U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 99900361/79-02 Program No. 51300

Company: G. Dikkers and Company N.V.
Industriestraat 15, P.O. Box 12
7550 AA Hengelo, Province of Overijssel
The Netherlands

Inspection Conducted: October 29-November 2, 1979

Inspectors: D M Hunnicutt 12/6/79
for I. Barnes, Contractor Inspector Date
Components Section II
Vendor Inspection Branch

Uldis Potapovs 12-7-79
Uldis Potapovs, Chief Date
Vendor Inspection Branch

Approved by: D M Hunnicutt 12/6/79
D. M. Hunnicutt, Chief Date
Components Section II
Vendor Inspection Branch

Summary

Inspection on October 29-November 2, 1979 (99900361/79-02)

Areas Inspected: Implementation of 10 CFR 50, Appendix B, criteria and applicable codes and standards; including action on previous inspection findings, manufacturing process control, joint fitup and welding, material control and identification, nonconformances and corrective action, design control and procurement control. The inspection involved seventy-two (72) inspector-hours on site by two (2) NRC inspectors.

Results: In the seven (7) areas inspected, no deviations or unresolved items were identified in two (2) areas, with the following deviations being identified in the remaining areas:

Deviations: Action on Previous Inspection Findings - Re-evaluated internal audit program was not implemented by committed corrective action date (Notice of Deviation, Item B). Qualification of coated electrodes was not performed in accordance with Criterion V of 10 CFR 50, Appendix B, and paragraph NB-2431.1(c) in Section III of the ASME Code (Notice of Deviation, Item C).

Manufacturing Process Control - Completed NCR was not reviewed with ANI as required by Criterion V of 10 CFR 50, Appendix B, and Section 19.0 of the QA Manual (Notice of Deviation, Item D). Control of traveller inspections, examinations and reviews was not in accordance with Criterion V of 10 CFR 50, Appendix B, and Sections 10.0 and 12.0 in the QA Manual (Notice of Deviation, Item E). Material Identification and Control - Impact testing of SA 350 LF2 Seat forgings was not in accordance with the requirements of Criterion V of 10 CFR 50, Appendix B, the material specification and NB-2321.2 in Section III of the ASME Code (Notice of Deviation, Item F). Design Control - The QA Manual is not in accordance with Criterion II of 10 CFR 50, Appendix B, with respect to providing measures to assure the quality of non-pressure boundary safety related items (Notice of Deviation, Item A).

Procurement Control - Presence of a vendor on the Approved Vendors List with survey identified system deficiencies, absence of identified limitations on the survey report, and maintenance of the vendor on the Approved Vendors List past the audit due date are not in accordance with Criterion V of 10 CFR 50, Appendix B, and Section 8.0 in the QA Manual. (Notice of Deviation, Item G).

## DETAILS SECTION

(Prepared by I. Barnes and U. Potapovs)

A. Persons Contacted

*C. S. Craig, Chief Executive
*R. J. Howe, Technical Manager
*J. C. G. Heetebrij, Works Manager, Valve Plant
*J. Janssen, Works Manager, Foundry
*A. J. Teunissen, Sales Manager
H. Blokzijl, Chief, Laboratory
A. G. Brul, Development Manager
S. Brink, Production Manager, Valves
J. G. Bruintjes, Manufacturing Engineering Manager
E. L. Donk, Engineering Manager
J. A. Grobben, Assistant Quality Assurance Manager
K. Knijnenberg, Welding Supervisor
G. W. Koers, Quality Assurance Engineer
H. v. Oostenbrugge, NDE Lab. Supervisor
H. Oude Vrielink, Project Manager
F. Riedijk, Chief, Central Planning
H. Rikkerink, Technical Services Manager
M. A. Veldhuizen, Chief Inspector, Foundry
J. Wilts, Metallurgist and Welding Engineer

*Denotes those persons attending exit meeting.

B. Action on Previous Inspection Findings (I. Barnes)

1. (Closed) Deviation (Item A, Notice of Deviation, Inspection Report No. 79-01): Increase in interpass temperature permitted by Welding Procedure Specification (WPS) EAP-2343-07002, Revision 1, above supplementary essential variable recorded in the applicable supporting Procedure Qualification Record (PQR).

   The inspector verified that WPS EAP-2343-07002, Revision 2, which restricted interpass temperature to the value of the supporting PQR, was the current document listed in the Project Engineering Index, and that a copy of the instruction to preclude recurrence was in the possession of the welding engineer.

2. (Closed) Deviation (Item B, Notice of Deviation, Inspection Report No. 79-01): Performance of production shielded metal arc (SMAW) overlay, with a required 1G rotating position, using a 2G rotating position. Also maintenance of electrodes at 52°C, when the applicable procedure required a storage range of 65-120°C.

The inspector verified that current electrode storage practices were consistent with procedure requirements, the specific welder had been qualified for use of the 2G position, and that the instruction to preclude recurrence had been transmitted.

During inspection of this item, however, a deviation from corrective action commitment was identified, pertaining to the failure to implement a revised internal audit program by the committed date (See Notice of Deviation, Item B).

3. (Closed) Deviation (Item C, Notice of Deviation, Inspection Report No. 79-01): Failure to supervise and verify that a postweld heat treatment of a body/seat subassembly was executed in accordance with WPS hold temperature range and time requirements.

   This finding has been closed on the basis that instructions were issued to personnel relative to compliance with heat treatment procedures. Actions to preclude recurrence also included use of the revised internal audit program, which as referenced above, had not been implemented as committed. During review at a subsequent inspection of the corrective actions taken with respect to implementation of the revised internal audit program, an examination will be made of the specific criteria used to assure control of heat treatment processes.

4. (Open) Deviation (Item D, Notice of Deviation, Inspection Report No. 79-01): Digital thermometer used in production welding not calibrated at specified period.

   The inspector verified that the specific device had been calibrated and its accuracy established. The committed organizational changes, which included establishment of Quality Control as part of the Works Manager's organizational responsibilities, had received ASME approval shortly before this inspection and was currently not implemented. This finding will remain open pending both implementation of the organizational changes and review of the specific Quality Assurance organization audit criteria used to provide assurance of satisfactory control of calibration activities.

5. (Closed) Deviation (Item E, Notice of Deviation, Inspection Report No. 79-01): Procurement of qualification of a submerged arc welding materials combination, without specification of the ASME Section III Code required use of production welding preheat and interpass temperatures.

   The inspector verified the specific welding materials combination had been used in the performance of a procedure qualification, that was

applicable to production welding preheat and interpass temperature ranges, respectively, of 212-302°F and 212-572°F. It was additionally established, that the materials specification had been revised to reflect production welding preheat and interpass temperature ranges.

During the inspection, however, a similar deviation from commitment was identified, pertaining to the procurement of Conarc 49C electrodes (SFA5.1, E7018), without requiring use of production welding preheat and interpass temperature ranges for performance of the materials qualification (See Notice of Deviation, Item C).

6. (Open) Deviation (Item F, Notice of Deviation, Inspection Report No. 79-01): Absence of QA Manager approval of drawing revision numbers in the Project Engineering Index.

   The committed QA Manual change, to eliminate the necessity for QA Manager approval of drawing revision numbers, had not been accomplished as of this inspection. The primary reason for this status was the inability of the G. Dikkers and Company N.V. (DV) Authorized Inspection Agency (Kemper Reinsurance) to continue the contract, resulting in the necessity for establishing a contract with a new Authorized Inspection Agency (Royal Indemnity Co., BEI Services Inc.) The inspector was informed that the new revision of the QA Manual was expected to receive Authorized Inspection Agency approval during an ANIS audit in November, 1979. This finding will remain open, pending approval and implementation of the committed revision to the QA Manual.

7. (Closed) Deviation (Item G, Notice of Deviation, Inspection Report No. 79-01): The inspector verified that a re-radiography of the cited casting had been performed and that the instruction to preclude recurrence was in the possession of the NDE Lab. Supervisor. As discussed in B.3 above, actions to preclude recurrence incorporated use of the revised audit program also for this finding. A review will be made of the specific audit criteria used for assuring control of radiographic practices, during review of the corrective actions taken with respect to implementation of the revised audit program.

8. (Closed) Deviation (Item H, Notice of Deviation, Inspection Report No. 79-01): Failure to attach a lead letter B to the back of the cassette or film holder, during radiographic examination of ASME Section III, Class 2 work.

   The inspector verified by observation, that radiography in progress was utilizing a lead letter B and that the instruction to preclude recurrence was in the possession of the NDE Lab. Supervisor. Verification that this radiographic practice requirement is included in the scope of the revised internal audit program, will be made at a subsequent inspection.

9. (Open) Deviation (Item I, Notice of Deviation, Inspection Report No. 79-01): Absence of heat code marking on socket head cap screws located in the accepted nuclear material hold area.

   The committed QA Manual revision, to provide for container identification for items one inch or less nominal diameter, had not been accomplished as of this inspection for the reasons discussed in B.6 above. This finding will remain open, pending approval and implementation of the committed revision to the QA Manual.

C. Joint Fitup and Welding (I. Barnes)

1. Objective

   The objective of this area of the inspection was to determine if production welding was controlled in accordance with the DV QA program and applicable ASME Code requirements.

2. Method of Accomplishment

   The preceding objective was accomplished by:

   a. Review of Section 10.0, Revision 6, of the QA Manual, "Process Control for Castings."

   b. Review of Section 12.0, Revision 6, of the QA Manual, "Process Control for Valves."

   c. Review of Section 14.0, Revision 6, of the QA Manual, "Welding."

   d. Observation of one (1) seat production shielded metal arc overlay operation, in terms of:

      (1) Completeness and correctness of traveller documentation.

      (2) Availability of WPS at the work station.

      (3) Correctness of the assigned WPS for the specific application.

      (4) Control of preheat and interpass temperatures.

      (5) Verification that welder technique, welding position, electrical parameters, welding materials and scope of cleaning were consistent with WPS requirements.

   e. Verification that welding materials used had been specifically procured and were in accordance with customer welding material requirements.

3. Findings

a. Within this area of the inspection, no deviations from commitment or unresolved items were identified.

b. The inspector was unable to perform a comprehensive review of joint fitup and welding, owing to the absence of production welding activity on G.E. safety relief valve items.

c. Deposition of Type 309 welding material on the top of the seat (Body 04.38.8-1 to Seat AJW 096 subassembly) was observed to be performed in the 1G position, partially without using the rotation stipulated by the applicable WPS, EAP 2527 04001 Revision 1.

D. Manufacturing Process Control (I. Barnes)

1. Objectives

The objectives of this area of the inspection were to verify that:

a. A system had been established for the control of manufacturing processes, which was consistent with applicable regulatory and ASME Code requirements.

b. The system was implemented.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of Section 10.0, Revision 6, of the QA Manual, "Process Control for Castings."

b. Review of Section 11.0, Revision 6, of the QA Manual, "Chemical Analysis and Mechanical Tests For Castings."

c. Review of Section 12.0, Revision 6, of the QA Manual, "Process Control for Valves."

d. Examination of casting and valve shop order travellers with respect to:

(1) Definition of manufacturing operations and sequencing controls to provide for compliance with ASME Section III Code fabrication requirements.

(2) Compliance with designated hold and witness points.

(3) Performance of all ASME Section III Code required nondestructive examinations and at correct times of examination.

(4) Use of nondestructive examination, welding and heat treatment procedures and revisions, that were consistent with the approved documents listed in the Project Engineering Index.

(5) Completeness of operation signoff and conformance with program requirements.

(6) Verification of qualifications of welders for performed work.

(7) Effectivity of QA program documentation review controls.

e. Observation of hydrotests performed on three (3) G.E. safety relief valves.

3. Findings

a. Deviations from Commitment

(1) See Notice of Deviation, Item D.

(2) During review of the content and status of the DV manufacturing process control system, the following examples of failure to comply with program requirements were noted:

(a) Paragraph 10.2.6 in Section 10.0 of the QA Manual states, "Heat/lot numbers of weld material used for repair welding shall be entered by the Inspector on the front of the Casting Shop Order Traveller together with his sign-off for acceptance of the repair welding."

Contrary to the above, heat/lot numbers of weld material used for repair welding were not entered on the front of the Casting Shop Order Travellers for certain castings; e.g. Body Heat Nos. 05.23.8 - 4 and 19.34.8 - 8, Bonnet Heat No. 22.35.8 - 1.

(b) Paragraph 12.2.4 in Section 12.0 of the QA Manual states in part, "Non-Destructive Examinations and dimensional checks shall be signed-off on the front of the Shop Order Traveller when the NDE Report or Dimensional Checklist . . . respectively for all the pieces covered by the Shop Order Traveller has been completed and signed-off. . ."

Contrary to the above, Non-Destructive Examinations were signed off on the front of certain Shop Order Travellers without completion and sign-off of the applicable NDE Reports; e.g. Operation R7G (Magnaflux repair weld) on the Shop Order Traveller for Defectbon 48095; Operations 20V and 21V (Liquid Penetrant Examinations) of the Shop Order Traveller for Body/Seat subassembly-Heat No. 19.37.8 - 1, Body; Heat No. AJW 151, Seat.

(c) Sub-paragraph 2 of paragraph 12.2.1 in Section 12.0 of the QA Manual states in part, ". . . The last operation of a Shop Order Traveller, before sending finished parts to the storage area, shall be 'Audit by Inspector.' The Inspector shall audit all cards of a Shop Order Traveller to assure that the listed operations have all been completed, all rework and repairs made and accepted, all non-conformity resolution actions completed, all required sign-offs made and that any added datum is correct."

Paragraph 12.2.3 in Section 12.0 of the QA Manual states in part, "During use of the Shop Order Traveller, the Inspectors shall indicate their acceptance of an examination, inspection, test or review for a particular piece by dating and initialing or stamping of the appropriate block on the back of the Shop Order Traveller . . . ."

Contrary to the above:

i. The last operation of numerous Shop Order Travellers was not signed-off and dated by Inspectors in the appropriate block on the back of the Traveller. Inspection review was generally signified by use of an inspection stamp, without dating, on the top front of the traveller. It was additionally noted that the last operation on the Shop Order Traveller, before sending finished parts to the storage area, was entitled "Controle," which does not specifically mean "Audit by Inspector."

ii. Bonnet (Heat No. 06.29.8 No. 3) was sent to the finished parts storage area, assembled in Valve Serial No. 160975 and the valve hydrotested, without an audit being performed of the Machine Shop Traveller for the item. A Shop Order Traveller was issued for this item to correct, by repair welding, a dimensional nonconformance identified during processing of the machine shop traveller

for the item. On completion of the separate traveller (Defectbon 48095), the item was sent to the storage area without a review being performed of the status of the original traveller in which the nonconforming condition was identified. This omission resulted in the failure to perform a required liquid penetrant examination of machined surfaces before acceptance of the part.

iii. Operation 13N (Controle) was signed-off by the inspector for the bonnet repair traveller (Defectbon 48095) to signify an audit had been performed of the traveller, although the following omissions were present: Operation R6F (Thickness Check) was signed-off only on the front of the traveller and was not dated by the inspector performing the measurement; Operation R10K (Repair Report Completion) was not signed off on either front or back of the traveller, although the Repair Report had been completed; Operation R11L (Dimensional Check) was only signed-off on the back of the traveller., although the Dimensional Checklist had been completed for the item.

(d) Section 2.0 (Glossary) of the QA Manual defines a witness point as the following: "A point in manufacturing, inspection, testing or examination, of which the designating authority must be notified, but which may be passed if the representative of the designating authority is not present at the time the operation takes place and has given written consent to waive."

Contrary to the above, Operation 20V on the body/seat subassembly traveller for body Heat No. 19.37.8 No. 1 and seat Heat No. AJW 151, which was a designated ANI witness point, was passed without ANI witness and with no written waiver made available to show ANI consent.

(e) Section 2.0 (Glossary) of the QA Manual defines a hold point as the following: "A point in the manufacturing, inspection, testing or examination sequence which cannot be passed without the sign-off of a representative of the designating authority."

Contrary to the above, DV visual inspection hold points were passed on Casting Shop Order Travellers without sign-off by DV inspection personnel; e.g. Operation 19D

on the Casting Shop Order Traveller for body Heat No. 19.34.8 - 8; Operation 16R on the Casting Shop Order Traveller for bonnet Heat No. 22.35.8 - 1.

It should be rated that similar requirements exist in Section 10.0 of the QA Manual relative to inspector review of casting travellers, as is discussed in (c) above for valve shop order travellers. Paragraph 10.8 in Section 10.0 of the QA Manual also specifically requires QA Engineer review of travellers. The examples listed by the inspector represent castings, for which traveller review was complete and Certified Material Test Reports had been generated. (See Notice of Deviation, Item E).

b. Unresolved Items

None.

E. Material Identification and Control (I. Barnes)

1. Objective

The objective of this area of the inspection was to verify that material identification and control during manufacturing was in accordance with the DV QA program and applicable regulatory, code and contract requirements.

2. Method of Accomplishment

The preceding objective was accomplished by:

a. Review of Section 9.0, Revision 5, of the QA Manual, "Material Control."

b. Verification of material identity on two (2) bodies, one (1) disc and one (1) bonnet produced by DV, with respect to identity on applicable shop order travellers, melt cards and the daily pouring list.

c. Comparison of observed identity of items (seats, covers, pins, studs, vent pipes, flanges and nuts) in the accepted nuclear materials storage area, with respect to identity contained in applicable:

(1) Receiving Inspection Cards.

(2) Certified Material Test Reports (CMTRs)

d. Review of Receiving Inspection Cards for evidence of CMTR review and approval by DV and performance of required tests and examinations.

e. Examination of CMTRs with respect to verification of compliance with purchase specification and ASME Section III Code requirements.

f. Verification that items were procured from vendors that had been identified as approved at the item of procurement.

3. Findings

a. Deviation from Commitment

During review of CMTRs for purchased safety relief valve items, the inspector observed that the CMTR applicable to Charpy-V impact testing of seat forgings (DV Heat Code AJW 65) did not list the orientation and location of the test specimens, as is required by NB-2321.2 in Section III of the ASME Code. This testing had been performed by a qualified laboratory for DV, with another source being used for machining the test specimens. The inspector was informed that the test material for impact testing was supplied by the forging manufacturer, who had not been approved by DV for this mechanical test.

It was additionally stated that two (2) forgings in the purchase order had been made to excess length to provide test prolongation material, which had been removed in accordance with ASME Section III Code rules relative to distance from a quenched edge. The inspector was unable to verify this information from the procurement documents, nor was documented information made available to demonstrate appropriate instructions had beem provided to the machining source to assure correct depth and orientation of specimens.

Review of the CMTR package for seat forgings (DV Heat Code AJW 103-152) showed that the CMTR for Charpy-V impact testing had used DV Heat Code AJW65 for providing the test material. Examination of the heat treat data in the CMTR packages showed, however, that DV Heat Code AJW 65 had beem processed in a different heat treatment load to the DV Heat Code AJW 103-152 forgings. The applicable material specification, SA350 LF2, requires testing to be performed for each heat and heat treatment load. The inspector was informed that impact testing had not been performed of material from this heat treatment load. (See Notice of Deviation, Item F.)

b. Unresolved Items

None.

F. Nonconformances and Corrective Action (I. Barnes)

1. Objectives

The objectives of this area of the inspection were to ascertain that:

a. A system for control of nonconformances and for assuring effective corrective actions has been established.

b. The system has beem properly implemented.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of Section 19.0, Revision 5, of the QA Manual, "Non-Conformities."

b. Examination of available monthly defect analysis records and three monthly defect analysis meeting records.

c. Evaluation of one (1) Nonconformance Report repair traveller for QA program compliance.

3. Findings

a. Within this area of the inspection, no deviations (other than the one reported as Item C, Notice of Deviation) or unresolved items were identified.

b. Insufficient time was available during the inspection to perform a comprehensive review of this subject matter.

G. Design Control (U. Potapovs)

1. Objectives

To verify that the vendor has established and effectively implemented a system for the control of his design activities consistent with applicable regulatory and ASME Code requirements.

2. Method of Accomplishment

The inspection objectives were accomplished by:

a. Review of the Dikkers Quality Assurance Manual, Issue 10 with emphasis on Section 6, "Design and Quality Engineering."

b. Review of GE Design certification titled "Valve, Safety Relief, Main Steam DC21A9538AB," Revision 1, dated April 18, 1977.

c. Review of G.E. Specification 21A3530, Revision 0, "Valve Actuators, Safety Related, Pneumatically Operated, General Requirements."

d. Review of G.E. Specification 22A522, "Safety Relief Valve Seismic Qualification Test."

e. Review of G.E. Spec. 21A8760, Revision 3, "Valve Materials, Quality Groups A and B."

f. Review of G.E. Specification 21A8717, Revision 3, "Valves, General."

g. Review of G.E. Purchase Specification Data Sheet 21A9538AB, Revision 3.

h. Review of Dikkers Drawing No. G-471-6/125.04.03, Revision 06, "Cast Carbon Steel Safety Relief Valve with Air Operated Actuator, ASME Section III, Division I and G.E. Specification DC21A9538AB, Revision 1."

i. Review of Dikkers Stress Report No. G471-6/125.04.07, Revision 08.

j. Review of Dikkers Design Review Report dated January 27, 1977.

k. Review of WYLE Lab Test Procedure 541/5202-3/ES, Revision C, "Basic Seismic Test Plan of a Dikkers 8" x 10" Safety Relief Valve with Air-Operated Actuator."

l. Review of WYLE Labs Report No. 43584-1, Revision A, "Seismic Qualification Test Report/Seismic Simulation Test Program on an 8" x 10" Safety Relief Valve with Air-Operated Actuator."

m. Review of "Dikkers Stress Calculations - Air Cylinder No. G471-6/125.04.07/2, Revision 01, for 8" - 1500 Cast Carbon Steel Safety Relief Valve."

n. Review of Sempress Drawing No. 1052588, Revision 7, showing dimensional tolerances on air cylinder.

o. Review of Actuator Qualification Test procedure EEB 8000052, Revision 5.

p. Review of Radiation Aging Procedure EEB 8000057, Revision 1.

q. Review of Life Cycle qualification Procedure EEB 8000059.

r. Reveiw of Life Cycle Test Report, 313-GC.

s. Review of GE specification "Quality Requirements I," Revision 1, dated December 1975.

t. Observation of set point relief and seat leakage tests at TAO steam loop facility and discussions with Dikkers design engineering staff.

3. Findings

a. Deviations from commitment - Failure to provide QA requirements/ controls for safety related non-code items. See Notice of Deviation, Item A.

It was stablished during the inspection that the Dikkers Quality Assuran e Program did not provide for the surveillance on control of those design activities which relate to non-code items important to the proper functioning of the safety relief valves such as actuators, control valves, solenoids, etc. Consequently, although the design and fabrication activities for such components were aimed at meeting the specific requirements included in the design specification, there were no provisions for systematic verification that all of the design requirements were met.

For example, G.E. specification 21A3530 which is a part of the valve design specification requires that a QA plan covering the production and testing of actuator assemblies and including such items as material control, workmanship control, dimensional verification, design change control, pneumatic and static test, seat leak tests, cyclic tests and life tests be prepared and submitted for approval. It also requires that checklists be prepared and submitted for approval to verify that the QA Plan is enforced.

In practice, Dikkers had prepared a tabular listing of certain material, inspection and testing requirements for the completed valve assembly (QAP EES 070) and obtained similar tabulations from their major subcontractors: Sempress b.v. and Seitz A.g. However, these documents did not respond fully to the design specification requirements with respect to the complete listing of all items to be included and no checklists had been prepared

and submitted to the purchaser to verify that the QA Plan requirements were being enforced.

Sample verification of selected QA plan activities during the inspection did not identify any nonconformances with respect to the requirements included in the QA plans. Specific emphasis was directed at the performance and documentation of the actuator and complete valve qualification and performance tests. No deviations related to qualification tests were identified.

Similarly, it was noted that paragraph 4.10.2 of the previously referenced design specification for actuators (21A3530) requires the vendor to submit a report of actuator design adequacy including as a minimum a force balance within the actuator and its accessories, pneumatic supply flow rates, sizing of orifices, springs, piston areas, etc. According to the same specification, this report is to be used as the basis for the acceptance of the actuator design.

A report fitting this description had never been prepared and submitted, although it was verified that stress calculations of the actuator components had been performed and that information relative to the service air requirements, etc. was included in the operating instructions manual.

b. Design Verification

The Dikkers stress Report (G471-6/125.04.07, Revision 08) was examined and found to be in conformance with the applicable ASME Code requirements. The stress report was certified by a professional engineer registered in the state of California (not a Dikkers employee) on February 23, 1979.

Consistent with the ASME Code requirements, the Dikkers QA Manual, (Paragraph 6.3.1) requires the Engineering Manager to conduct a design review and to prepare a "Design Review Report" summarizing his findings and the methods which he used to perform the design review. The Engineering Manager had prepared and signed such a document on January 27, 1977. This document states that the stress report and calculations have been reviewed and meet the requirements of the 1974 edition (including addenda thru Summer 1976) of the ASME Code. The document does not, however, fully satisfy the QA manual requirements in that it does not reference or describe the methods used to accomplish the design review. Discussions with the Engineering Manager and examination of his notes indicated that he had verified the proper application of specific code requirements and had in some cases, performed calculation checks or alternate calculations.

H. Procurement Control (U. Potapovs)

1. Objectives

To verify that the vendor has established and effectively implemented a system for the procurement of safety related products and services which assures conformance with specified requirements and that this system includes appropriate provisions for source evaluation and selection, evaluation of objective evidence of quality furnished by the supplier, source inspection, audit, and examination of items or sources upon delivery or completion.

2. Method of Accomplishment

The inspection objectives were accomplished by:

a. Review of the Dikkers Quality Assurance Manual, Issue 10, with emphasis on Section 8,

b. Review of Dikkers QA Plan EES 070, Revision 05.

c. Review of Sempress b.v. quality assurance plan, QAP-1, Revision 11.

d. Review of Eugen Seitz quality assurance plan, QAP-2, Revision 2.

e. Review of Dikkers "Approved Nuclear Vendors List for Code Items," Revision 10, dated October 29, 1979, and Revision 09, dated August 27, 1979.

f. Review of Dikkers Specification for Disc Springwashers EEP 8000051, Revision 1.

g. Review of Dikkers survey report of Sempress b.v., dated January 17, 1979.

h. Review of purchase order for Disc Springwashers and Vendor - supplied documents.

i. Review of Dikkers Specification EP2543-020001, Heat Treatment, Disc Spring Washers.

3. Findings

a. Deviations from Commitment - Vendor qualification. See Notice of Deviation, Item G.

b. Procurement of non-code items - Review of procurement activities for safety-related non-code items indicated a lack of formalized QA requirements because of the previously identified failure of the QA manual to address non-code items (Notice of Deviation, Item A). In general, the Dikkers - prepared procurement specifications and processing requirements for such items were quite detailed and accurately reflected the design specification material and functional requirements. However, due to the absence of formalized QA program requirements in this area, the effectiveness of the Dikkers vendor surveillance activities for non-code items could not be adequately evaluated. As an example, Dikkers Material Purchase Specification EEP 8000051, Revision 1, for Disc Springwashers requires these Components to be inspected by the supplier using the fluorescent magnetic particle method. No documentation was found in the Dikkers files to verify that this testing was performed, none was required to be submitted and the supplier was not required to be surveyed by Dikkers QA Similarly, while the same purchase specification required a specialized heat treatment and determination of the spring characteristics with better than 0.5% accuracy, no heat treatment charts were required to be submitted and no verification of the spring calibration accuracy was apparent.

I. Exit Meeting

A post inspection exit meeting was held on November 2, 1979, with the management representatives denoted in paragraph A. above. The inspectors summarized the scope and findings of the inspection, with particular emphasis being placed on the programmatic aspects of manufacturing process control discipline, procurement controls for safety related items and verification of design and test activities. A discussion was also held relative to the proposed organizational changes, in terms of providing assurance that such changes would be consistent with Criterion I of 10 CFR 50, Appendix B, in regards to organizational freedom of personnel performing quality assurance functions. Management comments addressed both clarification of the findings and the rationale for the proposed organizational changes.