

## APPENDIX B

Nuclear Energy Services Manufacturing  
Docket No. 99901018/85-01

### NOTICE OF NONCONFORMANCE

Based on the results of an NRC inspection conducted on June 10-14 and June 24-28, 1985 it appears that certain of your activities were not conducted in accordance with NRC requirements.

Criterion V of Appendix B to 10 CFR Part 50 states: "Activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Nonconformances with these requirements are as follows:

1. Section 2.1.2 of Bechtel Technical Specification 15737-2-M-101A states, in part, "The work by Seller shall also include...Receipt, inspection... of all buyer-supplied material...."

Section 5.5.2 of Specification 15737-2-M-101A states, in part, "The Buyer's quality surveillance activities shall not relieve the Seller of any...responsibilities to perform in accordance with this specification." Section 4.3 of Procedure N-10 of the QAM states, in part, "Unless otherwise provided for in customer...specification, a 100% inspection of all items manufactured...for NES/Selamco shall be imposed."

Section 3.2.10 of NES Procedure Q-12, "Inspection, and Acceptance Tags & Stamps," dated June 6, 1984 states, in part, "Customer furnished material is handled identical to material purchased by NES...."

Contrary to the above, receipt inspection was not performed on the following items purchased by Bechtel and shipped directly to the NES facility in Greensboro, North Carolina: neutron poison shrouds, lower and upper closure heads, bulkheads, filter bundles, recombiner catalyst, and DEOXO-D catalyst.

2. Section 3.2.1 of NES Procedure Q-13, "Documentation and Control of Nonconforming Items and Services," requires that nonconforming items be segregated.

Section 4.4 of NES Procedure N-15 "Nonconforming Items and Services" of the QAM states, in part, "...control of nonconforming items shall be accomplished by tagging...physical segregation shall be used in addition to the tagging...."

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Contrary to the above,

- 1) Approximately 10 pieces of 14" diameter nonconforming pipe were not segregated from acceptable pipe in a storage area, and the nonconforming pipe was not marked with a red tag.
- 2) Nonconforming poison tubes were segregated from acceptable tubes on carts in a storage area without tagging the nonconforming items.
3. Welding procedure WPS-001 "GTAW-Manual/Machine," Revision B, requires that the voltage be 10 to 18 volts.

Contrary to the above, the voltage was not being maintained within the specification limits at the lower head welding station for the filter canister subassembly on five different occasions when a calibrated voltmeter on welding machine S/N 12RT-73449 was reading 8 volts.

4. Section 3.4.3 of NES Procedure No. MC-03, "Purchase Order Preparation, Processing and Placement," dated October 1983 states, in part, "If an approved vendor is required...the Buyer is required to: I) use only sources who appear on NES/Selamco's current Qualified Source List..."

Contrary to the above, a review of 50 POs, thirty-five (35) for materials and fifteen (15) for services, and the Qualified Source List (QSL) indicated that orders were placed with 13 material vendors and 5 service vendors who were not on the QSL.

5. Section 6.5 of Bechtel Specification 15737-2-M-101A states, in part, "During storage the Seller shall protect all materials from loss, corrosion, damage, and distortion...."

Contrary to the above, items such as boral shrouds, stainless steel, and canisters were observed in outside storage areas without adequate protection from corrosion and damage.

6. Section 4.1.4 of NES Procedure N-7, "Control of Purchased Material, Equipment and Services," of the QAM states, in part, "NES/Selamco qualified sources for material and services for construction of items are audited by NES/Selamco Quality Assurance, NES QA, or qualified designees..."

Contrary to the above, orders were placed with 22 material vendors and 10 service vendors, but an audit was not performed on 18 vendors (12 material- A-Jay Metal Supply, Cambridge Wire Cloth, Southern Spring and Stamping, Automotive Fasteners, Charlotte Valve and Fittings, Dixie Bearing, ENSCO, B&W-Advanced Ceramics, Engineered Plastics, B&B Hose and Rubber, Air Products and Advanced Products and 6 service- Wallace Manufacturing, Custom Industries, SAC Tool and Die Shop, K&C Machine, Machinex, and Conam Inspection).

7. Section 7.2 of Bechtel Technical Specification 15737-2-M-101A for Fabrication of Defueling Canisters, dated November 11, 1984 requires NES to have a QA program which meets the applicable requirements of ANSI N45.2.

Section 5 of ANSI N45.2 states, in part, "...procurement documents shall require contractors to provide a Quality Assurance Program consistent with the pertinent requirements of this standard."

Section 4.7 of NES Procedure N-4, "Procurement Document Control," of the QAM states, in part, "...procurement documents shall require contractors or subcontractors to provide a Quality Assurance Program consistent with ANSI N45.2 or Appendix B of 10 CFR 50."

Contrary to the above, a review of 50 POs, thirty-five (35) for material and fifteen (15) for services related to the defueling canister fabrication program, revealed that none of the POs required the vendor (i.e., contractor/subcontractor) to have a QA program consistent with ANSI N45.2 or Appendix B of 10 CFR Part 50.

8. Section 4.3.2 of Bechtel Specification 15737-2-M-010A states, in part, "All welding...procedures shall be in accordance with Specification 15737-G-300."

Section 11.1.1 of Bechtel Specification 15737-G-300 "General Welding Requirements" dated September 1, 1971 states, in part, "Only those welding procedure specifications...that have been reviewed by the Buyer shall be used for production welding."

Contrary to the above, unapproved welding procedure WPS-002 "GMAW-Short Circuiting Transfer" was used on joint No. 4 of the filter can subassembly for Traveler S/N 4104.

9. Section 4.3.1.5 of Bechtel Specification 15737-2-M-101A states, in part, "Recombiner elements shall be handled only in a clean work area....Care must be exercised to protect the recombiner from contamination during canister fabrication."

Contrary to the above, it was observed that recombiner elements installed in lower heads were exposed to dirt and grinding particles on the floor of the shop next to the head closure welding operation.

10. Section 3.3 of NES Procedure MC-04, "Identification and Control of Material, Parts and Components," dated June 6, 1984 states, in part, "Material Control is responsible to assure item identification...is maintained and recorded for traceability through fabrication processes...."

Section 4.5 of NES Procedure MC-04 states, in part, "Material Control adjusts the Traveler quantities, identification, traceability entries...."

Section 4.7 of NES procedure MC-04 states, in part, "Quality Control inspectors who complete final inspection operations on a Traveler complete a green Accepted Tag or Label...."

Section 4.9 of NES Procedure MC-04 states, in part, "...minimum traceability information is: 4.9.1 the Purchase Order, Work Order and/or heat number of material appearing on the green Accepted Tag or Label, if no other fabrication operations were required on the item, by Traveler, after receipt at NES/Selamco, or 4.9.2 the preceding Traveler serial number..."

Contrary to the above, material was not properly identified, stored or accounted for as evidenced by:

- 1) Tags or other indentifying means were not used or otherwise became separated from material such that the heat numbers and other identification were not maintained.
  - 2) Integrity of "lots" identified by single tags or other means of identification was lost by mixing together similar material from different heats.
  - 3) Heat numbers were obliterated in the manufacturing processes without the installation and maintenance of effective compensating identification measures.
  - 4) Quantities of materials stated on tags and travelers did not match the quantities in the given lots.
11. Section 6.1 of Bechtel Specification 13587-G-400, "Chemical Requirements For Materials Used In Contact With Austenitic Stainless Steel" dated February 22, 1980, states, that "Adhesive backed and pressure sensitive tapes shall have the total halogen and sulfur content each less than 1000 ppm."
- Contrary to the above, the tape currently in use in the fabrication area had not been certified as meeting the limits for halogens and sulfur.
12. Section 4.5.2 of NES Procedure Q-10, "Document Control," dated December 12, 1984, states that (1) "Manufacturing Engineering notifies the Engineering Control Clerk to recall drawings when a change is required, by means of the Work Change Notice, (2) Material Control

retrieves all controlled copies in the plant and returns them to the Engineering Control Clerk who destroys all copies except one which is stamped 'obsolete' and is filed in the Master Work Order folder for reference."

Contrary to the above,

- 1) One Work Order Change Notice issued a drawing revision for use without specifying that the obsolete drawing should be recalled.
  - 2) Eight obsolete drawings were found in the Master Work Order drawing file without the required "obsolete" stamp.
13. Section 3.1 of NES Procedure N-8, "Identification and Control of Material Parts, and Components," of the QAM states, in part "...measures are established for assuring that only correct and accepted items are used... and relating to an item of production at any stage...to an applicable drawing, specification, or other pertinent technical document.

Contrary to the above, a number of poison tubes covered by Traveler S/N 004096 contained etched identification on the outside diameters while other poison tubes did not contain etched identification. The identification numbers did not relate to applicable documents.

14. Section 5.7 of NES Procedure N-7, "Control of Purchased Material, Equipment, and Services," of the QAM states, "Received material shall be inspected by Quality Control to ensure supplier compliance to purchase order requirements."

Section 5.5 of NES Procedure N-7 states, in part, "Results of each receipt inspection are recorded in the Supplier Quality History Log."

Section 4.3 of NES Procedure N-10, "Inspection," of the QAM states, in part, "...a 100% inspection of all items manufactured by and/or for NES/Selamco shall be imposed."

Section 3.2.6 of NES Procedure Q-12, "Inspection and Acceptance Tags & Stamps," dated June 6, 1984 requires that receipt inspection be performed to assure that dimensions are within the limits of acceptance on drawings.

Contrary to the above, there was inadequate documentation to show that receipt inspection was performed on certain items and drawings could not be located to determine whether or not the required dimensional check was performed on items machined or formed by vendors (POs 4297, 4657, 4639, 4607, and 4467). SQHLs were also missing for two material vendors (POs 4404, 4356), and one service vendor (PO 4467).



15. Section 5.5 of NES Procedure N-7, "Control of Purchased Material, Equipment and Services," of the QAM states, in part, "Results of each receipt inspection are recorded in the Supplier Quality History Log."

Section 4.1 of NES Procedure N-10, "Inspection," of the QAM states, in part, "Inspection...records shall, as a minimum, identify...the inspector ...the type of observation, the results...."

Section 4.1 of NES Procedure N-17, "Quality Assurance Records," of the QAM states, in part, "Inspection...records shall contain...A description of the type of observation...Inspector or Data Recorder identification...."

Contrary to the above, a review of Supplier Quality History Logs (SQHL) for receipt inspection activities of material and services purchased by NES indicated that none of the SQHLs described the type of observation, identified the inspector, or documented the results of the inspection.

16. Section 3.2.9 of NES Procedure Q-12, "Inspection and Acceptance Tags & Stamps," dated June 6, 1984 requires Quality Assurance to file completed copies of certified material test reports (CMTR) and certificates of conformance (CC) for NES purchased items.

Section 5.2 of NES Procedure N-17, "Quality Assurance Records," of the QAM states, "Quality Assurance shall ensure that records are maintained as specified throughout manufacturing and storage."

Contrary to the above, a review of QA records indicated that CMTRs and/or CCs from material suppliers/manufacturers were missing for items on POs 4302, 4298, 4639, 5103, and 4467.

17. Section 3.3 of NES Procedure N-5, "Instruction, Procedures, and Drawings," of the QAM states, "The verification responsibility for instructions, specifications, sketches, procedures and standards is that of the Quality Assurance Department."

Contrary to the above, a note was attached to Traveler S/N 004096 which had not been approved by the NES QA Department and which provided instructions for identifying poison tube assemblies with lot and tray numbers was not approved by the QA Department.

18. Criterion I of Appendix B to 10 CFR 50 states, in part: "The authority and duties of persons and organizations performing activities affecting the safety-related functions of structures, systems, and components shall be clearly established and delineated in writing."

Contrary to the above, the NES QAM, Revision 0, dated April 1984 does not, in all cases, contain the current information with respect to the authority and duties of persons performing activities affecting quality as indicated by the following examples:

- 1) The NES QAM was not prepared or approved by the present QA Manager and not approved by the present General Manager.
  - 2) The organization chart in the NES QAM does not reflect a recent reorganization.
19. Section 3.1 of NES Procedure N-6, "Document Control," of the Quality Assurance Manual (QAM), dated April 1984, states, in part, "Policy/Procedure Q-10 controls...documents...which prescribe activities affecting quality."

Contrary to the above, NES Policy/Procedure Q-10 "Documental Control," dated March 30, 1984 did not contain measures to assure that current procedures are retained in manuals, as evidenced by a review of the "Bechtel Canister Program Procedures - 84091" manual. A review of copies of this manual in two fabrication areas revealed that a copy of Procedure 15737-2-M101A-00031-02 "Packaging and Shipping" dated January 2, 1985 was missing; and superseded copies of weld procedure WPS-001 "GTAW," dated December 15, 1981 and February 7, 1985, were in both manuals.

20. Section 5.1.1 of Bechtel Technical Specification 15737-2-M-101A states, in part, "Nondestructive examination personnel shall be qualified in accordance with SNT-TC-1A (1980)."

Section 5.6 of NES Procedure N-2, "Quality Assurance Program," of the QAM states, in part, "...qualification and certification of non-destructive examination personnel...is in accordance with the written practice of the American Society of Nondestructive Testing SNT-TC-1A."

Section 9.5 of SNT-TC-1A requires that the employer who purchases outside NDE services be responsible for assuring that training and examination services are in accordance with the employer's written practices.

Section 3.2.5.4 of NES Procedure No. Q-11, "Control of Special Processes" dated June 6, 1984 states, in part, "The requirements for sub-contracted operations shall be the same as those for NES/Selamco, including the obtaining of a copy of their written practices."

Contrary to the above, there was no documented evidence that NES had copies of the written practices of Conam Inspection (CI) or Pittsburgh Testing Laboratory (PTL) for all phases of certification of NDE personnel, or that NES had approved the two written practices.

21. Section 3.2.5.4 of NES Procedure Q-11 "Control of Special Processes," dated June 6, 1984 states, in part, "NES/Selamco shall approve...sub-contractors Level III status in that area of NDE...."

Contrary to the above, there was no documented evidence that NES had approved the Level III status of a PTL employee and a Conam employee who had certified two Level II examiners in April and July 1985. One Level II performed RT on weldments on four occasions from April through June 1985, and the other performed RT on weldments on seven occasions in May 1985.

22. Section 2.2 of NES Procedure Q-04, "Qualification of Inspection, Examination, and Testing Personnel," dated October 2, 1981 states, in part, "This procedure applies to all Quality Personnel...who perform inspections, examinations, and tests during fabrication...."

Section 4.5.1 of NES Procedure Q-04 states, in part, "The Qualification of Personnel shall be certified in writing on the form NES/Selamco Certification of Qualification for Inspection, Examination, and Test Personnel...."

Contrary to the above, it was noted that the QA manager and four QC Inspectors had passed a written examination for certification, but the certification form had not been completed.