

**U4 - UST CATHODIC PROTECTION  
JOB TASK ANALYSIS & EXAMINATION OUTLINE**

1 Hour, Closed Book

Approximate % of 50 Questions

<b>01</b>	<b>RECORDS AND REPORTING REQUIREMENTS (Content Area)</b>	<b>6%</b>
0101	<u>Reporting of Releases</u> (Task) Report system leaks as required.	2%
0102	<u>System Closure Records</u> (Task) Review or complete and file required system closure records.	4%
<b>02</b>	<b>SITE DATA AND LAYOUT (Content Area)</b>	<b>16%</b>
0201	<u>Site Soils Observation</u> (Task) Review soil stability, structure and possible presence of contamination, stray currents, site soil resistivity, acidity, moisture content and sulfide content.	12%
0202	<u>UST System Layout</u> (Task) Determine site layout for tanks and piping, including clearance between tanks, and between and tanks and other structures or property line.	4%
<b>03</b>	<b>BASIC DESIGN, IDENTIFICATION AND INSPECTION (Content Area)</b>	<b>22%</b>
0301	<u>Measure Potential and Test Continuity</u> (Task) Measure electrical potential between the structure and the soil. Measure electrical continuity in the piping.	10%
0302	<u>Identify and Determine Cathodic Protection System</u> (Task) Identify and/or determine the operation of galvanic anode systems or impressed current systems.	10%
0303	<u>Tank and Pipe Anode Quantity, Material Size and Location</u> (Task) Determine the appropriate number, size, location and backfill of tank and pipe anodes.	2%
<b>04</b>	<b>GALVANIC ANODE CATHODIC PROTECTION (Content Area)</b>	<b>24%</b>
0401	<u>Tank and Pipe Coating</u> (Task) Verify that tank and pipe has proper coating and that damaged coating is repaired.	6%
0402	<u>Galvanic Anode</u> (Task) Verify that tank and pipe anode(s), anode wires and test leads are installed correctly. Ensure proper electrical connections between anodes and system components.	6%
0403	<u>System Electrical Isolation</u> (Task) Verify electrical isolation between system and other buried structures. Verify that hold-down straps are electrically isolated from steel tanks.	4%
0404	<u>Monitor, Inspect, and Maintain Galvanic Protection Systems</u> (Task) Verify system protection, provide periodic inspection of galvanic protection system checking equipment condition and operation.	2%
0405	<u>Design Galvanic Corrosion Protection Systems</u> (Task) Ensure appropriate application of galvanic cathodic protection systems.	6%
<b>05</b>	<b>IMPRESSED CURRENT CATHODIC PROTECTION (Content Area)</b>	<b>22%</b>
0501	<u>Impressed Current Rectifier</u> (Task) Verify correct installation of impressed current rectifier.	4%
0502	<u>Impressed Current Anode</u> (Task) Verify correct installation of impressed current anode.	6%
0503	<u>Design Impressed Current Systems</u> (Task) Ensure appropriate application of impressed current cathodic protection systems. Ensure proper distance between tank and anode.	6%

0504 Monitor / Inspect / Maintain Impressed Systems (Task) 6%  
Verify system protection, provide periodic inspection of impressed current system, checking equipment condition and operation, and compare rectifier readings with log showing original readings, correcting where necessary.

**06 HEALTH AND SAFETY FOR UST WORKERS (Content Area) 10%**

0601 Control of Vapors and Sources of Ignition (Task) 4%  
Identify and control concentrations of flammable or combustible vapors before repairing, decommissioning or tank and pipe tightness testing. Use breathing support devices when necessary. Remove sources of ignition within distances required.

0602 Grounding and Bonding of Equipment (Task) 2%  
Verify grounding of electrical equipment to minimize the possibility of sparks from static electricity or other differences in electrical potential.

0603 Personal Safety Equipment (Task) 4%  
Observe safety precautions and use personal safety equipment necessary for the work involved in, including the use of protective clothing, safety line and other recommended equipment.