

ORGANIZATION: TAYLOR FORGE  
CICERO, ILLINOIS

REPORT NO.: 99900783/82-01	INSPECTION DATE(S) 8/16-20/82	INSPECTION ON-SITE HOURS: 32
CORRESPONDENCE ADDRESS: Taylor Forge Gulf & Western Manufacturing Company ATTN: Mr. J. A. Sider, Plant Manager 4735 West 14th Street Cicero, Illinois 60650		
ORGANIZATIONAL CONTACT: Mr. E. J. Razim, Manager, QA/QC TELEPHONE NUMBER: (312) 242-3400		
PRINCIPAL PRODUCT: Forgings, seamless rolled rings, pipe fittings, and flanges. NUCLEAR INDUSTRY ACTIVITY: Approximately 1% of a current annual output of 500,000 lbs.		
ASSIGNED INSPECTOR: <u>J. T. Conway</u> J. T. Conway, Reactive & Component Program Section (R&CPS)		<u>10/15/82</u> Date
OTHER INSPECTOR(S):		
APPROVED BY: <u>I. Barnes</u> I. Barnes, Chief, R&CPS		<u>10-15-82</u> Date
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : 10 CFR Part 50, Appendix B. B. <u>SCOPE</u> : This inspection was made as a result of the 10 CFR Part 50.55(e) notification reported by Pennsylvania Power & Light Company relating to inadequate thickness of main steam relief valve discharge line flanges furnished to the Susquehanna Steam Electric Station. In addition to evaluating Taylor Forge's identification of the cause of the reported deficiency and the corrective action taken to prevent recurrence, the following (Cont. on next page)		
PLANT SITE APPLICABILITY: Docket No. 50-387		

DESIGNATED ORIGINAL  
Initiated By Rheanne Clark

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SCOPE: (cont.) areas were inspected: organization (training/qualifications), material and manufacturing process control, inspection, records, reporting of defects, and audits (internal/external).

A. VIOLATIONS:

None

B. NONCONFORMANCES:

1. Contrary to Criterion V of Appendix B to 10 CFR Part 50, Section 2 of Specification C-71.1, and Section 1 of the QA Manual, a review of QA indoctrination and training records indicated that two Department Managers and two auditors did not receive indoctrination and training.
2. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Section 4 of the QA Manual, a review of 11 nuclear orders completed in 1981 and 1982 indicated that there was no Receiving Report for 5 orders.
3. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Specification C-70.26, a review of "trail cards" for recent nuclear orders and the record file for identification stamps indicated that: (a) an individual had performed visual inspections and used a stamp, but neither the individual nor the stamp was recorded; and (b) the stamps for three, terminated NDE inspectors were returned, but the date of return was not recorded.
4. Contrary to Criterion V of Appendix B to 10 CFR Part 50, and Section 9 of Specification C41.00, a review of QA personnel records indicated that the recertification of a Level II inspector for MT exceeded the three-year frequency.
5. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Article NCA-3867.4 of the ASME Code, a review of 11 nuclear orders completed in 1981 and 1982 indicated that on 1 order the yield strength figure on the CMTR was different from the yield strength figure on the Material Analysis Report provided to Taylor Forge by the material supplier.
6. Contrary to Criterion V of Appendix B to 10 CFR Part 50, Section 9 of the QA Manual, and Section 3.3 of Specification C70.28, a review of QA personnel records and internal audit reports for 1981 and 1982 indicated that: (a) two auditors, who performed 14 audits during this period, were not certified; and (b) the QA Manager did not review and sign 4 audit reports.

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C. UNRESOLVED ITEMS:

None

D. OTHER FINDINGS OR COMMENTS:

1. In October 1981, Bechtel notified Taylor Forge that the 10-10" x 12" 300 lb. increaser flanges fabricated in 1976 and delivered to ITT Grinnell for use at the Susquehanna nuclear plant did not meet the thickness requirements of ANSI B16.5. Taylor Forge investigated the problem and determined that an engineer had drawn the correct 1 7/8" thickness on the layout graph but dimensioned it as 1 5/8". Another engineer converted the layout dimensions to machine drawing No. S-114185 (April 6, 1976) showing a thickness of 1.625". The 10 flanges were fabricated and inspected to this drawing.

After receiving an order for approximately 120-10" x 12" 300 lb. increaser flanges, Taylor Forge modified the contour to reduce machining. At this time, an engineer noted the dimensional error and revised drawing No. S-114185 on April 18, 1979, to the correct thickness of 1.875", but did not notify management of the error. When the cause of the problem was determined, Taylor Forge management reprimanded the engineer and alerted him to the Part 21 requirements for reporting defects. Taylor Forge confirmed to Bechtel in the Razim/Hardie letter dated February 3, 1982, that the 10 flanges were the only ones manufactured to the thickness of 1.625" and furnished to ITT Grinnell.

2. A detailed review of documentation (e.g., QA Manual, procedures, training/qualification records, trail cards, heat cards, receiving reports, drawings, Material Analysis Reports (MAR), CMTR's, QA records, audit reports, etc.) led to the identification of six nonconformances (paragraph B above) and the following additional comments:
  - a. The mill heat number on two trail cards and the certification (i.e., edition and addenda of the ASME code) on two MAR's were different from the respective information on the CMTR's.
  - b. The QA Manual and applicable procedures appear to require updating to satisfy the requirements of Appendix B to 10 CFR Part 50. Examples of observed discrepancies are as follows:

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INSPECTION  
RESULTS:

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- (1) The organization chart did not reflect the current organizational structure, and the QA responsibilities of each group which function under the cognizance of the QA program were not described;
- (2) The organizational positions with stop-work authority were not identified;
- (3) Indoctrination/training and qualification programs were not being kept current;
- (4) Qualifications and certifications of inspectors and auditors were not being kept current;
- (5) There was no documentation to indicate that supplier's certificates of conformance are periodically evaluated by audits, independent inspections, or tests, to assure they are valid;
- (6) There was no evidence of a documented check to verify the dimensional accuracy and completeness of design drawings and specifications; and
- (7) There was no requirement for management (above or outside the QA organization) to regularly assess the scope, status, and compliance of the QA program to 10 CFR Part 50, Appendix B.



DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
1	4	QUALITY ASSURANCE MANUAL	1/6/81	
2	2	C-70.13 'FINAL INSPECTION PROCEDURES'	6/24/77	
3	2	C-10.0 'PREPARATION & SUBMITTAL OF PROCEDURES/PLUGS FOR CUSTOMER APPROVAL'	1/6/81	
4	2	C-70.21 'CALIBRATION & CONTROL OF MEASURING EQUIPMENT'	1/6/81	
5	2	C-70.24 'SUPPLIER EVALUATION & APPROVAL'	1/6/81	
6	2	C-41.00 'NONDESTRUCTIVE TESTING - PERSONNEL QUALIFICATION/CERTIFICATION'	4/30/80	
7	2	C-70.26 'PROCEDURE FOR USE & CONTROL OF IDENTIFICATION STAMPS'	1/6/81	
8	8	QA MANUAL CONTROL LOG		
9	8	PROCEDURES MANUAL CONTROL LOG		
10	8	QA RECORD FILES FOR ELEVEN NUCLEAR ORDERS (1981 & 82)		
11	2	C-70.11 'RECEIVING INSPECTION - RAW MATERIAL'	1/6/81	
12	2	C-70.28 'QUALITY ASSURANCE INTERNAL AUDITS'	1/6/81	
13	2	C-71.1 'QA - INDOCTRINATION & TRAINING'	1/6/81	
14	8	QA INDOCTRINATION/TRAINING RECORDS FOR TWELVE INDIVIDUALS		
15	8	INTERNAL AUDIT REPORTS FOR 1981 & 1982		
16	8	APPROVED VENDORS MANUAL	4/22/82	7
17	8	EXTERNAL (5 VENDORS) AUDIT REPORTS FOR 1980, 1981, & 1982		

- Document Types:
1. Drawing
  2. Specification
  3. Procedure
  4. QA Manual

5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)

- Columns:
1. Sequential Item Number
  2. Type of Document
  3. Date of Document
  4. Revision (If applicable)

Inspector J. CONWAY

Scope/Module \_\_\_\_\_

DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
18	8	INSPECTION STAMP RECORD FILE		
19	1	S-114188 - 'DETAIL OF FORGING FOR 10"X12" - 300 LB INCREASER FLANGE	4/8/76	
20	1	S-114185 - 'DETAIL OF 10"X12" - 300 LB INCREASER W N FLG.	4/6/76	
21	1	S-115364 - 'FORGING DATA FOR 10"X12" - 300 LB, INCREASER FLG.	4/10/79	
22	8	LAY-OUT SKETCH FOR 10"X12" - 300 LB, INCREASER FLG.		
23	1	KAZIM/HARDIE LETTER DATED 2/3/82 - Re 10"X12" - 300 LB, INCREASER W N FLG.		
24	3	POLICY PROCEDURE 9.04 '10 CFR PART 21 REPORTING / DEFECTS & NONCOMPLIANCE	8/1/79	

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