



Guidance for Content of UST Operator A, B or A/B Training Curriculum

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How to use this guidance

This guidance is to be used by companies wanting to develop and offer A, B or A/B Operator training. Each objective below has a subset of curriculum topics that should be part of any training/exam to be approved by OSFM. Following the topics are the outcomes that are expected of the operator.

Course description

Class A, B, A/B & C Operator training courses will present Illinois specific information based on the objectives and learning outcomes below to enable the participant 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. While curriculum contents must be based on the revised 2015 Federal EPA UST Regulations, submitted courses and exams are required to include the Illinois-specific regulations wherever those differ from the federal regulations.

Introductory curriculum topics: UST Systems

Class A, B or A/B operators will be able to identify components of UST systems in terms of material and construction.

1. Tanks
2. Piping
3. Spill Prevention Equipment
4. Overfill Prevention Equipment
5. Containment Sumps

General introductory outcomes:

- I-1: Identify type of UST construction: Steel, Fiberglass, Steel Jacketed, Composite
- I-2: Identify whether tank is single wall or double wall
- I-3: Understand how compartment tanks are listed in Illinois
- I-4: Identify piping material: steel, fiberglass
- I-5: Identify whether piping is single wall or double wall; rigid or flexible
- I-6: Understand that spill buckets are required at all fills
- I-7: All USTs must have at least one type of overfill prevention: ball float vent valves, overfill drop tube valves, overfill alarm
- I-8: Ball floats are no longer allowed in new installation or as replacement
- I-9: Identify types of containment sumps: submersible, under dispenser, transition

Objective A curriculum topics: Release Prevention Equipment

Class A, B or 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
2. Overfill prevention equipment



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3. Corrosion protection (CP)

- a. sacrificial anodes
- b. impressed current
- c. lining

4. Secondary containment

- a. tank systems - double-wall
- b. piping systems - double-wall
- c. dispenser containment sumps – single or double wall
- d. tank containment sumps – single or double wall
- e. procedures to follow when water or product is found in sumps

Objective A outcomes:

- A-1: State the purpose of spill containment
- A-2: Identify allowed size of spill prevention equipment
- A-3: Describe how to verify that the equipment is in place and operational
- A-4: State the purpose of overfill prevention equipment
- A-5: Identify types of overfill prevention equipment
- A-6: Describe overfill prevention procedures
- A-7: Describe how to verify that overfill alarm equipment is in place and operational
- A-8: Describe owner/operator responsibility to prevent releases from spills and overfills
- A-9: State when the requirement for corrosion protection is applicable
- A-10: Identify key elements of a sacrificial anode corrosion protection system
- A-11: Identify key elements of an impressed current corrosion protection system
- A-12: Describe the function of secondary containment
- A-13: Identify tanks that have secondary containment
- A-14: Identify piping that has secondary containment
- A-15: Identify dispensers that have containment sumps
- A-16: Identify tanks that have containment sumps
- A-17: Identify deadline for installation of containment sumps where none are present
- A-18: Identify when internal lining is allowed
- A-19: Identify frequency of internal lining inspection
- A-20: Describe consequences of a failed internal lining inspection

Objective B curriculum topics: release detection

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

1. Tank release detection equipment/method

- a. equipment/method - knowledgeable of manufacturer's instructions for operation and maintenance
- b. interstitial monitoring
- c. statistical inventory reconciliation (SIR)
- d. automatic tank gauging
- e. manual tank gauging
- f. inventory control

2. Piping release detection equipment/method

- a. equipment/method - knowledgeable of manufacturer's instructions for operation and maintenance
- b. pressurized piping



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1. automatic line leak detectors
 - i. mechanical
 - ii. electronic
2. interstitial monitoring
3. monthly monitoring
4. annual precision test
- c. suction piping
 1. European (safe) suction
 2. American (non-safe) suction

Objective B outcomes:

- B-1: Identify the release detection monitoring requirement (accuracy and frequency) for tanks
- B-2: Identify the approved types of release detection methods
- B-3: Identify when manual tank gauging can be used
- B-4: Identify limits on when SIR is allowed to be used
- B-5: Identify when interstitial monitoring is required (for all tanks and piping systems installed or replaced after 2-1-08)
- B-6: Identify when Vapor Monitoring and Groundwater Monitoring will no longer be allowed as methods of tank leak detection for most tanks
- B-7: Relate the release detection method in use to the monitoring requirement
- B-8: Correctly interpret the release detection method result/report
- B-9: Identify operator responsibilities for release detection
- B-10: Identify when the elements of the pressurized piping release detection equipment/method meets the regulatory requirements for accuracy and reliability: must have ALLD able to detect a 3 gallon/hour leak rate, plus an annual line test or monthly monitoring
- B-11: Identify when activated pressurized piping leak detection equipment must achieve positive shut down of the pump supplying the line
- B-12: Identify when activated pressurized piping leak detection equipment must **not** achieve positive shut down of the pump supplying the line
- B-13: Identify requirements for American suction piping - annual line test or monthly monitoring
- B-14: Identify when a suction system does not require line leak detection or annual testing

Objective C curriculum topics: routine testing requirements and recordkeeping

Class A, B or A/B operators will be able to determine that required equipment testing and system testing have been accomplished. Class A, B or A/B operators will be able to document performance for release detection systems. Class A, B or A/B operators will be able to determine that required release detection monitoring has been conducted.

1. **Corrosion protection (CP) system testing**
2. **Tank or line testing**
3. **Identify new requirements for triennial testing/inspection**
 - a. spill prevention equipment testing
 - b. overfill prevention equipment inspection
 - c. piping containment sump testing
4. **Know new requirements for annual leak detection system certification**
5. **Identify who is required to perform the testing and inspections**
6. **Recognize when the compatibility checklist for blended fuel requirements apply**
7. **Record keeping requirements**
 - a. manufacturer records and compatibility statements



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- b. performance certifications
- c. functionality testing/calibration records
- d. corrosion protection (CP) testing
- e. release detection equipment testing
- f. monitoring records - monthly monitoring/tank and line precision testing, etc.

Objective C outcomes:

- C-1: Outline routine testing requirements for tank, piping, and CP systems
- C-2: Identify when failed test results for precision tank & line testing, CP or interior lining testing need to be submitted to OSFM
- C-3: Ensure system testing and all monitoring records are kept and available for the OSFM inspector to check
- C-4: Ensure manufacturer warranty and third party testing records are kept
- C-5: Identify how long records to be kept (examples: most two years; CP total systems test for sacrificial anodes, six years; repairs and lining for the life of UST; manufacturer warranty documents for life of equipment, etc.)
- C-6: For UST systems with metal tanks, with metal UST product piping or other components having exposure to the elements of water or soil:
 - a. Know which type of cathodic protection system is installed: sacrificial anodes or impressed current
 - b. Know the frequency of testing for the type of cathodic protection system installed
 - c. Identify who must do cathodic protection system testing
 - d. Recognize any other operator requirements for periodic (30 Day) inspections
- C-7: Determine release detection and CP records are complete and sufficient
- C-8: Know that all spill buckets are required to be tested every 3 years unless they are double wall and monitored every 30 days
- C-9: Know that all overfill prevention equipment must be inspected every 3 years
- C-10: Know that all containment sumps used for interstitial monitoring of piping are required to be tested every 3 years unless they are double wall and monitored every 30 days
- C-11: Identify the frequency for leak detection system certification as annual

Objective D curriculum topics: identify unusual operating conditions

Class A, B or 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 to whom and when
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 D outcomes:

- D-1: Identify unusual operating conditions, including fuel alarm, overfill alarms, probe out alarm, sensor out alarm and other system alarms
- D-2: Identify signs/indications of a suspected release



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- D-3: Identify who needs to be contacted in the event of a release, and in what order
- D-4: Determine what to do to fix an unusual operating condition
- D-5: Identify a release and the approximate size of release - threshold for petroleum spills <25 gallon need not be reported if cleaned up immediately (<24 hours)
- D-6: Identify the proper timing for reporting a release and to whom it must be reported
- D-7: Identify the need for release mitigation
- D-8: Determine/recommend isolation actions to mitigate a release
- D-9: Know where the emergency stops are located and how to operate them
- D-10: Know how to evacuate a site if necessary, per emergency response procedures
- D-11: Know the contents of the facility emergency response procedures, including where emergency contacts are posted or found, as applicable
- D-12: Identify the required time frames to confirm a suspected release (7 days)
- D-13: Understand that all suspected releases must be reported in a timely manner
- D-14: Understand different types and degrees of fueling related emergencies

Objective E curriculum topics: periodic operations and maintenance walkthrough inspections and operations and maintenance plans

Class A, B or A/B operators will be able to determine that all required periodic operations and maintenance tasks have been completed.

1. 30 Day Walkthrough Inspections

- a. spill buckets
 - 1. absence of free product, surface or ground water, and/or debris
 - 2. liquid tight
 - 3. overfill device is functional; no stick in drop tube
 - 4. fill cap fits securely
- b. other equipment
 - 1. automatic tank gauge probe cap is secure
 - 2. impressed current system power is on
 - 3. tank gauge alarms are checked, reported, fixed and cleared
 - 4. check dispensers, hoses, nozzles & breakaways

2. Annual Walkthrough Inspections

- a. tank sumps
 - 1. absence of free product, surface or ground water, and/or debris
 - 2. equipment appears normal
 - 3. piping appears normal, no obvious damage or leaks
 - 4. secondary containment is liquid tight
- b. dispenser sumps
 - 1. check for leaks from piping or dispenser components
 - 2. absence of free product, surface or ground water, and/or debris
- c. annual test of emergency stops completed
- d. annual inspection of shear valves completed

3. Conditions that indicate likelihood of equipment damage/failure

4. 30 Day and Annual Walkthrough reports completed

5. Facility-specific Operations & Maintenance Plan completed and available



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Objective E outcomes:

- E-1: Describe conditions that would indicate a problem with release prevention (see Objective A)
- E-2: Describe conditions that would indicate a problem with release detection (see Objective B)
- E-3: Describe common spill bucket failures
- E-4: Describe what to do when water or free product is found in sumps
- E-5: Describe common overflow prevention equipment problems
- E-6: Outline actions to conduct 30 Day Walkthrough Inspections (must generate proof of such periodic monitoring)
- E-7: Identify who must conduct the 30 Day Walkthrough Inspections
- E-8: Describe Annual Walkthrough Inspection requirements and report
- E-9: Determine which parts of the Walkthrough Inspections can only be performed by a licensed contractor
- E-10: Describe the contents of the OSFM Operation and Maintenance Plan template and where the template can be found

Objective F curriculum topics: notification requirements, temporary closure, financial assurance, delivery prohibition, permits, product compatibility

Class A, B or A/B operators will be able to ensure that the site is in compliance with all other requirements in 41 Ill. Adm. Code 174, 175, 176 and 177. Class A, B or A/B operators will be able to see that document product compatibility for product storage and handling equipment has been completed and is current.

1. **Notification requirements**
2. **Temporary Closure (out of service) requirements**
3. **Change in Service requirements**
4. **Requirement for state financial assurance**
 - a. Types of financial assurance methods allowed
 - b. Identify required documentation for self-insured option/dedication of \$200,000
5. **Delivery Prohibition**
 - a. Effect of red tag and purpose
 - b. Who can remove red tag
 - c. Green Decal as evidence of compliance
6. **Permit obligations**
7. **Product compatibility requirements**

Objective F outcomes:

- F-1: Identify when a notification form needs to be submitted (see 41 Ill. Adm. Code 175.820, 176.430 and 176.440)
- F-2: Identify the necessary steps to follow to properly place a tank or tank system in temporary closure (out of service) status
- F-3: Identify requirements for temporary closure (out of service) before and after 12 months of continuous inactivity
- F-4: Identify when tank removal is triggered by temporary closure (out of service) requirements
- F-5: Identify record keeping requirements related to temporary closure (out of service) status
- F-6: Identify when a site assessment is triggered by temporary closure (out of service) and permanent closure status
- F-7: Identify what is required to bring a tank back in service
- F-8: Identify when documentation is sufficient for financial assurance



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- F-9: Identify when requirement for financial assurance ends (see 41 Ill. Adm. Code 176.245)
- F-10: Identify what triggers red tag, effect of red tag, who can remove red tag
- F-11: Identify Illinois rules on removal versus abandonment-in-place (when abandonment-in-place allowed)
- F-12: Identify product compatibility requirements (see 41 Ill. Adm. Code 175.415)
- F-13: Know when the OSFM Compatibility Checklist is required to be completed at stations storing and dispensing blended fuels > E10 or B20
- F-14: Any modification to the UST requires a permit
- F-15: Only a licensed UST contractor can make modifications to a UST system
- F-16: Motor fuel dispensing facility permit is additionally required for installation of new facilities and when islands, dispensers, emergency shutoffs and buildings are initially installed or relocated
- F-17: Identify change-in-service requirements (see 41 Ill. Adm. Code 175.820)

Objective G curriculum topics: motor fuel dispensing facilities and related topics

Class A, B or A/B operators will be able to identify certain requirements for motor fuel dispensing facilities.

- 1. Identify types of motor fuel dispensing facilities**
- 2. Emergency Stops**
 - a. Attended must have a control station readily accessible to attendant
 - b. All types shall have interconnected emergency stops located 20 to 100' from each dispenser
 - c. Know locations of emergency stops and how to operate
- 3. Annual testing and inspection of equipment, to include annual testing of emergency stops and fire extinguishers and annual visual inspection of shear valves**
- 4. Required duties of an attendant**
 - a. Supervise filling into approved portable containers only (gasoline into red containers and kerosene into blue containers only)
 - b. No smoking while fueling
 - c. Eliminate other sources of ignition - fireworks prohibited on premises
 - d. Operate communication system
 - e. Ensure that delivery drivers do not remove red tags
- 5. Motor fuel dispensing permit**
 - a. Must display permit or permits for type(s) of dispensing
 - b. Unattended service after attended facility closure at night requires meeting unattended facility requirements and separate unattended permit
 - c. May not dispense or sell fuel without appropriate permit for type of facility
- 6. Other requirements**
 - a. Know when a communication system is required
 - b. Fire extinguishers – location, operation and required inspections
 - c. Know when signs must be updated to the new wording requirements
 - d. No combustibles can be stored within 10' of dispensing area

Objective G outcomes:

- G-1: Identify dispensing facilities as attended/unattended or manned/unmanned
- G-2: Understand that non-dispensing facilities do not have attendants, and are unmanned but not unattended
- G-3: Identify situations when an emergency stop will need to be activated
- G-4: Identify where all emergency stops at facility are located
- G-5: Know who can do the Annual Walkthrough Equipment Inspection for:



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- a. Emergency stops
 - b. Shear valves
 - c. Fire extinguishers
- G-6: Identify duties of attendants to supervise safe fueling by customers
- G-7: Describe where the facility motor fuel dispensing permit is displayed
- G-8: Know when more than one type of motor fuel dispensing permit is required
- G-9: Understand what the red tag means when applied to a station or tank
- G-10: Identify who can remove a red tag

Objective H curriculum topics: operator training

Class A, B or A/B operators will be able to ensure that the facilities meet operator training requirements

- 1. What is a Class A, B & C operator**
- 2. When must an operator be on site**
- 3. What is the deadline for refresher training & retraining in response to a Notice of Violation (NOV)**

Objective H outcomes:

- H-1: A Class A, B or C operator must be on site at all times for attended facilities; if any gap in attendance must meet unattended facility requirements
- H-2: Identify what NOV areas trigger retraining
- H-3: Identify what the requirements for an unmanned, non-dispensing facility are
- H-4: Identify location of the written operation and maintenance plan and the emergency response procedures & where emergency numbers are posted or found, as applicable
- H-5: Identify potential consequences for failing to complete meet operator training requirements for initial certification, recertification, and having a Class A, B or C Operator on site at attended facilities
- H-6: Identify obligations where an A/B operator is assigned to multiple facilities
- H-7: Identify all required operator training records to be kept