

U.S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I

RO Inspection Report No.: 50-363/73-01

Docket No.: 50-363

Licensee: Jersey Central Power and Light Company

License No.: _____

Madison Avenue at Punch Bowl Road

Priority: _____

Morristown, New Jersey 07960 (Forked River 1)

Category: A-1

Location: Klockner Works, Osnabruck, Germany

Type of Licensee: PWR MW(e) 1070

Type of Inspection: Announced, Vendor

Dates of Inspection: April 9 and 10, 1973

Dates of Previous Inspection: October 30, 1972

Reporting Inspector: Ross L. Brown
Ross L. Brown, Reactor Inspector

5/10/73
Date

Accompanying Inspectors: W. F. Sanders
W. F. Sanders, Reactor Inspector

5/15/73
Date

_____ Date

_____ Date

_____ Date

Other Accompanying Personnel: _____

_____ Date

Reviewed by: E. M. Howard (for)
E. M. Howard, Chief, Facility Construction
and Engineering Support Branch

5-15-73
Date

_____ Date

SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Items

No previously identified enforcement items.

Design Changes

None identified

Unusual Occurrences

None

Other Significant Findings

A. Current Findings

The inspector observed that the vendors activities were not in conformance with the post examination cleaning requirements of the liquid penetrant test procedure, however, the deficiency was corrected prior to completion of the inspection. (Details, Paragraph 4)

B. Status of Previously Reported Unresolved Items

No previously reported unresolved items.

Management Interview

- A. The following persons attended a management meeting, conducted by Mr. Brown and Mr. Sanders at the conclusion of the inspection.

Klockner Works

Dr. W. Brohl, Director, Quality Assurance
Mr. W. Neumann, Quality Control
Mr. G. Grote, Quality Control Engineer
Mr. J. Kuone, Project Manager
Mr. A. Rudolph, Quality Control

Combustion Engineering Corporation (C.E.)

Mr. R. J. Cepluch, Manager, Quality Assurance
Mr. J. C. Moulton, Project Manager
Mr. G. S. Brunetto, Quality Assurance Representative

Sulzer - KSB (SKK)

Mr. B. D. Jacobsen, Manager, Quality Assurance

The items discussed and management comments were as follows:

- B. The inspector stated that the quality documents audited appear to be satisfactory, but in some cases traceability required the use of documents written in German that will not be included in the final document package submitted to the customer, this will create a problem at a later date.

The management personnel present stated that this condition will be corrected. (Details, Paragraph 3a)

- C. The inspector stated that the "Klockner Heat Treatment Procedure," does not, in all cases, specify an acceptable temperature range.

The Klockner management stated that the procedure should probably specify a temperature range of plus or minus 25°F., but that the heat treat requirement will be reviewed and the procedure revised to include the acceptable code requirements and engineering practices.

- D. The inspector stated that the management personnel present are responsible to conduct sufficient audits to ensure conformance with established requirements, thus preventing a recurrence of a situation similar to that observed where the item was not cleaned following the examination in accordance with the liquid penetrant test procedure. (Details, Paragraph 4)

The C-E, SKK, and Klockner management stated that audits to determine conformance with the procedural requirement will be conducted on a periodic basis.

- E. The inspector stated that the codes and specifications may not require controls against possible contamination in all materials or conditions associated with the manufacturing, inspection, or testing of stainless steel clad components. It would appear to be good manufacturing practices to consider imposing some control measures to prevent contamination in the following areas:

1. Couplant used during ultrasonic testing.
2. Surface cleaning prior to subjecting the component to elevated temperatures; e.g. stress relief.

The Klockner management stated that the ultrasonic test procedures will be revised to include the control of halogen and sulphur content of all of couplants used.

They also stated that item two will be discussed with Klockner Metallurgical Department for recommended shop practices.

During two telephone contacts with Mr. Cepluch, subsequent to the inspection on April 23 and 27, 1973, he stated that C-E does not believe that the cleaning in Item 2 need be any more than a visual examination to assure that all heavy debris and combustibles have been removed, but the need for any solvent cleaning is not required.

The inspector stated during these telephone contacts that the situation will be reported to RO Headquarters for their review and recommendations.

- F. The inspector was asked if Klockner and/or their customers are permitted to use copies of the AEC Inspection Reports or AEC letters to the utility company as part of their sales presentation to potential customers.

The inspector stated that he did not know, and would not encourage their use, but is unaware of anything to prevent their use, since copies of these documents are on file in the Public Document Room.

DETAILS

1. Persons Contacted

Klockner Works

Mr. C. Maidorn, Supervisor, Quality Control
Mr. W. Neumann, Quality Control
Mr. G. Grote, Quality Control Engineer
Mr. A. Rudolph, Quality Control

Sulzer - KSB (SKK)

Mr. B. D. Jacobsen, Manager, Quality Assurance

Combustion Engineering Corporation (C-E)

Mr. R. J. Cepluch, Manager, Quality Assurance (MSV)
Mr. J. C. Moulton, Project Manager
Mr. G. S. Brunetto, Quality Assurance, Representative

2. General

The first pump casing complete with seal flange, inlet and outlet nozzles is scheduled to be shipped to KSB in September 1973.

3. Record Review

a. The inspector reviewed the material test reports, heat treatment certificates or furnace charts, non-destructive examination reports, and dimensional inspection records to assure that the following components are in conformance with the material requirements specified in the purchase order, ASME Codes and Standards.

- (1) Pump Casing No. II, Heat No. 412340, Material SA-508-69, Class 2.
- (2) Seal Flange No. II, Heat No. 412376/2, Material SA-508-69, Class 2.
- (3) Suction Nozzle No. II, Heat No. 412424/12, Material SA-508-69, Class 2.
- (4) Randomly selected heats of type 308L and 309L, welding electrode.

No violations were identified, but traceability of heat treatment charts to the item was difficult because it required the use of the shop travelers (which are written in German and will not be a part of the final quality package), to establish reference to the item number. The vendor stated that the documentation will be reviewed and the necessary cross references will be recorded on the English translation of the documents.

C-E management stated that they will conduct a comprehensive record audit prior to shipment of the pumps.

- b. The following fabrication and in-process inspection records were selected to determine: (a) if inspection hold points were being observed; (b) if inspections were documented by qualified personnel; (c) if approved inspection procedures were being utilized; and (d) if the acceptable results were in accordance with the procedure acceptance criteria.
- (1) Weld history record (welder, procedure, preheat temperature, electrode heat number and interpass temperature) ultrasonic examination for bond report, and liquid penetrant examination report for the internal cladding of Pump Casing No. 1.
 - (2) Weld history records and non-destructive examination records (magnetic particle, radiography, and ultrasonic (0-45° - 60°)) for the suction nozzle to safe end weld.
 - (3) Radiographs for weld seam No. 3 (outlet nozzle to shell) for Pump Casing No. 1.

4. Component Cleaning Following Liquid Penetrant Examination

The inspectors' observations of work in process indicated that the vendor was not performing the procedure required, cleaning following liquid penetrant examination of cladding of Pump Casing No. 3.

The vendor took the following corrective action that was completed prior to completion of the inspection.

- a. Issued a deviation report that required the item to be cleaned in accordance with the liquid penetrant procedure; results were reviewed and approved by responsible supervisor.

- b. Written instructions were issued to the non-destructive testing personnel, stating that the inspection is not complete and the report can not be signed until the required cleaning has been accomplished for all non-destructive testing methods.

Klockner management stated that in addition to the above instruction, this requirement was discussed with the responsible supervisors and testing personnel.