



Guidance for Developing Curriculum Criteria

Class A and B Underground Storage Tank Operator Training

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How to use this guidance

This guidance is to be used by companies wanting to develop and offer operator training. Each objective below has a subset of curriculum topics. Following the topics are the outcomes that are expected of the operator.

Course description

Class A/B operator training will present facility specific information based on the objectives and learning outcomes below to enable the student to successfully comply with the requirement to monitor and maintain tank systems in a manner that prevents releases to the environment, minimizes the size of accidental releases through early detection, and mitigates damage from releases with proper emergency response.

Objective A curriculum topics: release prevention equipment

Class A/B operators will be able to determine that the facility has release prevention equipment and methods that meet the regulatory requirements in place and that they are operational.

1. Spill prevention equipment
 - a. spill catchment basins
 - b. other methods
2. Overfill prevention equipment
 - a. ball float valves
 - b. automatic shut-off valve
 - c. electronic overfill alarm
3. Procedures to ensure releases due to spills and overfills do not occur
 - a. owner/operator responsibilities
4. Corrosion protection
 - a. materials protection
 - b. galvanic cathodic protection
 - c. impressed current cathodic protection
5. Secondary containment
 - a. tank systems
 - b. piping systems
 - c. dispenser containment sumps
 - d. tank containment sumps

Objective A outcomes

- Outcome A-1: State the purpose of spill prevention equipment.
- Outcome A-2: Identify spill prevention equipment in use at the facility.
- Outcome A-3: Describe how to verify that the equipment is in place and operational at the facility.
- Outcome A-4: State the purpose of overfill prevention equipment.
- Outcome A-5: Identify overfill prevention equipment in use at the facility.
- Outcome A-6: Describe overfill prevention procedures in use at the facility.
- Outcome A-7: Describe how to verify that overfill equipment is in place and operational at the facility.
- Outcome A-8: Describe owner/operator responsibility to prevent releases from spills and overfills.
- Outcome A-9: State the requirement for corrosion protection on underground storage tank (UST) systems.
- Outcome A-10: Identify how corrosion protection is achieved at the facility (tank and piping construction).
- Outcome A-11: If applicable, identify critical elements of an active corrosion protection system.
- Outcome A-12: If applicable, identify the monitoring points for an active corrosion protection system.
- Outcome A-13: Describe the function of secondary containment.
- Outcome A-14: Identify tanks that have secondary containment.
- Outcome A-15: Identify piping that has secondary containment.
- Outcome A-16: Identify dispensers that have containment sumps.
- Outcome A-17: Identify tanks that have containment sumps.

Objective B curriculum topics: release detection

Class A/B operators will be able to determine release detection methods and equipment in place at the facility meet the regulatory requirements and that they are operational.

1. Tank release detection equipment/method
 - a. equipment/method performance criteria
 - b. monitoring periods
2. Tank release detection methods and equipment
 - a. interstitial monitoring
 - b. statistical inventory reconciliation
 - c. automatic tank gauging
 - d. manual tank gauging
 - e. inventory control
3. Piping release detection equipment/method
 - a. equipment/method performance criteria
 - b. monitoring periods
 - c. pressurized piping
 - 1) automatic line leak detectors
 - a) mechanical
 - b) electronic
 - 2) interstitial monitoring
 - 3) monthly monitoring

- 4) annual precision test
- 5) statistical inventory reconciliation
- d. Suction piping
 - 1) safe suction
 - 2) non-safe suction

Objective B outcomes

Outcome B-1: Identify the release detection monitoring requirement (accuracy and frequency) for tanks at the facility.

Outcome B-2: Identify the tank release detection methods in use at the facility.

Outcome B-3: Identify the elements of the tank release detection equipment/method.

Outcome B-4: Relate the release detection method in use to the monitoring requirement.

Outcome B-5: Correctly interpret the release detection method result/report.

Outcome B-6: Identify operator responsibilities for release detection.

Outcome B-7: State the release detection monitoring requirement for product piping at the facility.

Outcome B-8: Identify that the elements of the piping release detection equipment/method at the facility meets the regulatory requirement for accuracy and reliability.

Outcome B-9: Determine that the release detection equipment/method at the facility meets the regulatory requirement for accuracy and reliability.

Outcome B-10: Correctly interpret the release detection method result/report.

Objective C curriculum topics: routine testing requirements

Class A/B operators will be able to determine that required equipment testing and system testing have been accomplished.

Class A/B operators will be able to document performance for release detection systems. Class A/B operators will be able to document product compatibility for product storage and handling equipment.

- 1. Cathodic protection system testing
- 2. Tank or line testing as appropriate
- 3. Vapor recovery systems
- 4. Record keeping requirements for equipment
 - a. manufacturer records and compatibility statements
 - b. performance certification
 - c. testing/calibration records

Objective C outcomes

Outcome C-1: Outline routine testing requirements for tank, piping, and cathodic protection systems at the facility.

Outcome C-2: Review test reports for tank tightness tests to determine if a tank passed or failed the test.

Outcome C-3: Ensure system testing records are kept.

Outcome C-4: Ensure manufacturer warranty and third party testing records are kept.

Outcome C-5: Review cathodic protection system test reports to determine if the system is passing or failing.

Objective D curriculum topics: identify unusual release detection conditions

Class A/B operators will be able to determine that required release detection monitoring has been conducted.

1. Recordkeeping requirements appropriate for system/method in use
2. Annual/periodic monitoring records as appropriate

Objective D outcomes

Outcome D-1: Identify the maintenance requirement for release detection records.

Outcome D-2: Know where the records for release detection are kept.

Outcome D-3: Identify records that are not sufficient to satisfy the release detection requirement.

Outcome D-4: Recognize gaps in monitoring records.

Outcome D-5: Determine release detection records are complete and sufficient.

Objective E curriculum topics: identify unusual operating conditions

Class A/B operators will be able to determine that unusual operating conditions or release detection equipment indications have been investigated and reported as appropriate.

1. Identifying a suspected release
 - a. how to investigate
 - b. what needs to be reported
2. Identifying a release
 - a. what to report
 - b. release response actions
 - c. how to abate/stop release based on the origin
 - d. how to get system back online

Objective E outcomes

Outcome E-1: Identify unusual operating conditions.

Outcome E-2: Identify a suspected release.

Outcome E-3: Identify who needs to be contacted and in what order.

Outcome E-4: Determine what to do to fix the unusual operating condition.

Outcome E-5: Identify a release and the approximate size of the release.

Outcome E-6: Identify the proper timing for reporting a release.

Outcome E-7: Identify the need for release mitigation.

Outcome E-8: Determine/recommend isolation actions to mitigate a release.

Objective F curriculum topics: routine operation and maintenance tasks

Class A/B operators will be able to determine that routine operations and maintenance tasks have been accomplished.

1. Monthly sump and basin monitoring
 - a. dispenser sumps
 - 1) shear valves
 - 2) leaks from dispenser components
 - 3) free of free product, storm water, and/or debris
 - b. tank sumps
 - 1) free of free product, storm water, and/or debris
 - 2) equipment appears normal
 - 3) piping appears normal
 - 4) secondary containment is liquid tight
 - c. spill buckets
 - 1) free of free product, storm water, and/or debris
 - 2) liquid tight
 - 3) overfill device is functional
 - 4) drop tube is functional
 - 5) vapor recovery is in place and functional
 - d. other equipment
 - 1) automatic tank gauge probe cap is secure
 - 2) impressed current system power on
 - 3) tank gauge alarms are checked, reported, fixed and cleared
 - 4) electronic overfill device is tested
2. Acceptable equipment repairs
 - a. tanks
 - b. piping
 - c. cathodic protection system
3. Conditions that indicate likelihood of equipment damage/failure

Objective F outcomes

Outcome F-1: Identify a shear valve and that it is anchored properly.

Outcome F-2: Identify a vapor recovery fitting and that it is functioning properly.

Outcome F-3: Describe conditions that would indicate a problem with release prevention (see Objective A).

Outcome F-4: Describe conditions that would indicate a problem with release detection (see Objective B).

Outcome F-5: Describe common locations where spill bucket failure occurs.

Outcome F-6: Relate loose tank top fittings to overfill protection.

Outcome F-7: Prepare a monthly operation and maintenance schedule.

Outcome F-8: Describe how to inspect under a dispenser.

Outcome F-9: Outline actions to verify routine operations and maintenance actions have been accomplished,

Outcome F-10: Determine if a line leak detector was repaired by a qualified technician.

Outcome F-11: Describe visual evidence that possible equipment failure is imminent.

Objective G curriculum topics: notification requirements

Class A/B operator will be able to ensure that the site in compliance with all other requirements in Minn. R. ch. 7150.

1. Notification requirements
 - a. prenotification
 - b. notification of installation, replacement, or change in status
 - c. cathodic protection testing
2. Temporary closure requirements

Objective G outcomes

Outcome G-1: Identify when a prenotification form needs to be submitted.

Outcome G-2: Identify when a notification of installation, replacement, or change in status need to be submitted.

Outcome G-3: Identify when cathodic protection test results need to be submitted.

Outcome G-4: Identify the necessary criteria to properly place a tank system in temporary closure.