



# OPERATION AND MAINTENANCE OF CORROSION PROTECTION

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Rev: 2/2025

## Operation and Maintenance of Corrosion Protection

State and federal rules/regulations require owners and operators of cathodically protected steel underground storage tank (UST) systems to operate and maintain the system to continuously provide protection against corrosion to the metal components of the tank and piping. Corrosion protection is required for all metal components of the system that routinely contain regulated substances and are in contact with the ground.

In order to ensure that releases due to corrosion are prevented for as long as the underground storage tank system is in use to store regulated substances, the owner or operator must comply with the following.

**Inspection and Testing:** All underground storage tank systems equipped with cathodic protection must be inspected for proper operation by a qualified cathodic protection tester within six (6) months of installation or repair of the UST system, and at least every three (3) years thereafter. Monitoring of cathodic protection is necessary to determine that the system is meeting design specifications.

For factory installed galvanic cathodic protection (STI-p3 USTs), the voltage potential between the protected tank or piping and surrounding soil measured with a copper sulfate reference cell (structure to soil potential) must be greater than negative .85 volts to ensure that corrosion protection is performing adequately. The reference cell is connected to a lead or test wire from the protected structure and placed in contact with the UST backfill. Typically, the tank manufacturer that supplied the UST has qualified personnel capable of performing the test. For impressed current cathodic protection systems, a similar measurement is used, but determination of whether the tank or piping is adequately protected is made by comparing the difference in voltage between times when the rectifier is on and when it is turned off.

Impressed current cathodic protection systems must also be inspected every sixty (60) days to ensure the equipment is operational and running properly. Most systems include a light on the control panel that indicates proper operation. Other systems may require that you keep a log of the voltage and amperage output of the rectifier. The readings should stay relatively constant over time. If there are any changes in the readings, the corrosion engineer or contract who designed and installed the system should be contacted and the system inspected.

**Recordkeeping:** In order to demonstrate compliance with the testing and inspection requirements, the regulations require the results of the last two 3-year tests and the last three 60-day inspections for impressed current systems to be documented and kept at the facility.

Should you have any questions regarding the cathodic protection testing and recordkeeping requirements, you may contact the UST Program at 701-328-5166 or view our website (over).

**NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY**

**Regulatory Agency**

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