

# Cathodic Protection System Testing in Winter Months (Nov. – late March)

*Last Revision: January 23, 2019*

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 [ATCP 93.520\(1\)](#)

## Question/Issue

Inspector is performing annual compliance inspection during the winter months (November - late March) and discovers the cathodic protection test for the current annual test cycle was not performed as required by ATCP 93.520(1)(d)1.a.

Occasionally during an annual inspection, an inspector finds that the annual corrosion test on a tank or piping or both (tank system) has not been performed within 12 months of the previous test. If the inspection is being performed in the winter months, frozen soil and ice is a poor electrolyte- it is likely that cathodic protection tests performed in winter will result in lower protective readings than if a test was performed in warmer months when frozen soil/ice is not present. There is however, the possibility that a passing test result would be obtained.

While a passing corrosion test is the most desirable result, a failed test should not result in a repair order being written until a follow-up test is performed in spring and results in another failure.

- Note: 1) Periodic testing of the tank cathodic protection system for sti - P3® tanks shall occur every 3 years, rather than annually, until the tank is 10 years old. Testing shall occur annually after the tank is 10 years old. This applies only to the tank, not any attached piping; cathodically protected piping always requires an annual test.
- 2) In winter conditions a failed test does not necessarily mean the tank is aggressively corroding as any corrosion occurring will also be at a low rate due to the poor electrolyte.

The purpose of this procedure is to provide guidance to the inspector for ordering the performance of a cathodic protection test during winter months and follow-up if a passing test was not obtained.

## Procedure

1. After initial inspection, the Inspector writes the order to have the system tested with either of the following results:
  - a. **PASS:** If test result is a “pass”, system to be re-tested before the current period annual test due date.
  - b. **FAIL:** If test result is a fail or inconclusive another order is written (the original order would be closed since they performed the test) to test again by April 30<sup>th</sup>. If the April deadline test result is a pass the next annual test is due before the current period annual test due date.
2. Following a passing result, the inspector changes the WinWam tank attribute fields:
  - a. “Tank CP Test (Inspector)” and “Pipe CP Test (inspector)” to the current passing test date.
  - b. “Tank CP Test needed” and “Pipe CP Test needed” to the next annual test due date; i.e., advance the date by one year.

Example: During an annual inspection on February 10, 2017 the inspector finds that the periodic test of a tank systems cathodic protection system was not performed within 12 months of the previous test (last test was October 15, 2015- test was due by October 15, 2016). The inspector write orders to test the system with one of the two outcomes:

- 1) Tank system passed the cathodic test. Annual test date remains October 15; the annual test for the current period needs to be performed by October 15, 2017. “Tank CP Test (Inspector)” and “Pipe CP Test (inspector)” date changed to February 10, 2017. “Tank CP Test needed” and “Pipe CP Test needed” date changed to October 15, 2017.
- 2) Tank system failed the cathodic test. Order written to test again by April 30, 2017.

April 28, 2017 tank system tested with one of two results:

**Tank system passed.** Annual test date remains October 15; the annual test for the current period needs to be performed by October 15, 2017. “Tank CP Test (Inspector)” and “Pipe CP Test (inspector)” date changed to April 28, 2017. “Tank CP Test needed” and “Pipe CP Test needed” date changed to October 15, 2017.

**Tank System failed.** Order written for repair. Once repaired; the annual test for the current period needs to be performed by October 15, 2017. Repaired/tested on May 15, 2017. “Tank CP Test (Inspector)” and “Pipe CP Test (inspector)” date changed to May 15, 2017. “Tank CP Test needed” and “Pipe CP Test needed” date changed to October 15, 2017.

*Effective Date: January 17, 2018*