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REINSPECTION OF  
COATED STEEL SUBSTRATES  
FOR WHICH DOCUMENTATION  
IS MISSING OR DISCREPANT

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11/19/81

DATE

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1.0 REFERENCES

- 1-A Nonconformance Report Numbers C-81-01370 through C-81-01373 and C-81-01567
- 1-B CP-QP-18.0, "Inspection Reports"
- 1-C CCP-30, "Coating Steel Substrates Inside Reactor Buildings and Radiation Areas"
- 1-D CCP-30A, "Coating Steel Substrates Inside Reactor Buildings and Radiation Areas"
- 1-E QI-QP-11.4-1, "Inspection of Steel Substrate Surface Preparation and Primer Application and Repair"
- 1-F QI-QP-11.4-5, "Inspection of Steel Substrate Seal and Finish Coat Application and Repair"

2.0 GENERAL

2.1 PURPOSE AND SCOPE

This instruction shall describe methods utilized by Quality Control in the measurement of the dry film thickness (DFT) and adhesion to steel substrates of existing coating applications described in Reference 1-A using the Mark II Tooke Gage and the Elcometer 106 Adhesion Tester respectively. The above test is destructive in nature which will necessitate a repair of the coating system at each spot test location.

3.0 INSTRUCTION

For each 100 square feet of coated surface for which documentation is missing or discrepant the following tests shall be performed:

8507080164 850311  
PDR FOIA  
HUGE84-487 PDR

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### 3.1 TOOKE TEST (SCRATCH TEST)

A scratch test shall be made using a calibrated Mark II Tooke Inspection Gage.

Before each shift's testing the Tooke gage shall be compared to readings obtained using an Elcometer Inspection DFT gage or equivalent. The average of five readings obtained with the 2X tip of the Tooke gage shall not vary by more than  $\pm 0.3$  mils from readings obtained with the Elcometer Inspection DFT gage. Five separate readings shall be taken for each 100 square feet area or less. Dry film thickness shall be as follows:

	<u>Any Single Reading</u>	<u>Average of Five</u>
CZ 11 Primer	1.5 - 5.5	2.0 - 4.5
D 6	1.5 - 5.5	2.0 - 5.0
Total Coating System	7.0 - 11.5	7.0 - 11.0

NOTE 1: Steel substrates identified in Reference 1-A on which only the primer coat has been applied (no seal or topcoat) shall be inspected for DFT per Reference 1-E. However, these surfaces must still be inspected per Paragraph 3.2.

### 3.2 ADHESION (PATCH) TEST

The QC inspector shall perform an Adhesion (Patch) Test on each 100 square foot area which is scratch tested per Paragraph 3.1. A calibrated Elcometer 106 Adhesion Tester shall be used to measure the tensile strength of adhesion of the coating system to the steel substrate. Each test shall consist of three individual dollies tested to failure.

Criteria: The minimum acceptable strength per dolly shall be 200 psi.

NOTE 2: The above adhesion test frequency applies only to liner plate. For supports and miscellaneous steel items, an adhesion test shall consist of only one dolly tested to Failure.

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### 3.3 DOCUMENTATION

Results of inspections per Section 3.1 and 3.2 shall be documented on Inspection Report, Attachment 1, in accordance with Reference 1-B. The completed IR shall be forwarded to the PPRV for retention.

### 3.4 REPAIRS

Repairs of each coating area either scratch-tested by the Tooke gage or adhesion tested shall be performed in accordance with Reference 1-C or 1-D and reinspection of repaired coatings shall be in accordance with Reference 1-E or 1-F.



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ATTACHMENT 1

COMANCHE PEAK STEAM ELECTRIC STATION

INSPECTION REPORT

SHEET \_\_\_\_\_ OF \_\_\_\_\_  
NO.

ITEM DESCRIPTION PROTECTIVE COATINGS		IDENTIFICATION NO.		SYSTEM/STRUCTURE DESIGNATION	
SPEC. NO. AS-31	REV.	REF. Q.C. DOC. & REV. & CHANGE NO. QI-QP-11.4-23, Rev.		MEASURE OR TEST EQUIP. IDENT. NO.	
<input type="checkbox"/> IN PROCESS INSPECTION		<input type="checkbox"/> PRE-INSTALLATION VERIFICATION	<input type="checkbox"/> INSTALLATION INSPECTION	<input type="checkbox"/> FINAL INSPECTION	<input type="checkbox"/> PRE-TEST INSPECTION
INSPECTION RESULTS					
<input type="checkbox"/> INSPECTION COMPLETED, ALL APPLICABLE ITEMS SATISFACTORY					
<input type="checkbox"/> INSPECTION COMPLETED, UNSATISFACTORY ITEMS LISTED BELOW					
ITEM NO.	INSPECTION ATTRIBUTES			SAT	UNSAT
	PRIME COAT <input type="checkbox"/>	SEAL OR FINISH COAT <input type="checkbox"/>			
1.	Perform Tocke test per Para. 3.1 to determine thickness of primer.				
	RECORD: Minimum Spot Test Primer:				
	Maximum Spot Test Primer:				
	Average Spot Test Primer:				
	Minimum Spot Test Total System:				
	Maximum Spot Test Total System:				
	Average Spot Test Total System:				
2.	Perform Adhesion test per Para. 3.3.				
	RECORD: Adhesion Test Strength in psi:				
	Dolly #1: _____ Dolly #2: _____ Dolly #3: _____				
REMARKS (DWGS, SPECS, ETC.)					
RELATED NCR NO.					
I.R. CLOSED <input type="checkbox"/>					
DATE					
SIGNATURE					
QC INSPECTOR					