

ADEC UNDERGROUND STORAGE TANKS GALVANIC CATHODIC PROTECTION SURVEY

- Record of a galvanic (sacrificial anode) cathodic protection evaluation of an underground storage tank (UST) system.
- Access to the soil directly over the cathodically protected tank and/or piping must be provided.
- Site Sketch (required): indicate the reference cell placement on tank(s), piping, and the two remote-earth locations.

1. UST OWNER		2. UST FACILITY	
NAME:		FACILITY NAME:	FAC #
ADDRESS:		ADDRESS:	
CITY:	STATE/ZIP:	CITY:	CONTACT PHONE:

3. CP TESTER	4. CP TESTER'S QUALIFICATIONS
CP TESTER'S NAME:	ADEC UST CATHODIC PROTECTION-TESTER LICENSE NUMBER:
PHONE or EMAIL:	NACE or STI CERTIFICATION NUMBER:

5. DESCRIPTION of the UST SYSTEMS					
ADEC #	PRODUCT	VOLUME	TANK MATERIAL	PIPING MATERIAL	FLEX CONNECTORS

6. PURPOSE of CATHODIC PROTECTION SURVEY			
3-year test <input type="checkbox"/>	Next Inspection Due:	6-month test after repair or upgrade <input type="checkbox"/>	Test within six months of new install <input type="checkbox"/>

7. CRITERIA OF GALVANIC (SACRIFICIAL ANODE) CATHODIC PROTECTION	
-850 mV ON	Structure-to-soil potential more negative than -850 mV with respect to a Cu/CuSO ₄ reference electrode with the protective current applied (This criteria applies to any galvanically protected structure).
-850mV OFF	Structure-to-soil potential more negative than -850 mV with respect to a Cu/CuSO ₄ reference electrode with protective current temporarily interrupted (this criteria applies only to those galvanic systems where the anodes can be disconnected).
100 mV POLARIZATION	Structure tested exhibits at least 100 mV of cathodic polarization (This criterion is applicable to galvanic systems where the anodes can be temporarily disconnected).

8. CONTINUITY EVALUATION – GALVANIC (SACRIFICIAL ANODE) SYSTEM	
<ul style="list-style-type: none"> • FIXED CELL-MOVING GROUND: the remote reference electrode must be placed in the soil at a location, greater than 30 feet away, and undisturbed. • Conduct the point-to-point test between any two UST structures for which the fixed cell-moving ground survey is inconclusive or indicates possible continuity. • Record, in millivolts (mV), continuity measurements between the remote fixed-cell and UST components, or between tank/pipe, tank/vent, tank/fill riser, etc. • ISOLATED: the tank must be isolated (e.g., by a non-conductive fitting) from any other metallic structure, in order to pass the continuity survey. • LOCATION of the remote reference electrode (R₁) at least 30 feet distance from tank: <u>R₁ READING (mV):</u> 	

ADEC #	COMPONENT A = TANK, PIPING, or R ₁	COMPONENT B = PIPING, VENT, RISER, or?	COMPONENT "A" VOLTAGE (mV)	COMPONENT "B" VOLTAGE (mV)	POINT-TO-POINT VOLTAGE	ISOLATED, CONTINUOUS, or INCONCLUSIVE

9. PLACEMENT of REFERENCE CELLS for TANK and the REQUIRED TWO REMOTE-EARTH READINGS



1. Place tank reference cell at the tank-top center. Local Reading = T₁, T₂, etc., (use P₁, P₂, for piping).
2. Set the first remote-earth reference cell (R₁) a minimum of 30 feet out from the tank center line (R₁ for multiple tanks can be from the center line of one tank, or the center of the tank nest).
Location of R₁: _____
3. Set the second remote-earth reference cell over, a minimum of 10 to 15 feet (R₂).

10. SITE SKETCH: REFERENCE CELL POSITIONS for the TANK(S), PIPING and the TWO REMOTE - EARTH LOCATIONS

LEGEND KEY	
<input type="checkbox"/>	(T) ADEC Tank #
<input type="checkbox"/>	(P) Product piping
<input type="checkbox"/>	(PS) Piping sumps
<input type="checkbox"/>	(SP) Spill Buckets
<input type="checkbox"/>	(IM) Tank Interstitial Monitoring Access
<input type="checkbox"/>	(R ₁ , R ₂ , etc.) Reference-cell locations for CP
<input type="checkbox"/>	(T ₁ , T ₂ , P ₁ , P ₂ , etc.) CP Structure Contact Points
<input type="checkbox"/>	(V) Vents
<input type="checkbox"/>	(D) Dispensers
<input type="checkbox"/>	Indicate ↑ North

11. SURVEY OF UST SYSTEM - GALVANIC CATHODIC PROTECTION

- Conduct a survey of the galvanic cathodic protection system by obtaining structure-to-soil potential measurements.
- Local reference electrode must be placed in soil directly over the tank or piping; the two remote earth reference cell reading must be more than 30 feet away
- Both the local and the two remote-earth voltage readings must be -850 mV or more negative, in order for the structure to pass.
- INCONCLUSIVE = indicated when both the local and the remote structure-to-soil potentials do not result in the same outcome (one passes, the other fail)

INDICATE T1, T2, (or P1, P2, etc.) ↓	STRUCTURE (Tank or Piping)	LOCAL CONTACT POINT (tank bottom, interstitial, etc.)	LOCAL REFERENCE CELL (tank or piping) VOLTAGE	R ₁ FIRST REMOTE-EARTH VOLTAGE	R ₂ SECOND REMOTE-EARTH VOLTAGE	PASS, FAIL, or INCONCLUSIVE
ADEC #						
ADEC #						
ADEC #						
ADEC #						
ADEC #						
ADEC #						
ADEC #						
ADEC #						
ADEC #						

COMMENTS:

12. CATHODIC PROTECTION TESTER'S EVALUATION

- PASS** All protected structures at this facility pass the cathodic protection survey and it is judged that adequate cathodic protection is provided to the UST system (complete Section VIII).
- FAIL** One or more protected structures at this facility fail the cathodic protection survey and adequate cathodic protection has not been provided to the UST system (complete Section IX).
- INCONCLUSIVE** If the remote and the local do not both indicate the same test result on all protected structures (both pass or both fail), inconclusive is indicated and the survey must be evaluated and/or conducted by a corrosion expert (complete Section VII).

CP TESTER'S SIGNATURE:

DATE CP SURVEY PERFORMED: