Focus On Oil Transfer System Hydrostatic Testing

Spill Prevention, Preparedness & Response

Facility annual testing requirements

Ecology requires annual tests of oil transfer operator's hoses, piping, manifolds, and any other connected equipment used to transfer oil over the water. Testing methods must either meet manufacturers' recommendations and industrial standards, or U.S. Coast Guard test procedures for oil transfer equipment in 33 CFR 156.170. These tests may be performed in-house or by an outside company.

Hoses and piping systems transfer billions of gallons of oil over the waters of Washington State. Annual tests help identify issues so that they can be addressed before they cause a spill. Requirements include:

- Ensure all transfer equipment is properly inspected and tested annually according to WAC 173-180-205.
- Keep records of oil transfer equipment testing, maintenance and repairs according to WAC 173-180-040.
- Produce records of tests completed for each transfer system and hose upon request during Ecology inspections.

What is hydrostatic testing?

A hydrostatic pressure test is an annual testing option that introduces stress into the oil transfer system under controlled conditions to ensure safe operation at the maximum allowable pressure. It involves completely filling the transfer equipment with a compatible liquid, pressurizing the liquid to the test pressure, holding the test pressure for a specific amount of time, and checking the system for anomalies and leaks.

How do I prepare for a hydrostatic pressure test?

Identify the maximum allowable working pressure of your oil transfer system. The test pressure is required to be 150% of this pressure. Ensure each part of the transfer system is rated for pressures greater than the test pressure you will be using. Before you begin, consider contacting the manufacturer of your hose/piping for specific information about hydrostatic testing your equipment.

Spill prevention during hydrostatic tests

- Testing involves pressures greater than the Maximum Allowable Working Pressure, which can result in leaks or spills
- Arrange hoses away from dock or deck edges if possible before starting the test
- Block scuppers and other paths for spilled oil to enter the water
- Have spill containment and cleanup material readily available
- Monitor the system for anomalies and leaks during and after testing
- Bulging, swelling, abnormal lengthening, kinks, and soft spots can be signs of an internal failure of the hose strength members, and indicate that it is not suitable to use
- Safely bleed off the pressure when the test is complete
- If any oil or oily water spills during testing, report it to Ecology and to the Coast Guard and EPA as required.

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