

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY Underground Storage Tank Program

CATHODIC PROTECTION TEST REPORT FORM COVER PAGE AND INSTRUCTIONS

Steel underground storage tank (UST) systems are required to have cathodic protection (CP) systems in order to prevent corrosion and possible failure of UST system components. These CP systems are required to be inspected and tested at regular intervals in order to demonstrate they are providing the necessary protection. This report form is intended to provide a format, technical references, and guidelines for adequate performance and documentation of cathodic protection (CP) system testing.

CP System Testing Frequency and Reporting - Oregon Administrative Rule (OAR) 340-150-0325(2), requires inspection and testing of CP systems within six months of installation and at least every three years thereafter. Owners and permittees of UST systems are required to report any failed CP system test results within 24 hours and submit a report of the test results. Passing CP system test results do not need to be reported to the DEQ. However, owners and permittees are required to keep records of CP system tests and must have the last two test results available for review during an inspection. Although only the last two CP test results are required to be kept, DEQ recommends that copies of all CP tests results be maintained for the operating life of the UST system.

<u>CP Testing Standards & References</u> - Oregon rules specify that inspection and testing of CP systems must be done in accordance with the National Association of Corrosion Engineers (NACE RP-0285), "Standard Recommended Practice: Corrosion Control of Underground Storage Tank Systems by Cathodic Protection." In addition, some UST manufacturers have specific procedures described for testing a CP system. For example, the Steel Tank Institute (STI), which manufactures the commonly found STI-P3 tanks, has a recommended practice for CP testing as well as a manufacturer's certification for testing STI tanks.

<u>CP Test Station</u> - Oregon Rules also require a permanent CP "test station" be installed or a written CP system test procedure be established. As described in OAR 340-150-0320(3)(d), a CP "test station" must have an electrical connection to the structure (tank and/or pipe) and access for placing a reference cell. A written test procedure must contain sufficient detail to ensure repeatable test procedures.

Steel Tank Integrity Assessment - Of critical importance in designing, installing, and testing of all CP systems is assessing the integrity or condition of the steel tank to be protected. Steel tanks and piping that have had CP systems installed must complete an integrity assessment of the steel tank as described by OAR 340-150-0560. Documentation of the integrity assessment must be kept with the permanent facility records and be available for review at the time of a DEQ inspection.

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<u>Protection Of All UST System Components</u> –Oregon Administrative Rule 340-150-0325(1), requires CP for all UST system components that routinely contain product. This includes all stainless steel flex-lines, steel fittings, and steel piping, including those in dispensers and sumps, that may be in contact with soil, backfill material, and water. These steel UST system components must be isolated from the soil, backfill and water or have a CP system installed. CP systems installed to protect these portions of a UST system must be tested just as the CP systems that protect the tank(s).

<u>UST System Modifications & Repairs Notifications</u> – Both 30 & 3 day notices are required to "modify" a UST system. Modifying a UST system includes installation of a CP system that did not previously exist. For example, installation of spike anodes or ankle bracelets to pipe and/or fittings that did not previously have CP. Another modification example would be installing an impressed current CP system after a galvanic system has failed. An example of a CP system repair would be installing new anodes after failure of existing anodes

<u>UST Supervisor & Service Provider Licenses</u> – Installation, modification, testing, repair and replacement work with CP systems always requires both an Oregon CP Supervisor license and an Oregon Service Provider license. Design of field-installed CP systems must be done by a corrosion expert or engineer with appropriate background in CP system design.

USE OF THIS FORM

Use of this form is voluntary. DEQ offers this form with the intent to establish a format that captures all the relevant information collected during an impressed current or galvanic (sacrificial) cathodic protection test. A complete report for record keeping consists of either:

Cathodic Protection Test Information Page (3) and

Impressed Current CP Test Results Report Page (4) or Galvanic CP Test Results Report Page (5)

HELP WITH THIS FORM

If you have any questions about this CP system test report form, please phone your nearest DEQ Regional Office (see below for telephone numbers). You can also phone the UST Program's toll-free Oregon number, 1-800-742-7878. This is a message answering machine for calls made in Oregon. Underground Storage Tank Program staff will return your call within 24 hours (one business day). You can also obtain UST program information from our web page at

http://www.deq.state.or.us/lq/tanks/ust/index.htm

NORTHWEST REGION / PORTLAND

Phone: (503) 229-5263

WESTERN REGION / MEDFORD Phone: (541) 776-6010

WESTERN REGION / EUGENE Phone: (541) 686-7838 WESTERN REGION / COOS BAY Phone: (541) 269-2721

EASTERN REGION/BEND

Phone: (541) 388-6146

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Oregon Department of Environmental Quality										
		Catho	dic P	rotection	Tes	st Informa	tion Pag	ze		
		UST Own					UST Facil	<u> </u>		
NAME:					NAN	ME:)#:	
ADDRESS:						DRESS:		<u>'</u>		
CITY:				STATE:	CIT	Y:	STATE:			
Cathodic Protection Tester										
TESTER'S NAME:					CP TESTER'S LICENSE #:					
COMPANY NAME:					EXPIRATION DATE:					
ADDRESS:					PHONE NUMBER:					
CITY:				STATE:	NAC	CE CERTIFICATION #	•			
Cathodic protection	system	n is:	[] Galvanic [[] Im	pressed current	Date Last Tested	d:		
Weather Conditions	at Tim	e of Testing/Ins	spection:							
Temperature:	(Soil/Backfill Cor	nditions (ch	eck √):□ moist □ d	dry 🗖 :	sand □ gravel □ soil	Describe soil:			
Cathodic F	rote	ection S	vstem	Certification	on					
☐ Test required within 6 months of installation of CP system (installation date was) ☐ Test required at least every 3 years after installation/test noted above ☐ Test required within 6 months of any repair activity The cathodic protection system is effective, testing was performed according to NACE Standard RP-0285, and is providing cathodic protection to all tanks and product lines: [] Yes [] No Signature of Tester Date										
UST SYS	STE	EM INF	ORN	IATION						
TANK# YR TA		CAPACITY	-	TANK MATERIAL		LINED? Y/N Date	YR CP INSTALLED	PIPING MATERIAL	YR CP INSTALLED	

UST SITE PLAN – On the back draw a diagram showing the important parts of the facility (tanks, lines, manway locations, turbines, vents, rectifier, pump islands, buildings). Indicate reference cell locations where structure-to-soil potential or continuity measurements have been made and label(R-1, R-2, R-3); location of all anodes and wires; location of CP test stations.

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Facility Name				Test Date				_Facility #				
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	IMPRESSED CURRENT CP TEST RESULTS REPORT PAGE											
	RECTIFIER DATA											
							AMPS					
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RECT	IFIER C		S INITIALLY D					UTPUT	HOUR	illable):	VOLTS	AMPS
		DATE	Coarse	Fine				METER				
"As Fo	ound"											
"As Le	eft"											
			STRUC	TURE	TO SC	OIL PO	OTE	NTIAL MEAS	SUREMENT	гѕ		
ID	STRI	JCTURE	CONTACT PO	TNIC	REFERENCE CELL LOCATION			ON	INSTANT OFF	NATIVE	00MV CHANGE	
										0	IVAIIVE	OHANGE
												-
				CD TI	EST S	TATIC	N D	EQUIREME	NTC			
							Т	Has this CP tes		ned consiste	nt with previo	us CP system
•		•	records been rev			s 🗆 l			Yes ☐ N		•	
ir test p	roceaures	nave change	ed since last test p	olease e	xpıaın: 							
Have p	otential m	easurements	been made at all	tanks ar	nd pipin	g includ	ding ar	ny buried flex-co	onnectors?	□ Yes	□ No	
COMPLETE IF ANY REPAIRS OR MODIFICATIONS TO THE CP SYSTEM ARE MADE OR ARE NECESSARY												
Complete if any repairs or modifications to the cathodic protection system are made or are necessary.												
☐ Additional anodes for an impressed current system (attach corrosion experts design)												
☐ Repairs or replacement of rectifier (explain below)												
☐ Anode header cables repaired and/or replaced (explain below)												
☐ Impressed current protected tanks/piping not electrically continuous (explain below)												
Remark	ks/Other::											

Facility Name	Test Date	Facility #
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GALVANIC (SACRIFICIAL) CP TEST RESULTS REPORT PAGE									
STRUCTURE TO SOIL POTENTIAL MEASUREMENTS									
ID	STRUCTURE	CONTACT POINT	REFERENCE CELL LOCATION	mV	COMMENTS				
		CP TEST	STATION REQUIREMENTS	armad aanaista	ent with previous CP system				
Have p	revious CP system test re	ecords been reviewed? Ye		No	ent with previous CP system				
If test n	rocedures have changed	since last test please explair	n·						
	Have potential measurements been made at all tanks and piping, including any buried flex-connectors?								
COMPLETE IF ANY REPAIRS OR MODIFICATIONS TO THE CP SYSTEM ARE MADE OR ARE NECESSARY									
Describ	pe any repairs or modifi	cations to the cathodic pro	otection system that are made or are n	ecessary.					