAGE	BELOW AVERAGE
KNOWLEDGE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AUDITING TECHNIQUES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AUDIT PLANNING	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ORAL COMMUNICATIONS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WRITTEN COMMUNICATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

Reviewed with above named individual YES NO

Individuals signature/date N/A

Evaluators signature/date Harry Payer 2/20/81

CERTIFICATE OF QUALIFICATION

COMMUNICATIONS SKILL: Date Evaluated 2/27/81 by: Michael E. D'Han

AUDITOR PARTICIPATION

	<u>LOCATION</u>	<u>AUDIT</u>	<u>DATE</u>
1.	Midland Nuclear Station Midland, MI	The Zack Co.	Feb. 18-20, 1981
2.			
3.			
4.			
5.			

EXAMINATION, TYPE Oral PASSED X DATE 2/27/81EFFECTIVE PERIOD OF CERTIFICATION: 2/27/81 through 2/26/84AUDITOR QUALIFICATION CERTIFIED BY: *W. E. D'Han* 2-27-81
NAME/DATETITLE Quality Assurance Manager

THE ZACK CO.

QUALITY ASSURANCE TRAINING REPORT

1. DATE 8/31/81

THE BELOW LISTED INDIVIDUAL(S) RECEIVED QUALITY ASSURANCE TRAINING IN
ACCORDANCE WITH THE ZACK COMPANY QUALITY ASSURANCE TRAINING PROGRAM

	<u>NAME</u>	<u>INITIAL</u>	<u>POSITION</u>
2.	C.Z. DeZutel	CZDZ	President
3.	J.C. DeZutel	JCDZ	Exec. Vice-President
4.	D. Malzahn	DMZ	Corporate Sect'y.
5.			
6.			
7.			
8.			
9.			
10.			
11.			

DESCRIPTION OF TRAINING SESSION CONDUCTED

12. Training - 10CFR / ANSI N45.2 (1 hr.)

13. David C. Calkins
Q.A. TRAINING INSTRUCTOR
D.E. Calkins,
Q.A. Mgr.

CC: Q. A. MANAGER
FILE-SITE, QC DEPARTMENT

A40
7QF-23

(135)

the



co.

CUSTOM METAL FABRICATION

21

September 23, 1981

DISTRIBUTION

FROM: John O'Connell

SUBJECT: Survey of Edgecomb Metals performed 9/18/81

An evaluation of Edgecomb Metal's Q.A. Program was conducted on 9/18/81, the following was noted:

FINDINGS

- 1) The lines of organizational structure, responsibilities, and inter-functional relationships were not delineated in the Q.A. Manual.
- 2) No performance of a program evaluation.
- 3) No NCR/CAR plan to identify, analyze and take action to correct deviations from quality requirements.
- 4) No identified plan for the maintenance of Quality records.
- 5) No provisions to ensure that purchased material meet quality requirements.
- 6) No evidence of calibration records for caliper.
- 7) No vendor evaluation.
- 8) No check of CMTR's against received material.
- 9) Contrary to Edgecomb's Q.A. Manual, no receiving inspection report is presently being utilized.
- 10) No management evaluation of the Quality Program. //

cc: C.Z. DeZutel
J.C. DeZutel
D.E. Calkins
R. Hagen
D. Mallick
Q.A. Files

A41

• DEDICATED TO CLEANING AND CUSTOMIZING THE AIR OF THE WORLD •

104

AUDIT PLAN

DATE: 9/17/81

AUDITOR: J. O'Connell

ORGANIZATION TO BE AUDITED: Edgecomb Metals

AUDIT LOCATION: P.O. Box 7400-A
3348 S. Pulaski
Chicago, IL

AUDIT PURPOSE: To verify that Edgecomb Metals has the capabilities of
implementing their Quality Program.

AUDIT SCOPE: Limited to Edgecomb Metals facility.

REFERENCE DOCUMENTS: Edgecomb Metals QA Manual, ANSI N45.2 and 10CFR52 Appendix B.

COMMENTS: _____

AUDITOR: N/A

LEAD AUDITOR: [Signature]

DATE: N/A

DATE: 9.21.81

EVALUATION OF QUALITY ASSURANCE PROGRAM
PLAN OF SUPPLIERS OF COMPONENTS OR
MATERIAL FOR COMPLIANCE WITH QUALITY
SPECIFICATION

(CHECKLIST)

SUPPLIER: Edgecomb Metals

PROJECT: _____

MANUAL NO.: _____ MANUAL TITLE: Identification & Verification

REVIEW NO.: _____ DATE: _____

REVIEWED BY: John O'Connell DATE: 9/18/81

GENERAL COMMENT: Edgecomb Metals Q.A. Program was found to be unacceptable
in meeting The Zack Company procurement requirements. The program presently
being utilized is in the process of revision. Findings are described in the
attached checklist. Until Edgecomb satisfactorily responds to these audit
findings, Edgecomb Metal will maintain an unacceptable status

CHECKLIST

IN THE EVENT THERE IS A "NO" ANSWER TO ANY OF THE CHECKLIST QUESTIONS, THE PAGE AND PARAGRAPH NUMBER OF THE Q. A. PROGRAM PLAN AND/OR PROCEDURE INVOLVED IS TO BE IDENTIFIED UNDER THE APPROPRIATE COLUMN.

3.0 QUALITY PROGRAM MANAGEMENT

YES

NO

PAGE &
PARA. NO.

3.1 POLICY

1. Does the plan identify management commitments which will ensure that quality requirements are met, and only product(s) meeting quality standards will be supplied?

☒

3.2 ORGANIZATION

1. Does the plan identify that the quality control organizational structure, responsibilities and interfunctional relationships are clearly established?
2. Does the plan establish that personnel performing the quality control function will have the authority and responsibility to perform the following:

☒

- A. Establish quality control requirements and responsibilities for both those performing the inspection function and those performing the actual manufacture?

☒

- B. Plan, organize, implement and verify conformance with quality control systems and procedures?

☒

- C. Evaluate acceptability of work using reviews, examinations, inspections, tests and other means?

☒

- D. Withhold acceptance of work not meeting quality standards?

☒

3.3 PROCEDURES AND INSTRUCTIONS

1. Does the plan establish that the quality control program will utilize procedures and instructions that define the methods by which the supplier's organizational units will apply quality controls?

☒

3.4 QUALITY PLANNING

1. Does the plan identify that the supplier will provide for quality planning, including:

- A. Identifying the quality provisions necessary to comply with the purchase order?
- B. Establishing the inspection plans to be used in the control of quality?
- C. Evaluating results of the quality controls and making changes where improvements are required to maintain quality?

✓			
	✓		
	✓		

3.5 PERFORMANCE EVALUATION

1. Does the plan provide for the supplier to assess their quality through the use of audits, data and other measurement means?

	✓		
	✓		

3.6 CORRECTIVE ACTION

1. Does the plan identify a method whereby the supplier will identify, analyze and take action to correct conditions that deviate from quality requirements, and to prevent these from recurrence?

	✓		
--	---	--	--

3.7 RECORDS

1. Does the plan identify a method for maintaining records of inspections, tests and product field performance to provide necessary reference data on the product?

✓			
---	--	--	--

COMMENTS SECTION 3.0 No QA/QC Dept. in the Organizational Chart. No vendor evaluation. No corrective action. No evaluation of results of the quality control improvements.

4.0 PROCUREMENT CONTROL

1. Does the plan provide for procurement practices to be used that will ensure that purchased material meets quality requirements?

YES NO PARA. NO.
_____ ✓ _____

4.1 PROCUREMENT INFORMATION CONTROL

1. Does the plan provide for a method whereby the supplier's procurement documents will contain requirements that define what is technically required and will provide the measures needed to ensure that these technical requirements are met?

✓ _____

4.2 RECEIVING INSPECTION

1. Does the plan provide for a method whereby purchased material acceptability will be verified upon receipt to ensure the use of the correct material during subsequent production processing?

_____ ✓ _____

4.3 NONCONFORMING MATERIALS

1. Does the plan provide for a method whereby equipment or services presented to the supplier which are found to be nonconforming to the quality requirements and specifications will be identified, reviewed and disposed of in a manner that will ensure only those acceptable to the supplier's authorized engineers will be used?

_____ ✓ _____

COMMENTS SECTION 4.0 No check of CMTR's at receipt inspection. No receiving inspection report contrary to QAM Sec. II (Att. #6)

5.0

MANUFACTURING CONTROL

1. Does the plan provide for a method whereby manufacturing activities, which may include machining, fabrication, assembly and testing of equipment, will be done under controlled conditions to ensure that the product meets quality requirements?

N/A

5.1

INSPECTION PLANS

1. Does the plan provide for a method whereby the supplier will utilize preplanned manufacturing inspection plans to establish significant reviews and examinations to determine that the work meets acceptance criteria at various stages of manufacturing and shipping?

✓

5.2

MATERIAL IDENTIFICATION

1. Does the plan provide for a method whereby equipment, parts and material will be identified to ensure that correct and acceptable items are used, and to ensure that the acceptance status of items is readily apparent?

f

✓

5.3

FACILITIES CONTROLS

1. Does the plan establish that only those manufacturing facilities capable of producing equipment that meets the design requirement will be utilized?
2. Does the plan establish that methods will be used to control things such as periodic sharpening of cutting tools, lubrication of machine tools, overhaul of equipment, calibration of measuring and testing instruments (to recognized industry standards) and other similar activities?

N/A

N/A

5.4

CONTROL OF SPECIAL PROCESSES

1. Does the plan provide for controlled methods that are monitored to verify quality?

N/A

5.5

CONTROL OF NONCONFORMING MATERIAL

1. Does the plan provide for a method whereby work not conforming to acceptance criteria will be identified, withheld, reviewed, approved, corrected or otherwise disposed of by the supplier's authorized engineers to ensure the acceptability of the completed product to design requirements?

_____ ✓ _____

5.6

PROTECTION, PRESERVATION AND PACKING

1. Does the plan provide for a method which identifies that equipment will be protected, preserved and packed to insure its quality is maintained during manufacture, shipment and storage?

✓ _____

5.7

HANDLING

1. Does the plan provide for a method which identifies that the supplier will utilize handling methods and transportation means, which ensure that equipment and material are not damaged during transportation and handling?

✓ _____

COMMENTS SECTION 5.0 No control of non-conforming material. No internal audits.

No management evaluation of the Quality Program.

DATE 9/22/81

TO Purchasing Agent

SUBJECT Edgecomb Metals

ATTENTION Ralph Hagen

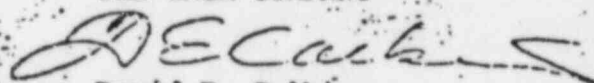
STREET

CITY

As of this date, suspend all ordering from "Edgecomb Metals" pending resolution of "findings" found during survey conducted on 9/18/81 by our Q.A. Department.

This supplier has been removed from our Approved Vendors List.

THE ZACK COMPANY



David E. Calkins

Q.A. Manager

cc: C.Z. DeZutel

J&C. DeZutel

C.L. Eichstaedt, Jr.

De Walzahn

Q.E. Files

REPLY - DATE

SUPPLIER/DEPARTMENT

Edgecomb Metals

3348 S. Pulaski Road

Chicago, IL

AUDITOR: Ken Schaefer

DATE: February 10, 1982

SURVEY ☐ C/L NO. ZQS-100(1)AUDIT ☒REAUDIT ☐SATISFACTORY ☒
CONDITIONALUNSATISFACTORY ☐

RESULTS: Satisfactory conditional

Edgecomb has been approved with the condition that The Zack Company will be able to purchase only Channel and Beam material. This will be effective until Edgecomb can provide tracability of angle iron as a corrective action to this finding. Several copies of ZQS-100 have been distributed within their organization. Upon approval by Edgecomb management their new Q.A. Manual will be forwarded to The Zack Co. Q.A. Department for reference and vendor filing.

Ken Schaefer

AUDITOR

CORRECTIVE ACTION STATEMENT

Finding #1 There is no available record of calibration of any measuring equipment.

Finding #2 There are no surveys on file for review that Section VII (Survey) of their existing Q.A. Manual states being done.

Finding #3 Material tracability is not completely adequate for angle iron products, therefore they will be limited to supply Channel and Beams until such time a re-audit can be performed to verify the tracability of angle iron.

(See audit report 2/10/82 K.S.)

Follow-up in thirty (30) days to close findings for full acceptance suggested.

AK 2-12-82

REPORT REVIEWED BY MANAGER OF C.A.

RESPONSIBLE SUPERVISOR

DATE

AUDIT CHECKLIST

☐ SURVEY

C/L NO. ZQS-100 (1)
☒ AUDIT

DATE 2/11/82

SUPPLIER/DEPARTMENT

REPRESENTATIVES

McComb METALS
BOB FATE

AUDITORS

28 S. Polaski Road
Bob Ford
Ken Schaefer
Chicago, IL
John Heinlen
77-7700

S—SATISFACTORY

U—UNSATISFACTORY

N/A—NOT APPLICABLE

O—OPEN

CHARACTERISTICS

FINDINGS SECT. NO.

COMMENTS

Supplier responsible for the quality of work and/or material being supplied in compliance with the requirements of The Zack Company purchase

O

ZQS-100
2.0

They do not have a method of complete tracibility for all materials.

Supplier shall have a management system to provide work and/or material meeting established quality standards.

S

3.0

Established Responsibilities for Control personnel:
Guide Lines
Conformance
Acceptability
Non-Conformance

S

3.0

Established procedures or instructions defining methods used to administer Quality Control.

S

3.0

AUDIT CHECKLIST

☐ SURVEY

C/L NO. ZQS-100 (1)

SUPPLIER/DEPARTMENT

REPRESENTATIVES

☒ AUDIT

DATE 2/11/82

Edgcomb Metals

Bob Fate

AUDITORS

1348 S. Pulaski Road

Bob Ford

Chicago, IL

John Heinlen

417-7700

S—SATISFACTORY

U—UNSATISFACTORY

N/A—NOT APPLICABLE

O—OPEN

CHARACTERISTICS

FINDINGS SECT. NO.

COMMENTS

quality plan to show methods for detection of problems and preventive actions to be taken, inspect methods.

S

ZQS-100
3.0

Established corrective action measures to process as needed performances.

S

3.0

Record file of all inspections, test, and verify compliance and reliability of product.

S

3.0

Supplier provurement forms, state quality requirements, as specified in Mack Company purchase order.

S

4.0

AUDIT CHECKLIST

☐ SURVEY

☒ AUDIT

C/L NO. 100-10

DATE 2/11/82

REPRESENTATIVES

AUDITORS

SUPPLIER/DEPARTMENT

Edacomb Metals

2348 S. Pulaski Road

Chicago, IL

247-7700

Bob Fate

Bob Ford

John Heinlen

Ken Schaefer

S—SATISFACTORY

U—UNSATISFACTORY

N/A—NOT APPLICABLE

O—OPEN
COMMENTS

CHARACTERISTICS

FINDINGS SECT. NO.

Receipt inspection procedures to establish criteria for acceptance and documentation approval

S

ZQS-100
4.0

10. Established method to process all non-conforming conditions as they become evident

S

4.0

11. Manufacturing controls which have established inspection points throughout to determine acceptance criteria

S

5.0

12. There is an established method by which all material is marked and records showing tracability

O

5.0

Lack of tracibility on many sizes of angle iron

OK

AUDIT CHECKLIST

☐ SURVEY
 ☒ AUDIT

C/L NO. ZQS-100 (1)

DATE 2/11/82

SUPPLIER/DEPARTMENT

REPRESENTATIVES

AUDITORS

Edgcomb Metals

Bob Fate

3348 S. Pulaski Road

Bob Ford

Chicago, IL

John Heinlen

247-7700

S--SATISFACTORY CHARACTERISTICS	U--UNSATISFACTORY	N/A--NOT APPLICABLE	O--OPEN	
		FINDINGS	SECT. NO.	COMMENTS
A procedure for calibration of all applicable equipment and complete record system	O		ZQS-100 5.0	They have been working on establishing a workable method to record calibration.
Procedures for performing acceptance on any and all special processes used in manufacturing	S		5.0	
A segregated area for non-conforming materials with tagging method and procedure to process	S		5.0	
Establish procedures for protection, labeling, packing and preserving of material from damage	S		5.0	



CUSTOM METAL FABRICATION

October 9, 1981
7220-M-151-CB-548

Bechtel Power Corporation
P.O. Box 2167,
Midland, MI 48640

Attn: Mr. L.E. Davis
Site Manager

RE: Documentation Discrepancies

Gentlemen:

Enclosed is an interim report on the results obtained to date in the review of the material certifications for the Midland Project.

It is important to note in reviewing this report that the deficiencies shown for each purchase order have only been recorded. This report does not address the corrective action being initiated with the suppliers to obtain corrected certifications.

At the present rate of review, it is anticipated that The Zack Company will be ready to present a final report, on or before October 26, 1981. This should allow ample time to advise the NRC that the possible 10CFR50.55 (e) should be withdrawn or to confirm it's applicability.

Should you have any questions or problems concerning this report, please do not hesitate to contact me at (312) 242-3434.

Very truly yours,

THE ZACK COMPANY

David E. Calkins,
Manager Quality Assurance

DEC/br

Encl:

cc: John Rutgers, (BPCo)
Mr. Clark Ash (BPCo)
H. Leonard, MPQAD Mgr.
C.Z. DeZutel
J.C. DeZutel
C.L. Eichstaedt, Jr.
R.B. McCarley
Q.A. Files/Chicago
Q.A. Files/Midland

October 5, 1981

TO: D. Calkins

FROM: H. McGrane

SUBJECT: Interim Report - Documentation Review results, Midland Station only,
as of October 2, 1981

SUMMARY:

The attached sheets tabulate the results of subject review. Approximately 70% of the listed (from Midland site) packages have been located and reviewed. All packages reviewed have been attached in individual binders and filed in the fire-resistant cabinets in accordance with the requirements of the Draft Work Instruction for "Control, Content, and Maintenance of Q.A. Purchase Order/Certified Material Test Report Files".

The tabulation lists "packages". The number of certifications in each package varies between one and twenty. For the purpose of categorization only the more major discrepancy in each package has been tabulated.

DISCUSSION:

The results of the reviewed have been categorized as follows:

Clerical Errors - Lack of reference to "ASTM", revision year, or complete lack of standard designation.

Signature Missing - Lack of written signature.

Signature Errors - Typed signature and handwritten signature or initials not identical.

Chem/Mech Test Data - Chemical analysis and/or mechanical test data missing, or not in accordance with ASTM Standard Requirements.

U.S. Steel Letter - Indicates P.O.'s listed in U.S. Steel Co. letter to Zack Co. stating that material on P.O.'s were not processed thru U.S. Steel V&T program. Letter date, Sept. 21, 1981.

Missing Certifications - Self explanatory. Certain packages lack certification for all, or for only certain items. (Majority appear to be missing Reliable Galvanizing Co. certs.)

C of C Only - Packages containing only a Certificate of Compliance (no test data). Midland Tech. Spec. appears to require physical/chemical test data for materials not specifically listed by trade name. (Various fasteners, nuts, bolts, washers, etc.)

Alterations - Apparent alteration of certification by typed or handwritten additions.

Stickers - Gummed labels applied to certifications or certification cover sheets. These typed and signed to indicate compliance with ASTM Standards. Authenticity of the signatures is questionable.



CUSTOM METAL FABRICATION

October 9, 1981

Commonwealth Edison Co.
LaSalle County Nuclear Station
Rural Route #1, Box 220,
2601 N. 21st Road,
Marseilles, IL 61341

Attn: Mr. William Donaldson
Site Manager

RE: Documentation Discrepancies

Gentlemen;

Enclosed is an interim report on the results obtained to date in the review of the material certifications for the LaSalle Project.

It is important to note in reviewing this report that the deficiencies shown for each purchase order have only been recorded. This report does not address the corrective action being initiated with the suppliers to obtain corrected certifications.

At the present rate of review, it is anticipated that The Zack Company will be ready to present a final report, on or before October 26, 1981. This should allow ample time to advise the NRC that the possible 10CFR50.55 (e) should be withdrawn or to confirm it's applicability.

Should you have any questions or problems concerning this report, please do not hesitate to contact me at (312) 242-3434.

Very truly yours,

THE ZACK COMPANY

David E. Calkins,
Manager Quality Assurance

DEC/br

Encl:

cc: L.J. Burke, Site Project Supt.
T. Quaka, QA
J. Dearbeck (CECo)
C.Z. DeZutel
J.C. DeZutel
C.L. Eichstaedt, Jr.
C. Baumgardner
Q.A. Chicago/LaSalle Site

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CUSTOM METAL FABRICATION

October 5, 1981

To: Dave Calkins

From: R.A. Perry

Subject: Interim Report - Documentation Review Results.
LaSalle Station only, as of October 5, 1981

Summary:

The attached sheets tabulate the results of subject review. Approximately 84% 374 reviewed, 445 total (from LaSalle site) packages have been located and reviewed. All packages have been attached in individual binders and filed in the fire resistant cabinets in accordance with the requirements of the draft work instruction for "Control Content and Maintenance of QA Purchase Order/Certified Material Test Report Files".

The tabulation lists "packages". The number of certifications in each package varies between one and twenty. For the purpose of categorization only the more major discrepancy in each package has been tabulated.

Discussion

The results of the review have been categorized as follows:

Clerical Errors - Lack of reference to "ASTM" revision year, or complete lack of standard designation.

Signature missing - lack of a written signature.

Signature Errors - Typed signature and handwritten signature or initials are not identical.

Chem/Mech Test Data - Chemical analysis and/or mechanical test data missing and/or not in accordance with ASTM standard requirements.

U.S. Steel Letter - Indicates P.O.'s listed in U.S. Steel Co. letter to Zack Company stating that material on P.O.'s were not processed thru U.S. Steel V & T program. Letter dated 9/21/81.

Missing Certifications - Self explanatory. Certain packages lack certification for all, or for only certain items. (Majority appear to be missing Reliabo Galvanizing Co. certs).

C of C only - Packages containing a certificate of compliance (No test data)

October 5 1981

Alterations - Apparent alteration of certification by typed or handwritten additions.

Stickers - Gummed labels applied to certifications or certification cover sheets. These typed and signed to indicate compliance with ASTM standards authenticity of the signatures is questionable.

Surveillance Date: October 9, 1981

File No. J-2590.26

LASALLE Q.A. SURVEILLANCE REPORT NO. 81-661

(F)

Contractor/Organization Observed: Zack Company

81 OCT 30

Alt: 14

Category: (1,2,3,5)

Item Observed:

On October 9, 1981, a surveillance was performed at Zack's Corporate Office to evaluate the steps taken to date concerning Zack's notification of a possible 10CFR 50.55 (e) relating to documentation discrepancies. Upon arrival, Mr. D. E. Calkins, Zack's Manager of Quality Assurance presented an interim report dated October 9, 1981 (See Attached), on Zack's review so far. This surveillance is based on a review of Zack's activities in progress and the above report dated 10-9-81.

Zack is currently re-reviewing all purchase orders and associated documentation. This documentation is being reviewed in detail, specifically for missing certs, missing signatures, any alterations, proper physicals and chemicals and compliance with purchase order and specification requirements. A log is being maintained on each purchase order, showing results of this review and any corrective action required. For certs that are missing, found deficient or appear to have been altered, Zack is notifying the Supplier and requesting new certifications. These conversations are followed up by letters, to hopefully assure a response. To date, numerous revised certs have been received, but many more are required.

The personnel Zack has acquired to perform this indepth review were found to be adequately qualified and properly trained. The group leader was found to be a Consumer Power employee with 15 years of documentation experience. Three Quan-tech personnel were also hired to assist the Group Leader. Finally, two additional Zack personnel were brought in to be trained and to eventually take over the documentation review once this initial evaluation is complete.

During this initial re-review, all necessary standards and specifications were found being used. Some questions did exist concerning LaSalle's Specification due to vagueness in actual documentation requirements. These questions will be addressed in Zack's Final Report scheduled for completion on October 26, 1981.

The following information was checked during this surveillance to assure the quality of Zack's review. All comments and questions raised by Zack were being entered in their Master Log as required. Some of the comments found by Zack may not be concerns for LaSalle Start-Up of Unit #1 based on my understanding of Specification J-2590 requirements. The following Certifications were reviewed:

A) Certs containing clerical errors and missing signatures:

- P.O. #624 - Inland Steel Co. (Coils) P.O. required certifications; however, certs failed to identify which year of ASTM A527 was used.
- P.O. #831 - U.S. Steel Supply (HR Bars) P.O. required certifications, but the Northwestern Steel Cert failed to identify "ASTM" A-36. The C. of C. from U.S. Steel Supply did however show heat # and ASTM-A36.
- P.O. #947 - National Metal Fabricators (Angle rings) P.O. required Certs. Some of the heats received did not state "ASTM" only A36-77. Other heats failed to identify either ASTM or A36 designation.
- P.O. #1094 Edge-comb metals (Plate) P.O. required certs. The actual CMTR was missing a legible signature. The cover sheet was however signed and acceptable.

B) Missing Certifications

- P.O. #508 - P.O. was written for A-325 bolts. Certifications were required, however, only a Cert of Compliance was received which failed to reference "ASTM".
- P.O. #572 - No certs were available, could not be located.
- P.O. #586 - P.O. was for duct sealant and required a Product Spec. sheet which was received. Zack is now requesting certs for the shipment. LaSalle spec is not clear on if certs are required.
- P.O. #565 - Brock Tool Co. (Phillips Redhead Wedge anchor) letter certification only, no actual CMTR's received. P.O. required certs.
- P.O. #4105 Key Crest Inc. (Nuts & Bolts) P.O. required certs, however, only C of Compliance received.

C) Altered reports

- P.O. #914 - P.O. required certs, however, the CMTR's received contained an ASTM date which had a different type setting.
- P.O. #947 - P.O. required certs. One CMTR was of poor quality. As a result, the heat # was highlighted by someone. It should be noted that there was another acceptable heat # shown on the CMTR.

D) Chemical and physical results not per specification

- P.O. #826 - Calumet Steel (HR Angle) P.O. required ASTM A-36 steel, which was received. Although, LaSalle's Spec. for this type of steel required ASTM A575 Grade M-1020.
- P.O. #630 - Reliable Galvanizing (HR Angle) P.O. required A36 which was received, however, LaSalle required ASTM A575 Grade M-1020.

D) Con't:

- P.O. #1094 - Edge-comb Metals (Plate Steel) P.O. required
ASTM- A36, however, LaSalle Spec. required ASTM-A2
Grade A.
- P.O. #1102 - Edge-comb Metals (Plate) Same as P.O. #1094.

Based on these results, Zack's review appears sufficient to identify any inconsistencies within Zack's procurement documentation. Various Spec. deviations have been identified which should have been accepted by Commonwealth Edison Engineering prior to use. These will still need to be resolved. Sargent & Lundy will also be contacted to clarify actual record requirements for certain materials. Pending Zack's submittal of their Final Report on 10-26-81, disposition from Project Engineering and Zack's success in obtaining revised certs, no additional problems can be foreseen. Site QA will review the records to substantiate acceptable disposition of identified concerns at a later date.

Corrective Action Taken:

N/A

Follow Up Action:

N/A

Reported by: Bruce [Signature] Date: 10/11Approved by: RA Brown Date: 10/11FU Action Verified: N/A [Signature] Date: —
QA Eng./Insp.FU Action Approved: N/A RAB Date: 10/11
QA Supervisor

cc: / R. J. Shewski/G. F. Marcus
L. J. Burke/W. H. Donaldson
T. E. Quaka/Q. A. File
Contractor



CUSTOM METAL FABRICATION

October 29, 1981

TO: ALL ZACK COMPANY COGNIZANT PERSONNEL

FROM: M.L. Skates, L.Q.A.E.

SUBJECT: Quality Assurance Document Control

ALL Quality Assurance Documentation to and from "Suppliers" of materials, shall be transmitted to the Document Control Clerk for indexing prior to issuance.

The following documents shall include but not be limited to;

- Purchase Requisitions
- Purchase Orders
- Correspondence
- CMR
- C of C
- etc.

THE ZACK COMPANY

M. L. Skates

M.L. Skates, L.Q.A.E.

Quality Assurance Department/Chicago

A45

96

October 30, 1981
LCS 2752

9

TO: J. J. Maley, Manager of Projects
B. B. Stephenson, Project Manager
L. O. DelGeorge, Nuclear Licensing Administrator
W. J. Shewski, Manager of Quality Assurance
T. E. Quaka, Site Quality Assurance Superintendent

FROM: L. J. Burke

SUBJECT: Interim Report on Reportable Deficiency LCS #81-08;
Zack Company Documentation Deficiencies

An evaluation report dated October 23, 1981 has been submitted by the Zack Company. Included in the report are descriptions of the deficiencies, found during the quality review, corrective action and planned action to prevent recurrence. Initial indications are that a reportable deficiency does not exist.

Commonwealth Edison Company is still reviewing the following:

- a. Corrective action planned by Zack Company
- b. Required engineering resolution for material with indeterminate or unacceptable material properties. Information available indicates that the properties will be able to be obtained or determined to be acceptable.

The final report is expected to be complete by December 1, 1981. If further information is required, please contact us immediately.

L. J. Burke

10/30/81

L. J. Burke
Project Construction Superintendent

DS/gt

cc: B. R. Shelton
T. E. Watts
E. J. McAndrew
R. E. Holyoak
P. F. Manning
W. H. Donaldson — !

A46

(94)

the **ZACK** co.



CUSTOM METAL FABRICATION

November 4, 1981

To: All Cognizant Personnel
 From: C. L. Eichstaedt, Jr.
 Re: Purchase Requisitions and Purchase Orders for
 Nuclear Projects and Commercial Operations.

Effective today, November 4, 1981 the following shall be adhered:

1. All purchase orders for Chicago Commercial operations (specific to a job, not stock) shall be issued by purchasing dept. Five (5) digit numbers shall be used beginning with C-17428. All P.O.'s shall be accountable.
2. For Nuclear projects and shop stock - ALL purchase orders shall be issued by purchasing dept./Quality Assurance dept. at CORPORATE headquarters.
 - A. Site requested
 1. Site to transmit purchase requisition for office supplies, tools, etc. (not part of project) to Chicago.
 2. Site to transmit fabrication ticket (Traveler) to Chicago for requisition of project incorporated material.
 3. All requisitions/travelers transmitted to corporate project management.
 4. Corporate project management to issue purchase requisition to purchasing dept./QA dept.
 5. Purchasing dept./QA dept. to generate and issue order to supplier/vendor.

NOTE: If "Time-is-of-the-essence", site to telephone and/or Qwip requisition to corporate project management. Corporate project management thru purchasing dept./QA dept. will verbally issue purchase number to site. Site shall then issue verbal purchase order number to supplier/vendor. Site is still responsible for transmitting written requisition.

A47

Continued

• FOUNDED TO SOLVE THE UNIQUE METAL FABRICATION NEEDS OF INDUSTRY •
 • DEDICATED TO CLEANING AND CUSTOMIZING THE AIR OF THE WORLD •

tion to corporate project management.
Confirming written purchase order shall
not be issued without written requisition/
traveler within 72 hours.

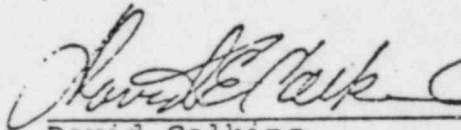
B. Plant Generated (specific project and stock)

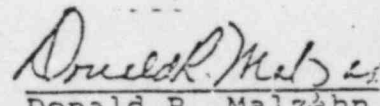
1. All Requisitions shall be transmitted thru corporate project management.
2. Corporate project management shall generate requisition and transmit to purchasing dept./ QA dept.
3. Purchasing dept./QA dept. shall generate and issue purchase order to supplier/vendor.

C. All purchase orders for nuclear projects shall be four (4) digit numbers commencing with C-1422.

The above directive shall be in effect until permanent changes/ procedures are developed and implemented.


Carl L. Eichstaedt, Jr.


David Calkins


Donald R. Malzahn

Sites to return all unused purchase orders and P.O. logs to corporate headquarters.

Note: Distribution of purchase orders is as follows:

- A. Two (2) copies (white and goldenrod) to supplier/ vendor.
- B. One (1) copy (yellow) to corporate QA dept. file.
- C. One (1) copy (green) to corporate accounting dept. file.
- D. One (1) copy (Xerox) to purchase requisition initiator..
- E. One (1) copy (Xerox) to corporate engineering dept. file.
- F. One (1) copy (Xerox) to corporate purchasing dept. file.



CUSTOM METAL FABRICATION

MEETING SCHEDULED FOR:

FRIDAY, NOV. 13, 1981

10:00 A.M. -CONFERENCE ROOM-

You are requested to attend the above scheduled meeting to be held in the "Conference Room" at 10:00 a.m. 11/13/81

SUBJECT: Bechtel Audit of November 18, 19, 20th 1981 at the Chicago facilities.

David E. Calkins,
Manager Quality Assurance

ATTENDEES: C.Z. DeZutel
N. Rosa
- B. Prim
G. Kollaritsch
J. Engh
R. Greune
T. Howard
D. Henigan
H. McGrane
R. Basiaga
M. Skates

A48

UNTIL FURTHER NOTICE THE FOLLOWING RECORD REVIEW
PROCEDURE WILL BE:

1. NO FILE OR FILE MATERIAL WILL LEAVE THE DOCUMENT ROOM.
2. FILES ARE TO BE REVIEWED IN THE DOCUMENT ROOM AT THE TABLE PROVIDED.
3. IF EXTENSIVE REVIEW OF FILE MATERIAL IS NEEDED, COPY/ COPIES OF PERTINENT DATA WILL BE MADE BY DOCUMENTATION PERSONNEL.
4. FILE MATERIAL IS AVAILABLE TO ZACK OR ZACK RELATED PERSONNEL INVOLVED IN RELATED RESEARCH.


DOCUMENT CONTROL SUPERVISOR

Done

Typed and

Date 11-11-81

1136

UNTIL Further Notice the Following Record
Review procedure will be:

1. No file or file material will leave the document room.
2. Files are to be Reviewed in the document room at the table provided.
3. If extensive review of File material is needed, Copy/copies of pertinent data will be made by documentation personnel
4. File material is available to Zack or Zack related personnel involved in related research

Would this be sufficient to post
on the door for the time being

A50

T. Y. W.
have typed and post.
Then



CUSTOM METAL FABRICATION

November 12, 1981

12

Mr. J.W. Cook
Vice-President, PE&C-Midland Site
Consumers Power Company
1945 Parnall Road,
P-26-306-B
Jackson, Michigan 49201

Dear Mr. Cook,

The Zack Company would like to express our sincere gratitude to Consumers Power Company for the loan of your employee, Mr. Howard McGrane, for the total document control audit of our Corporation.

His professionalism, expertise and demeanor are a credit to his employer and himself.

Concurrently, we deeply appreciate the opportunity afforded to us, to validate the good reputation and name we sincerely have fought to maintain and vindicate.

Sincerely,

Christine Z. DeZurel
Christine Z. DeZurel,
President

CZD/br

cc: Mr. H. Leonard
~~Mr. H. McGrane~~;

A51

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82

AUDIT REPORT

19

SUPPLIER/DEPARTMENT _____

SEAS, INC.

7535 W. ROOSEVELT RD.

FOREST PARK, IL.

AUDITOR: Ken Schaefer

DATE: February 10, 1982

SURVEY ☐ C/L NO. ZQS-100(1)

AUDIT ☒

REAUDIT ☐

SATISFACTORY ☐

UNSATISFACTORY ☒

RESULTS: UNSATISFACTORY

Through the audit performed at the Seas, Inc. office, it has been determined that this organization will not be able to meet the minimum established quality requirements as established by The Zack Company. From the information received they cannot verify any product furnished.

Ken Schaefer

Ken Schaefer

2/10/82

AUDITOR

CORRECTIVE ACTION STATEMENT

Resurvey to determine further auditing should be made within the year.

Gift 2-12-82

Martine R. Shotton FEB. 11, 82
REPORT REVIEWED BY MANAGER OF Q.A.

RESPONSIBLE SUPERVISOR

DATE

A52

84

THE ZACK CO.

FLORIDA

4600 W. 12TH PLACE
CHICAGO, ILL. 60650

Telephone:
Blahop 2-3434

Transmitted #CZC
226

Date: 12 February 1982

TO: CECO

RE: LaSalle

ATTN: R. Casano

File # 3300

Gentlemen:

We are Sending to you (Below)

of the
Following

- ☐ Drawings
- ☐ Approved Dwgs.
- ☐ Certified Prints
- ☐ Approved Cert. Prints
- ☐ Specifications
- ☒ Details

Herewith 1 Copy
Under Separate Cover Copies

- For
- ☐ Approval
 - ☐ Approval & Comment
 - ☐ Correction
 - ☐ Your files
 - ☐ Your files & Distribution
 - ☐ Final Approval
 - ☐ Release for Production
 - ☐ For use on Job
 - ☐ Release for immediate Production
 - ☐ Your Estimate for work
 - ☒ See Description Below

Description: Reportable Defect Evaluation - 4th Inspection Report

Remarks: Information of Material Status

Please Acknowledge

11

Yours very truly,
THE ZACK CO.

Robert J. Howard

By: Mail Messenger

My return 1 Copy(s) to us

A53

28

1 in A 11

31

QC ..

VC-4484

BEING USED FOR MIDLAND FLEX CON.
SEE SDDR #2218 AND #2219
2187

10-23-81

(11-19-81)

VC-4473

SHIPPED TO MIDLAND SAME SDDRS. LOAD #154 (12-31-81)

VC-4236

MIDLAND JOB SITE LOAD #127 (4-14-81)
LASALLE JOB SITE LOAD #290 (5-18-81)
REST IN SHOP. ON NCR # 9-1121 FOR MIDLAND USE
only.

C. Richard 2-15-82

MARKS!

12-22-81 all rec. Supplements #1

ORIGINAL
DUPLICATE
NONCONFORMANCE REPORT FOR CONSTRUCTION AND TEST

FORM OP 15-1.1
8-25-81 (Rev. 6)

KCR NO. 566
SHEET 1 OF 5

1. DESCRIPTION OF ITEM (EQUIPMENT, MATERIAL, COMPONENT, PART)
HHC MATERIAL DOCUMENTATION

2. SYSTEM AND UNIT
UTILITY RECOGNITION SYSTEM UNIT

3. CATEGORY
☐ DEFECT ☐ DAMAGE ☐ UNSAT CONDITION
☐ FAILURE ☐ DNG NONCONFORMANCE ☐ DOCUMENTATION
☐ SPEC NONCONFORMANCE

4. MANUFACTURER/SUPPLIER
ZACK CO.

5. OBSERVED DURING
☐ SUPPLIER INSPECTION ☐ CONTRACTOR
☐ CONSTRUCTION ☐ TEST

6. DESCRIPTION OF NONCONFORMANCE
PHYSICAL TEST REPORTS RECEIVED

7. P.O. NO. & P.O. ITEM NO.
18646

8. HOLD TAG NO.
A1A
1988-0615

9. WORK REQUEST NO.
-

10. SIGNATURES

NAME	DEPARTMENT	DATE
NONCONC. OBSERVED BY: D. J. [Signature]	PCD	11/3/81
NONCONC. VERIFIED BY: [Signature]	PCD	11/3/81
SITE IN APT. OR BUILDING: [Signature]	PCD	11/3/81
HOW LONG? ETC. IF SITE VISIT ONLY: [Signature]	PCD	11/3/81

11. WORK LIMITATIONS: ☒ WORK CAN PROCEED ☐ WORK CANNOT PROCEED ☐ OTHER LIMITATIONS

EXPLAIN WORK LIMITATIONS:

12. EVALUATION & DISPOSITION

13. CAUSE OF NONCONFORMANCE
METAL SUPPLIER, EDGE COMB METALS,
UNABLE TO TRACE HEAT NUMBERS
BACK TO 1980 RECORDS CHEMICAL ANALYSIS
NOT ONLY OBTAINABLE.

14. ACTION REQUIRED TO CORRECT THE NONCONFORMANCE
ACCEPT MATERIAL AS IS.

15. CORRECTIVE ACTION REQUIRED TO PREVENT RECURRENCE OF NONCONFORMANCE (WRITE N/A IF NOT KNOWN)
N/A

16. REVIEW AND APPROVAL
24-2-12-82
APPROVED BY: J. E. Watts 2/15/82
ENGINEERING PROJECT ENGINEER
DATE
APPROVED BY: B. R. Shelton 2-16-82
ENGINEERING DEPARTMENT HEAD
DATE

17. DESCRIPTION OF ACTION TAKEN TO CORRECT THE NONCONFORMANCE
N/A

18. DESCRIPTION OF CORRECTIVE ACTION INITIATED TO PREVENT RECURRENCE
N/A

19. DISPOSITION COMPLETED BY:
A55 [Signature] PCD 2/18/82
NAME DEPARTMENT DATE

20. DISPOSITION APPROVED BY:
[Signature] 2/18/82
NAME DEPARTMENT DATE

21. CORRECTIVE ACTION/REMARKS
See S&L letter 2/5/82 & SMED LTR. 2-17-82 only TO C603 mth's VC
3/3/82 Annm
77
3/3/82

NONCONFORMANCE REPORT FOR CONSTRUCTION AND TEST

8-25-81 (REV. 6)

NCR NO.

SHEET

OF

5

3. DESCRIPTION OF ITEM (EQUIPMENT, MATERIAL, COMPONENT, PART)

HVAC MATERIAL DOCUMENTATION

5. SYSTEM AND UNIT

SAFETY RELATED/SEISMIC SYSTEMS UNIT II

6. CATEGORY

☐ DEFECT
☐ FAILURE

☐ DAMAGE

☐ DWG NONCONFORMANCE
☐ SPEC NONCONFORMANCE

☐ UNSAT CONDITION

☐ DOCUMENTATION

9. OBSERVED DURING

☐ SUPPLIER INSPECTION
☐ CONSTRUCTION

☐ CONTRACTOR
☐ TEST

8. DESCRIPTION OF NONCONFORMANCE

PHYSICAL TEST REPORTS REQUIRED

11. P.O. NO. & P.O. ITEM NO.
186466

12. HOLD TAG NO.
N/A
1923-1945

13. WORK REQUEST NO.

14. SIGNATURES

NAME

DEPARTMENT

DATE

NONCON
DISCLOSED BY

NONCON
VERIFIED BY

NONCON
APPROVED BY

NONCON
REL. BY

D. J. Lough

J. J. Lough

J. J. Lough

J. J. Lough

PCD

PCD

PCD

PCD

12/31/81

12/31/81

11/4/80

12/3/81

10a. WORK LIMITATIONS: ☒ WORK CAN PROCEED ☐ WORK CANNOT PROCEED ☐ OTHER LIMITATIONS
EXPLAIN WORK LIMITATION:

15. CAUSE OF NONCONFORMANCE

METAL SUPPLIER, EDGE RUMB METALS,
IS UNABLE TO TRACE HEAT NUMBERS
BACK TO 1972 RECORDS CHEMICAL ANALYSIS
ARE ONLY OBTAINABLE.

16. ACTION REQUIRED TO CORRECT THE NONCONFORMANCE

ACCEPT MATERIAL AS IS

100% INSPECTION REPORT
REQUIREMENTS

Yes ☐ No ☒

100% INSPECTION REPORT
REQUIREMENTS

Yes ☐ No ☒

NAME DATE TIME

WRC

Designated CECO Officer

FOR REQUIRED

Yes ☐ No ☒

17. CORRECTIVE ACTION REQUIRED TO PREVENT REOCCURRENCE OF NONCONFORMANCE (List it if not known)

N/A

SEE attached S&L letter dated 2-5-82.

18. REVIEW AND APPROVAL

246
2-12-82

REVIEWED BY

ENGINEERING PROJECT ENGINEER

DATE

APPROVED BY

ENGINEERING DEPARTMENT HEAD

DATE

19. DESCRIPTION OF ACTION TAKEN TO CORRECT THE NONCONFORMANCE

FOR

157-17

20. DESCRIPTION OF CORRECTIVE ACTION INITIATED TO PREVENT REOCCURRENCE

21. DISPOSITION COMPLETED BY

NAME

DEPARTMENT

DATE

22. DISPOSITION COMPLETION APPROVED BY

STATION CONSTRUCTION PROJECT ENGINEER

DATE

23. CORRECTIVE ACTION/CAL REVIEW

☐ C & NOT
REQUIRED

☐ C &
ADJUDICATE

☐ ADDITIONAL
C & REQUIRED

DATE

564

SARGENT & LUNDY
ENGINEERS
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
TELEPHONE 312-269-2000

February 5, 1982
Project Nos. 4266-00
4267-00

Commonwealth Edison Company
LaSalle County Station

Nonconformance Report (NCR)
No. 566 "HVAC Material Documentation"
Punchlist Item 6.36

Mr. T. E. Watts
Project Engineer
P. O. Box 767
Chicago, Illinois 60690

- References:
1. Sargent & Lundy (S&L), (E. P. Ricohermoso) letter to Commonwealth Edison Company (CECo), (T. E. Watts) dated November 24, 1981, regarding NCR Nos. 566, 557 and 558.
 2. S&L (E. P. Ricohermoso) letter to CECo (T. E. Watts), dated November 25, 1981, regarding NCR No. 558.

Dear Mr. Watts:

We have reviewed the subject nonconformance concerning the inability of the HVAC Contractor to obtain the complete certified Mill Test Report for the material used in the HVAC System. The following actions were performed to resolve the nonconformance:

1. Requested additional information such as the specific application of the material in the HVAC System.

Per Mr. J. Dierbeck of CECo - LaSalle County Station on February 3, 1982, the materials listed in the NCR attachments were used as SHIM for the Primary Containment Cooling Coil Cabinets (1VP03AA/B and 2VP03AA/B) supports.

2. Evaluated the chemical analysis report ^{Submitted} by Contractor for the material. Based on the application of the materials in the HVAC System, the absence of physical test report is acceptable.

The subject nonconformance is accompanied by letter of certification from the contractor which certifies that the material is produced to ASTM A36-77a specification. With this supporting document and the actual application of the material in the HVAC System, we accept the material as is, without additional test reports.

A55

COPY

Mr. T. E. Watts
Commonwealth Edison Company

February 5, 1982
Page 2

Should you have any further questions regarding the above,
please call me.

Yours very truly,

E. P. RICOHERMOSO

E. P. Ricohermoso
HVAC Project Engineer

EPR:le
In duplicate
Enclosure
Copies:
R. Cozaro (1/1)
T. E. Quaka (1/1)
L. J. Corts (1/1)
J. L. Clark (1/1)
J. Dierbeck (1/1)
D. C. Haan (1/1)
R. J. Mazza (1/1)
W. G. Schwartz (1/1)
V. Reklaitis (1/1)
E. R. Kurtz (1/1)
W. B. Paschal (1/1)
D. R. Spisiak (1/1)
C. A. Riebel (1/1)
LSCS HVACD File No. 25

COPY

NONCONFORMANCE REPORT FOR CONSTRUCTION AND TEST

COMMONWEALTH ENGINEER

NCR NO. 566
SHEET 1 OF 1

3. DESCRIPTION OF ITEM (EQUIPMENT, MATERIAL, COMPONENT, PART) HVAC MATERIAL DOCUMENTATION		4. ITEM NO. (PART NO., SEE NO., EQUIP NO.)	
5. SYSTEM AND UNIT SAFETY RELATED/SEISMIC SYSTEM'S UNIT II		6. MANUFACTURER/SUPPLIER ZACK CO.	
8. CATEGORY <input type="checkbox"/> DEFECT <input type="checkbox"/> DAMAGE <input type="checkbox"/> UNSAT CONDITION <input type="checkbox"/> FAILURE <input type="checkbox"/> DWG NONCONFORMANCE <input checked="" type="checkbox"/> DOCUMENTATION <input type="checkbox"/> SPEC NONCONFORMANCE		9. OBSERVED DURING <input type="checkbox"/> SUPPLIER INSPECTION <input type="checkbox"/> CONTRACTOR <input checked="" type="checkbox"/> CONSTRUCTION <input type="checkbox"/> TEST	
10. DESCRIPTION OF NONCONFORMANCE PHYSICAL TEST REPORTS REQUIRED AS CORRECTIVE ACTION FOR NCR 558 CANNOT BE OBTAINED BY ZACK CO. SEE ATTACHED LETTER. (REF 50.55(2) 81-08) (REF NCR 557*)		11. P.O. NO. & P.O. ITEM NO. 186466	12. HOLD TAG NO. N/A 1973-0945
13. SIGNATURES		14. WORK REQUEST NO.	
NONCONC. OBSERVED BY: D. J. Horn		NAME: PCD 12	
NONCONC. VERIFIED BY: W. E. L. L.		NAME: PCD 12	
SITE OF WORK OR DISTRICT: T. J. D. L.		NAME: DA 11/4	
HOW, WHEN, & BY WHOM: R. L. L.		NAME: PCD 12	

10a. WORK LIMITATIONS: ☒ WORK CAN PROCEED ☐ WORK CANNOT PROCEED ☐ OTHER LIMITATIONS
EXPLAIN WORK LIMITATION: _____

15. CAUSE OF NONCONFORMANCE METAL SUPPLIER, EDGE COMB METALS, IS UNABLE TO TRACE HEAT NUMBERS BACK TO 1978 RECORDS. CHEMICAL ANALYSIS ARE ONLY OBTAINABLE.		16. ACTION REQUIRED TO CORRECT THE NONCONFORMANCE ACCEPT MATERIAL AS IS.
17. CORRECTIVE ACTION REQUIRED TO PREVENT REOCCURRENCE OF NONCONFORMANCE (WRITE N/A IF NOT KNOWN) N/A		18. REVIEW AND APPROVAL REVIEWED BY: _____ DATE: _____ APPROVED BY: _____ ENGINEERING PROJECT ENGINEER ENGINEERING DEPARTMENT HEAD

19. DESCRIPTION OF ACTION TAKEN TO CORRECT THE NONCONFORMANCE		20. DISPOSITION COMPLETED BY: ASS
21. DESCRIPTION OF CORRECTIVE ACTION INITIATED TO PREVENT REOCCURRENCE		22. DISPOSITION COMPLETION APPROVED BY: STATION CONSTRUCTION PROJECT ENGINEER
23. CORRECTIVE ACTION (A) REVIEW		24. CORRECTIVE ACTION (A) REVIEW



CUSTOM METAL FABRICATION

THE ZACK COMPANY
LETTER OF CERTIFICATION

Ref: P.O. #C-683 items 102, 103 and 104

This letter is to certify that the above referenced material items were supplied by Edgecomb Metals from ASTM A-36-77a materials.

The letter and material certification from Edgecomb are attached.

However, Edgecomb Metals is unable to trace heat numbers back to their 1978 records and is therefore, unable to provide the physical test results.

David E. Calkins
Manager, Quality Assurance

ASB

OUR
ORDER NO. C-683DATE 8-18-78 OUR
NO. 41-13825

OLD TO

Zack Company
4600 W. 12th Place
Chicago, Illinois 60650

NCR 566

PAGE 3 of 5

FORD 1940A
(2) CHICAGO IL 60640
(312) 247-2700FORD 1953
(10) INDIANAPOLIS, IN 46204
(317) 247-2727FORD 1955
(17) PHILA. PA 19114
(215) 637-1900FORD 1960A
(4) CHICAGO IL 60642
(312) 247-2700FORD 1925A
(11) LOUISVILLE, KY 40219
(502) 949-2371FORD 915H
(15) PITTSBURGH PA 15221
(412) 931-4100FORD 81067
(5) CINCINNATI, OH 45261
(513) 767-4000FORD 272
(12) MEMPHIS, TN 38101
(901) 575-44444555 WHEEL AVENUE
(14) ST. LOUIS, MO 63118
(314) 771-125516300 ROCKSIDE ROAD
(6) MAPLE HEIGHTS, OH 44137
(216) 587-7000918 BRIDGEPORT AVENUE
(15) MILFORD, CT 06458
(783) 877-1831FORD 2
(16) LIVERPOOL, NY 13090
(315) 451-153112301 HUBBELL AVENUE
(7) DETROIT, MI 48227
(313) 837-04797201 W. BRADLEY ROAD
(14) MILWAUKEE, WI 53223
(414) 354-1900FORD 225
(21) YORK, PA 17405
(717) 755-1523

SHIPPED TO Same

DATE SHIPPED

ADDRESS ALL CORRESPONDENCE TO
ADDRESS INDICATED BY THIS NUMBER

DESCRIPTION OF MATERIAL AND SPECIFICATIONS

64 Bar 1/2 x 2 HR Mild Ht. 83456 101

64 Bar 3/4 x 2-3/4 HR Mild Ht. 80312 102

64 Bar 1-3/4 x 2-1/2 HR Mild Ht. 15682 103

120 Bar 2" Sq. HR Mild Ht. 62884 104

QUALITY ASSURANCE REVIEW

COMPLETED BY: AS DATE 11-16-78

RELEASED: _____ DATE _____

NOT REQUIRED BY: _____ DATE _____

RELEASED TO PURCHASE BY: _____ DATE _____

CHEMICAL ANALYSIS

HEAT NUMBER	CARBON	MANG.	PHOS	SULPHUR	SILICON	COPPER	NICKEL	CHROMIUM	MOLY
83456	21	36	007	023					
80312	18	55	007	021					
15682	18	24	010	034					
62884	20	57	010	026					

COPPER	MAGNESIUM	MANG.	IRON	SILICON	ZINC	CHROMIUM	ALUM.

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/IN. IN.	YIELD LBS/IN. IN.	ELONGATION % IN.	REDUCTION AREA %	HARDNESS	BEND TEST	GRAIN SIZE	HARDEN ABILITY
A							
B							
C							
D							

SPECIAL TESTS

REMARKS

A55

It is hereby certified that the above material has been inspected and tested in accordance with, and has been found to meet, the applicable requirements for the material including any special tests forming a part of the description, and that samples representative of the material met the chemical composition and mechanical properties shown. Test reports are on file subject to review.

I, a Notary Public, do hereby certify that this affidavit was subscribed and sworn to before me by a duly authorized agent of Edgemoor Metals Company.

Signed M.A. Bach
Manager Inventory Control Section
Edgemoor Metals Company

M.A. Bach

18th

August, 1978

This certificate is subject to the terms and conditions on the reverse side hereof.

EDGCOMB METALS COMPANY
DIVISION OF THE PULASKI COMPANY
October 22, 1981 4 of 6

The Zack Co.
4600 W. 12th Place
Chicago, Il. 60650

Attention: Mr. David E. Calkins
Quality Assurance Manager

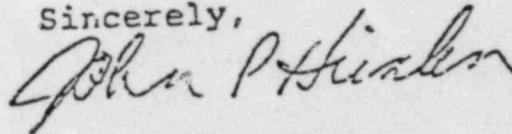
Dear Sir,

In reference to your letter of September 23, 1981, I have contacted Northwestern Steel & Wire Co. about the problem of certified mill test reports not directly referencing "ASTM".

Northwestern Steel & Wire Co. has sent me a letter, which I have attached for your records, that states all A-36 material purchased by Edgcomb Metals Co. is produced to ASTM-A36-77a.

I hope this will solve the problem stated in your letter and want you to know that if you have any further questions, please do not hesitate to call.

Sincerely,



John P. Heinlen
Manager Hot Rolled Products

JPH:mp

A55
EDGCOMB METALS COMPANY

3348 S. PULASKI ROAD, CHICAGO, IL 60623 • (312) 247-7700

Northwestern Steel and Wire Company 5 of 1

Sterling, Illinois 61081

PRODUCERS OF ELECTRIC FURNACE STEEL, HOT ROLLED STRUCTURAL AND BAR SHAPES, RODS AND WIRE PRODUCTS
TELEPHONE 315/625-2500 TWP 210-642-3594

October 20, 1981

Edgecomb Metals Co.
P.O. Box 7940A
Chicago Ill. 60680

Gentlemen:

This letter is to confirm the fact that all A-36 material purchased by Edgecomb Metals Co. from Northwestern Steel & Wire is produced to ASTM-A36-77a.

Also our data processing dept. is in the process of working this in so the complete spec will show on all of our certified tests.

We are sorry for any inconvenience this may have caused.

Yours Truly
Northwestern Steel & Wire



Herb Clevenger
Chief Inspector
Quality Control

Record of Telephone Resolution of Nonconformances

1. Nonconformance Reported By: D J SKOZA NCR No. 566
2. Date Reported: 12/31/81
3. Persons Contacted:

<u>Person</u>	<u>Title</u>	<u>Date</u>
<u>T. E. Watts</u>	<u>Proj Eng</u>	<u>12/31/81</u>

4. Resolution:

ACCEPT MATERIAL AS IS.

Daniell Skoza 12/31/81
Signature: Date:

5. Paperwork Follow-up:

A. NCR

Date Rec'd: Date Signed: Remarks: :

B. Revised Dwg./Spec./Proced.

Date Due: Date Rec'd: Checked By: Released

C. Date Released NCR to Field (Site or Vendor)

Released By: _____

SARGENT & LUNDY
ENGINEERS
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
TELEPHONE 312-269-2000

February 2, 1982
Project Nos. 4265-00
4267-00

Commonwealth Edison Company
LaSalle County Station - Units 1 and 2

Non-conformance Report (NCR)
No. 566

Mr. J. Dierbeck
Commonwealth Edison Company
LaSalle County Station
R. R. #1, Box 240
Marseilles, Illinois 61341

Reference: Sargent & Lundy's (E. P. Ricohermoso) letter to
Commonwealth Edison Company, (CECO), (T. E. Watts),
dated November 15, 1981.

Dear Mr. Dierbeck:

In order that the subject NCR can be evaluated by Sargent & Lundy,
will you please let us know where the materials were used or have
The Zack Company further justify where the materials were used
in the HVAC System.

Yours very truly,

E. P. RICOHERMOSO

E. P. Ricohermoso
HVAC Project Engineer

EPR:le
In duplicate
Copies:
J. L. Clark
D. J. Skoza
C. Eichstaedt
J. D. Engh

STATUS: PER MR. J. DIERBECK OF CECO-LSCS ON 2/2,
THE MATERIALS SHOWN ON THIS NCR WERE
USED ON THE SUPPORTS (SHIMS) OF 1VPO3AA/B
AND 2VPO3AA/B. THESE COILS ARE NSR.
REFERENCE DWG. NO. M-1371-3.

EP.R 2/4/82

A55

COPY



C13 J

CUSTOM METAL FABRICATION

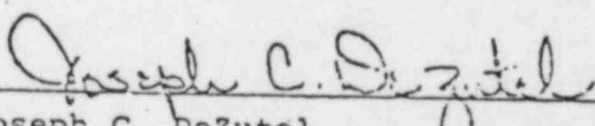
24 February 1982

INTEROFFICE MEMO

To: Zack Company Document Control Department - Chicago
QA/QC - Chicago

Re: Written Reports

Effective this date, any and all written reports to Zack Company clients, customers or suppliers must be reviewed and approved by Corporate Senior Management prior to dispatch.



Joseph C. DeZutel
Executive Vice President

JCDZ/nw

A56



CUSTOM METAL FABRICATION

March 1, 1982

Commonwealth Edison Company
R.R. #1 Box 240
Marseilles, IL 62341

Attn: Mr. J. Dierbeck

Re: NCR's Related to Reportable Defect Evaluation Report

Mr. Dierbeck,

Attached are 99 NCR's that have been generated to close out items that are currently included on the reportable defect evaluation list. Items covered by these NCR's are items purchased solely for the LaSalle Project and items purchased for stock and used at LaSalle.

Of the 99 reports, 30 have been closed internally by The Zack Company. Closure of these reports was accomplished through project management review and the surfacing of documents and information made available by project management. On these grounds we determined that it was within the authority of the The Zack Company to close these reports. Xerox copies of the closed reports are included for information. Any comments or additional information you may have concerning the affected items would, of course, be welcome.

The 69 open NCR's are submitted for an accept as is disposition in all cases. These are items for which, at this point in time, it seems unlikely that necessary documentation to correct deficiencies can be obtained. Also in this group are items that are correctly documented but are not included in the LaSalle Tech. Spec.

Closure of the above referenced NCR's will reduce the number of open items on the list to 35. These items are of a clerical nature and we are reasonably certain that necessary documentation can be obtained to correct the deficiencies. NCR's were not written on these remaining items based on this belief.

Although a time frame for completion of all items on the list cannot be established, closure of the enclosed NCR's and continuing effort on the remaining items will certainly bring this matter to a close in a timely manner.

Very truly yours,
The Zack Company

Raymond J. Basinga
Raymond J. Basinga
Q.A. Engineer

Christine Zuck B. Zuck
Zack Senior Management

• FOUNDED TO SOLVE THE UNIQUE METAL FABRICATION NEEDS OF INDUSTRY •
• DEDICATED TO CLEANING AND CUSTOMIZING THE AIR OF THE WORLD •

A57

15

March 1, 1982

CECo. Mr. J. Dierbeck

Page 2

RJB/dm

cc: C. DeZutel
J. DeZutel
M. Skates
- Q.A. Files

the **ZACK** co.

CUSTOM METAL FABRICATION

April 12, 1982

Engineering Evaluation

ECR No. 1-287

Affected P.O.'s - C-1089, C-9355 and C-475

ECR Violation: No CMTR's for 100 ft. 6" x 4 x 1/2" ST, 2000 lbs.
2" x 2" x 1/4" angle iron, 2000 lbs. 3 1/2" x 3 1/2" x 1/2"
angle iron, 100 ft. of 4" x 4" x 1/4" angle iron
and 100 pcs. 1/2" x 18" x 18" plate.

Discussion 1, C-475:

This order was to Jones and Laughlin Steel Company for 100 pcs. of 1/2" plate (A36) 18" x 18". In researching our corporate records there is no evidence that Zack Company ever received the items. There is no receipt inspection; no "quality control" yellow sheet; no delivery receipt; and no invoice from Jones and Laughlin. However, had any of this material ever reached the site, the timing is such that none would have been used without verification of certifications. It should also be noted that ASTM A-36 is a very low grade carbon steel and any commercial carbon steel would provide similar characteristics.

2. C-9355:

This order was for 2000 lbs. (600 ft.) of 2" x 2" x 1/4" galvanized angle iron, 2000 lbs. (320 ft.) of 3 1/2" x 3 1/2" x 1/2" galvanized angle iron, 100 ft. of 4" x 4" x 1/4" galvanized angle iron. Material was received by Zack Company on May 25, 1976. Researching the fabrication tickets for the LaSalle project show that the 2" x 2" x 1/4" angle iron was used in the Service Building for hangers. Lakes Steels standard practice is to furnish either ASTM-A36, ASME SA36 and/or M1020 Merchant Quality steel when angle iron is ordered, in all cases we believe this meets the intent of the design. The 3 1/2" x 3 1/2" x 1/4" and 4" x 4" x 1/4" angle iron were used in Service Building and Turbine Building for hangers. Zack Company did not start fabrication of seismic hangers until mid-1977, approximately one year after the material was received. Therefore it is reasonable to assume that none of the above material was used on seismic hangers.

A58

(8)

3. C-1089:

This order was for six various sizes of Structural Tubing. The order was to Chicago Tube and Iron (3-6-80) which possesses an N-stamp (N-1397), see attachment 1). Zack Company has a certificate of conformance from Chicago Tube and Iron stating the structural tubing "was manufactured to meet:

...ASTM-A-500 1978 Gr. B" (See attachment 2). We do not have the actual CMTR from manufacturer for the particular size 6" x 4" x 1/2" as called for in the ASTM standard. We do have the CMTR's for the other five items. C.T. and I have been in contact with Audrey DePaul, 523-1441 in regards to the missing CMTR.

QUALITY ASSURANCE REVIEW

COMPLETED BY: 20 DATE 7-13-81
 REVIEWED BY: 20 DATE 7-13-81
 NOT REQUIRED BY: 20 DATE 7-13-81
 RELEASED TO PURCHASE BY: 20 DATE 7-13-81

CERTIFICATE OF COMPLIANCE

ZACCO CO.
 4500 W 12 TH PLACE
 CHICAGO, ILL.

Your Order No. C1089
 Our Shipping No 719770
 Date of Shipment. 7-13

Our supplier has certified that the material called for on above order consisting of:

ITEM 1	10 X 10 X 1/4 WA WELD STRUCT SQ 20 W/L	1089
ITEM 2	6 X 6 X 1/4 WA WELD STRUCT SQ 20 W/L	1089-1
ITEM 3	5 X 5 X 1/4 WA WELD STRUCT SQ 20 W/L	1089-2
ITEM 4	4 X 4 X 1/4 WA WELD STRUCT SQ 20 W/L	1089-3
ITEM 5	8 X 8 X 1/4 WA WELD STRUCT SQ 20 W/L	1089-4
ITEM 6	6 X 4 X 1/2 WA WELD STRUCT RECT 20 W/L	1089-5

was manufactured to meet:

ITEM 1, 2, 3, 4, 5, & 6.

ASTM A 500 1978 GR. B.

THESE TEST REPORTS APPLY TO YOUR
 PURCHASE ORDER C1089
 FOOTAGE SHIPPED _____
 PIECES _____
 CHICAGO TUBE & IRON CO.

A58

2531 W. 48TH STREET CHICAGO, IL 60632

CHICAGO INDIANAPOLIS MILAN MILWAUKEE ST. PAUL

Chicago Tube & Iron Co.



CUSTOM METAL FABRICATION

April 12, 1982

Engineering Evaluation

~~SECRET~~

Affected P.O.'s: C-642 (1-12-78)
C-696 (5022078)
C-9411 (4-5-76)

NCR Violation: 40 Tons - 22 ga. and 20 Tons - 18 ga. galvanized coil material has no ASTM designation on certs.

Discussion: 1. C-9411 (20 Tons - 22 ga.);
As of 4/6/82 corrected CMTR from U.S. Steel has been received and reviewed acceptable by Zack Company Q.A. department.

2. C-696 (20 Tons - 22 ga.); We received 5 coils weighing a total of 43,640 lbs. 3 coils were from heat number 06R037 (407, 408 and 409). The chemical analysis as listed on the test report falls within the chemical analysis of ASTM-A527-71. The physical analysis of 40000 psi yeild and 52700 psi tensile is in the same range as ASTM-A527-71 steel, when it is physically tested. The ASTM A-527-71 does not have a physical testing requirement. The other 2 coils (405 and 406) were from heat number 06T513. The chemical analysis as listed on the test report falls within the chemical analysis of ASTM-A527-71. The physical analysis of 39,470 psi yeild and 52,630 psi tensile is in the same range as ASTM-A527-71 steel, when it is physically tested. The U.S. Steel CMTR and invoice states "Galv Steel Carbon LFQ G90 Chem Treat No Oil." (See attachment 1) LFQ is abbreviation for "lockforming quality." ASTM A-527-71 is standard for "lockforming quality steel sheet, zinc coated galvanized." The G90 is the designation for the coating as specified in ASTM-A526-76, 77, 79 and/or 80A. The purchase order just previous C-695 issued the same date to U.S. Steel for 20 gage does state "A527-71, LFQ, G90 Chem Treat" on U.S. Steel invoice (see attachment 2). Two coils of P.O. C-695 came from the same heat as three coils of C-696.

A59

April 12, 1982

Engineering Evaluation

NCR-L-284

Page 2

3. C-642 (20 Tons - 18 gage);
We received four coils (338, 339, 340 and 341) weighing a total of 42190 lbs. The shipping notice and invoice from Bethlehem Steel Company states "BETHCON COILS, LOCK FORM QUAL, G90 Type Q, Spec: ASTM-A527-71." The CMTR states "BETHCON COILS, LOCK FORM QUAL, G90 (See attachment 3, 4 and 5)." The chemical analysis as shown on the test report falls within the chemical analysis of ASTM-A527-71. (See attachment #5). The physical tests as listed on PTL reports (attachment 6, 7 and 8) are in the same range as ASTM-A526-71 material, when it is physically tested.

CLE/nw

9730650001	23	PURCHASE ORDER DATE 05/15/78	PURCHASE ORDER NO. C-696	USS CONTROL NO. 04423 23616-0341-812	USS ORDER NO. CH46370	PAGE 1
RE 100 33438 TPO BOX 96410 CHICAGO, ILL. 60693		TERMS 30-1/2-10	INVOICE DATE 02-12-79	INVOICE NO. 146-40477		

PLEASE REFER TO THE ABOVE INVOICE NO. IN YOUR REMITTANCE

THE ZACK CO
4600 N 12TH PLACE
CHICAGO ILL 60650

THE ZACK CO
4600 W 12TH PLACE
CHICAGO 50 ILLINOIS

8497	DATE SHIPPED 02/02/79	FROM FAIRLESS PA.	ROUTE/CARRIER 146 INTERSTATE MOTOR FRT SYSTEM
TL	MINIMUM WEIGHT 0040M	FOR DESTINATION	VEHICLE 1104 820 PA
			PREPAID COLLECT C

Description						Quantity	Unit Price	Amount
LV SHEET CARBON LFQ G90 CHEM TREAT NO OIL								
DESCRIPTION FT LENGTH IN								
-0300MINX60 COIL ID 20								
PRICE NUMBER B23-0515								
COIL NO HEAT-NO COILS LIN.FT. ACT-LB THEO-LB								
198586	06T513	1	1525	9650	9331			
198586	06T513	1	1725	10950	10555			
016428	06R037	1	1037	6700	6345			
016428	06R037	1	1279	8240	7826			
016428	06R037	1	1272	8100	7783			
		5	6838	43640	41840	41840	CENTS/LB 25.5250	10679.6
ZINC PRICE ADJUSTMENT						41840	.1400	58.5
TOTAL								10738.2
PLUS TRANSPORTATION CHARGE								
TL 40M						43640	2.0000	872.8
LESS COMP ALLOW						43640	1.7000	741.8
TOTAL DELIVERED VALUE								10869.
LESS COLLECT TRANS CHARGE								
TL 40M						43640	2.0000	872.8
T NO	C	MN	P	S				
037	.07	.34	.008	.025				
513	.07	.33	.008	.021				

QUALITY ASSURANCE REVIEW
COMPLETED BY: cll
RELEASED BY: 279
NOT REVIEWED BY: _____
RELEASED TO PURCHASE BY: _____

CHICAGO
Job No. 12100
Material Rec'd
Price OK
OK to Pay

2000
OK
9996.36
Ret

PAID
F12/12

ILS A59
S ACT-LB THEO-LB
43640 41840
43640

DISC AMT 53.69 INVOICE AMT 9996
DAYS TO MATURITY OR DISCOUNT DATE RUN FROM DATE OF INVOICE

9730650001

23

PURCHASE ORDER DATE

PURCHASE ORDER NO.

05/15/78

C-695

VSS CONTRACT NO.

06203

05916-0591-616

VSS ORDER NO.

CH46365

PAGE

1

TERMS

30-1/2-10

INVOICE DATE

02-28-79

INVOICE NO.

146-47721

PLEASE REFER TO THE ABOVE INVOICE NO. IN YOUR REMITTANCE

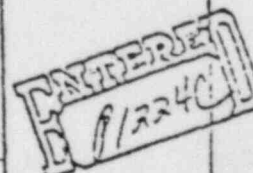
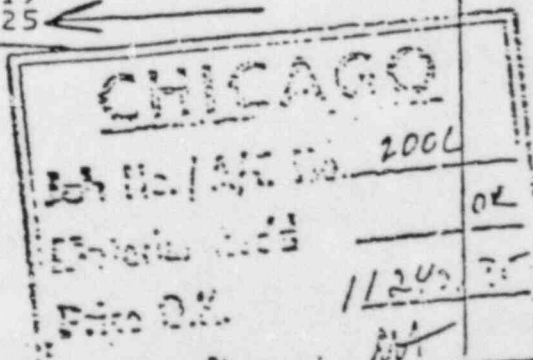
THE ZACK CO
4600 W 12TH PLACE
CHICAGO ILL 60650

THE ZACK CO
4600 W 12TH PLACE
CHICAGO 50 ILLINOIS

BS NO.	DATE SHIPPED	FROM	ROUTE/CARRIER	VEHICLE	PREPAID COLLECT CC
3709	02/28/79	FAIRLESS PA.	HELMS EXPRESS, INC - ASTRO DIV		
TL	MINIMUM TONNAGE 0040M	FOR DESTINATION		TD71587 PA	

IV SHEET CARBON ASTM A527-71 LFQ 500 CHEM TREAT
OIL TEST REPORTS FOR COST INFO ONLY

DESCRIPTION	FT LENGTH IN	PP12	Quantity	Unit Price	Amount
.0360MINX60 COIL ID 20					
PRICE NUMBER B23-0515					
COIL NO HEAT-NO COILS LIN.FT. ACT-LB THEO-LB					
005630 01R001 1 847 6450 6220					
005630 01R001 1 1302 9900 9561					
005630 01R001 1 1354 10400 9842					
023654 06R037 1 1381 10900 10141					
023654 06R037 1 1505 11750 11051					
5 6389 49400 46915			46915	CENTS/LB 25.4250	11928.1
ZINC PRICE ADJUSTMENT			46915	.2700	103.2
TOTAL					12031.3
PLUS TRANSPORTATION CHARGE					
TL 40M			49400	PER 100LB 1.9400	958.3
LESS COMP ALLOWANCE			49400	PER 100 LB 1.6000	790.4
TOTAL DELIVERED VALUE					12199.
LESS COLLECT TRANS CHARGE					
TL 40M			49400	PER 100LB 1.9400	958.3
Y NO C MN P S					
001 .06 .29 .008 .019					
037 .07 .34 .008 .025					



COILS ACT-LB THEO-LB
5 49400 46915
49400

DISC AMT FOR 60.16 INVOICE AMT 11240.
DAYS TO MATURITY OR DISCOUNT DATE RUN FROM DATE OF INVOICE

Copies of invoice which are produced or rendered in the United States by this office when produced or rendered in any place with the requirements of the Fair Labor Standards Act of 1938, as amended.

PAYABLE IN U.S. DOLLARS
COUNTRY OF ORIGIN

BELOW

087000-02

1

21

09

1216

270

x2

COLLECT

ZACK CO
4600 W 12TH PL
CHICAGO IL 60650

SHIP TO

ZACK CO
4600 W 12TH PL
CHICAGO IL 60650

ATTACHMENT 3

3/21/78

LACKAWANNA NY

ARTM ARTIM TRAN. SYS. INC.

VEHICLE IDENTIFICATION

MOL PCS/7803

KIND OF PACKAGE DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS

WEIGHT POUNDS

4 COILS STEEL SHEETS
DUNNAGE FREE 40

ARP COVERED

DAD EYE HORT LOWSE ON C HOOK UNLDC

GAL. & MILL DED. NOS.

UNITS

DESCRIPTION

QUANTITY SHIPPED

GA

NSP: MILL (X)

(43E) BETHCON COILS LOCK FORM QUAL G90 TYPE Q

SPEC: ASTM A527-71

D1H-

642 -

(2126-075-425)

E 21-45767

17C4095	1	.0470 48 COIL	(10560)
78C14X21B 1332 FT		MIN	10216
	1		(10140)
78C14X21A 1317 FT			10101
	1		(10690)
78C14X21 1368 FT			10492
	1		(10800)
78C14X21C 1346 FT			10323
	4		(42190)
			41132

2126 075 +25 42190

03/26/78

LEHIGH STEEL CORPORATION
BETHLEHEM, PA. 18016

507-1948

BELOW

007000-02 1 21 108 1216 1270 12

COLLECT

ZACK CO
4600 W 12TH PL
CHICAGO IL 60650

ZACK CO
4600 W 12TH PL
CHICAGO IL 60650

ATTACHMENT 4

3/21/78 LACKAWANNA NY
ARTM ARTIM TRAN. SYS. INC.

SHIP TO DESTINATION

VEHICLE IDENTIFICATION

NO. OF PACKS

KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS

WEIGHT UPWARDS

4 COILS STEEL SHEETS
DUNNAGE FREE 40

42190

40

FAPER

TARP COVERED

DAD EYE HOOK LOOSE ON C HOOK UNLDC

DAD EYE HOOK LOOSE ON C HOOK UNLDC

DIMS

DESCRIPTION

QUANTITY SHIPPED

NO.

PRICE

INVOICE

GA

INSP: MILL (X)

(X) BETHCON COILS LOCK FORM QUAL G90 TYPE Q

SPEC: ASTM A527-71

D1H-

C-642

BE 21-43767

(2126-075-425)

517C4095	1	.0470 48 COIL	(10560)
78C14X21B 1332 FT		MIN	10216
	1		(10140)
78C14X21A 1317 FT			10101
	1		(10690)
78C14X21 1368 FT			10492
	1		(10800)
78C14X21C 1346 FT			10323
	4		(42190)
			41132

21.885 CWT 9.001.

2126 075 425 42190

COMP IND HARBOR FRT
LESS MILL FRT

42230

42230

.32 CWT

135.

1.31 CWT

553.

AMOUNT PAYABLE

58,583.

TERMS 30 1/2 10

45.01 CASH DISC.

REMIT TO P.O. BOX 91500 CHICAGO IL 60693

PLEASE SHOW ON REMITTANCE-ACCOUNT 987000

CAUTION: TO BE OPENED THROUGH BOTTOM FOR ARTICLES OR MATERIALS
INSURE: THIS DATE MUST BE FURNISHED SEPARATELY AT TIME OF DELIVERY

SHIPPING SLIP

INVOICE

0507- 1948

ZACK CO
4600 W. 12TH PL.
CHICAGO ILL. 60650

**SOLD
TO**

SHIPPED TO

REPORT OF PHYSICAL AND CHEMICAL TESTS

[illegible]



PITTSBURGH, PENNA.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS
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FOR PUBLICATION OF STATEMENTS, CONCLUSIONS OR EXTRACTS FROM OR REGARDING
OUR REPORTS IS RESERVED PENDING OUR WRITTEN APPROVAL.

ORDER NO.

CE 4271

ATTACHMENT #6

LABORATORY NO.

4445

CUSTOMER NO.

12-20-19 78

TENSILE TEST OF Galvanized plate

FOR Zack Company, 4600 West 12th Place, Chicago, IL 60650

TEST NO.	TEST SECTION	ORIGINAL AREA SQ. IN.	YIELD POUNDS	MAXIMUM LOAD POUNDS	YIELD LB. PER SQ. IN.	TENSILE STRENGTH LB. PER SQ. IN.	ELONGATION		REDUCTION OF AREA PER CENT	FRAC
							IN 2 IN.	PER CENT		
147	1.608 x .031	.0498	2020	2640	40560	53010	.76	38.0		
179	1.317 x .031	.0408	1560	2180	38230	53430	.67	33.5		
300	1.645 x .037	.0608	2500	3280	41120	53950	.85	42.5		
320	1.625 x .033	.0536	2620	3080	48700	57460	.80	40.0		
332	1.740 x .039	.0678	2800	3320	41300	48970	.98	49.0		
338	1.682 x .060	.1009	4250	5380	42120	53320	.82	41.0		
365	1.644 x .034	.0558	2440	3130	43730	56100	.77	38.5		
<div>QUALITY ASSURANCE REVIEW COMPLETED BY: <u>MSI</u> DATE: <u>12-23-78</u> RELEASED: _____ DATE: _____ NOT REQUIRED BY: _____ DATE: _____ RELEASED TO PURCHASE BY: _____ DATE: _____</div>										

DAD/av

2cc: Client

PITTSBURGH TESTING LABORATORY

David A. Dunn
David A. Dunn, Manager Chgo. Div.

PITTSBURGH, PENNA.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS, AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS OR EXTRACTS FROM OR REGARDING OUR REPORTS IS RESERVED PENDING OUR WRITTEN APPROVAL.

ORDER NO. CH 4360

LABORATORY NO. 5230

CUSTOMER NO. 2905

5-10- 19 79

ATTACHMENT - 7

1. OF TENSILE TEST OF

Material for Illinois Power Co.

Clinton Power Station - K2910 - HVAC

FC 2

The Zack Co. 4600 West 12th Place Chicago, IL 60650

[illegible]

25

2cc: 0.154

[Handwritten signature]

PITTSBURGH TESTING LABORATORY

David A. Dunbar
David A. Dunbar, Manager Cigo. Dist.

ESTABLISHED 1891
PITTSBURGH, PENNA.AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS
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ATTACHMENT # 8

REVISED AND REISSUED

ORDER NO. CH 4293

LABORATORY NO. 4537 - 452

CUSTOMER NO. C12724

1-11-79 19 79

TYPE OF TENSILE TEST OF Ten steel specimens

Job #2905 - Clinton

FOR The Zack Co., 4600 West 12th Place, Chicago, IL 60650

DESCRIPTION SIZE	ORIGINAL AREA SQ. IN.	YIELD STR POUNDS	MAXIMUM LOAD POUNDS	YIELD STR LB. PER SQ. IN.	TENSILE STRENGTH LB. PER SQ. IN.	ELONGATION		REDUCTION OF AREA PER CENT	FRACTURE
						IN 2 IN.	PERCENT		
1 1/2 x 1 1/2 x 1/8	.129								
3 1 1/2 x 1 1/2 x 1/8	.575	.070	4150	5600	59300	80000	.51	25.5	
2 1 1/2 x 1 1/2 x 1/4	.277								
2 1 1/2 x 1 1/2 x 1/4	.585	.160	7000	10000	43750	62500	.60	30.0	
2 x 2 x 1/4	.267								
2 x 2 x 1/4	.581	.160	7200	10150	45000	63400	.63	31.5	
1 1/4 x 4	.259								
1 1/4 x 4	.585	.150	7700	11150	51300	74300	.63	31.5	
16 ga.	.051								
T 55715	.585	.040	1500	1950	37500	45750	.63	31.5	
18 ga.	.052								
HT 51774095	.595	.030	1100	1350	35700	45000	.74	37.0	
20 ga.	.038								
HT 645771	.590	.022	1050	1200	47727	54545	.65	32.5	
22 ga.	.033								
HT 314X15	.583	.019	720	1000	37900	52600	.60	30.0	
24 ga.	.026								
HT 212129	.587	.015	580	800	38700	53300	.35	32.5	
18 ga.	.052								
HT 216452	.587	.030	1200	1600	40000	53300	.68	34.0	

SHEET = 30000 PSI MIN. (YIELD)

SHAPES = 36000 PSI MIN. (YIELD)

QUALITY ASSURANCE REVIEW

COMPLETED BY: CLD

DATE 1-18-79

RELEASED: 5

DATE

NOT REQUIRED BY:

DATE

RELEASED TO PURCHASE BY:

DATE

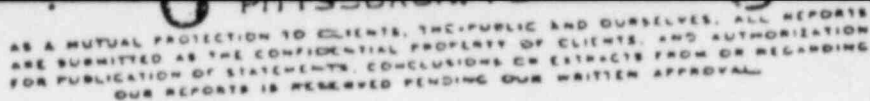
/zv
Client

PITTSBURGH TESTING LABORATORY

David A. Dunn

David A. Dunn, Manager Chgo. Dist.

PITTSBURGH TESTING LABORATORY



6-13- 19 79

The Zack Company, 4600 West 12th Place, Chicago, IL 60650

David A. Dunn, Manager Chgo. Dist.



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ORDER NO. CH 447

LABORATORY NO. 5377

CUSTOMER NO.

7-10- 19

RT OF TENSILE TEST OF Galvanized strips for Clinton Power Station - K2910 HVAC - File #2905

FOR The Zack Co. 4600 W. 12th Place Chicago, IL 60650

QUALITY ASSURANCE REVIEW
COMPLETED BY: QSV DATE 7
RELEASED: _____ DATE _____
NOT REQUESTED BY: _____ DATE _____
RELEASED TO PURCHASE BY: _____ DATE _____

PITTSBURGH TESTING LABORATORY

David A. Dunn
David A. Dunn, Manager Chgo. Di

ice: Client

Test Report of.

CHEMICAL ANALYSIS & MECHANICAL PROPERTIES

Product Description/Specification.

USS GALV, LFQ G90

Load Tally
or Shipping Notice.

161-40160

Charged to THE ZACK COMPANY

or Shipping Notice.

CHICAGO, ILLINOIS

Car Number_

[illegible]

QUALITY ASSURANCE REVIEW

RECEIVED BY - James DATE 11-16-77

COMPLETED BY _____ DATE _____

We hereby certify that the above figures are correct as contained in the records of the company.

CHIEF METALLURGIST

PURCHASE ORDER NO.

P.O. DATE

PURCHASE ORDER NO.

C-9411

WE HEREBY CERTIFY THAT THE TEST ANALYSES AND/OR TEST RESULTS SHOWN IN THIS REPORT ARE CORRECT AS ENTERED IN THE RECORDS OF THE COMPANY.

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THE ZACK COMPANY
4600 W. 12TH. PL.
CHICAGO, ILLINOIS 60650

SHIPPER'S NO.

MILL ORDER NO.

CD25585

INVOICE NO.

161-40160

VEHICLE
IDENTITY

SIGNATURE

APRIL 1, 1982

DATE

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USS CALV. SHEET CARBON ASTM A527-71, ASTM A525-76 LFQ, G90, CHEM. TREAT. NO OIL

PURCHASE ORDER NO.	MILL ORDER NO.	ITEM NO.	MATERIAL DESCRIPTION		HEAT NO.	YIELD PT.	TENSILE STR.	ELONGATION %		T. H. OF ABL.
			THICKNESS OR SECTION	WIDTH, DIA. OR FT. WT.				IN 8"	IN 2"	
C-9411	CD25585	01	.0300 MIN. X 48 IN.		D24236	AVG. CTC. WT. .93				
END OF DATA										
<div>THE ZACK QUALITY ASSURANCE REVIEWED BY <u>Charles C. Gent III</u> CONTROL NO. <u>C-9411</u> DATE <u>4-6-82</u> COMMENT <u>CHILL HT# D24236</u></div>										
HEAT NO.	TYPE	C	MN	P	S	SI	CU	NI	CR	MO
D24236		.05	.44	.006	.012					
J. D. Evering PAGE OF										

J. D. Ewing

PAGE OF

DAY WORKS

Thermal, Chemical, Analysis & Mechanical Properties

[illegible]

Charged to THE ZACK CO.

Load Tally
or Shipping Notice 161-40163

Chicago 50, Illinois

Car Number _____

TRUCK

[illegible]

We hereby certify that the above figures are correct as contained in the records of the company.

CHAIRMAN ASSURANCE REVIEW

УДК 62-50

DATE 11-16-10

SUPPLIED:

DATE - 1/15/88

DATE _____
BY _____

ETHNOMATHEMATICS

REQ. JOB, CONTRACT NO.

P. O. DATE

PURCHASE ORDER NO.

C-9411

WE HEREBY CERTIFY THAT THE
ANALYSIS AND/OR TEST RESULTS ON
THIS REPORT ARE CORRECT AS SHOWN
IN THE RECORDS OF THE COMPANY.

SHIPPER'S NO.

MILL ORDER NO.

INVOICE NO.

CD25585

161-40163

VEHICLE
IDENTITY

SIGNATURE

DATE

APRIL 1, 1982

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THE ZACK COMPANY
4600 W. 12TH. PLACE
CHICAGO, ILLINOIS

60650

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SPEC.

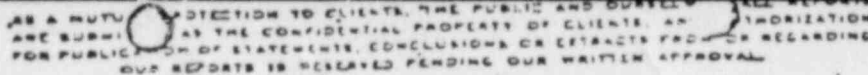
INSPECTION. US9 GALV. SHEET CARBON ASTM A527-71, ASTM A525-76 LFQ, G90, CHEM. TREAT., NO OIL

PURCHASE ORDER NO.	MILL ORDER NO.	ITEM NO.	MATERIAL DESCRIPTION		HEAT NO.	TEST RESULTS	YIELD ST.	TENSILE STR.	ELONGATION %		%
			THICKNESS OR SECTION	WIDTH, DIA. OR FT. WT.					IN 8"	IN 2"	
C-9411	CD25585	01	0300 MIN. X	48 IN.	D24597	AVG. CTG. WEIGHT .96					
END OF DATA											
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p>... ZACK QUALITY ASSURANCE</p> <p>REVIEWED BY <i>Charles L. Brant III</i></p> <p>CONTROL NO. <i>C-9411</i></p> <p>DATE <i>4-6-82</i></p> <p>COMMENT <i>CD25585 D24597</i></p> </div>											
HEAT NO.	TYPE	C	MN	P	S	SI	CU	NI	CR	MO	
D24597		.05	.44	.007	.015						

J. D. Evers

PAGE

OF



CE 127:

1.1.1.5

CUSTOMER NO.

12-20-19 7

REPORT OF TENSILE TEST OF Galvanized plate

FOR	Zack Company, 4600 West 12th Place, Chicago, IL	60650
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QUALITY ASSURANCE REVIEW	
COMPLETED BY: <u>Y-T</u>	DATE <u>12-28-78</u>
RELEASED: _____	DATE _____
NOT REQUIRED BY: _____	DATE _____
RELEASED TO PURCHASE BY: _____	DATE _____

PITTSBURGH TESTING LABORATORY

David A. Dunn, Manager Chgo. Dis

USS *States*
Steel
Corporation

E. M. BILL
MANAGER OF SALES
THOMAS E. RICHMOND
ASSISTANT MANAGER OF SALES

CHICAGO DISTRICT SALES OFFICE
208 SOUTH LA SALLE STREET
CHICAGO, ILLINOIS
MAIL: P. O. BOX 1283
CHICAGO, ILLINOIS 60690
312/329-2000

December 21, 1981

The Zack Company -
4600 West 12th Place
Chicago, IL 60650

Attention: Mr. R. A. Perry.

Subject: Your Letter ZC/QC-006 Dtd 11/11/81
Covering Test Reports

Dear Mr. Perry:

Regarding the above, the chief metallurgist's name is typed on the report by the computer. It is our indication of who was chief metallurgist at the time.

The written name or initials indicate who reviewed the report and who added information not printed by the computer.

The USS "logo" and name is the identification which fixes the liability of this corporation for the information on the report and the steel which it represents.

In most of our mills these reports are computer generated and computer audited against the specification for completeness and accuracy. This has been accepted by the AISI, other bodies including Nuclear (ASME) and the steel using industry as more accurate than the former manual system.

Our test report system has been accepted by the industry and has presented no problem of the type you mentioned.

If there are any questions, please do not hesitate to contact the undersigned.

Yours truly,

UNITED STATES STEEL CORPORATION

A. J. Carlino
A. J. Carlino
Service Representative

ZACK QUALITY ASSURANCE

REVIEWED BY *AKH*
CONTROL NO. *Specimen P. 5*
DATE *2-1-82*
COMMENT *Clear Signature on*

AJC/jdg

1. ITEM NO. (PART NO., SER. NO., EQUIP. NO.)
N/A

2. ITEM NAME AND UNIT
SEISMIC SYSTEMS, UNIT I & II

3. DESCRIPTION OF NONCONFORMANCE
MISSING OR INCOMPLETE
DOCUMENTATION FOR HVAC
DUCTWORK + HANGER MATERIAL,
SEE ATTACHED ZACK CO. NCR'S

4. DISPOSITION OF NONCONFORMANCE
MISSING OR INCOMPLETE

5. DISCOVERED DURING
☒ SUPPLIER INSPECTION
☐ CONSTRUCTION
☐ CONTRACTOR TEST

6. P.C. NO. & P.D. ITEM NO.
186 466

7. HOLD TAG NO.
7063-7085

8. WORK REQUEST NO.
N/A

9. SIGNATURES
NONCONFORM. OBSERVED BY: J. Shoye PCD 4/2/82
NONCONFORM. VERIFIED BY: J. Shoye PCD 4/2/82
SITE BY: B. G. McAndrew PCD 4/2/82
S.M. OR SITE FREIGHT DATA: 4-2-82

10. WORK LIMITATIONS: ☒ WORK CAN PROCEED ☐ WORK CANNOT PROCEED ☐ OTHER LIMITATIONS
EXPLAIN WORK LIMITATION:

11. EVALUATION & DISPOSITION

12. CAUSE OF NONCONFORMANCE
INADEQUATE PROCUREMENT & DOCUMENTATION
BY ZACK CO. SEE SUSSE REPORT 81-82

13. ACTION REQUIRED TO CORRECT THE NONCONFORMANCE
ACCEPT AS IS. SEE PAGE 2 FOR ADDITIONAL
INFORMATION Also see 4/14/82 S&L letter

14. CORRECTIVE ACTION REQUIRED TO PREVENT RECURRENCE OF NONCONFORMANCE (WRITE N/A IF NOT KNOWN)
N/A

15. REVIEW AND APPROVAL
REVIEWED BY: J. Shoye 4/14/82
ENGINEERING PROJECT ENGINEER
APPROVED BY: B. G. McAndrew 4-15-82
ENGINEERING DEPARTMENT HEAD
DATE

16. DISPOSITION COMPLETION

17. DESCRIPTION OF ACTION TAKEN TO CORRECT THE NONCONFORMANCE
N/A

18. DESCRIPTION OF CORRECTIVE ACTION INITIATED TO PREVENT RECURRENCE
Action specified in 10/23/81 Zack report
has been completed

19. DISPOSITION COMPLETED BY: J. Shoye PCD 4/15/82
NAME DEPARTMENT DATE

20. DISPOSITION COMPLETION APPROVED BY: B. G. McAndrew 4/15/82
STATION CONSTRUCTION PROJECT ENGINEER DATE

21. CORRECTIVE ACTION/CAL REVIEW
A60
C/A NOT REQUIRED ☒ ADEQUATE ☐ ADDITIONAL C/A REQUIRED (78)

22. ACTION ITEM NO. 4-16-82 See attached S&L letter 4-14-82 & memo to File 4-16-82
RA B. ram 4/16/82

SARGENT & LUNDY
ENGINEERS

FOUNDED BY FREDERICK SARGENT

55 EAST MONROE ST

CHICAGO, ILLINOIS 60601

TELEPHONE - 312-269-2000

CABLE ADDRESS - SARGLUN-CHICAGO

April 14, 1982

Commonwealth Edison Company
LaSalle County Station - Units 1 & 2

Mr. T. E. Watts
General Design Engineer
Commonwealth Edison Company
P. O. Box 767
Chicago, Illinois 60690

SUBJECT: S.&L. Specification J-2590
HVAC Installation

Reference: CEC Co NCR #594

Dear Mr. Watts:

Sargent & Lundy has reviewed the following Zack Company NCR's and based on our meeting at S&L offices on April 7, 1982 with T. E. Watts (CECo), D. C. Haan, D. Spisiak, and E. R. Kurtz (S&L), and a subsequent visit at Zack Company offices on April 14, 1982 by B. McAndrews and J. Dierbeck (CECo Station Construction), find them acceptable for use.

1. L-210. 200 ft. each 3/8" x 8" and 1/2" x 8" flat bars do not have certifications on file.

Response: The Certificate of Conformance submitted is adequate. Additionally, Zack Company has been monitored continuously in accordance with the Commonwealth Edison Quality Assurance Program. Recommend acceptance as is.

2. L-211. 185 Angle Rings have no Material Certifications on file.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Recommend acceptance as is. ✓

3. L-214. No Chemical or Physical (MTR's) are available for 22 gauge (20 tons) galvanized coils.

Response: Sargent & Lundy agrees with the Zack Company recommendation covered in their April 9, 1982 letter.

**SARGENT & LUNDY
ENGINEERS**

FOUNDED BY FREDERICK SARGENT-1891
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
TELEPHONE - 312-269-2000
CABLE ADDRESS - SARLUN-CHICAGO

Page 2 - Mr. T. E. Watts, General Design Engineer
Commonwealth Edison Company
LaSalle County Station - Units 1 & 2

April 14, 1982
S&L Spec. J-2590
HVAC Installation

4. L-215. 500, 1" x 1" x 1/8" Galvanized Angles have no Physical or Chemical (MTR's) available. Purchase order does not specify an ASTM Standard.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Recommend acceptance as is.

5. L-225. 2000 Nuts and 1000 Flat Washers are certified to ASTM A307. A307 does not directly apply to nuts and washers.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Additionally, reasonable assurance is given due to the fact that Commonwealth Edison Co. has monitored the Zack Company in accordance with the rules of the CECO Quality Assurance program.

6. L-233. (234) 7/8"Ø nuts and washers and (352) 3/4"Ø and washers are certified to A325 and A307 respectively. Should be certified to A563 and F436 respectively.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Additionally, reasonable assurance is given due to the fact that Commonwealth Edison Co. has monitored the Zack Company in accordance with the rules of the CECO Quality Assurance program.

7. L-234. (40) 1 1/8"Ø - 7 x 6 1/2" studs, (80) 1 1/8" Ø Hex nuts, (80) 1 1/8" flat washers were supplied with COFC referencing ASTM A307. Nuts to be A563, flat washers cannot be A307.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Additionally, reasonable assurance is given due to the fact that Commonwealth Edison Co. has monitored the Zack Company in accordance with the rules of the CECO Quality Assurance program.

**SARGENT & LUNDY
ENGINEERS**

FOUNDED BY FREDERICK SARGENT-1891

55 EAST MONROE STREET

CHICAGO, ILLINOIS 60603

TELEPHONE - 312-269-2000

CABLE ADDRESS - SARLUN-CHICAGO

Page 3 - Mr. T. E. Watts, General Design Engineer
Commonwealth Edison Company
LaSalle County Station - Units 1 & 2

April 14, 1982
S&L Spec. J-2590
HVAC Installation

8. L-240. 225 angle rings furnished on PO's were furnished without Material Certifications and supplier is unable to supply them.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Recommend acceptance as is.

9. L-241. 93 galvanized angle rings were furnished without material and galvanizing certifications. These cannot be obtained from vendor.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Recommend acceptance as is.

10. L-242. 56875 nuts reference A307, 7060 nuts reference A325, 242 jam nuts reference "STL", 768 washers reference A307; 3860 reference A325, 15000 washers reference C1006-C1008 CRS. Except those referencing A steel grade.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Recommend acceptance as is.

11. L-243. Phillips Red Head wedge anchors were supplied without Material Certifications or C of C.

Response: The specification does not require the submittal of Material Certification for minor attachments or specification requirements judged over conservative. Recommend acceptance as is.

12. L-253. 1320# of .035"Ø HB25 and 660# of .045"Ø HB-25 weld wire has no Certs on file.

Response: The Certificate of Conformance submitted on typical results is adequate. Recommend acceptance.

13. L-254. Blanket Order for E6011 electrodes (1/8"Ø and 3/32"Ø) has no requirement for any Certs and none on file, and 400# of 1/8"Ø of 3/32"Ø E6011 Electrodes.

Response: The Certificate of Conformance submitted on typical results is adequate. Recommend acceptance.

**SARGENT & LUNDY
ENGINEERS**

FOUNDED BY FREDERICK SARGENT-1891
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
TELEPHONE - 312-269-2000
CABLE ADDRESS - SARLUN-CHICAGO

Page 4 - Mr. T. E. Watts, General Design Engineer
Commonwealth Edison Company
LaSalle County Station - Units 1 & 2

April 14, 1982
S&L Spec. J-2590
HVAC Installation

14. L-275. (20) 1 1/8"Ø x 6" large studs have a Certificate on file that references ASTM A194 which is a specification for nuts.

Response: The April 9, 1982 Zack Company letter states that a review of the Quality Control receiving reports showed that the studs were returned to the supplier on April 14, 1981. This NCR should be closed with no further action required.

15. L-276. (300) 1/2"Ø bolts which have a Certificate of Conformance that does not ref. an ASTM.

Response: The Certificate of Conformance submitted is adequate, and it was further ascertained that this material was not used in a safety-related application. Recommend acceptance as is.

16. L-284. 40 tons of 22 gauge and 20 tons of 18 gauge galvanized coil material has no ASTM designation on Certifications.

Response: We have reviewed the Zack Company letter dated April 12, 1982 and agree with the recommendation covered. Recommend acceptance as is.

17. L-285. 5 tons of 12 gauge galvanized sheets and 3 tons of 1 1/2" x 1 1/2" x 1/4" galvanized angles have only a Certificate of Conformance to their respective standards on file.

Response: The Certificate of Conformance on file at the Zack Company is adequate. Recommend acceptance as is.

18. L-286. 35 tons of 22 gauge, 20 tons - 18 gauge have no CMTR's on file.

Response: The Zack Company letter dated April 9, 1982 states this material was used on non-safety related application. No further action is required.

19. L-287. 100 feet of 6" x 4" x 1/2" tube, 1 ton of 2" x 2" x 1/4" angle, 100 feet of 4" x 4" x 1/4" angle and 100 pieces of 1/2" x 18" x 18" flat plate. All ordered to ASTM A36 or A500 have no Certs on file.

Response: We have reviewed the Zack Company letter dated April 12, 1982 and find this gives us the reasonable assurances raised by our previous concerns. Recommend acceptance as is.

**SARGENT & LUNDY
ENGINEERS**

FOUNDED BY FREDERICK SARGENT-1891
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
TELEPHONE - 312-269-2000
CABLE ADDRESS - SARLUN-CHICAGO

Page 5 - Mr. T. E. Watts, General Design Engineer
Commonwealth Edison Company
LaSalle County Station - Units 1 & 2

April 14, 1982
S&L Spec. J-2590
HVAC Installation

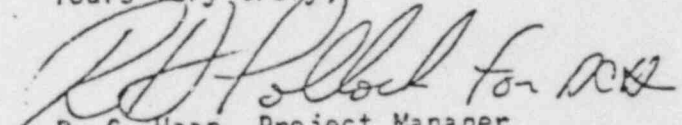
20. L-289. 40 pcs. of 3"Ø, 20' of 2"Ø pipe are certified to ASTM A501, this standard is not listed in Tech. Spec. 120 ft. of 3/8" x 1/2" H.R. flat has no Physical Certs. and 16 plts. 1/2" x 33" x 10'3" are Certified to ASTM A285 which is not listed in Tech. Specifications.

Response: The material used meets or exceeds the specification requirements. Recommend acceptance as is.

21. L-299. 3 bars 3/8" x 3 1/2" x 20' and 1 bar 1/2" x 3 1/2" x 20' have Certs that lack reference to an ASTM Stand. and also lack Physical test results.

Response: The Certificate of Conformance submitted is adequate. Additionally, the Zack Company has been monitored in accordance with the CECo Quality Assurance program to further strengthen our acceptance


Yours very truly,


D. C. Haan, Project Manager

DCH/ERK/dlt

cc: B. R. Shelton (CECo)
R. Cosaro (CECo)
W. Schwartz
E. Weaver
W. Paschal
E. Kurtz
C. A. Riebel
E. P. Ricohermoso

TO All HVAC QA Personnel

FROM HPLeonard 

DATE July 15, 1982

SUBJECT MIDLAND PROJECT - HVAC QA SECTION REASSIGNMENTS

Consumers
Power
Company

INTERNAL
CORRESPONDENCE

CC	WRBird, P-14-418A	MADietrich, Bechtel-Midland	LRichards, P-14-418
	JGBalazar, Midland	BWMarguglio, Midland	RAWells, P-14-113A
	MLCurland, Midland	DBMiller, Midland	

The personnel reassignments shown on the attached chart are effective immediately.

Group responsibilities are assigned as follows:

1) Quality Assurance Engineering

Inspection Planning
MPQAD Action Items
Resolution of Technical Problems
Review of Subcontractor Procedures and QA Manuals
HVAC Ad Hoc Committee

2) Administration

Audit Program
Training Program
Inspection Records Management
Personnel Certification and Qualification Files
Document Control
Facilities, Equipment, Supplies, Furniture
Quality Improvement Program

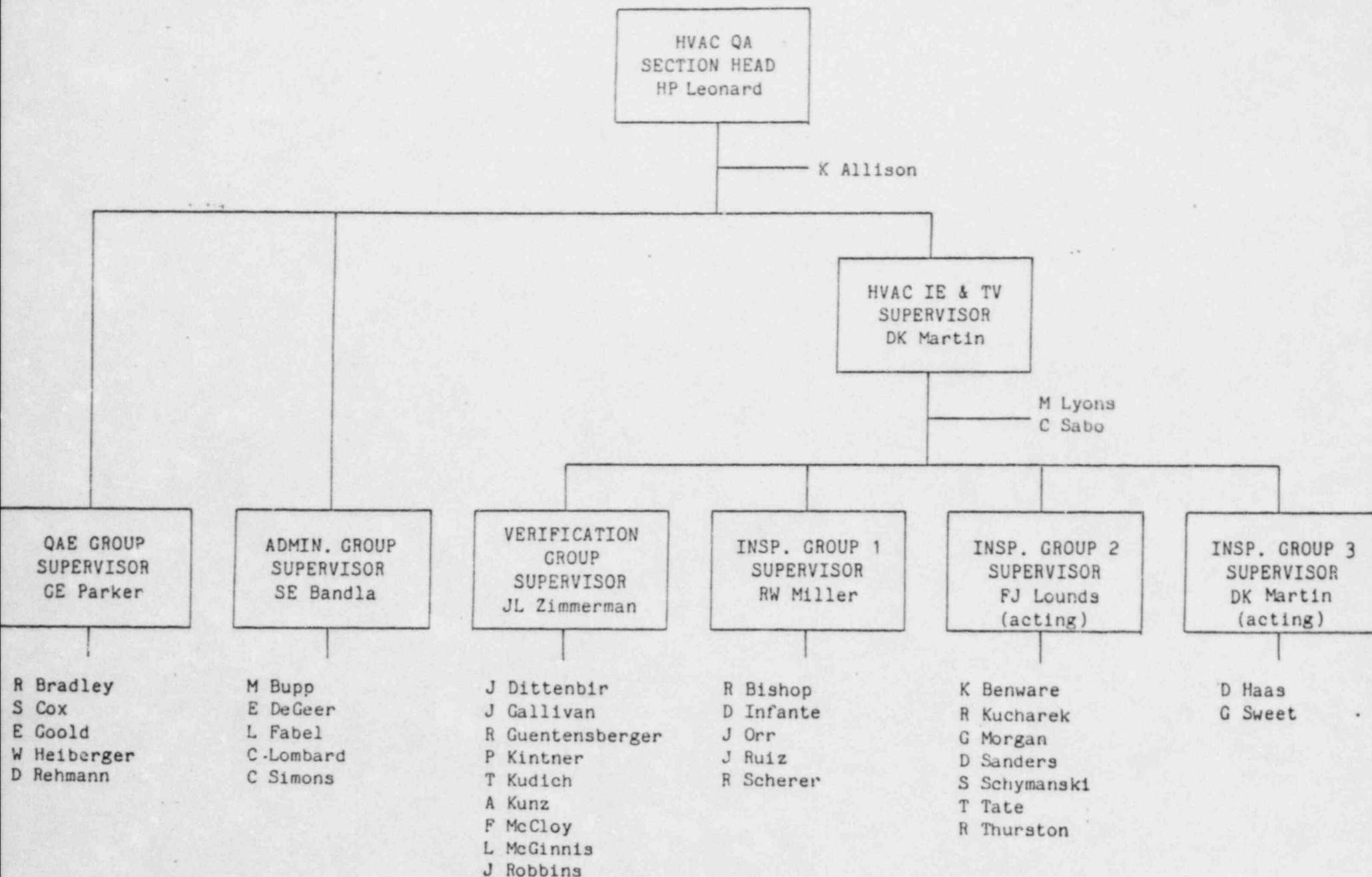
3) Verification

Overinspections
Quality Statusing
Receipt Inspection
Certification of Inspection Personnel
Fab Shop Inspection
NCR Closures
Storage Area Inspections
Weld Rod Control Inspections
Welding Inspection

4) Inspection Groups 1, 2 and 3

Anchor Bolt Installation Inspection
Hanger Installation Inspection
Duct Installation Inspection
Equipment Installation Inspection
Duct Leak Testing Verification
Witnessing of Material Scrapping

HPL/ksa



"The Nuclear Papers: Profits Before Public Safety"
UNIT 5 CHANNEL 5 NEWS July 23, 1982

NEWSCASTER:

.....safety problems at the LaSalle Nuclear Power plant. The series of reports started last night. Here is Paul Hogan.

HOGAN:

Thank you Ron. Earlier this week the Regional Office of the Nuclear Regulatory Commission sponsored an unusual meeting. Administrator James Keppler announced that after a five month investigation all allegations of safety problems at that plant had been cleared up. Then, Edison's LaSalle Nuclear plant was permitted to load, of course as you'll remember, last April. But even as Keppler permitted this low power testing at LaSalle, he seemed uneasy because by then he had heard about this Unit 5 investigation and knew that we had obtained documents we call the Nuclear Plant Papers. The NRC agreed to license the LaSalle plant for low power at the Monday meeting. The Regional Administrator, James Keppler, said he had only heard rumors of HVAC problems at LaSalle. Keppler knows that HVAC - heating, ventilating and air conditioning is a critical safety system in nuclear plants. In the control rooms at LaSalle, for one example, these vent systems must block escaping radiation or toxic gases so operators can bring an accident to a halt.

KEPPLER:

I'm of the view that the LaSalle plant is in pretty good shape from a construction point of view.

HOGAN:

But what James Keppler apparently did not realize was that nearly three months ago on May 3rd his office had received hundreds of documents detailing serious safety problems with LaSalle's vent system contractor, problems the NRC ignored. The Zack Company of suburban Cicero has installed the vent systems at three nuclear plants in the midwest - at Midland, Michigan, at Clinton in Illinois and 80 miles southwest of Chicago in LaSalle County, and there are serious safety questions resulting from Zack's work at all three sites. Zack's

nuclear plant records were given to Unit 5 by two former Zack employees who say they were fired when they objected to continuing falsification of federal safety documents. Zack admitted in its own reports discovering alterations, white-outs, forgeries described as inauthentic or questionable signatures. To meet federal safety standards Zack had even doctored critical carbon content and heat tests on nuclear plant equipment. Last May 3rd, three days after he was fired, Terry Howard took hundreds of copies of these damaging records to the NRC offices in Glen Ellyn. He told officials he was concerned.

HOWARD: I sat with them for a number of hours. I certainly told them much more than was necessary for them to look into something.

HOGAN: Did they launch an immediate investigation?

HOWARD: Not to my knowledge.

HOGAN: Did they call the other people who were fired?

HOWARD: No.

HOGAN: Did they take any action that you're aware of as a result of the information you gave them?

HOWARD: None

HOGAN: Why not?

HOWARD: I don't know. I am confused.

HOGAN: But in an interview Wednesday, the NRC Regional Director said Howard's documents told of Zack problems at the Midland plant where \$38,000 in fines were levied because of them two years ago, and Keppler said Howard's documents told of Zack problems at Illinois Power's Clinton plant where work was stopped on all Zack vent systems only a month ago. But Keppler stressed Howard's documents revealed nothing important about the LaSalle plant, the only one of the three the NRC has licensed to operate.

KEPPLER: The information is 90% Midland with a few things on LaSalle and Clinton thrown in.

HOGAN: Well then you must have immediately, May 4th, started action at Midland.

KEPPLER: No, our view was that this wasn't a priority issue. Obviously, the inspectors didn't feel it was a big enough issue to flush up. Now, you can question that judgment if you want to and you know, I'll just have to look at it from that point of view. I've been sitting around for the last week hearing about these words "falsified records" and I've been told there's a great sheaf of information out there on LaSalle, which I do not have and we've asked to get this information from the people involved.

HOGAN: It was brought to you May 3rd by one of our news sources.

KEPPLER: May 3rd information did not have detailed information on LaSalle.

HOGAN: Keppler insisted that the NRC never received copies of two important Zack documents which include questionable certifications for LaSalle's control room vent systems. So we stopped our interview. Keppler permitted Unit 5 to examine the NRC file and both of these LaSalle documents were discovered. So, nearly three months had passed during which the agency responsible for insuring safety of all nuclear plants had possession of these papers but had done nothing. Former NRC project manager Robert Pollard, who came to Chicago to analyze these documents for Unit 5, thinks he knows why.

POLLARD: My experience has been in the six and a half years I worked for that agency in charge of licensing nuclear power plants, that when there's conflict between protecting the health and safety of the public and protecting the financial health of the nuclear industry and utilities,

too often that conflict is resolved in favor of protecting the financial health of the industry.

HOGAN:

By the end of this interview the Regional NRC Director had announced a full-scale probe of Zack's LaSalle work. Teams of NRC auditors would be sent to Zack headquarters to examine the files. Other inspectors would begin testing samples of Zack's work at the plant itself. But will that be enough?

POLLARD:

At best what you could say when the safety specifications have not been met and the specifications have been changed, the margin between safety and disaster has been diminished and it may have been diminished to the point where it's now non-existent. That's what I think is needed to be done, not to generate more paper but to have an independent audit of the actual materials used in the LaSalle plant.

KEPPLER:

The NRC supports third party type of audits. Information that is of safety importance has been falsified or not reported properly by a company. If that is true, then individuals responsible can receive penalties including jail sentences.

HOGAN:

If you find that you have evidence of falsification of documents that are protected by federal law will you take it to the Justice Department?

KEPPLER:

Absolutely.

HOGAN:

Well, in Washington Monday the two fired Zack workers and their attorneys plan to hold a press conference and then turn over their documents to the U. S. Justice Department. Tuesday, there will be a formal meeting of the Nuclear Regulatory Commissioners in Washington, and one item supposed to be discussed is the granting of a full-power license for the LaSalle plant. Ron, we'll have more reports next week on these developments.

Government Accountability Project Institute for Policy Studies

1901 One Street N.W.
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Tel. 202-234-9382

FOR IMMEDIATE RELEASE July 26, 1982

10:00 A.M. PRESS CONFERENCE AT:

FOR MORE INFORMATION CONTACT:
LOUIS CLARK/PHILIP GARDE
(202) 234-9382

1901 One Street, N.W.
Washington, D.C.

NUCLEAR REGULATORY COMMISSION IN BERTON III

In a letter delivered today to Nuclear Regulatory Commission (NRC) Chairman Nunzio J. Palladino, the Government Accountability Project (GAP) of the Institute for Policy Studies called for an investigation of NRC Region III's (RIII) failure to respond in good faith to evidence of criminal falsification and a Quality Assurance (QA) breakdown at the LaSalle nuclear power station in LaSalle, Illinois. GAP charged that the NRC totally ignored or responded superficially to the evidence at the same time RIII Administrator James Koppler was recommending permission for LaSalle's owner, Commonwealth Edison, to operate the plant beyond "zero power."

GAP legal Director Thomas Devine charged--

Less than a year ago the NRC admitted that Region III investigators at the Zimmer plant failed to meet the minimum standards of any government agency. Now Region III has flunked again. But this time the NRC looked the other way at the critical moment -- just as a plant is about to open. This case involves deliberate, persistent refusal to look at the evidence while the NRC was rushing the plant into operation. How can the public have faith in nuclear power when the NRC's priorities push public safety to the back seat, behind utility timetables?

GAP explained that RIII investigators have been "sitting" for 2 1/2 months on serious evidence of widespread falsification of QA records at the Zack Company, a heating, ventilation and air conditioning contractor for the LaSalle, Midland and Clinton nuclear power stations. On May 3, 1982 whistleblowers from Zack presented a 3-inch thick stack of documents to RIII officials. The documents provided evidence that records showed--

Clerical Errors - Lack of reference to "ASTM" revision year, or complete lack of standard designation.

Signature Missing - lack of a written signature.

Signature Errors - Type signature and handwritten signature or initials are not identical.

Chem/Spec Test Data - Chemical analysis and/or mechanical test data missing and/or not in accordance with ASTM standard requirements.

Missing Certifications - Self explanatory. Certain packages lack certification for all, or for only certain items.

Alterations - Apparent alteration of certification by typed or handwritten additions.

Stickers - Gummed labels applied to certification or certification cover sheets.

ASTM standard authenticity of the signature, open to debate.

The NRC did not respond to the repeated calls of the whistleblowers' spokesman, Albert (Terry) Brown. RIII investigators did not even copy major portions of the evidence. When it became clear that the NRC was not going to act, the whistleblowers took their evidence to the press and to GAP.

GAP Civilian Chief Director RIII "or not" "Act" RIII learned the evidence would be on a TV expose, it decided to open an investigation. But not until then.

That is too late. Region III has already tipped its hand. We pleaded with them on numerous occasions to investigate the Zack evidence. They weren't interested. Why should we trust them now? The whole point of any RIII investigation now will be to justify RIII's failure to act when it should have.

GAP also charged that a recently-completed RIII probe into alleged concrete voids; holes core-drilled into the reactor pedestal; cheating on the masonry by diluting mortar or even not using mortar for some concrete blocks, among other issues; may have been worse than no investigation at all. Last fall NRC Executive Director William Dircks admitted that previous NRC probes relied too much on the utility's paperwork, while foregoing witness interviews and independent hardware tests. Dircks pledged that the NRC would not make the same mistake again, a commitment reaffirmed by Mr. Keppler in June 10 congressional testimony. "Unfortunately, the differences between 'old' and 'new' NRC investigations are cosmetic at best," observed Devine. "Whenever there was a conflict between eyewitnesses and utility paperwork, the paperwork won."

Specifically, GAP charged that RIII--

- **failed to take sworn statements from witnesses who had not already provided affidavits to GAP;
- **totally ignored issues that dealt with the causes of QA deficiencies at LaSalle, such as retaliation; and manipulation of the QA program through short-staffing, conflicts of interest, and advance warnings of QA inspections;
- **redefined the issues it did cover by omitting key facts, making it easier to reject the charges;
- **rejected witnesses' allegations on the basis of suspect utility paperwork or "independent" tests in fact controlled by the utility;
- **manipulated the evidence by failing to include key facts in the report -- such as its finding that approximately half of reinforcement bars were damaged -- while concluding the plant is safe; and
- **failed to independently learn the full extent of problems that were confirmed, before it dismissed those examples as insufficient by themselves to pose a public safety threat.

Ms. Garde concluded--

It is a disservice to rely on the utility's paperwork to reassure the public that LaSalle's safety is proven. As the Zack records indicate, the paperwork cannot be trusted. We are not saying LaSalle is unsafe; we are charging that RIII does not know. The Commissioners must take decisive action. The public no longer has valid grounds to trust NRC conclusions about nuclear safety.

REPRESENTATIVES OF THE ZACK FOUR WILL BE PARTICIPATING IN THE PRESS CONFERENCE AND WILL BE AVAILABLE FOR INTERVIEWS. DIRECT TELEPHONE LINES: 667-7904 234-1756

GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies

1901 Que Street, N.W., Washington, D.C. 20009

(202) 234-9382

July 26, 1982

The Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Chairman Palladino:

On behalf of our clients, Mr. Albert T. Howard and Ms. Sharon Mareello, the Government Accountability Project ("GAP") of the Institute for Policy Studies requests that the Nuclear Regulatory Commission ("NRC") conduct a full investigation of the enclosed evidence before permitting full power operation of the LaSalle Nuclear Power Station (Unit I) in LaSalle County, Illinois. We request that the Commission's Office of Investigations ("OI") replace Region III ("RIII") in its ongoing investigation of LaSalle and the Zack Company, to which the enclosed evidence pertains.

We further request that the Commissioners direct the Office of Inspector and Auditor ("OIA") to investigate the performance of RIII's Office of Inspection and Enforcement. More specifically, we believe that RIII's oversight of LaSalle was inadequate in three areas--

- (1) failure to act for three months on serious evidence of a Quality Assurance ("QA") breakdown and possible criminal falsification at LaSalle's Heating, Ventilating and Air Conditioning ("HVAC") contractor, the Zack Company, on the eve of full power operations at LaSalle despite urgent and then-independent requests from Mr. Howard and GAP;
- (2) failure to uncover the Zack QA breakdown during its ongoing regulatory program; and
- (3) failure to honor commitments made last November to correct RIII investigative deficiencies confirmed by OIA Report, Spec' l Inquiry re: Adequacy of IE Investigation 50-358/80-9 at the William H. Zimmer Nuclear Power Plant (August 7, 1981).

Our action is based on the investigation our organization has conducted over the past five months, from March 1982 to date, as well as on evidence Mr. Howard, Ms. Mareello and other witnesses have presented to us regarding the Region III LaSalle investigation. Enclosed as Attachment 1-8 is a packet containing Mr. Howard's affidavit and 44 exhibits; Ms. Mareello's affidavit; an affidavit from Mr. Charles Grant III; and six memoranda

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summarizing verification interviews conducted by our staff. The interviews confirm the personal integrity of Mr. Howard and Ms. Mareello, as well as the substance of their allegations. All witnesses except for personal references are former or current Zack employees. Our evidence directly challenges the credibility of Region III's July 19 recommendation for a full power license.

GAP is a non-profit, non-partisan public interest organization that assists federal and corporate employees who report illegal, wasteful or improper activities by their agencies or organizations. GAP also monitors governmental reforms, offers its expertise about personnel issues to Executive Branch offices and agencies, responds to Congressional requests for analysis of issues related to accountable government and disseminates significant information about problems to appropriate places within the government.

Our review of the recently issued LaSalle Report (Inspection Report No. 50-373/82-35 (July 19, 1982)) reveals more deference to utility timetables than Region III has demonstrated in the past, particularly at the Zimmer station in Moscow, Ohio. Although we have had only one week to review, analyze and study Region III's report, it clearly suffers from serious omissions. This type of investigation leaves the public less realistically assured than if no investigation had been conducted at all.

Specifically, the report ignored the evidence on Zack presented by Mr. Howard nearly three months ago, on May 3, 1982. Second, Region III totally ignored significant issues that dealt with the causes of the Quality Assurance deficiencies at LaSalle, such as retaliation and manipulation of the QA program through short-staffing, conflicts of interest, and advance warning of QA inspections.

Our review of the allegations actually covered indicates that the LaSalle investigation relied far too heavily on the utility's paperwork, while foregoing witness interviews and independent hardware tests. We discovered that Region III investigators failed to take sworn statements from key witnesses who had not already provided affidavits to GAP or the Illinois State Attorney General's office. GAP had already worked closely with some of these witnesses. Our decision not to take affidavits from these employees was a gesture of good faith toward Region III; unfortunately, it was not returned.

We also found a disturbing manipulation of the allegations by omitting key facts, thus making it easier to reject the charges. Issues presented by conscientious workers were consistently rejected on the basis of suspect utility paperwork or "independent" tests that were, in fact, controlled by the utility. Further, and most seriously, the NRC's Region III office has once again failed to independently explore the full extent of the problems at a nuclear power plant before dismissing the examples as insufficient by themselves to pose a public health and safety threat.

The Nuclear Regulatory Commission has often promised to improve the dependability and quality of its investigations; however, the flaws of the

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LaSalle probe confirm that NRC probes continue to rely on the Utility's good faith and paperwork. It is very clear that whenever there was a conflict between eyewitnesses and utility paperwork, the paperwork won.

Unfortunately the affidavits and evidence provided by our clients reveal that the paperwork for the LaSalle site cannot be trusted.

The LaSalle investigation represents a major setback in the NRC's outreach effort to nuclear plant employees. No longer in good conscience can we recommend to nuclear workers that they speak to the NRC without counsel present. Mr. Howard, who was speaking for the fired Zack employees, had irreversible personal damage. Although as spokesman for the group Mr. Howard went to the Regional NRC office on the first work day after the entire QA department was dismissed and talked to eight investigators, not one informed him that he and his colleagues had only 30 days to file an appeal for relief under 48 U.S.C. §5851 to the Department of Labor. As a result, their legal rights to administrative relief were sacrificed.

Region III also publicly misrepresented his disclosure in an attempt to justify its own initial inaction. This is intolerable.

I. ZACK ALLEGATIONS

Background

In the fall of 1981 the Zack Company, a Heating, Ventilating and Air Conditioning ("HVAC") contractor, hired Ms. Mareello, Mr. Howard, and a number of other individuals to establish a Quality Assurance Documentation Control office. Their assignment was to insure that the Zack Company had a Documentation Department that complied with 10 C.F.R. 50, Appendix B, the American National Standards Institute ("ANSI") codes, and the contract specifications of their various clients in nuclear business. Their specific assignment was to control the documentation -- purchase orders ("P.O.'s"), material certifications ("certs"), material traceability records ("M.T.R.") and certificates of conformance ("C.C."). This involved the monitoring of over 3000 purchase order "packages." Each package represented the proof of quality for up to thousands of items used to construct the Clinton, LaSalle or Midland nuclear power stations.

Mr. Howard was hired as the Documentation Control Room Supervisor. Ms. Mareello was a clerk. They, and the three or four other Documentation Control Room employees were allowed -- in fact assigned -- to investigate documents contained in Zack's files. Their task was to verify the accuracy, or identify the inaccuracies to the purchase order packages. This task gave them free access to the Zack files, and also placed them in a good position to observe the "paperwork trail" of Zack's nuclear documents.

In six and a half to seven months, Ms. Mareello and Mr. Howard discovered and challenged a quality assurance breakdown that leaves reliability of HVAC systems, and the overall QA programs at three nuclear plant sites in serious

question. Their experiences reflect a contractor operating for years without regard for the Atomic Energy Act, and consequently the public health and safety.

They discovered documentation that had altered specifications, some with "white out," missing certifications, purchase orders with no ASTM specifications, purchase orders changed to reflect correct quality assurance approval, and adhesive stickers with questionable authenticity, used to modify documentation and reflect the correct standards. They also uncovered top-level Zack management attempts to convince vendors -- with some success -- to provide inaccurate quality and traceability certifications after-the-fact.

Both Mr. Howard and Ms. Mareello worked in the Document Control Room at the Zack headquarters. Although they received no formalized Quality Assurance training, they, and the rest of the QA department, did become familiar with the various codes, contract specifications, and regulations that allegedly governed their work.

Unfortunately they suffered a pattern of harassment and attempted intimidation. The pressure increased as Zack strove unsuccessfully to meet unrealistic time demands imposed by Commonwealth Edition ("Com Ed"), which wanted the paperwork resolved to avoid licensing delays at its LaSalle site. The tension became so severe that Ms. Mareello was eventually hospitalized.

Last August Zack had notified the utilities of a potential nonconforming condition under 10 C.F.R. §50.55(e), due to inadequate and inaccurate quality and identification records on vendor purchases. They also attached a Corrective Action Report ("CAR") plan which outlined Zack's intention to identify, analyze and correct all the paperwork problems at the company headquarters. This CAR also outlined the steps Zack would take to insure that the proper individuals responsible for this were appropriately disciplined.

As pressure mounted to have the LaSalle nuclear plant load fuel, the QA department at Zack fell under greater pressure to close out nonconformance reports ("NCRs") that detailed the Zack QA documentation deficiencies at LaSalle. Mr. Howard refused to provide a final report to Com Ed. On March 1, Zack submitted 99 remaining NCRs to Com Ed. Zack warned it was unlikely that necessary documentation to correct deficiencies could be obtained. This frank admission did not deter the utility and NRC rush to begin operations at LaSalle. Com Ed received permission to load fuel.

On April 13 and 15, 1982 Mr. Howard, acting as a spokesman for the entire Zack Quality Assurance department, had contacted an individual in the Consumers Power Company's Midland Project Quality Assurance department. This individual had represented to Mr. Howard and other members of the department that they should feel free to bring any allegations or problems at Zack to Midland's internal grievance system. He also guaranteed them confidentiality and protection from losing their jobs.

On April 18, 19 and 20, an audit team from Consumers and the Bechtel Corporation arrived in the Chicago office. The QA department anticipated a complete

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investigation and professional support for its effort. However, their anticipation was belied as naive. On April 30 the entire department was dismissed, allegedly due to an office reorganization.

On May 3, 1982, the first working day following the purge, Mr. Howard began a series of contacts with Region III. He provided specific allegations about LaSalle and to a lesser extent Midland and Clinton, evidence and his offer of full cooperation with an NRC investigation. However, nothing happened. After 2 1/2 months, when Mr. Howard and the others realized the NRC was not going to respond to their allegations, which had cost them their jobs, they took their information to the press and then to GAP.

Specific Allegations

The three affidavits, exhibits and supporting verification memoranda evidence specific allegations about Zack's QA documentation and utility oversight. Certain issues pertain to the fundamental of Zack's QA program--

1) Absence of any formal Quality Assurance Documentation Program-- Until Ms. Mareello, Mr. Howard and others were hired in the fall of 1981 to honor corrective action commitments there was no QA formal program for documents. As a result, they were in an uncontrolled state, i.e., a mess. Documents were piled on the floor. (Attachment* 3, at 1-2; Att. 3, at 1; Att. 8, at 4-5).

2) Inadequate qualifications of personnel performing significant roles-- Individuals without any previous nuclear experience were assigned to make decisions requiring engineering judgment, as well as detailed knowledge of professional codes and legal requirements for QA documentation. They received these assignments despite protesting that they were not qualified to make such significant decisions. The qualifications deficiencies extended to the Zack auditors. (Att. 1, at 1-2; Att. 2, at 3-4; Att. 3, at 2-3; Att. 8, at 5, 11-19).

3) Missing documentation and discrepancies in welder qualifications records-- To illustrate, an October 23 Interim Report found 25 discrepancies in a partial review of welding qualifications records for the LaSalle site. (Att. 2, at 7; Att. 8, at 13).

4) Inadequate training for QA personnel-- Despite repeated requests for comprehensive training, Zack only offered informal guidance and self-study materials. To illustrate the quality of the training, Zack President Christine DeZutel and her husband were trained "in accordance with the Zack Company Quality Assurance Training Program" on the basis of one hour's instruction from a Zack executive in NRC regulations and professional QA standards. The company finally proposed a formal training program shortly

*/"Att." All references to Attachment 8 incorporate the relevant accompanying exhibits.

before it dismissed the entire QA documentation staff. (Att. 21, at 2; Att. 2, at 2-3; Att. 3, at 2-3; Att. 4, at 1; and Att. 8, at 5, 18-19, 24).

A second category of allegations concern incomplete Zack QA documentation--

5) Missing records due to inadequate document control-- Both unauthorized management personnel, and even the owner's dog, had access to Zack QA records and Purchase Orders. As a result, records were lost or chewed up. (Att. 1, at 3; Att. 2, at 5; and Att. 3, at 1).

6) Absence of required quality verification on documents that could be retrieved-- This ranged from missing signatures to missing required test data, specifications, and certifications to professional codes. (Att. 1, at 2-3; Att. 3, at 2; Att. 8, at 4-5, 18).

7) Lack of proper identification through compliance with material traceability requirements-- This led to problems such as lack of required traceability for some 114,000 hexheads, bolts, nuts and similar items. Similarly, certain steel beams could not be traced with certainty, although indications are that they come from Argentina. (Att. 8, at 17-18, 21-22).

A third category of allegation concerns widespread falsification and improper modifications of Zack QA documents during the corrective action program for deficient records--

8) Improper alteration of QA records through stickers containing signatures of questionable authenticity (Att. 2, at 3; Att. 3, at 2; Att. 8, at 14-15).

9) Improper alteration of QA records through whiting-out previous information in order to create the appearance of compliance with legal requirements (Att. 1, at 2; Att. 8, at 15).

10) Improper requests by Zack management for vendors to supply unavailable information or to inaccurately upgrade quality documentation-- Some vendors, such as U.S. Steel, refused to participate in the improprieties. Other vendors cooperated to the letter of the request, even retyping the spelling errors in model certification letters supplied by Zack. Another vendor returned a blank form for Zack to fill in as needed. (Att. 2, at 7; Att. 3, at 2; Att. 8, at 16, 25-6).

A fourth category of allegations involves deficiencies in Zack's program for purchases from its Approved Vendors List--

11) Failure to distinguish between commercial and nuclear purchases on Purchase Orders-- Since items purchased for nuclear use have much stricter quality verification requirements than those purchased for commercial use, this omission led to the improper upgrading program described above. (Att. 2, at 2; Att. 8, at 18).

12) Unqualified vendors on the AVL-- This occurred due to the absence of necessary surveillance of vendor QA programs. (Att. 3, at 2-3; Att. 8, at 15-16).

13) Failure to remove unqualified vendors from the AVL-- Even if Zack determined a vendor were unqualified, that did not guarantee the vendor's removal from the AVL. For example, Zack received approximately 38 Purchase Orders from the Delta Screw Company during the period it was "removed" from the AVL. (Att. 8, at 18).

A fifth area of allegations concerns the attitude of Zack management. It was incompatible with the Quality Assurance criteria of 10 C.F.R. Part 50, Appendix B--

14) Management awareness of QA breakdown-- Zack management was painfully aware of the problem. As the company conceded, "There has been a breakdown of the quality assurance program as related to criterions /sic/ VI - Documents Control, and VII - Control of purchased material, equipment and services...." (Att. 8, at 6). The company promised reform and training to the QA staff. But the commitments were not honored. Instead, Zack management scapegoated the staff for problems created by its own neglect. (Att. 2, at 6-7; Att. 3, at 3; Att. 8, at 10, 21-5).

15) Harassment, attempted intimidation and retaliation against QA staff-- All current and former Zack employees who were contacted confirmed this allegation. The tactics included dismissal threats, severe personal abuse, accusations of petty misconduct, and eventually dismissal of the entire QA documentation staff through a pretextual reorganization. (See Att. 1-8, generally).

16) Bad faith progress reports to the utilities-- Zack disguised its misconduct through false reassurances to its utility customers. To illustrate, the company reported to Midland on a partial review of some 2,900 purchase orders. Although the review was less than half complete, the Zack President characterized it as a "total document audit." (Att. 1, at 2; Att. 2, at 3; Att. 3, at 2, Att. 8, at 6, 10, and Exhibit 43S).

17) Failure to adequately discipline those responsible for records falsification-- The company promised its utility clients to identify and take appropriate action against the guilty parties. Although the responsible executive was identified, the "appropriate disciplinary action" consisted of a paperwork demotion and additional training. (Att. 8, at 4, 6-7).

18) Surrender to unrealistic utility deadlines-- Zack was under intense pressure from its utility clients, in particular Com Ed, to rush the quality verification of its purchases. Rather than defend the integrity of its QA reform program, Zack succumbed and attempted to produce a "rush job." That is why the company pressured employees to work overtime and perform tasks for which they weren't qualified. There wasn't time to do the job properly. (When the QA staff refused to sign off on unacceptable records, management personnel did it themselves.) (Att. 1, at 3; Att. 2, at 4; Att. 3, at 1; Att. 4, at 2; Att. 8, at 7-8, 22).

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A final category of allegations involves the utilities themselves. Zack could not have persisted for years in its misconduct without utility complicity--

20) Utility knowledge of the QA breakdown-- There can be no question that the utilities have been aware of the Zack breakdown. The company was the subject of previous requests to stop shipping nonconforming material, as well as previous severe enforcement action at Midland, whose owner Consumers Power even loaned a contract employee to help straighten out Zack's QA records deficiencies. (See Att. 2 and 8, generally). At LaSalle, Zack informed Commonwealth Edison that it could not supply adequate information to properly correct 69 of 99 QA nonconformances. (Att. 8, Exhibit 43S).

21) Utility complicity with the ongoing breakdown-- When formally notified of Zack's miseries, the QA management for the utilities and their contractors failed to face up to their responsibilities. Instead, Com Ed pressured for a rush job in the corrective action program. At Midland, the contractor Bechtel was satisfied if it were "highly probable" that Zack ordered the correct material. The Midland QA program responded to Zack's QA effort with an effort to rewrite the QA rules. Even before the effort was completed, the Midland QA management decided that "in virtually all cases, material is acceptable or will be deemed acceptable." (Att. 8, Exhibit 29, at 3). That philosophy cannot coexist with the Atomic Energy Act. (Att. 1, at 4; Att. 2, at 4-5; Att. 3, at 2-3; Att. 8, at 9-12, 14, 20).

22) Utility complicity with retaliation-- In desperation, Mr. Howard and another Zack QA employee, Mr. Ronald Perry, disclosed the QA deficiencies to officials at LaSalle and Midland. In each case the discussions were supposed to be confidential. In each case, the Zack employees were soon subjected to recrimination and harassment, suggesting that the confidences were not honored. In Mr. Howard's case, the entire QA staff was dismissed within two weeks of his disclosure to the Midland QA Manager.

23) Inaccurate public denials by utilities of the Zack deficiencies-- To illustrate, a Commonwealth Edison spokesman stated in a Chicago television interview that the Zack records were reviewed thoroughly by its Architect/Engineer Sargent and Lundy. In fact, an internal January 1982 Surveillance Report at LaSalle revealed Sargent and Lundy had--

...deleted the requirements for submitting on site contractor documentation (such as Zack's) to S & L for review. This review is now the responsibility of the Zack Company....
Based on this change, S & L's letter accepting Zack's documentation is no longer required.

(Att. 8, at 11).

Contrary to the conclusions of the implicated organizations, the deficiencies summarized above are too serious to ignore or even to glance at superficially. As a Zack report concluded, only 94 of 374 material packages sent to LaSalle were correct and acceptable. Nine were judged "No Good for LaSalle." (Emphasis in original.) (Att. 8, at 7). In some cases, it is too late for the

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vendors to supply verification information on purchases made in 1978 or earlier. The records simply aren't retained that long. (Att. 1, at 2).

Nor can the NRC accept Zack's work "as is" and permit any plant to operate with quality in an indeterminate state. As RIII Administrator James Keppler stated with respect to the Zimmer station, the utility would have to "rip out" and replace critical components that lack adequate quality records. ("On-Time Start-Up for Zimmer Plant Still Doubted by NRC Official," The Cincinnati Enquirer, p. D-5 (June 30, 1982). To illustrate the impact at LaSalle, it would magnify the danger and expense to rip out already installed items after the plant begins operations.

II. INADEQUATE NRC INVESTIGATIVE OVERSIGHT

Background

On December 8, 1980, on behalf of Mr. Thomas Applegate, GAP charged that a RIII investigation violated basic investigative standards through failure to speak with relevant witnesses; failure to take affidavits from key witnesses; excessive reliance on utility paperwork to resolve allegations instead of conducting necessary independent laboratory tests on the hardware; failure to investigate sufficiently to determine the causes of confirmed inadequacies; inaccurately summarizing employee allegations, with the effect of shrinking the allegations into insignificance; and on-balance exonerations despite confirmation of specific problems, before learning the full scope of the deficiencies.

Last November 18, OIA released its August 7 report, which backed GAP's charges.

In an October 8, 1981 memorandum to Chairman Palladino, Office of Inspector and Auditor (OIA) Director James Cummings observed that the probe Applegate and GAP challenged "did not satisfy...generally accepted investigative standards of other Government agencies.... Fundamentals basic to all investigations were simply not observed in this instance." Cummings cited inadequate documentation highlighted by the total absence of interview reports, as well as the failure to pursue obvious leads. He surmised that serious quality assurance welding problems the NRC uncovered last summer might have been exposed years ago if IE probes had been "sufficiently comprehensive to identify this issue in a timely manner."

In a November 16, 1981 letter to Congressman Morris K. Udall (D.-Ariz.), Chairman of the House Energy and Environment Subcommittee, you backed the OIA criticisms. You concluded that the shortcomings in the Zimmer investigation "reveal a generic problem" with IE oversight. You pledged to consider the "necessary internal reforms" for NRC probes to reach a level "consistent with fundamental standards that govern investigations by any agency."

In November Congressional testimony, NRC Executive Director for Operations William Dircks reaffirmed the commitment and pledged to deemphasize reliance

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on utility paperwork while increasing reliance on witnesses and even a new NRC mobile laboratory testing unit.

With respect to the LaSalle and Zack allegations, RIII failed to honor this pledge.

To illustrate, the NRC response to the Zack allegations at LaSalle was reluctant, at best. On June 2, 1982 GAP passed along the allegation of a vindicated Zack whistleblower from Midland that a Zack supervisor had confirmed the same abuses at LaSalle. The whistleblower, Mr. Dean Dartey, complained that RIII had refused to investigate his allegations due to lack of specificity. Had RIII followed its normal practice of checking deficient purchase orders at one site that had also been sent to other utilities (see, e.g., IE Rep. No. 50-358/81-13), the NRC would have learned that illegalities in Zack-supplied Midland purchases were repeated at LaSalle. (Att. 5).

Similarly, GAP made three attempts to convince RIII to pursue evidence of misconduct by Zack at LaSalle. Mr. Howard made another half dozen attempts to convince RIII to investigate his May 3, 1982 disclosure, and evidence, all without success.

In a July 19, 1982 letter to Com Ed, Administrator James Keppler rationalized the omission by stating the Howard allegations applied primarily to LaSalle and had been deemed too general by the staff. As Mr. Howard rebutted:

The NRC description in its LaSalle report of our meeting is absolutely false. I spoke in great detail and said my findings applied to all three sites. I emphasized problems at LaSalle more than Midland. I left my records with the staff that day, and more the next day.

Similarly, the July 19, 1982 RIII investigative report on LaSalle (IE Report No. 50-373/82-35) bears striking similarities to the Zimmer effort rejected last year at OIA. The only major difference is that this year RIII is talking to more witnesses before it relies on utility paperwork to reject their charges out of hand. That is particularly inappropriate when the same investigative report found falsification of paperwork on-site, a finding further confirmed by massive amounts of falsified Zack records relied on at LaSalle.

Specifically, GAP charged that RIII--

**failed to take sworn statements from witnesses who had not already provided affidavits to GAP;

**totally ignored issues that dealt with the causes of QA deficiencies at LaSalle, such as retaliation, fear of which prevented almost half of witnesses contacted from speaking to the NRC; and manipulation of the QA program through short-staffing, conflicts of interest, and advance warnings of QA inspections;

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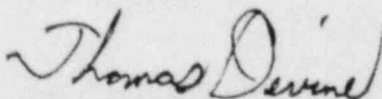
- **redefined the issues it did cover by omitting key facts, such as the location of alleged deficiencies, making it easier to reject the charges;
- **rejected witnesses' allegations on the basis of "independent" tests in fact controlled by the utility, as well as suspect paperwork;
- **manipulated the evidence by failing to include key facts in the report -- such as its finding that approximately half of reinforcement bars were damaged -- while concluding the plant is safe;
- **looked at woefully inadequate test samples on site, such as reinforcement bars on 9 drawings out of over 7000 relevant documents, or three mortar cores when literally tens of thousands of mortar blocks were suspect; and
- **failed to independently learn the full extent of problems that were confirmed, before it dismissed those examples as insufficient by themselves to pose a public safety threat.

The differences between old and new NRC investigations are cosmetic, at best.

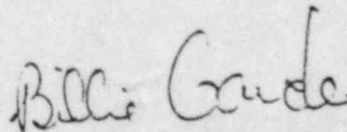
In short, the RIII investigative report on LaSalle was a final opportunity to clear up serious safety questions before the plant began operation. The report failed to answer the questions adequately at a critical moment. We are not contending that the LaSalle plant is unsafe. On the basis of this report, however, the Commission cannot reasonably assure the public that it is. As a result, Region III's Office of Inspection and Enforcement should be replaced in the ongoing investigative effort on LaSalle and Zack. OIA should investigate RIII's actions in permitting the situation to develop this far. Most significantly, the rush to begin operations at LaSalle should be halted until all the safety issues can be investigated thoroughly and resolved with realistic confidence.

Our request for this drastic action is not intended as an attack on individual RIII investigators, or Regional Administrator James Keppler. Mr. Keppler has attempted to upgrade investigative techniques. He also has taken the lead in tough public statements to improve utility QA efforts. Unfortunately, the performance has not matched the promises or the rhetoric. The Commission must take strong action to uphold its regulatory mandate and to honor its public commitments.

Sincerely,



THOMAS DEVINE
Legal Director



BILLE GARDE
Director, Citizens Clinic for
Accountable Government

Enclosures

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~~DO NOT DISCLOSE~~
~~Contains identity of~~
~~confidential source~~

AFFIDAVIT

My name is Albert T. Howard, I am giving this statement to Ms. Billie Garde of the Government Accountability Project of the Institute for Policy Studies. I make this statement freely, with no threats, inducements or promises of rewards having been made to me. I do this because I believe there has been a serious quality assurance breakdown at the Zack Company, my former employer. The nuclear power plants in Midland, Michigan and in LaSalle and Clinton, Illinois, are being constructed with equipment in the heating, ventilating and air conditioning ("HVAC") areas that have been purchased through Zack as a sub-contractor.

My statement covers events that I witnessed during my employment with the Zack Company as a Supervisor of Quality Assurance Documentation in its Chicago headquarters from October 19, 1981 through April 30, 1982. During this six and a half month period, I personally became aware, through evidence in documents, letters and discussions, of problems that had existed for years at the Zack Company. It is the cumulative effect of the problems in quality assurance documentation and the response of corporate, utility and government officials to my disclosure of these problems, that made me realize public exposure was necessary to achieve substantial improvements. As a retired junior high school science teacher, a father of ten children and a grandfather, I feel an extraordinary commitment to challenge unsafe nuclear power plants that could threaten our environment. It is intolerable to my values as a father, a citizen and sensitive individual to allow problems of this magnitude to go unexposed. Since I have lost my job, I believe as a result of trying to work within the system, I contacted a number of other government and public interest organizations to help co-workers who were similarly dismissed to present the full and true picture of the Zack problems

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to interested and concerned agencies.

Prior to accepting the Zack position in Chicago, my family and I lived in Massachusetts. I retired from teaching junior high school science in the public schools in Shrewsbury, Massachusetts. My 25 years in education included 22 years as a classroom instructor and later as a teacher on Otis Air Force Base, Massachusetts, to the dependent children of Air Force personnel, 3 years as a principal, and other assorted assignments. My employment record with the Massachusetts public schools reveals the highest recommendations and community support. I was also involved as an officer in local teachers unions and participated in various leadership roles in the community. In addition, I had started my own company (Hems & Co.) in December, 1974, dealing with sales and services in the real estate field. That company is still viable today and the business is handled by my oldest daughter in Massachusetts.

I have a Bachelor of Arts in Earth Sciences, and a Masters of Arts in Education/Administration from the University of Massachusetts at Bridgewater. Finally, I have 45 hours of post-graduate work funded by a grant from the National Science Foundation. The hours in courses such as physics, chemistry, geology and ecology, were taken at the College of the Holy Cross, a Jesuit Catholic University in Worcester, Massachusetts. In addition to the above mentioned degrees, I have attended various college seminars and workshops in generic education and science continuing education topics. (See Resume, Exhibit 1.)

In September, 1981, Mr. David Calkins, Quality Assurance Manager of the Zack Company and a personal friend of mine for over 10 years, contacted me by telephone. He was aware of my interest in a new career and also my intense background in science-related areas. He recruited me over the phone for the position of Quality Assurance Engineer/Documentation with the Zack Company

in Cicero, Illinois. On or about September 30, 1981, I accepted the job and arranged to move myself and my family to the Chicago area.

Zack is a family-owned corporation, founded in the 1920's. It is now run by the original owner's daughter, Christine Zack DeZutel. Zack is a heating, ventilating and air conditioning (HVAC) subcontractor. In the early 1970s, Charlie Howard, then Vice-President and General Manager, helped Zack move into the nuclear power plant business. They bid on and were contracted to do the HVAC work on three nuclear plants -- Midland, LaSalle and Clinton.

In order to meet the criteria of 10 CFR 50 Appendix B, Zack was to have established a Quality Assurance Department. (This "QA" function was to meet the requirements of Appendix B of 10 C.F.R. Part 50.) The General Contractor's own QA program also must meet the Nuclear Regulatory Commission's criteria.

Zack Company had a great deal of personnel turnover in QA managers, and in the last two years had several major departmental reorganizations. An individual who seemed to have played a major role in Quality Assurance is Carl Eichstaedt, the Vice-President in charge of operations. He has had some QA responsibility with Zack for the past several years.

In the past two years, four people have had the responsibility of trying to straighten out or supervise QA: Ed Thompson and Michael D'Haem, who came from Midland; David Calkins who came from a consulting firm in June, 1981; and Martin Skates who occupied the position when Mr. Calkins was assigned to Midland.

The Quality Control manager was Harry Geyer until August, 1980, when he went to LaSalle to be QC manager. Then Charlie Richards took over the function until he was demoted recently to QC inspector.

Mr. Calkins previously had been employed with a contract consulting firm in Maryland -- NUS. Prior to that time he worked with Westinghouse Corporation. In June, 1981, he was hired by Christine Zack DeZutel as QA manager. According

to many detailed conversations that I have had with Mr. Calkins since September, 1981, that he realized the QA department he was hired to supervise was in a shambles. Mr. Calkins also told me that Zack had been plagued by problems like work stoppages, plant shutdowns and strikes. He also told me that soon after he began he discovered severe problems with material documentation. He mentioned examples like missing, inaccurate or incomplete records and altered documents.

Mr. Calkins had in fact investigated and reported the QA problems Zack was having to the Site Managers of the Midland, LaSalle and Clinton plants. In letters dated August, 28, 1981 to the Midland Site Manager (Exhibit 2) and September 25, 1981 to the LaSalle Site Manager and a September 25 Corrective Action Request ("CAR") to the Clinton Site Managers. (Exhibits 3a and 3b respectively). Mr. Calkins reported his initial findings on the QA problems at Zack. CAR's were attached to all of the letters and outlined Zack's commitment to complete its own internal investigation on the records. The commitment included -- 1) review of all material test reports for accuracy and completeness; 2) verification of questionable documents; 3) investigation of those responsible for improperly modifying the supplier test reports with the results going to Zack's president for appropriate disciplinary action; 4) notification to the utilities of all technical discrepancies found in material test report reviews; 5) notification to the utilities of the results to decide if reports should go to the Nuclear Regulatory Commission ("NRC") under 10 CFR §50.55(e) or 10 CFR Part 21 to reveal significant deficiencies.

The corrective action plans became the basis for a major QA reorganization for all three sites. It was at this point, in the fall of 1981, that six others and myself were hired by Mr. Calkins to "repair the damage" done by Zack in the QA documentation for the three nuclear sites.

On October, 19, 1981 I started work at the Zack Company as an entry level employee in the QA department. As part of my introduction to the job, Howard

McGrane, of the Midland Project Quality Assurance Department ("MPQAD") presented me with the attached CAR #14.(a-b). (Exhibit 2, supra)

On November 5, 1981 I was formally appointed Supervisor of the Documents Quality Assurance Department. This promotion entailed two basic responsibilities: First, I would be in charge of the departmental tasks as a technical director, overseeing establishment of a system to evaluate and discover all QA documentation deficiencies left in the Zack files. Second, I was to monitor the document control centers as they developed on the sites. I was asked to and did develop my own job description. (Exhibit 4).

During the first few weeks of my employment at Zack I reviewed the QA paperwork. From my review, I became increasingly aware of the "serious deficiencies Mr. Calkins had mentioned that he hired me to straighten out. I also began to suspect that some of the QA documentation had been altered improperly. In view of my growing suspicions, on November 11, 1981 I posted prominently on the door of the QA Department a written notice stating that alteration of QA documents is a violation of federal law, and that removal of documents violates internal QA procedure approved by Zack.

On November 18, 1981, Howard McGrane, a Midland QA contract employee loaned to Zack, directed Sharon Mareello and I to sign a Zack "Training Form." (Exhibit 5) We had in fact received no formal training. At the time we signed the form, however, we were not aware of what constituted industry regulated training for our jobs. We were mistaken in our belief that the informal introductions and self-study of industry codes and regulations were on-the-job training. We were not informed otherwise by management.

On November 30, 1981, Mr. Calkins gave me copies of a series of documents which included his October 9, 1981 letters to the utilities. (Exhibits 6a and 6b) These letters with attached interim reports by his staff identified the status of

the Zack documentation review that was a part of the follow-up on CAR #14. (Exhibit 2, supra) The reports attached to the letters claimed (erroneously, it turned out) to cover 84% and 70% of the document reviews at LaSalle and Midland, respectively. The reports also conceded that the categories listed some of the discrepancies found. The letter, signed by Calkins, promised that his review would be finished and finalized by October 26, 1981. In the letter he notes: "This should allow ample time to advise the NRC that the possible 10 CFR 50.55 (e) should be withdrawn or to confirm its applicability." The interim reports that were attached to the October 9 letters included references to items such as "certs altered"; "white out used and retyped"; and "heat number altered to agree with certification"; missing signatures; certifications missing; lack of test data for purchases; correspondence that steel had been purchased without verification and traceability; and stickers indicating compliance with professional standards. As the summary noted on the latter item, "Authenticity of the signatures is questionable."

On October 2, Mr. McGrane confirmed similar findings for the purchases sent to Clinton. He provided the summary to Mr. Calkins. (Exhibit 7)

On November 30, 1981 I also received from Mr. Calkins the third interim report dated October 23, 1982 (Exhibit 8) This report leaves little need for interpretation. It begins with the admission that --

There has been a breakdown of the quality assurance program as related to criteria VI - Documents Control, and VII - Control of purchased material, equipment and services, of Appendix B to Title 10 CFR 50. This breakdown resulted in an incomplete review and acceptance of procurement documenting evidence (material certifications) and access to these documents by unauthorized personnel resulting in improper modifications being made.

The six-part report went on to describe the safety implications, results of the review, evaluation of data, and identification of deficiencies requiring engineering evaluation. The final two segments -- "Corrective Action" and

"Attachments" -- are the most interesting. They reveal the effects of inherent conflicts of interest in straightening out the problems identified in the report. For instance, the corrective action was basically to promise -- with a plan -- not to repeat the misconduct. The offender(s) received a reprimand and additional training. None were dismissed. The "demoted" individual(s) were not identified officially even within the company. Only one official, Charles Richards, was demoted. Unfortunately, Mr. Richards was one of the most innocent parties at Zack. Besides, he received a raise.

The attachments applied the conclusions to individual plants. For instance, at LaSalle, only 94 out of 374 packages were correct and acceptable. Eleven packages had alterations and six had stickers. Nine packages were judged "No Good for LaSalle." (emphasis in original).

I was informed by Mr. Calkins and Mr. McGrane that the October 23 report had been provided to each of the utilities and that the utilities had been responding to the QA problems in different ways. To illustrate, they told me that Consumers Power had called a meeting at the Midland site on November 3, 1981 in response to the October 23 report. I did not learn of the contents of the meeting until January, 1982, when I saw the minutes. (Infra, at) Commonwealth Edison had sent a surveillance team to the Zack headquarters to audit the QA documents on October 9, when Mr. Calkins presented them with his October 9 letter and attached interim report.

It was around this time that it became apparent to me that the LaSalle situation was particularly unnerving to Zack management. Commonwealth Edison had been "pushing" for a final report -- a complete and total update of the paperwork problems as they affected LaSalle. They needed the update so that the engineering departments could make whatever evaluations had to be made.

Mr. Calkins had promised this final report by December 1, 1981. In an internal October 30, 1981 memorandum (Exhibit 9), Mr. L.J. Burke, LaSalle's Project Construction Superintendant at that time, notified five of the top LaSalle project managers of the October 23 report and that Commonwealth Edison was still reviewing the extent, the corrective action planned, and the engineering resolutions. On November 2, 1981, a Commonwealth Edison engineer, W.H. Donaldson, wrote a letter to Zack President Christine DeZutel requesting "additional information...urgently needed for engineering to expeditiously evaluate the indeterminate or unacceptable material properties." (Exhibit 10)

The letter set a deadline of November 13, 1981 for Zack to submit necessary nonconformance reports.

The November 13 and December 1 deadlines were not met, because it was impossible for our new QA documentation department to audit the remaining purchase order packages by those deadlines. There were approximately 1,300 purchase order packages reviewed for the October 23 report; but at least another 1,600 to 2,000 remained left to audit. It was the review of these documents that Commonwealth Edison so desperately needed.

As a result of the information provided me during late November, 1981, I was becoming more aware of the true extent of the QA breakdown at Zack. At this point in time, the entire QA staff was under constant pressure by Zack management to produce measures to meet the immediate concerns of the utilities about documentation deficiencies.

On or about December 14, 1981, Mr. Calkins told me that Christine Zack DeZutel wanted to fire a member of my QA staff, Ms. Sharon Mareello. We discussed the fact that Ms. Mareello was an excellent employee and an asset to the QA

department. The matter was dropped, however, a few weeks later and Ms. Mareello remained on the staff.

The Bechtel Corporation was the General Construction contractor at Midland. In a December 21, 1981 letter from Mr. L.E. Davis to Mr. R. Greune of the Zack Company (Exhibit 11), Bechtel referenced both the preliminary August 28 letter and the October 23 report, and specifically addressed "Bechtel's evaluation of reportability under 10 CFR 50.55(e)." Bechtel concluded that the reported deficiencies were a paperwork problem, and ultimately the safety of the operations at the Midland plant would not be affected even if the paperwork deficiency had gone undetected and unresolved. I was deeply disturbed by certain statements in this letter, particularly the statement on page 2 of the letter that: "It is highly probable that Zack ordered correct materials for the Midland project from their sub-tier vendors and that the vendors' intent was to comply with Zack's purchase order requirements." (Exhibit 11, at 2) To me, that type of reassurance was not good enough.

The statements in the letter raised serious questions in my mind about the ethics, ability or intent of Bechtel Engineering. In his letter, Mr. Davis admitted that all of Bechtel's conclusions were based on information supplied by Mr. Calkins and supported by a Zack internal report/audit. I realized that Mr. Davis' letter attempted to absolve the Midland project of the responsibility of notifying the NRC (under CFR 50.55 (e)), by referring to the actions of Clinton and LaSalle. He defined the Zack problem as one of "indeterminate safety concern." He seemed to vindicate Midland by using the fact that the "indeterminate" safety concern was based on "preliminary and superficial information." I viewed as irresponsible Mr. Davis' assumption that the greater detail provided to him in the October 23 report made him less accountable under 10 CFR 50.55 (e). I was aware of the \$38,000 fine already levied against Consumers Power by the NRC

for Zack's errors, and the subsequent actions in removing Zack from the Quality Assurance program on the Midland site. As a result, I questioned the decision to rely entirely on Zack, both to define and in effect resolve the problems at Midland.

At this point I was both confused and disallusioned about the QA situation at Zack. On January 4, 1982, soon after the December 21st letter from Bechtel was received, I approached Mr. Calkins about Mr. Davis' conclusions in the letter. I was concerned about what I viewed as glaring inconsistencies in Bechtel's conclusions and the apparent lack of information on which they based the conclusions. I pointed out to Mr. Calkins that, as both he and Mr. McGrane knew, the full determination was not yet completed as there were 2,600 + purchase orders to evaluate, not just 1,300 as reported in October. I further pointed out to Mr. Calkins that I recently had seen Christine DeZutel's November 12, 1981 letter to Mr. J.W. Cook of Consumers (Exhibit 12) and that it appeared extremely misleading. The letter made it appear that Mr. Mc Grane had completed the "total document control audit" of Zack. I reminded Mr. Calkins that was simply not true. The "total document audit" was not complete then (early January, 1982) and to the best of my knowledge, is still not complete. Yet, the Zack Company told the utilities that everything was well under control. That was not substantively accurate. Mr. Calkins listened but did not respond.

Ronald Perry and I had a second meeting with Mr. Calkins the same day about the fourth interim report for LaSalle. We reiterated our concerns that the October 23 interim report was inaccurate. Again, he winced and responded vaguely, without any commitments.

Shortly after the January 4 meetings, the QA staff was subjected to harrassing and intimidating actions by Zack management that were to continue at least for the duration of my employment at Zack. Examples included derogatory comments about dress, accusations of petty misconduct such as using the company phone for personal

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calls, and other distractions.

At the end of January, 1982, the Q.A Superintendant at LaSalle sent a second surveillance report (Exhibit 13) on the Zack Company. On the whole this report indicates that the audit that other three employees and I were working on was going very well. In fact, it even excused Zack documentation from further review of the Architect/Engineer Sargent and Lundy ("S & L") as had previously been required. As the Surveillance Report explained, S & L --

deleted the requirements for submitting on site contractor documentation (such as Zack's) to S & L for review. This review is now the responsibility of the Zack Company...Based on this change, S & L's letter accepting Zack's documentation is no longer required.

At this point, we had been going through the documents for over three months. However, there was still much work left. There was an incredible pressure on Zack to complete the LaSalle audit/review by March 15, because that was the day scheduled for fuel loading. It was most interesting to me to note that the Commonwealth Edison surveillance report had found two purchase orders not yet identified by Zack.

In the first two weeks of February, 1982, Mr. R.A. Perry and I discussed the seriousness of the Zack QA breakdown. We then discussed with Martin Skates and David Calkins several times the fact that material did not conform to site specifications and the fact that many of Zack's vendors were unapproved as suppliers of material to nuclear sites. Our conversations led to no response from Zack management. This inaction prompted R. Perry to contact L. Shewski Commonwealth Edison's QA manager for the LaSalle site, in mid-February, 1982 about what we had found. Mr. Shewski turned Mr. Perry's allegations into a complete sham by immediately contacting Zack management. This led to more intensive intimidation of all of us, including Mr. Perry, by Zack management. Mr. Shewski also informed Consumers Power at the Midland site. Mr. Perry and I were informed that Christine Zack DeZutel did not appreciate our calls

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outside the company.

On February 16, 17 and 18, 1982, Baldwin Associates, prime contractor at the Clinton site, conducted an audit of the Zack company. This was a result of serious problems that Baldwin Associates had with the materials supplied by Zack and quality assurance documentation related thereto. Even though the Zack QA deficiencies targeted by this Baldwin audit were cited as a significant factor in the June 1982 stop-work order at Clinton, the February Baldwin exit interview certified Zack's documentation as "excellent."

On February 19, 1982, while I was out of the office, R.A. Perry's three month contract expired. Mr. Perry informed me at the time that he had been called into the President's office and questioned extensively by Christine Zack DeZutel, Joe DeZutel, D. Malzahn, Martin Skates and David Calkins. They had apparently questioned him intensively concerning any contact he may have had with any of the nuclear sites' management.

The following Monday, February 22, 1982, I was called to the President's office for a similar interrogation by the same Zack management officials, with the addition of Carl Eichstaedt. I was asked at great length about the condition of Zack's QA files. My response was that the files were in serious need of control and that training for the QA department was also needed. Christine and Joe DeZutel said they personally would come to the QA department to see if they could help.

There was incredible pressure on our department to finish a final audit for Commonwealth Edison's LaSalle plant by March 1st. Finally, on March 1, 1982, Zack compiled an updated report for Commonwealth Edison on the purchase order breakdowns at the LaSalle plant. I prepared this report. Each entry detailed the discrepancy and/or flaws and what the material problems were that resulted from either the quality assurance breakdown or the lack of approved vendors. These purchase order breakdowns resulted in a wide variety of problems. These are

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divided into six sections. (Exhibit 14) There were 35 minor discrepancies.

My greatest concern involved a section which states that:

"...the following list is an accounting of the P.Q./CMTR No.'s that were considered to have, in part, a discrepancy that might possibly reflect on the integrity of the materials concerned...."

I knew this list of approximately 259 major discrepancies was devastating to the integrity of any construction site, but for a nuclear power plant it was even worse. I also found 25 welder qualification discrepancies.

A good example of the impact of the paperwork fiasco is "Purchase Order Number 696, U.S. Steel Coils". The list noted that "these coils cannot be certified to ASTM standards". The report also found rivets and fasteners "not to site specifications".

Zack management wanted me to call the report "final", but I refused to do that. Making a "final" report would mean that CAR #14 could be closed. I wouldn't close the report until Zack met its own responsibilities, such as the corrective action commitments. There were still hundreds of discrepancies left.

Although Christine DeZutel promised that she and Joe DeZutel, her husband and the Executive Vice-President, would be in to assist us, they never showed up. Later Mr. DeZutel told me that I could hold training sessions with upper management. This promise was not honored either.

As a result of the February confrontation and the departure of Mr. Perry, another Zack employee, Andrea Crawley, from Clinton, was brought in to help us for three weeks starting March 1, 1982. I told Mr. Skates that this monitoring of our work constituted harassment and further intimidation. Ms. Crawley wasn't with us more than two hours the first day when she said "I don't know why I am here." She observed that obviously we knew what we were doing and she had no idea of our procedures. She had recently been hired by D. Calkins for documentation at Clinton and had no previous experience with the manner of our document control process.

During the week she stayed at Zack, Ms. Crawley witnessed several verbal assaults against me by Mr. Basiaga, threatening my dismissal. She also witnessed similar threats by Don Malzahn towards Mr. Calkins, that he would be fired. I believed that the threats to Mr. Calkins and myself were motivated by Zack management's fear of losing control of the as yet unexposed QA breakdown.

On March 4, 1982, David Calkins showed me a collection of Zack documents. He related to me that Don Malzahn had threatened to fire him that day and was going to call the DeZutels (who were out of town) to get their approval for dismissal. Mr. Calkins said that these statements by Malzahn were made in the presence of Basiaga and Skates. Mr. Calkins told me that he had done two things that day to protect his job: (1) he called Mr. H. Leonard, the Midland Project QA Manager; and (2) he gathered a collection of material which contained documentation of the QA breakdown at Zack (including a report to Consumers Power that he and Christine DeZutel had presented in Jackson, Michigan some time in October 1981).

At this point I realized my own job and reputation might be in jeopardy. I obtained copies of the documents Mr. Calkins brought to my house. I also began to keep a personal file and a journal on the events that transpired on the job.

The documents revealed a history of deception and incompetence. For example, on November 5, 1980, the Bechtel Power Corporation sent a letter to the Zack Company. This letter, which I read, makes it clear that Bechtel Power Corporation had sufficient knowledge of material being shipped to the site in non-conforming condition. Bechtel requested Zack to stop sending nonconforming material and to return any already received. (Exhibit 15)

On the following day, November 6, 1980, around 19 purchase orders were altered with the addition of adhesive stickers. (For example, see Exhibits

and , infra.) These stickers were attached to the original certification and the authorizing signature was forged. I believe from reviewing Zack's files that the months of November and December 1980 were spent in a "paperwork correction blitz". This is evidenced by the large number of documentation alterations that later became apparent through the investigation that members of the Quality Assurance documentation staff discovered. A list of these alterations and the types were later compiled for the top level management of the Zack Company. It is this list that was provided to the utilities in the first and second interim reports (supra, at 4) and also discussed in detail in the October 23, 1981 report (supra, at 6).

Several sets of U.S. Steel purchase orders (see, Exhibit 16) contained the adhesive stickers. These stickers contain signatures of questionable authenticity. The documentation also contained another example of attempts to correct, after the fact, the "bad" documentation by going back to the vendors and asking for certifications. These certifications would show that the material they had supplied was, indeed, adequate for use in nuclear power plants. The catch was that Zack had already accepted the materials without the required certifications. So Zack whited out the original approval signatures and asked the suppliers to send the missing information. The changes would disguise the original illegality.

To illustrate, on January 23, 1981 a request was made that U.S. Steel certify the material test reports and add the correct quality assurance information on each individual CMTR. Copies of the very form that had been altered were attached. Only the signature of the authorizing agent, in this case a Mr. Belkins, had been whited out. (Exhibit 17)

On February 6, 1981 many letters were written to various vendors for nuclear items. (Exhibit 18a-d) They requested the vendors to certify that their

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products were in compliance with the appropriate standards. One of these companies, the Seas Corporation (Exhibit 18), to the best of my knowledge, did not respond to the February 1981 letter requesting quality certification for hex nuts that had been purchased. Instead, it did nothing. A full year later, in 1982, an audit by Mr. Ken Shaeffer of Zack staff revealed that Seas, Inc. had not responded because it:

"...has been determined that this organization will not be able to meet the minimum established quality requirements as established by the Zack Co. From the information received they cannot verify any product furnished...."

This is a shocking conclusion and indicates a significant non-conforming condition. In February 1982, a full year after the problem was known, Zack performed a survey/audit and I noted on this audit (as well as others done by K. Shaeffer) that a resurvey/audit should be done. (Exhibit 19)

It appears to me that U.S. Steel was beginning to understand the depth of a problem at Zack in the fall of 1981. A September letter to the purchasing agent at the Zack Company lists purchase orders referring to orders from Zack to U.S. Steel from December 1980 through May 1981 that contained a serious misunderstanding. (Exhibit 20) The letter lists the 26 purchase orders at all three sites and the letter points out that the Zack documentary "confirming orders" all read "Safety-Related". The U.S. Steel letter points out that first, the orders had not been purchased as "Safety-Related"; and second, that since the purchase orders were not called in as safety-related, they were not handled through the "V&T" (Verification and Testing) program. Finally, Mr. Peters asked, as well he should have, what obligation Zack had attempted to impose by adding on the term "Safety-Related" to Zack's purchase orders from U.S. Steel.

U.S. Steel's concerns were well-founded. Zack's use of the term "Safety-Related" implied that the items received the quality verification required under 10 CFR 50, Appendix B. I do not know what actions, if any, were taken on the part of Zack management to either mollify U.S. Steel, or to deal with the problem of purchase orders of non safety-related materials on the three nuclear plant sites.

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Also included in the documents were examples of vendors unapproved for supplying material to nuclear plant sites. For example, Edgcomb Metal supplied steel beams for use at the Clinton site. These beams were purchased from several different sub-tier vendors through Edgcomb. The entire shipment was sent to be galvanized at Reliable Galvanizing and finally forwarded to the Clinton site. This entire purchase process took place in the summer of 1979. In September 1981, a survey and evaluation was performed by the Zack Company's new QA Department (Mr. John O'Connell) on Edgcomb Metals. (The September 23, 1981 audit results and attachments are enclosed as Exhibit 21.) The results need no explanation from me.

"Findings

- 1) The lines of organizational structure, responsibilities, and inter-functional relationships were not delineated in the Q.A. Manual.
- 2) No performance of a program evaluation.
- 3) No NCR/CAR plan to identify, analyze and take action to correct deviations from quality requirements.
- 4) No identified plan for the maintenance of Quality records.
- 5) No provisions to ensure that purchased material meet quality requirements.
- 6) No evidence of callibration records for caliper.
- 7) No vendor evaluation.
- 8) No check of CMTRs against received materials.
- 9) Contrary to Edgcomb's Q.A. Manual, no receiving inspection report is presently being utilized.
- 10) No management evaluation of the Quality Program."

On September 22, 1981 the vendor Edgcomb Metals was placed on unacceptable status. (Exhibit 21, supra) Although I had no way of determining now whether Edgcomb ever met the requirements of doing business with the nuclear industry, it appears that Zack had not imposed those restrictions on Edgcomb in the past. In other

words --even though beams purchased through Edgcomb Metals might meet the physical and material characteristics for use in nuclear plants, their overall quality and country of origin remains a mystery, although Ms. DeZutel thought they might have come from Argentina. (Exhibits 22a-c)

If the beams are truly acceptable, that is totally in spite of Zack's purchase order quality assurance system. A June 1979 purchase order (Exhibit 23) does not contain the required clause under 10 CFR 50, Appendix B, notifying the vendor that this material could be used in a nuclear power plant. The material never went through the system of "checks and balances" that the NRC imposes.

Another vendor, the Delta Screw Company, also failed a fall audit. (Exhibit 24) A fall 1981 Zack letter from Mr. Calkins allegedly removed Delta Screw Co. from the approved vendors list for failure to comply with the requirements of a Quality Assurance program as required by the NRC. However, I knew that Zack Company did not follow its own "approved vendors list." A list of the P.O.s from December 21, 1981 to February 1982 reveals that, in fact, Delta Screw received approximately 38 purchase orders from the Zack Company before being put back on the approved vendors list in February 1982. (Exhibit 25)

Another issue that came to my attention in the documents was the lack of proper qualifications for the Quality Control Audit personnel. Proper qualification is very important because Quality Control Audit personnel that have not been adequately trained cannot perform their function correctly. The auditors at Zack did not meet the minimum specifications for their positions. Personnel paperwork was not numbered and personnel failed to take such elementary tests as written examinations.

Zack had an auditor, Ken Shaeffer. He was found to be "unsatisfactory" in the August 1981 audit. (Exhibit 26) In a February 1981 evaluation, Mr. Shaeffer had been rated as "average" and certified from March 1981 through March 1984.

In light of all the QA/QC problems inherent to the Zack Company, I found it extremely interesting that Mr. Calkins was given the assignee status for the Zack president in evaluating and certifying QA personnel. (Id.) The President of Zack, Christine Zack DeZutel, did not qualify in QA, yet it is she who assured the utility management that all problems relating to the Zack QA/QC breakdown were under control and under her personal supervision.

(Exhibit 27a and 27b) On August 31, Ms. DeZutel finally was formally qualified on the basis of one hour's "training" in government and professional codes, which was obviously inadequate. (Exhibit 28)

Although I was already familiar with the October 23, 1981 Zack report to the utilities, I was very surprised at the notes of a November 3, 1981 meeting at the Midland site. (Exhibit 29) The summary notes of that meeting concentrate on discussions about materials as they relate to health and safety. In fact, employees from Bechtel Power Corporation, Consumers Power Co., and MPQAD personnel along with two Zack personnel who made the presentation were in attendance. It was most interesting to note that the first topic of discussion was whether or not to report the QA breakdown under 10 CFR 50.55(e) to the NRC and to then query the Zack personnel on how the other utilities had handled the information.

Notes of the meeting also detail the discussion, by categories, of discrepant conditions in the sheet steel and coil, nuts, bolts and screws. It appears from the notes that the management in attendance at the November 3, 1981 meeting was prone to accept the Zack explanations and predictions on the safety-related impact on materials of the paperwork deficiencies. The reported conclusion of the November 3 meeting emphasized the mutually beneficial findings that

the material pieces affected "would be acceptable", and that possibly--at the worst--additional testing would be required to prove that the material was in fact safe.

It is also revealing to me that the chief concern, or at least the primary evident concern of the management in attendance at this meeting, was what position the other two utilities (also compromised by Zack's quality assurance breakdown) were going to take. Although the discussion is not included verbatim in the minutes, the summary notes of the meeting make it quite clear that at least one of the other utilities deemed the problem to be reportable, and the other found it "indeterminate". This term seems to be the escape valve on which to rely.

A list of 12 Action items that are included in the meeting notes are also particularly revealing. These items required Zack to state in writing "that all items with CMTR listed as below 36 KSI are greater than 30 KSI", to prepare a list of all suspect material purchases", to "try to get material certified to federal specifications..." and repeatedly to revise or clarify existing requirements so that the purchases would be acceptable. The summary of the meeting, as relayed in these minutes, would lead the uninvolved observer to believe that Zack and the Midland Project management had everything under control and that the Zack problems were nothing more than a paperwork breakdown.

Another example involved three 1981 Delta Screw purchase orders numbered C-4286 (dated February 4, 1981), C-4473 (dated August 26, 1981), and C-4484 (dated September 11, 1981). (Exhibits 30a-c, respectively) All involved some 114,000 hexheads, bolts, nuts and similar items. Two of these purchase orders were for Midland. One of them was for "stock" and could have been used in all three plants. The specification that was not met was the ASTM requirement that "A 307 bolts must have manufacturers identification markings." In fact, none

of the 114,000 hardware pieces from these purchase orders contained the identification marks of the manufacturer, as required.

Zack took inconsistent action on the Delta Screw P.O.'s. On September 22, a nonconformance report was prepared for P.O. 4484. Mr. Eichstaedt did nothing until three months later on December 17, 1981, when he apparently secured Delta's approval for return of all the shipments. (Exhibit 30c) He took this action through "Change Number 1", dated December 22, 1981 and attached to each purchase order. We were suspicious, because the hardware in part already had been delivered to the various sites. (For notes of Mr. Richard's research confirming shipments to Midland and LaSalle, see Exhibit 31.) After further checking, Mr. Latoma confirmed to me that the material was not in fact returned for credit. In other words, Mr. Eichstaedt's December 22 "Change Number 1" was not accurate. It is also inexplicable why he wrote a nonconformance report for one P.O. (4484) and not the rest. They all suffered from the same deficiency. On December 30, 1981 he also closed out the nonconformance. In the process he rejected his own December 22 position and dispositioned the NCR -- "Material accepted per Bechtel SDDR 2187." (Exhibit 32)

On Monday, March 8, Mr. and Mrs. DeZutel met with D. Calkins. The outcome was a \$12,000 raise and one extra week of vacation for D. Calkins. For the rest of us in the QA department, the situation worsened in terms of harassment and internal pressure. During this week, the third secretary in as many months was fired, and a member of the Quality Assurance staff, Sharon Mareello, was hospitalized. She told me her doctor said the tension and exhaustion from working six days a week, 12 hours a day and all of the internal harassment and intimidation led to her hospitalization.

I requested a meeting with Mr. Calkins for Saturday, March 13, 1982. At this meeting, I discussed with Mr. Calkins all of the internal pressure that the Quality Assurance department was experiencing in attempting to do the job that

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he had hired us to do. He agreed to have an immediate Quality Assurance departmental meeting and to get everything straightened out. However, Mr. Calkins never followed through with his assurances. Instead, the remaining six weeks is a diary of increasing intimidation and verbal abuse. Management took many steps to encourage my resignation.

At one point, I was even invited to interview at the Midland site for a possible appointment with Consumers Power Company and Bechtel Power Corporation.

On March 24, during my interview at Midland, I related to Mr. H. Leonard of MPQAD the awkward difficulties that the QA department at Zack was experiencing. Mr. Leonard agreed that Zack had had a large number of problems over the years, and that if I wanted to make specific allegations about the problems, I should do so. He further told me that my job was protected under the law and that he would give me a confidentiality agreement.

Upon my return to Zack, I continued to help "clear" 99 NCRs for the LaSalle site. Although I requested adequate time and cooperation in order to perform this task properly, there was no assistance forthcoming. The atmosphere had deteriorated significantly as the pressure to meet impending site deadlines became very intense. The Quality Assurance Documentation Department staff resisted the intimidation, threats and harassment and continued to do the job as accurately as possible under the circumstances.

On April 5, 1982, in a meeting with David Calkins, I was asked to lead a group of relatively untrained QA employees in writing all the Supplier Deviation Disposition Requests ("SDDRs"), and Discrepant Material Forms for the Midland site. I told him to be patient.

On April 7, 1982 I had another discussion with Mr. Calkins to inform him that in my opinion it was not possible to complete the documentation review within the deadlines, even if the QA staff continued to work the extensive overtime we had been putting in. Mr. Calkins gave me no guidance or hope that the situation could be resolved. Again, he was mute in his response.

On April 13, 1982 I called Mr. Hank Leonard, MPQAD, and spent approximately two hours relating the types of problems going on at Zack. I told Mr. Leonard that to do our jobs correctly the entire department needed protection and relief from the stressful situation we were working under. He promised that relief and protection. I decided to make the allegations officially, hoping that he would initiate action on his own. He did not.

On April 15, I called again and made official allegations through the MPQAD Allegation System. (Exhibit 33) I did not give my permission to Mr. Leonard to release my identity.

On April 16, 1982, Mr. Calkins called me into his office and told me I had betrayed him and that he was not going to speak to me anymore. He also asked me to send him "six suspect files" as examples to prove my allegations. I had already shown him many more than six examples. Soon after I left his office, I received a copy of a memo addressed to "All Zack Personnel" from Christine Zack DeZutel. (Exhibit 34) Without mentioning me by name, this memo referred to and then denied the allegations I had made to Mr. Leonard. It also denied us access to the files without upper management permission. Mr. Leonard then flew down from Midland and conducted a two-day "investigation" which amounted to little more than a review of Zack's handiwork. He only questioned four QA people. Two other so-called 'experts' from Bechtel and Consumers took occasional, sketchy notes. I know because I watched their every move.

On April 21, 1982, Mr. Leonard said he wanted to see me away from the Zack Company premises. We agreed to meet at his room in the local Holiday Inn. My wife went to the meeting with me as a witness. Mr. Leonard told me he found nothing of substance wrong with the Zack QA documents. This meeting lasted three hours, during which nothing constructive occurred. At one point, Mr. Leonard made the foreboding remark to me: "I was fired once, too, you know."

Shortly after the departure of Mr. Leonard and his investigative team from Midland, the management at Zack gave some indication that they would be making concerted efforts to maintain the integrity of the quality assurance program they had been required to set up. Christine DeZutel made some promises about improvements, i.e. better environment, pay raises, etc.

On April 27, 1982, Ray Basiaga, the so-called Quality Assurance Training Instructor, gave the only formal QA training any of us ever received during six and a half months of doing major QA work. (Exhibit 35)

On April 28, 1982 a Corrective Action Report (#20) was written. (Exhibit 36) It requested that I "formulate a training plan" for the document control department. I responded the following day, April 29, with a two-page letter (Exhibit 37) outlining a Quality Assurance Training Program, and other much-needed reorganizational efforts to ensure that the QA program would meet the letter of the law.

The next day, April 30, 1982, I was called in front of a top-level management meeting and, after a scathing attack by Christine Zack DeZutel, was told that my services were no longer needed. (See her April 30, 1982 letter of dismissal, attached as Exhibit 38, which repeated the substance of her tirade, and announced Mr. McGrane would replace me on CAR #20.) One of Ms. DeZutel's basic criticisms was that my staff and I were incompetent. Her attack created a dilemma for Zack. We had alleged the QA "reform never occurred, due to mismanagement. She in effect agreed with us and noted that the

Zack QA performance was "appalling". She simply blamed me. It does not matter whom you point your finger at; regardless of blame, Zack's work was no better than before the August 28, 1981 report that conceded the QA breakdown in the first place.

Within minutes the rest of the QA documentation department was told the same thing. We were handed our final checks and told to leave, taking only our personal belongings. Mark Cioni, one of the QA staff employees, had left the job early that day for a doctor's appointment. He called me at home that evening and related to me the contents of a Mailgram he had received. The Mailgram was signed "Christine Zack DeZutel, President", and informed him he had been "terminated" on April 30 "due to structural reorganization." (Exhibit 39)

The first working day after our dismissal, May 3, 1982, I went personally to talk to the NRC. I spent three hours with a team of investigators, including James Foster, Gerald Phillips, Charles Weil, Harvey Wescott, Cordell Williams, Wayne Schaeffer and Jim Peschel. Mr. Wayne Schaeffer of the NRC office was the 'host' investigator. Their reaction was cooperative. I had the impression that they would investigate seriously. They asked for more documents to copy, which I supplied.

During those three hours I discussed all the issues in this affidavit, and left them almost all the documents attached here as Exhibits. I cannot be sure, since I have not yet received the receipt they promised to send. Not receiving the receipt is disturbing, especially since last Monday Mr. Norelius of Region III said he had sent it the previous day.

In addition, I left with the NRC other disturbing, pertinent evidence. The additional evidence involved more cases of alterations, possible forgeries and suspicious discrepancies.

For example, I gave them January 22, 1982 correspondence between Zack and RMC, Inc., who sold Zack copper tubing. (Exhibit 40) Mr. Eichstaedt asked

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RMC to certify the traceability of certain safety-related materials and even enclosed a model letter. Rather than check the records, RMC merely retyped the model letter verbatim and returned it. They even typed in the same spelling errors. Miraculously, their confirmation letter was dated January 22, 1982, the same date as Eichstaedt's original letter of inquiry.

Another example involved the Weldstar Company, which sells weld electrodes. Weldstar did not have the 1978 certifications Zack needed, but they were most cooperative. In an April 6 letter to Mr. Eichstaedt, Weldstar sent a certification form and told Zack to just fill in the blanks. (Exhibit 41)

I also showed the NRC an internal September 14, 1981 Zack audit (Exhibit 42) which noted, "Zack has historically not performed any surveys on approved vendors, nor is there any historical data to back up qualification of vendors." The recommended corrective action was to requalify all vendors. Another finding confirmed "there is no disposition or identification of material as safety or non-safety related". Overall, the audit concluded the above problems represented "serious program deficiencies." Other relevant documents I believe that I shared with the NRC are enclosed as Exhibits 43a-43w.

The NRC description of its LaSalle report of our meeting is absolutely false. I spoke in great detail and said my findings applied to all three sites. I emphasized problems at LaSalle more than Midland. I left my records with the staff that day, and more the next day.

From May 3 until July 21, 1982, no one from the NRC office has contacted me for further information, although I called close to half a dozen times. I came to the NRC office that many times and spoke with Messrs. Foster, Phillips or Wild. But they never got started on the investigation. Finally I decided to try someone who was interested.

Although I told the NRC how the documents covered LaSalle, I do not believe that any of this information was included in the recent NRC investigation of that plant. This is unfortunately, since even a simple review of my LaSalle information would indicate serious problems in determining the integrity of materials used.

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I was convinced then, as I remain, that there were two basic reasons we were dismissed. The first was for doing our job too well and thereby becoming dangerously familiar with the quality assurance breakdown at Zack, along with the safety implications that breakdown had on the three nuclear power plants. The second reason is that my contact with Mr. Leonard through the April 15 allegations led to Zack's decision to eliminate the QA documentation team. Although I have seen the Consumers Power Co. letter to the Government Accountability Project which requests that GAP investigators bring all allegations to MPQAD (Exhibit 44), my personal experience dictates that action would be personally disastrous for any others who notify MPQAD of serious problems.

It has been a sobering education to realize that the information I brought forward in good faith because I was concerned about the safety of my fellow Americans in Michigan and Illinois has led to incredible financial hardship for my family. What is even more sobering is to accept that the NRC has received all of the information concerning Zack, including evidence, and failed to act on it until they were publicly embarrassed.

I have read the above 27 page affidavit and it is true, accurate and complete to the best of my knowledge and belief.

A. Terry Howard

A. Terry Howard

SUBSCRIBED AND SWORN TO BEFORE ME
this 26th day of July, 1982.

Viola H. Burke
Notary Public

VIOLA H. BURKE
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires January 2, 1986

GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies

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July 27, 1982

The Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Chairman Palladino:

This letter is to offer GAP's and our clients' assistance and cooperation for the investigation into the Zack Company. We were gratified that the Commission prudently chose to await the results of Region III's ("RIII") ongoing investigation. But we are concerned about the brief deadline for the results -- next Tuesday at the latest. It may not be possible to answer Mr. Howard's and Ms. Mareello's allegations with confidence in the remaining week before the plant is ready to go beyond five-percent power anyway. We have no desire to impose financial hardships upon Commonwealth Edison ("Com Ed"), but a "rush job" would not serve anyone's interests. Our clients' expertise in the facts on the Zack allegations are essential to help meet this difficult challenge.

We offer the following suggestions in an effort to avoid further public controversy.

- (1) The investigation should include interviews with all witnesses whose statements are included in our July 26 letter, as well as any other witnesses they refer. Their intimate knowledge of the Zack program and documents is an invaluable asset to insure an efficient, comprehensive investigation.
- (2) NRC investigators should take sworn statements from all witnesses. The statements should be attached to the investigative report as exhibits, with appropriate deletions for anonymity requests. This would avoid any later disputes whether the ensuing report accurately characterizes their information.
- (3) Each witness should immediately receive a receipt for all documents provided to NRC investigators.
- (4) NRC investigators should identify particular HVAC samples for independent laboratory tests after speaking with at least the principal witnesses. A final decision on whether to permit full power operation should be deferred until the test results are received. Since the premise of the investigation is inaccurate

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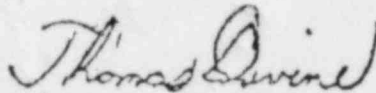
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The Honorable Nunzio J. Palladino
July 27, 1982
Page Two

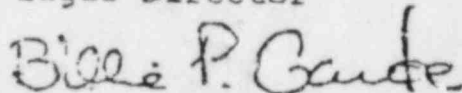
paperwork, independent tests are essential. We question whether the laboratory tests ordered Friday can adequately and comprehensively respond to Mr. Howard's and Ms. Mareello's allegations, since the tests were ordered three days before their July 26 affidavits and disclosure. They have many additional examples to discuss besides the Weldstar and RMC purchases. Since an adequate review has not yet been completed to identify the relevant safety-related purchase orders, it is impossible to verify that all affected safety-related HVAC areas will be covered by the few samples Mr. Keppler already sent to the laboratory.

Please excuse any presumptiveness in offering these suggestions. We believe, however, that they address generic weaknesses in NRC investigations. On the eve of operations, another report that publicly raises more questions than it answers should be avoided at all costs.

Sincerely,



Thomas Devine
Legal Director



Billie P. Garde
Director, Citizens Clinic for
Accountable Government

TD/BPG/mcy