

ORGANIZATION: WESTINGHOUSE ELECTRIC CORPORATION
MEDIUM MOTOR AND GEARING DIVISION
BUFFALO, NEW YORK

REPORT NO.:	99900294/82-01	INSPECTION DATE(s)	6/21-25/82	INSPECTION ON-SITE HOURS:	40
CORRESPONDENCE ADDRESS: Westinghouse Electric Corporation Medium Motor and Gearing Division ATTN: D. L. Hoover, General Manager P. O. Box 225 Buffalo, New York 14240					
ORGANIZATIONAL CONTACT: Mr. R. F. McKeever, QA Manager TELEPHONE: (716) 631-2128					
PRINCIPAL PRODUCT: Electrical Motors					
NUCLEAR INDUSTRY ACTIVITY: Approximately 5% of the work load are motors for nuclear application.					
ASSIGNED INSPECTOR:		<u>I. Barnes</u> W. M. McNeill, Reactive and Components Program Section (R&CPS)		<u>8-10-82</u> Date	
OTHER INSPECTOR(S):					
APPROVED BY:		<u>I. Barnes</u> I. Barnes, Chief, R&CPS		<u>8-10-82</u> Date	
INSPECTION BASES AND SCOPE:					
A. <u>BASES</u> : 10 CFR Part 50, Appendix B.					
B. <u>SCOPE</u> : Control of special processes, and status of previous inspection findings.					
PLANT SITE APPLICABILITY: Not identified.					
DESIGNATED ORIGINAL Certified By <u>Rheanne Jouts</u>					

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A. VIOLATIONS:

None

B. NONCONFORMANCES:

1. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and the QA Manual, Section 2.0, one of the four General Orders reviewed, namely NA 40236, was found with missing pages from two customer specifications; i.e., only the first two pages of the documents (Motor Specifications Sheets, Numbers 1 and 2) were on file, although the documents were, respectively, four and five pages in length.
2. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Quality Control Instruction (QCI), Number 19, a review of current Error Correction Tags issued by assembly area B-8 showed that the hardback copies were not being stamped after completion of satisfactory repair and reinspection.
3. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and the QA Manual, Section 5.0, the Quality Control Instruction (Book Number 3) on file at receiving inspection did not contain QCI Number 7 and the latest revision (i.e., No. 2) of QCI Number 1.
4. Contrary to the previous corrective action letters none of the stock purchase orders reviewed during the inspection identified the revision of the referenced Purchase Department Specification.
5. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and the QA Manual, Section 6.0, the temperature controller for oven number 6 in the "dip and bake" area was found to be in use and overdue for calibration. The calibration sticker indicated it was overdue as of May 31, 1982.
6. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and the QA Manual, Section 16.0, the requirements in the area of process/control were not fully implemented. For example:
 - a. The specifications for brazing and "dip and bake" did not define the applicable essential variables for brazing and "dip and bake."
 - b. A Shop Practice Sheet was not issued for brazing, although the specification contained very specific information on torch flame requirements for brazing. Furthermore, the Shop Practice Sheet for "dip and bake" did not contain the applicable tolerances identified in the process specification with respect to prebake time, temperature for removal from oven, baking temperature, and position of cores during "dip and bake."

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- c. The Shop Practice Sheets were not fully implemented in that the masking identified in Shop Practice Sheet Number 21 for the B-66 area was not performed.
- d. Inspection criteria were not fully implemented in that the sediment checks and homogeneity checks were not performed as required by the specification for "dip and bake". It was also noted that applicable process specifications were neither on file at operator's work locations, nor identified by work instructions.

C. UNRESOLVED ITEMS:

None

D. STATUS OF PREVIOUS INSPECTION FINDINGS:

1. (Closed) Nonconformance (81-01): Detailed procedures on the transfer of contractual requirements had not been established.

The missing contract documents of General Order BU01882 have been added to the files at the manufacturing plant. Orders for nuclear safety-related motors are entered on the Apparatus Marketing System (AMS). Four General Orders were reviewed at the manufacturing plant and two were compared to General Orders on file in the Buffalo sales office. All the customer's technical and quality requirements were found to be on file at the manufacturing plant with the exception noted below. One General Order was found which referenced two specifications. However, not all pages of the specifications were on file at the manufacturing plant. This is identified as nonconformance B.1 above.

2. (Closed) Nonconformances (81-01): Final inspection and release were performed on six motors without evidence that all contractual requirements had been complied with by Westinghouse.

A certification concerning "mercury-free" fabrication conditions has been issued for the motors on Shop Order 78C36121. The procedure has been reviewed with the personnel issuing releases. The release and certification of two recent shop orders found certifications which complied with the customer requirements.

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<p>3. (Closed) Nonconformances (81-01): Manufacturing Information (MI) sheets were issued to the shop without all applicable specifications.</p> <p>The missing specification 892179 has been added to the shop order folder. The procedure was reviewed with the Order Processing Supervisor. An inspection of a sample of released Shop Orders found the MI sheets to be complete with all specifications.</p> <p>4. (Closed) Nonconformance (81-01): DA Tags were not stamped and their stub removed after repairs.</p> <p>Two of the tags in question were verified to have been repaired acceptably. Two tags have been lost of the four in question. The procedure has been revised. A review of several DA Tags on motors in the assembly area found the repair status properly identified. Stubs were found to be removed after the repair and the tags stamped.</p> <p>5. (Closed) Nonconformance (81-01): The green paper copies of Error Correction Tags (ECT) were not removed from the to-be-repaired hardware and the hardback copies were removed from repaired hardware.</p> <p>The tags in question were corrected, green copies removed after issuance and hardback copies removed after repair. The inspection personnel have been reinstructed to follow the current procedure. A review of ECT's in the assembly and test areas found the procedure to be implemented with the exception noted below. The green paper copies were removed before repair and the hardback copies removed after repair. However, it was noted that inspection was not stamping the hardback copies denoting the acceptance of a repair. This problem seemed to be limited to the assembly inspection area (B-8). This is identified above as nonconformance B.2.</p> <p>6. (Closed) Nonconformance (81-01): Corrective and preventive actions were not implemented on three of four deviations identified in inspection report 78-01.</p> <p>a. Preventive action on the revision of QC Instruction 14 had not been implemented. This preventive action was to increase the gage audit frequency. The instruction has been revised and the gage audit program implemented. An inspection of gages in the shaft fabrication and rotor assembly areas found these areas to have been audited regularly by the gage inspector. A spot check of the gages found no evidence of gages out of calibration, unassigned, or uncontrolled in these areas.</p>		

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- b. Preventive actions in receiving inspection on the issuance of a bulk sampling procedure, on drawing control and on issuance of Defective Material Reports were not implemented. A survey of the receiving inspection area found the procedures in question implemented. Review of the receiving inspection records found that a bulk sampling procedure was implemented. However, it was noted that the Quality Control Instructions (QCI) on file were not controlled in that one QCI (number 7) was not on file and one QCI (number 1) was not the current revision level. The missing QCI was placed on file during the inspection. However, this nonconformance is identified above as B.3. In regard to drawing control, a sample of drawings in use currently found no out-of-date documents. A review of recent lab reports established that all nonconforming material was being properly identified with Defective Material Reports.
- c. Preventive action on the issuance of procedures to assure applicable revisions of specifications are referenced in purchase orders. An automatic updating of the inventory system's computer controlled stock orders is not in effect presently. A review of stock orders found Purchase Department Specifications (PDS) were not referenced by revision level on the stock orders. This is identified as nonconformance B.4 above.

E. OTHER FINDINGS OR COMMENTS:

The processes of brazing and "dip and bake" were inspected. Motor coils and cores had coil wires brazed to leads. "Dip and bake" is the NEMA Class B varnish insulation of motor windings. The procedures and specifications of the processes were reviewed. The processes were observed in progress on the shop floor. The use of proper materials, process limits, and calibrated equipment was verified with the exceptions noted. Two nonconformances to the QA Manual were identified in this area. Nonconformance B.6 is very broad in its scope and identifies problems in process control at several levels and departments; for example, design engineering, manufacturing engineering, manufacturing supervision and inspection. In regard to brazing, the oxygen and acetylene pressures observed in use were 10 psi and 4 psi above the maximum limits of the specification. Also the brazing material used was rods, while the specification called for wire. Regarding "dip and bake," the baking temperatures were observed to be 20° F above the maximum permissible specification temperature. It was also noted that the wax identified in the process specification was not referenced in the Shop Practice Sheet. These problems are related to not having Shop Practice Sheets and all the specification information identified in them.

PERSONS CONTACTED

Company Westinghouse Electric Corp

Dates June 21-25, 1982

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NAME (Please Print)	TITLE (Please Print)	ORGANIZATION (Please Print)
R F McKEEVER	QA MGR.	(W)
J SCHRAVER	REC. INSP. SUPERVISOR	
R CAROTHERS	PROD. SALES REP	
R EVER	"	
MA DIXSON	DESIGN ENG	
M. A. VIEHMANN	ORDER SER. REP.	
L. J. TAYLOR	SPEC. PRODUCTS ENG. MGR	
JF WALSH	QC INSPECTION REP	
F SCHEDA	DESIGN ENG	
T CONWAY	QC SUPER.	
S BIERNAT	DEV ENG	
KD HOOVER	GEN. MGR	
KD STIEGLMEIER	ENG. MGR.	
* Attended Exit Meeting		

Inspector McNeill
 Scope/Module follow up

DOCUMENTS EXAMINED

1	2	3	4
	TITLE/SUBJECT		
		6/2/82	0
BU08552	COMPUTER PRINT OUT of NUCLEAR CRACKS		
5449395	GENERAL ORDERS BU08552 TO BUFFALO FORGE		
UA 40288	"		
38552	"		
NM-9112	BUFFALO FORGE P.O.	9/1/81	
	QUALIFICATION DOCUMENT	12/81	
	APPARATUS MARKETING SYSTEMS MANUAL	2/2/78	
	JOINING COIL CONNECTIONS TO TACH BRAZING	4/27/81	-
	TREATMENT OF MOTOR COMPONENTS IN VARNISH		-
	GENERAL ORDER FILE BU00412		

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

- Document Types:
5. Purchase Order
 6. Internal Memo
 7. Letter
 8. Other (Specify-if necessary)
 9. REPORT

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