

TEXAS UTILITIES GENERATING CO.	INSTRUCTION NUMBER	REVISION	ISSUE DATE	PAGE
HISTORICAL CPSES	QI-QP-11.4-23	3	JAN 20 1982	1 of 5
REINSPECTION OF SEAL COATED AND FINISH COATED STEEL SUBSTRATES FOR WHICH DOCUMENTATION IS MISSING OR DISCREPANT		PREPARED BY: <i>R.A. Cunningham</i>	1-19-82 DATE	
		APPROVED BY: <i>C. J. [Signature]</i>	1/20/82 DATE	
		APPROVED BY: <i>B. C. [Signature]</i>	1/20/82 DATE	

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"
- 1-F QI-QP-11.4-5, "Inspection of Steel Substrate Primer Repair and 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 seal or finish coat applications described in Reference 1-A using the Mark II Tooke Gage and the Elcometer 106 Adhesion Tester respectively. The above tests are destructive in nature which will necessitate a repair of the coating system at each spot test location.

3.0 INSTRUCTION

For each seal or finish coated steel item or component for which documentation is missing or discrepant, the tests discussed in Paragraphs 3.1 and 3.2 shall be performed at the frequencies indicated therein.

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3.1 TOOKE TEST (SCRATCH TEST)

The scratch test shall be performed by using a Mark II Tooke Inspection Gage using a 2X tip.

Each test made with the Tooke gage shall be compared to a reading of the total system obtained using a calibrated Elcometer Inspection DFT gage or equivalent. The reading obtained with the 2X tip of the Tooke gage shall not vary by more than ± 0.5 mils from the reading obtained with the Elcometer Inspection DFT gage. Any Tooke gage reading which is not within ± 0.5 mils of the corresponding DFT gage reading shall be discarded.

Five separate readings spaced evenly over each seal or finish coated item (See Note 1) shall be taken. 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 - 5.5
D 6	1.5 - 5.5	2.0 - 5.5
Total Coating System	7.0 - 11.5	7.0 - 11.0

In the event that any reading(s) is found to be outside of the acceptable primer thickness range, additional readings shall be taken to determine the extent of the unacceptable area. Such additional testing shall be documented in the "Remarks" section of Attachment 1.

NOTE 1: For small areas of seal or finish coated surfaces, five separate readings shall be taken. For larger seal or finish coated areas such as containment liner plate, five separate readings randomly spaced shall be taken for each 100 square feet of coating.

3.2 ADHESION (PATCH) TEST

The QC inspector shall perform an Adhesion (Patch) Test on each seal or finish coated item (See Note 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.

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NOTE 1: For larger seal or finish coated areas such as containment building liner plate, the Inspector shall perform one test for every 500 square feet of coating.

Acceptance Criteria:

The minimum acceptable strength per dolly shall be 200 psi.

If a dolly should fail the minimum strength criteria, the following additional adhesion testing shall be performed:

- 1) On large surface areas such as liner plate, four additional dollies shall be adhesion tested at approximately one foot from the failing dolly and spaced radially at approximately 90 degree intervals.
- 2) On components with smaller surface area such as miscellaneous steel or supports (conduit, cable tray, or pipe), two additional dollies shall be adhesion tested at one foot or less from the failing dolly with one located on each side of it.

If any of the additional dollies should fail the minimum strength criteria, the test results shall be promptly reported to Civil Engineering for evaluation and resolution. Test results on the additional dollies shall be documented in the "Remarks" section of the IR.

NOTE 2: In the case in which all of the additional dollies pass the minimum strength criteria, test failures on any of the original three dollies shall still be documented as "unsatisfactory" on the IR.

3.3

DOCUMENTATION

Results of inspections per Paragraphs 3.1 through 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. For inspections of coated containment liner surfaces, the Inspector may document one IR for each 500 square feet of surface area.

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3.4 REPAIRS

Repairs of each coating area either scratch-tested 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-F.

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Attachment 1

COMANCHE PEAK STEAM ELECTRIC STATION

INSPECTION REPORT

SHEET 05
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 EQUIPMENT 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	
UNER. RESULTS					
<input type="checkbox"/> INSPECTION COMPLETED, ALL APPLICABLE ITEMS SATISFACTORY					
<input type="checkbox"/> INSPECTION COMPLETED, UNSATISFACTORY ITEMS LISTED BELOW					
ITEM NO.	INSPECTION ATTRIBUTES				QC INSPECTOR
					DATE
	SEAL OR FINISH COAT				QC SIGNATURE
1.	Perform Tooke test per para. 3.1 to determine thickness in mils of primer and total system (document one set of readings for each 100 sq. ft. when testing Containment liner)				
RECORD:					
	1	2	3	4	5
Min. Soot Primer:					
Max. Soot Primer:					
Avg. Soot Primer:					
Min. Soot Tot. System:					
Max. Soot Tot. System:					
Avg. Soot Tot. System:					
2.	Perform Adhesion test per para. 3.2.				
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	