

ORGANIZATION: GENERAL ELECTRIC COMPANY
WILMINGTON MANUFACTURING DEPARTMENT
WILMINGTON, NORTH CAROLINA

REPORT NO.:	99900003/82-02	INSPECTION DATE(S)	8/24-27/82	INSPECTION ON-SITE HOURS:	28
CORRESPONDENCE ADDRESS: General Electric Company Wilmington Manufacturing Department ATTN: Mr. J. A. Long, General Manager P. O. Box 780 Wilmington, NC 28401					
ORGANIZATIONAL CONTACT: Mr. C. W. Doyle, Quality Audits & Customer Service Mgr. TELEPHONE NUMBER: (919) 343-5884					
PRINCIPAL PRODUCT: Nuclear Fuel Assemblies and Core Hardware.					
NUCLEAR INDUSTRY ACTIVITY: Major nuclear fuel, control rod drives, jet pumps, steam separators, hydraulic control units, and other BWR core hardware for GE designed cores.					
ASSIGNED INSPECTOR:	<u>I. Barnes</u> for W. M. McNeill, Reactive & Component Program Section (R&CPS)			<u>10-5-82</u> Date	
OTHER INSPECTOR(S):					
APPROVED BY:	<u>I. Barnes</u> I. Barnes, Chief, R&CPS			<u>10-5-82</u> Date	
INSPECTION BASES AND SCOPE:					
A. <u>BASES</u> : General Electric Topical Report NEDO-11209-04					
B. <u>SCOPE</u> : Control of special processes, manufacturing process control, calibration, and status of previous inspection findings.					
PLANT SITE APPLICABILITY:					
Not identified.					

DESIGNATED ORIGINAL
Certified By Rheanne Jouts

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A. VIOLATIONS:

None

B. NONCONFORMANCES:

1. Contrary to Section 5 of the Topical Report and the Quality Assurance Program, NEDE-20586, Section 6.7.5.1, verification of all Purchase Order requirements was not performed, in that Anhydrous Ammonia was received and accepted five times since 1978, although the vendor failed to comply with the purchase specification D27A1 requirement for reporting of noncondensable gases.
2. Contrary to Section 5 of the Topical Report and the Quality Assurance Program, NEDE-20586, Section 6.7.5, purchased bulk chemicals, such as gases, are not always examined upon delivery. A lot of 34,720 pounds of Anhydrous Ammonia (PO 334Z2832) was received on August 13, 1982, and used from that date on, without a verification of the quality. The supplier certification and test results were inadvertently attached to a receiver for another purchase order and a release had not been issued.
3. Contrary to Section 5 of the Topical Report and the Quality Assurance Program, NEDE-20586, Section 6.12.3, it was observed that the hardness tester (W02182) was calibrated during 1982 at an interval of 6 months and not at the prescribed 3-month interval.

C. UNRESOLVED ITEMS:

None

D. STATUS OF PREVIOUS INSPECTION FINDINGS:

(Closed) Nonconformance 82-01: There was no Quality Notice or other data to document the temperature profile verification in 1981 for four of five autoclaves. In addition, there was no Quality Notice, but there were data to document that temperature profiles were verified for three of the autoclaves in 1980. Quality Notices have been issued to document the current qualifications of the autoclaves.

E. OTHER FINDINGS OR COMMENTS:

1. Control of Special Processes - The special process of nitriding stainless steel was inspected. The process specification, qualification reports, inspection plan, and process procedures were reviewed in detail. The nitriding process was inspected; in particular, the records of lot 371 for collet pistons and guide caps. It was verified that the process conformed to specification

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and qualification limits and requirements, except as noted below. Anhydrous Ammonia is used in the nitriding process. The process specification requires use of ammonia bought to purchase specification D247A1 Grade C1.

This specification requires the manufacturer to report noncondensable gases. The vendor never supplied this particular report. The Receiving Inspection unit had issued a Purchase Order Deficiency Notice (PODN) 3994; however, the Purchase Material Quality Control Engineer had deleted this item from the PODN. This problem has been identified as nonconformance B.1. GE issued an Inspection Report to document this nonconforming material on the subject shipments during this inspection. The most recent shipment of Anhydrous Ammonia was observed to be in use, but no release of the material had been issued. As gases are received the certifications, test reports, etc., are passed on to Receiving Inspection; however, procedural controls do not exist which would preclude use of bulk chemicals prior to release by Receiving Inspection. This problem is identified as nonconformance B.2.

2. Manufacturing Process Control - The control of manufacturing by shop traveler and procedures was verified. The use of the latest revisions of procedures and drawings was verified. Conformance to instructions and signoff of traveler's steps were verified with some exceptions noted below. GE has implemented a new computerized shop traveler/procedure system called the MI Plan. A lot of reducing tees were observed with step 20 signed off; however, the marking requirements identified in the MI Plan for step 20, but not on the engineering drawing identified on the traveler, were not complete. These tees were at inspection where the Quality Control Inspection Instruction did not identify an inspection of the marking. The marking requirements are in process information for subsequent assembly. The necessary revisions of the Practices and Procedures have yet to be issued that describe the use of the MI Plan. Compliance of ASME code parts, in regard to NCA-4134.9(b) and 4134.10(b) requirements for inclusion of document numbers and their revisions, will be subject to followup during the next inspection. The MI Plan system will be reinspected after issue of the Practices and Procedures. In regard to the subject reducing tees, manufacturing did mark the parts correctly and Quality Control did revise its procedure before the end of this inspection.
3. Calibration - A sample of 17 gages and instruments was inspected. The conformance to established calibration procedures, frequencies, acceptance limits, records, and labelling was verified with the exceptions noted below. It was noted that the basic procedure which cross referenced the calibration procedure to be used, contained a

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<p>number of errors; e.g., Vernier Caliper (Dial) referenced Gage Inspection Standard B.23 instead of B.13, and Micrometers, Depth referenced B.01 instead of B.03. Unrelated to this problem, the frequencies referenced in the basic procedure were not followed in two cases. A spring compression tester was found being calibrated at a 3-month interval and not a 6-month interval; and a hardness tester was found being calibrated at a 6-month interval and not 3-month interval. This is identified as nonconformance B.3.</p>		

Inspector McNeill
 Dept/Module Follow up

DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
F-Q-1430 QN	2	ANNUAL A/C TEMPERATURE PROFILE	3-31-82	1
F-Q-1762 QN	9	#4 AUTOCLAVE TEMP. THERMO COUPLE VERIFICATION	11-23-81	1
F-Q-1263 QN	9	#5 " " "	11-23-81	1
NEDO 11209-01A	4	MFG. PROC. CONTROL	Aug '81	3
NEDO 20586	4	TOPICAL REPORT	10-16-81	9
NEDO 20910	4	SECTION 6 BWR QA MANUAL	5-21-82	8
80-29	4	ASME QA MANUAL	9-9-81	9
80-33	3	SHOP TRAVELER AND MINI TRAVELER CONTROL - EM	4/16/81	7
80-36	3	IMPLEMENTATION OF PLANNING CHANGES - EM	11/23/81	5
80-42	3	IMPLEMENTATION OF ENG. CHG. NOTICES	2/9/81	7
10-10	3	MASTER PLANNING FILE - EM	12/22/80	6
80-10	3	IDENTIFICATION AND CONTROL OF MATERIAL - EM	6/8/81	10
80-18	3	PRODUCT DRAWING CONTROL	10/14/81	6
80-17	3	METHOD SHEETS, MANUALS AND WORK STATION INSTRUCTIONS	4/30/81	3
80-5AR 100.7	3	QUALITY CONTROL INSPECTION PLANNING - EM	1/7/81	3
80-5AR 100.7	3	QO TEST INSTRUCTION - EM		
	8	VARIOUS SHOP TRAVELERS AND ASSOCIATED PROCEDURES & DRAWINGS		

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

Document Types:
 1. Drawing
 2. Specification
 3. Procedure
 4. QA Manual
 5. Purchase Order
 6. Internal Memo
 7. Letter
 8. Other (Specify-If necessary)
 9. REPORT

Inspector McNeill
 Ref/Module Control of Spec. Proc.

DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
PFP 70-6	3	QUALIFICATION OF SOLDER OPERATORS - EM	3/20/81	6
70-14	3	QUALIFICATION OF PROCESSES	5/26/81	5
70-16 QASAR 40.1	3	PROCESSING MATERIAL CONTROL - EM	1/23/79	5
40.2	3	QUALITY NOTICE	12/21/81	6
40.6	3	PROCESS CONTROL PLAN EM	9/11/81	0
P11BYP2	3	PRODUCT/PROCESS QUALITY PLAN	5/5/81	3
P50P115	2	SURFACE HARDENING OF AUSTENITIC STAINLESS STEEL BY NITRIDING	1/15/79	5
W51 4702-A	2	MASKING OF STAINLESS STEELS TO PREVENT SURFACE HARDENING BY NITRIDING	7/6/79	4
DET A1	3	NITRIDING 304 SS	4/23/80	5
MMSPI	2	ANHYDROUS AMMONIA	JUNE 15/79	5
1-C 952	2	" "	12/15/81	182
70-PFP	9	Qualification Report	-1 6/24/78	-2
70-22 PFP	3	CALIBRATION	2 8/2/78	
70-23	3	MECHANICAL GAGE CONTROL	12/1/80	7
QASAR 320-60.6	3	INSTRUMENTATION & CONTROLS CALIBRATION	4/16/81	5
QASAR	3	TEST FACILITY CALIBRATION INSTRUCTION - EM	4/24/81	5
320-60.8	3	STANDARD METROLOGY EQUIPMENT	2/9/81	1

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