



**MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
UNDERGROUND STORAGE TANK INSPECTOR  
**REFERENCE HANDBOOK**

February 2016 Edition

## **1. GENERAL INSTRUCTIONS**

State Law and Department of Environmental Protection (Department) Rules require submittal of an inspection report certifying that all components have been inspected and any deficiencies have been corrected. The Department does not accept failing Annual Inspection Reports (except for failures due to inadequate daily inventory or failing cathodic protection results).

The Underground Oil Storage Tank (UST) Annual Inspection Report form must be used to document the following activities: Leak detection equipment and procedures, spill buckets, overfill prevention devices and Stage I vapor recovery equipment must be checked or tested annually for proper operation and performance. Cathodically protected tanks must also be checked annually to insure they are adequately protected from corrosion.

All work associated with testing of equipment and checking of procedures must be performed under the direct, onsite supervision of a Maine certified underground storage tank installer or a Maine certified underground storage tank inspector. Testing must be done in accordance with manufacturer's instructions and the instructions below. If sufficient testing instructions are not available from a manufacturer or the equipment manufacturer is not known, installers and inspectors may reference PEI 1200-12, Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities for additional guidance.

Annual Inspections are required to be conducted every twelve (12) months. The facility owner is responsible for submitting a copy of the passing UST Inspection report to MeDEP within thirty (30) days after the inspection is completed. An Annual Inspection is not completed until all required items are passing. Completed UST Annual Inspection Reports and Summary Reports should be mailed to Annual Tank Inspections, Maine Department of Environmental Protection, 17 State House Station, Augusta, ME 04333 (FedEx or UPS: 28 Tyson Drive, Augusta, ME 04330). While the facility owner must keep a copy for their facility records, the MeDEP strongly recommends the tank inspector also keep a copy for their records.

The inspection form is available in two formats: Microsoft Excel 2010 (\*.xlsx), and Adobe Acrobat (\*.pdf). The Acrobat version is designed to be printed and filled out by hand. The Excel version is an auto-fill form that carries over appropriate information between the summary page and the subsequent inspection detail pages.

**Note:** The Excel form includes instructions for its use.

### **What if the facility FAILS the inspection?**

Department regulations require prompt repair or replacement of leak detection, spill and overfill prevention equipment.

Underground Storage Tank (UST) facilities are required to submit a passing Annual Inspection to the Department every year. There is no need to submit failing Annual Inspections results, except for unsatisfactory daily inventory when the inventory is submitted by the owner or for failing cathodic protection results on the tank or piping. Items that are failing must be repaired within thirty (30) days or the owner must notify the Department. In certain situations MeDEP may allow more time to make repairs.

**Passing inspection reports must be submitted to MeDEP within thirty (30) days after the inspection is completed. Please discuss with the owner/operator that they must also keep a copy of the completed annual inspection report.**

A facility owner can also document that certain deficiencies (failures) were corrected. These include: 1) daily inventory, 2) missing or worn gauge stick, 3) replacement of the paper roll in an leak detection console (print out a report and staple it to the form to show the system is functioning properly), 4) replacement of a monitoring well bailer, 5) cleaning out spill buckets, 6) replacement of covers on fills, manways, and interstitial risers, and for out-of-service tanks, 7) installation of a lock on the fill, and 8) removal and proper disposal of tank contents. In these circumstances only, the certified inspector or installer signs and dates the top signature line only and provides the report to the owner for his/her corrective actions.

See [www.maine.gov/dep/waste/ust/documents/aiownerguide.pdf](http://www.maine.gov/dep/waste/ust/documents/aiownerguide.pdf).

Department Rule 693, Operator Training For Underground Oil and Hazardous Substance Storage Facilities, requires certification of Class A/B/C Operators at UST facilities used for the storage of motor fuels, hazardous substances or waste oils and those used in the marketing and distribution of oil. A copy of the Class A/B Operator Certificates must be kept at each facility where the operator has oversight responsibilities. Each facility also shall maintain a Class C operator training record provided by or approved by the department that documents all current Class C operators employed at the facility and shall make the training record available to Department staff and Maine Certified Tank Installers or Inspectors upon request.

## **2. UST ANNUAL INSPECTION REPORT SUMMARY PAGE**

You must complete the appropriate detailed sections of the Annual Inspection report before you can complete the Inspection Summary Report.

At the top of the summary page, print the facility name, 911 address, owner, operator, MeDEP registration number and the telephone number of the owner. Fill in the tank and chamber # for each tank you inspect as they are identified in the MeDEP's registration

information. Indicate the volume, product stored, and pump type (e.g. pressurized, suction, siphon to Tank “X”, suction and return, etc.) in each tank or chamber. If you use the Microsoft Excel form, this information will be carried over onto the worksheets automatically.

For compartmented tanks, list each compartment separately (i.e. 7-1, 7-2). Use an additional sheet if you inspect more than four (4) tanks or chambers at a facility. If you are unsure of the tank number or chamber number, check the facility Registration Certificate on site or contact the Department. Registration information can also be found on the Department’s website at:

[www.maine.gov/cgi-bin/online/tanksmart/step01.cgi](http://www.maine.gov/cgi-bin/online/tanksmart/step01.cgi)

For every row, check the appropriate box to indicate whether each tank Passed or Failed. If the tank is not required to use that method of leak detection, spill or overflow prevention, Stage I vapor recovery or cathodic protection, leave that portion blank.

For each tank that passes, check “PASS” at the bottom of the column. If the tank fails any of the required inspections listed, the inspection report cannot be finalized (Exceptions: daily inventory and CP).

There are two signature lines. The first signature line is only used if the inspection is incomplete or fails for deficiencies that have to be corrected at a later date and/or by a different installer/inspector. Passing inspections that are completed in one day only need a signature and date in the bottom signature line.

### **3. INSPECTION DETAILS**

This section includes instructions for inspecting each of the systems listed in the Annual Inspection Summary Report. In the spaces provided at the top of each page, enter the date of the inspection and the facility registration number.

For each tank you will need to inspect the primary leak detection system – Daily Inventory, Automatic Tank Gauging, Interstitial Monitoring or Groundwater Monitoring. Consumptive use heating oil tanks with capacities less than 1100 gallons, installed before September 16, 1991, may not have a primary leak detection system. The facility registration certificate will indicate what method of leak detection is registered with the MeDEP. If you are unsure of what the registered method of leak detection is please contact the MeDEP and ask to speak with someone in the Underground Tanks Unit at (207) 287-7688, or visit the Department’s website at:  
[www.maine.gov/dep/waste/ust/index.html](http://www.maine.gov/dep/waste/ust/index.html).

Some tanks may have more than one leak detection system in place. At a minimum, inspect the one the owner is using to meet MeDEP leak detection requirements.

Piping leak detection, spill prevention and overflow prevention systems, Stage I vapor recovery and crash valves, if present, must also be inspected. Check subsequent sections of this Handbook for each one to determine whether the tank is required to

have that system in place. If a tank has more than one form of overfill prevention (example: positive shut-off flapper valves and electronic overfill alarms), all components must be checked and attain a PASS rating.

Use an “X” in the appropriate column to indicate whether the answer is PASS or FAIL for each applicable question. If there are more than four (4) active tanks at a location, use additional pages.

Only the UST Annual Inspection Report pages you have completed need to be submitted.

Questions are numbered in order. If you need more information about a particular question call 1-800-452-1942 or (207) 287-7688 and ask to speak to someone in the Underground Tanks Unit.

### **A. Class A/B/C Operators (page 2)**

Information collected on page 2 of the Annual Inspection Report form will not result in a failing Annual Inspection.

**ITEM 1: Is a Class A/B Operator employed at this facility?** This applies only to motor fuel, waste oil, and marketing and distribution of oil facilities. Check for a current Maine Class A/B Operator Certificate (the expiration date is in the bottom right corner). Record the certificate number (found in the bottom left corner of the document) and the currently employed certified operator’s name in the spaces provided under Item 1.

**ITEM 2: Class A/B Operator documenting the Weekly Walk-through Inspections with a checklist?** The Class A/B Operator must be doing weekly inspections of the facility and documenting these dated inspections. Inspections may be documented on the DEP’s “Underground Oil Storage Facility – Class A/B Operator Weekly Facility Walk-Through Inspection Checklist (Form UST-28, included with the 2016 version of the report form) or on a checklist of their own design. If the A/B Operator is not using the DEP provided checklist, their checklist must, at a minimum, contain at least the same inspection items or more.

**ITEM 3: Class C Operator Training Record on-hand?** Check for a Class C Operator Training Record at the facility. If the Class A/B Operator is always at the facility when it is operating, a Class C Training Record is not required.

### **B. Unattended Fueling Operations (page 2)**

**ITEM 4: Does facility allow unattended fueling?** Check if any “pay-at-the-pump” dispensers can still dispense fuel after the facility closes or when there is no certified Class A/B/C Operator present.

**ITEM 5: Proper signage for unattended fueling facilities?** Unattended fueling facilities must have signage meeting DEP *Rules for Operator Training for Underground Oil and Hazardous Substance Storage Facilities*, 06-096 C.M.R. ch. 693 (effective August 4, 2012) and the National Fire Protection Association *Code for Motor Fuel*

*Dispensing Facilities and Repair Garages*, NFPA 30A (2012 edition). Signage must be posted in the dispenser area within sight of the customer being served.

### **C. Daily Inventory (page 3)**

The following motor fuel or marketing and distribution tanks must use daily inventory for leak detection:

- Single-walled tanks installed before September 16, 1991 and protected against corrosion without an alternative leak detection method installed and registered with the Department.
- Double-walled tanks installed before September 16, 1991 without electronic interstitial monitoring. (The tank interstitial space must also be monitored manually)
- Double-walled electronically monitored tanks with single-walled pressurized piping with mechanical LLD installed before September 16, 1991 (leak detection for piping only). Remember to also inspect the electronic monitoring system for the tank.
- Double-walled electronically monitored tanks with suction piping that is not properly sloped (leak detection for piping only) and installed before September 16, 1991. If it was installed after 1991 the piping was not properly installed. Remember to also inspect the electronic monitoring system for the tank.

Tank owners or operators using daily inventory are required to collect inventory data every day product is added to or removed from the tank.

To calculate daily inventory, the owner/operator must read each totalizer, measure the product and water level in each tank and keep a record of deliveries to the tank (gallons and date). Each day the owner/operator must calculate how much they are over or short.

At the end of each month the owner/operator must perform a monthly leak check by comparing the monthly inventory overage or shortfall to the total monthly throughput. See the Appendix for an example of daily inventory data and monthly leak check.

If the monthly overage or shortfall exceeds 1% of throughput, that is evidence of a possible leak and must be reported to the Department within 24 hours. The easiest way to do this is for the owner/operator to fax a copy of the results to MeDEP at (207) 287-7826. (Be sure the station name, address and registration number are on the inventory so we can identify the facility.)

You will need to see a copy of the previous month's inventory in order to do your inspection. For example, if you inspect a station in July, you will need a copy of June's inventory record for detailed analysis, although the owner/operator must keep three (3) years of inventory and make it available to MeDEP upon request.

**ITEM 6: Inventory reconciled monthly?** Check to see if the owner did a monthly leak check for the previous month.

To do a monthly leak check, the owner must total the gallons pumped for each tank (or tank system if two or more tanks are manifolded together) for the month and compare this number to the cumulative overage or shortfall for the month.

**Item 7: Over/Shorts less than 1%?** If the monthly cumulative overage or shortfall exceeds 1% of throughput, this is evidence of a possible leak and must be reported to the Department.

**Item 8: Fill pipe drop tube in place?** Make sure there is a drop tube installed in the fill. If daily inventory is used for leak detection there must be a drop tube installed in the fill, regardless of the type of fuel stored.

***If product level is determined manually***

**Item 9: Gauge stick in good condition?** Check the gauge stick to make sure the markings are in 1/8<sup>th</sup> inch increments and legible for the entire length.

Make sure it is not bent, broken or cracked, the end is not worn and the plastic button is still in place on the bottom.

***If product level is determined using an Automatic Tank Gauge (ATG)***

Make sure the monitoring console is present and working properly. The indicator lights and horn must be working and if the console is equipped with a printer, it must be in working order.

Check the product and water probes following the instructions under ATG (instruction 13 below).

Verify the ATG system inventory is the same as actual stick inventory.

Complete any other periodic inspection per the manufacturer's instructions.

## **D. Automatic Tank Gauging (ATG)** (page 3)

The Department defines an ATG as a console and associated probe(s) that monitor for leaks in a single-walled tank. Some companies describe the multi-use console as an ATG but that is not our definition.

An ATG may not be used as the primary leak detection method on a waste oil tank without written permission from the ATG manufacturer on file with the Department.

You must ensure that the ATG is properly programmed and fully operational. If you need to reprogram the ATG to run the appropriate test (periodic or continuous), make a note of the reprogramming in one of the "Comments" box and include a copy of the

setup report with the inspection report. MeDEP regulations require the ATG perform a passing 0.2 gph test at least once every thirty (30) days. The owner must keep three (3) years of test records on-site or at the owner's place of business.

Testing must be conducted at a tank capacity or a range of tank capacities as specified in the equipment manufacturer's instructions.

**Attach a copy of the ATG printout showing passing results with the inspection report.** If ATG printout results are not included with Annual Inspection report, the inspection **is incomplete and will be returned to the owner.**

**Important:** If the Facility Registration Certificate indicates that the leak detection method is Daily Inventory & Statistical Inventory Analysis (SIA) or Groundwater Monitoring, be sure to fill out the corresponding section. If the owner is using an ATG as primary leak detection for the tank(s) and the Certificate indicates something different, then the Department must be notified so the record can be updated. When changing the leak detection method to an ATG, the facility owner must submit an ATG registration form with a copy of the setup report for each tank using an ATG. **The ATG may not be used in lieu of other leak detection until these documents are submitted.** See: [www.maine.gov/dep/waste/ust/documents/atgrequirements.doc](http://www.maine.gov/dep/waste/ust/documents/atgrequirements.doc).

**Important:** If a tank has single-walled pressurized piping it must also have an electronic line leak detector that tests for a 0.2 gph leak at least once every thirty (30) days or continue to perform daily inventory and SIAs. Please see the section covering Line Leak Detection for requirements.

**Item 10: ATG Make & Model.** Enter the make and model number of the ATG and the test method in the space at the top of the section.

**Item 11: Console is properly programmed and fully operational?** Make sure the monitoring console is properly programmed in accordance with manufacturer instruction, matches Department compliance requirements for which the facility is registered and meets requirements for leak detection operation as evaluated by the National Work Group for Leak Detection Evaluations (NWGLDE). Alarms must be enabled, the indicator lights and horn must be working and if the console is equipped with a printer, it must be functioning properly.

**Item 12: Passing 0.2 gph test within last 30 days...** Make sure a 0.2 gph test was run in the last thirty (30) days at a capacity or a range of tank capacities as specified in the equipment manufacturer's instructions. If the console performs the tests automatically, evidence of the last passing test will be found in the history; if the console only performs static (manually run) tests initiated by the owner/operator, the last passing test will be recorded on-site. The owner must keep three years of test records on-site or at their place of business as evidence that the tests are being completed at least every 30 days. **Running a static test on the day of the inspection does not meet Department rules for validating proper leak detection.**

**To confirm the ATG probe is functioning properly:**

**Item 13: Product and water floats checked by hand?**

Check the product height reading on the monitor (allow enough time for the monitor to respond).

Measure the distance from the bottom of the probe to the bottom of the product float and make sure it matches the reading on the monitor.

Remove the ATG probe from the tank and place it carefully on the ground.

Place the water float flush with the bottom of the probe shaft and the product float near the middle of the probe shaft.

Move the water float up to a point higher than the high water alarm set point. The monitor must respond with a high water alarm report.

Reinstall the probe in the tank and take an initial fuel level reading.

Dispense 3-5 gallons of gas. Take a second fuel level reading and verify the change is the same as the amount dispensed.

Complete any other periodic inspection actions required by the manufacturer's instructions (e.g., check battery function, print out & review console set-up).

**E. Groundwater Monitoring** (page 3)

Groundwater monitoring wells are installed in the backfill around a tank to monitor the groundwater for the presence of oil.

They may only be used to monitor for leaks from single-walled consumptive use heating oil tanks installed before September 16, 1991 and only if no other leak detection method is available.

Department regulations do **not** allow monitoring wells to be used as the primary leak detection method for double-walled tanks or for motor fuel tanks, marketing and distribution tanks or waste oil tanks.

**Item 14: Monitoring wells accessible?** Make sure the monitoring well riser is accessible and the lid has not been cemented or paved over.

**Item 15: Monitoring wells marked and secured?** Make sure monitoring wells are clearly marked and properly secured. The industry standard for marking a monitoring well cover is a black triangle on a white background. The well cover and well cap must be distinguishable from a fill cover and cap, and the riser must have a liquid-proof cap.

**Item 16: Bailer present, functional and clean?** Make sure there is a bailer to sample the well and that it is clean and operational. It should be clear enough to determine if there is floating product on the water sample inside. (Since disposable bailers are relatively cheap, it is helpful to keep some with you to supply sites where the bailer is lost, broken or dirty. Keep these replacement bailers in a clean location in your truck).

**Item 17: Water in well?** Make sure there is water in the well. If there is not enough to bail then the system is not in compliance.

**Item 18: No floating oil or smell of oil?** Bail a sample of water from the well and make sure there is no floating product or smell of oil. If there is floating oil or the smell of oil then the system fails (**Note:** floating oil or a smell of oil is evidence of a possible leak and must be reported to the Department within 24 hours).

**Item 19: Log of weekly well inspection?** Make sure the owner/operator has kept a weekly written log of the monitoring well inspections (see Appendix for an example log sheet). At least one month's records with weekly entries should be available on site.

## **F. Interstitial Monitoring (tank and piping)** (page 4)

Fill out this section for each facility where any part of the facility is secondarily contained.

**Note:** Dispenser interstitial monitoring section is on page 8 of the inspection form.

Only double-walled tanks or double-walled piping installed prior to September 16, 1991 may use manual monitoring as part of the leak detection system (if electronic monitoring was not installed). If the tank is used for motor fuel or marketing and distribution, the owner/operator must also keep daily inventory and perform an annual SIA.

**Electronic Monitoring Console Make and Model?** If the interstitial monitoring system is electronic, enter the make and model number of the system in the space at the top of the section.

**Item 20: Electronic (E), Manual (M) or None (X).** Indicate whether the monitoring system is electronic (E) or manual (M). Enter an X if either the tank or the piping uses another system of monitoring.

**Note:** Dispenser probes are now listed in the Dispenser and Crash Valve section, numbered 59 - 61.

### **For Manual Monitoring**

**Item 21: Sump is accessible for inspections?** The interstitial monitoring sump should be accessible to allow the owner or operator to check weekly for the presence of oil and water. If the access cover is cemented shut or the cap to the interstitial space is rusted

on, the facility cannot pass until this condition is repaired. There should be a removable, liquid-tight cap to keep dirt and water from entering the interstice.

**Item 22: Written log of sump checks available?** The owner/operator must keep a written log of the results of weekly monitoring of the interstitial space. See Appendix 2 for an example. There should be at least one month's worth of weekly entries available for your review and three (3) years' worth of entries available should MeDEP request it.

**For Electronic Systems:**

**Item 23: Console is properly programmed and fully operational?** The monitoring console must be properly programmed to perform all required functions and must be fully operational including horn, lights, and printer (if it has one). Verify that the programming matches Department compliance requirements for which the facility is registered. Explain any problems and/or repairs made in the Comments section.

**Item 24: Sensors are properly placed?** Sensors must be properly placed.

For dry interstice tanks, make sure the probe is located at the bottom of the tank interstice.

For fiberglass tanks, this means using a string and following the manufacturer's instructions to ensure the probe is properly located. If no string is installed in the interstice when you do an inspection, you must install one to ensure the probe is at the bottom of the tank.

For brine solution tanks, check both the high and low level alarms.

For piping sump probes, the sensor must be installed according to the manufacturer's requirements and as close to the bottom of the sump as possible.

**Item 25: Sensors are functioning properly?** All sensors must be individually tested for proper operation. Follow the manufacturer's instructions.

Remove the interstitial sensor from the tank and test it for proper operation. Piping sump probes usually must be removed from the sump to test. Non-discriminating float sensors can be turned upside down or can be immersed in water to test. Non-discriminating sensors should be immersed in water to test. You may need to expose a discriminating sensor to product in order to activate the alarm.

Abuse of a probe to create an alarm is not allowed.

Pressing the test button on the console is not sufficient to confirm proper operation of the probe.

The system must alarm when the probe is exposed to liquid.

### **For All Systems:**

**Item 26: Sumps in liquid tight condition?** Check to see if the tank interstitial space (sump) and the piping sump are liquid tight. A tightness test is not required. However, if the piping sump has an obvious hole or crack, penetration boots are not properly in place, significant water is present, or the sump cover is damaged, the facility cannot PASS until the condition is corrected. Additionally, be sure that test boot(s)/donuts are properly positioned or configured to allow double wall piping to function correctly.

**Item 27: No oil in sumps or interstitial space?** Check the piping sumps and tank interstice for oil.

If you find oil in any sump or tank interstice, it is evidence of a possible leak and it must be reported to the Department within 24 hours.

If you report the presence of oil, remove the oil and repair the leak before leaving the site, a passing result can be recorded. You may repair submersible pumps only if you are certified by the pump manufacturer to work on their systems.

**Item 28: No water in sumps or interstitial space?** Check the piping sumps and tank interstice for water.

If you find water in any interstice or sump, it is evidence of a possible leak and it must be reported to the Department within 24 hours.

If you report the presence of water, remove the water and repair the leak before leaving the site, a passing result can be recorded.

### **G. Line Leak Detectors (LLD)** (page 5)

Line leak detectors (LLD'S) are used to continuously monitor pressurized piping systems for catastrophic leaks.

Any product piping systems supplied by a submersible pump must have a line leak detector that signals the pump to either shut down or switch to slow flow if a leak is detected in the piping system.

NOTE: In order for a line leak detector to function properly, the STP must properly cycle on/off. Confirm that the STP properly cycles on/off as it would during normal fueling operations and visually inspect the STP electrical relay switches (contactors) to ensure that the contacts are in good condition. If the contacts show visible signs of excess arcing, damage or wear, obtain authorization to replace the defective relays.

NOTE: Piping configurations with multiple STPs and manifolded lines or those systems having master/satellite fuel dispensers must be installed properly for automatic line leak detectors to function correctly. Consult manufacturers' literature to ensure proper installation and operation.

**Item 29: LLD Make and Model?** Enter the make and model number of the Line Leak Detector in the space at the top of the section. If a tank is not required to have an LLD, enter not applicable (N/A) for that tank.

**Item 30: Mechanical (M) or Electronic (E) LLD?** Indicate whether the LLD system is mechanical (M) or electronic (E).

**Item 31: LLD listed for use with type of piping present?** Make sure the LLD is listed for use with the type of installed piping (flexible or rigid).

#### **For Mechanical LLD's**

**Item 32: Slow flow when 3 gph leak @ 10 psi is simulated?** Follow the manufacturer's instructions for simulating a three (3) gph @ 10 psi leak in the piping system.

LLD's that fail to detect and respond properly to a three (3) gph leak must be replaced or repaired before the inspection is completed. Note in the comments block if you repair or replace the LLD.

#### **For Electronic LLD's**

**Item 33: One 0.1 gph or 0.2 gph test passed within last 30 days?** This test is required if the ELLD is the primary form of leak detection on single-wall piping. Make sure the settings are correct, including pipe type (rigid or flexible), pipe length and leak rate (0.1 gph or 0.2 gph).

#### **Only tanks with ATG's for leak detection**

**A tank using an ATG for leak detection and equipped with pressurized single-walled piping, must have an electronic LLD that performs a 0.2 gph leak test at least once a month.**

Check the test history to confirm the most recent test was passing and was done within the last thirty (30) days.

**Item 34: System alarms and/or shuts off turbine when a 3 gph leak @ 10 psi is simulated?** Make sure the system shuts down the turbine or alarms when a leak is simulated. For test methods and equipment for electronic LLD's, see the manufacturer's instructions for specific test requirements.

LLD's that fail to detect and respond properly to a three (3) gph leak must be replaced or repaired before the inspection is completed. Note in the comments block if you repair or replace the LLD.

### **H. Copper Piping on Heating Oil Tanks** (page 5)

**Item 35: Copper Piping?**

**Item 36: Piping sleeved or secondarily contained?** Copper piping installed on heating oil tanks prior to September 16, 1991 must be sleeved. Piping installed after September 16, 1991 must be secondarily contained and continuously electronically monitored to detect leaks.

**Item 37: Copper suction/return lines in single sleeve separated by spacers?**

In systems that have suction and return lines in the same sleeve or secondary containment installed after September 16, 1991, the lines must be isolated from each other by spacers to prevent wear from vibration and friction.

## **I. Overfill Prevention** (page 6)

Overfill prevention is required on all underground tanks installed after September 16, 1991. The exception is consumptive use heating oil tanks smaller than 1101 gallons.

Motor fuel tanks, marketing and distribution tanks and waste oil tanks must have overfill prevention, regardless of when they were installed.

**Note:** The Maine Fuel Board requires a vent alarm (whistle) on all #1 and #2 heating oil tanks under 5,000 gallons.

**Item 38: Ball float (BF), Flapper (F), Pressurized Delivery Flapper (PDF), Electronic (E), Vent Whistle (W) or None (X)?** If the tank does not have and is not required to have overfill prevention enter X in this space.

If the tank is required to have overfill prevention and none is present or there is no access for inspection, enter X in this space and check FAIL at the bottom of the column. Explain in Comments section.

### Auto Shutoff/Flapper

These devices are used on tanks that receive gravity-drop tight fill deliveries. They are installed in the fill riser. Consult manufacturer's instructions for any specialized testing instructions.

### Pressurized Delivery Flapper

These devices may be used on tanks receiving pressurized, tight-fill deliveries. They are installed in the fill riser. Consult manufacturer's instructions for any specialized testing instructions.

### Electronic High Level Alarm

These devices may be used regardless of the type of delivery to the tank. A probe is installed in the tank to monitor product level. A horn sounds to warn the delivery driver before the tank is overfilled.

### Ball Float

These devices can only be used on tanks that receive gravity drop deliveries. After December 24, 1996 Department rules prohibit the installation of ball floats on tanks

served by a suction pump system. Ball floats installed on suction systems **cannot be repaired**. If the ball float fails, it must be replaced with a different type of overflow prevention device. Ball floats are not compatible with coaxial vapor recovery systems and the ball float must be removed.

#### Vent Whistles

These devices may only be used on consumptive use heating oil tanks receiving pump off, tight fill deliveries. Tanks less than 1,101 gallons capacity installed prior to September 16, 1991 were not required to have vent whistles per MeDEP requirements, but if the tank does have a whistle, it must be tested annually.

**Item 39: Checked and working properly?** All overflow devices must be accessible for inspection and tested using manufacturers' recommended procedures.

Flappers & PDF's: Remove the device from the fill riser and make sure it is in working order and no parts are damaged or missing. Make sure the device closes when the tank is **95%** full or less.

Ball Floats: Remove the ball float and make sure the ball is present and moves easily in the cage. Make sure the ball has not cracked and filled with product. Make sure the ball seats when the tank is **90%** full or less. (When determining whether or not the ball seats at the proper height, remember to take into account the height of any manway the ball float is attached to.)

Electronic Alarm: Remove the probe from the tank and place it carefully on the ground. Slide the product float up slowly until the high level alarm sounds. Make sure the probe slides easily along the shaft. Make sure the horn is clearly audible to someone standing at the fill. Measure the distance from the bottom of the probe to the bottom of the product float. Make sure the system alarmed when the probe float was at **90%** or less.

Vent Whistles: Should be physically inspected to ensure the whistle is working properly and the whistle will stop when the tank is **90%** capacity or less. Whistles that are buried in soil and are not normally accessible may be evaluated by: (1) an installer digging down to the whistle and making them accessible to inspection, or (2) an installer/inspector personally observing a fuel delivery to 90% capacity, verifying that the whistle sounds during delivery, and stops at 90% (determined by sticking the tank following the delivery).

**Item 40: Set at 95% of tank capacity?** (Auto shutoff/flappers/PDF's only)

**Item 41: Set at 90% of tank capacity?** (Ball floats, electronic alarms and vent whistles)

**Item 42: Vent whistle clearly audible from fill area?** Make sure the vent can be clearly heard through background noise in the fill area.

## **J. Spill Buckets** (page 6)

All motor fuel, waste oil and marketing and distribution tanks must have spill buckets.

Consumptive use heating oil tanks smaller than 1,100 gallons are not required to have spill buckets.

Consumptive use heating oil tanks installed before September 16, 1991 that are 1,100 gallons or greater and that have monitoring wells must either have a spill bucket with a capacity of three (3) gallons or greater, or an overfill prevention device.

If a facility has a spill bucket it must be inspected and maintained.

**Item 43: Lid in good condition?** Check to see that the lid is not missing, split or chipped. If the lid is missing or there is a chip or split large enough to create an opening into the bucket when the lid is in place, the lid must be replaced to PASS.

**Item 44: Lid not touching fill cap?** Make sure that the lid is not touching the fill cap. (Note: Flipping the lid is a temporary solution to prevent damage to the tank. The problem must be permanently corrected before the system can PASS.)

**Item 45: Clean?** Check to see if the spill buckets are empty – no dirt, salt, water or fuel. The spill buckets must be clean and empty in order to PASS.

**Item 46: Liquid tight?** Check to see if the bucket is liquid tight. A tightness test is not required, but if the bucket is rusted out or split open, the spill bucket must be replaced to PASS.

**Item 47: Fill cap and gasket in good condition?** Make sure the fill cap and gasket are present and seal tightly.

**Item 48: Drop tube?** For gasoline tanks or tanks using a stick for inventory, make sure there is a drop tube in place.

**Item 49: Ends within 6 inches of tank bottom?** (*For gasoline tanks only*) Make sure the long side of the drop tube ends within 6 inches of the bottom of the tank.

## **K. Stage I Vapor Recovery** (page 6)

Stage I vapor recovery systems are required for gasoline tanks where the monthly gasoline throughput has ever exceeded 10,000 gallons. Only a few facilities, such as small convenience stores, seasonal businesses and small trucking companies, do not meet the 10,000 gallon cut off.

**Item 50: Two-point, Manifold or Coaxial?** Indicate the type of Stage I Vapor Recovery system that is in place – Two Point (2), Manifold (M), or Coaxial (C).

#### For Two Point/Manifold Systems

**Item 51: Access lid in good condition?** Make sure the access lid over the vapor recovery pipe is in good condition. Chipped, cracked or missing covers must be replaced.

**Item 52: Poppet cap and gasket in good condition?** Make sure the vapor recovery poppet cap and cap gasket are in place and seal tightly.

**Item 53: Poppet valve moves well and closes tight?** Check the vapor recovery poppet by depressing the spring loaded center. The poppet should return to its normal position making a tight seal with the poppet housing.

Missing or damaged poppets or gaskets are not acceptable.

#### For Coaxial Systems

**Item 54: Coaxial drop tube in good condition?** Make sure the top of the coaxial drop tube is in good condition. The top rim of the coaxial tube should be smooth, with no dents or significant damage. The drop tube should be centered in the fill pipe, so that there is a clear vapor path all the way around between the drop tube and the fill adapter.

### **L. Dispenser Area** (page 7)

**Item 55: Emergency Electrical Disconnects?** Check for one or more clearly identified emergency shutoff devices or electrical disconnects as defined in NFPA 30A.6.7. This “Yes/No” evaluation does not affect the Pass/Fail status of the facility. For more information, see PEI 1200-12, Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities, Section 11, Emergency Stop.

#### **Dispensers**

There is space for seven (7) different dispensers. If there are more than seven (7) dispensers, please use additional “Dispenser and Crash Valve Area” forms.

At each dispenser answer the following questions:

**Item 56: No weeps and/or leaks in dispenser?** Check for weeps or leaks at each dispenser. An active weep or leak must be corrected to PASS. This line applies to suction dispensers as well.

Dispenser weeps or leaks are evidence of a possible leak and must be reported to the Department within 24 hours.

A crash valve must be installed on pressurized pipelines serving product dispensers.

**Item 57: Crash valves at correct height?** Make sure the crash valve is installed at the proper height. The shear valve groove must be level with or a maximum of one half inch (½") above or below the top of the dispenser island.

**Item 58: Crash valves are properly secured?** Make sure the valve is properly mounted and rigidly secured to the island form.

**Item 59: Crash valves operational?** Trip (close) and re-open the valve several times by hand. Lever arms must be free to rotate and able to snap the poppet valve shut/closed. Leave the shear valve closed (tripped) and attempt to pump fuel through the nozzle into a test can - no fuel should flow.

**Item 60: Are sumps in liquid tight condition?** Check to see if the dispenser sump is liquid tight. A tightness test is not required. However, if the sump has a hole or crack, penetration boots are not properly in place, or water is present, repairs must be made before it will PASS. Additionally, be sure that test boot(s)/donuts are in proper position to allow double wall piping to properly function.

**Item 61: No oil in sumps?** Check the dispenser sumps for oil.

Oil in a sump is evidence of a possible leak and must be reported to the Department within 24 hours.

If you report the presence of oil, remove the oil and repair the leak before leaving the site, a passing result can be recorded.

**Item 62: No water in sumps?** Check the dispenser sumps for water.

Water in a sump is evidence of a possible leak and must be reported to the Department within 24 hours.

If you report the presence of water, remove the water and repair the leak before leaving the site, a passing result can be recorded.

For Electronic Systems:

**Item 63: Monitoring console is fully operational?** The monitoring console must be fully operational including horn, lights and printer (if it has one).

**Item 64: Sensors are properly placed?** Dispenser sump sensors must be installed according to the manufacturer's requirements and as close to the bottom of the sump as possible.

**Item 65: Sensors are functioning properly?** All sensors must be individually tested for proper operation. Follow the manufacturer's instructions.

Dispenser sump sensors usually must be removed from the sump to test. Non-discriminating float sensors can be turned upside down or can be immersed in water to

test. Non-discriminating sensors should be immersed in water to test. You may need to expose a discriminating sensor to product in order to activate the alarm. The system must alarm when the probe is exposed to liquid.

Abuse of a probe to create an alarm is not allowed.

Pressing the test button on the console is not sufficient to confirm proper operation of the sensor.

## **M. Corrosion Protection** (page 8)

Cathodically protected tanks and piping must be checked every year to ensure they are adequately protected from corrosion.

These checks must be performed by a Maine certified underground tank installer or a Maine certified underground storage tank inspector that has also been certified by Board of Underground Storage Tank Installers as a cathodic protection tester.

There are two systems of cathodic protection – galvanic and impressed current. The inspection requirements are different for the two systems. Galvanic systems are the most common type, representing over 99% of the cathodic protection systems.

### Galvanic Systems

Follow the instructions in the Rules for Underground Oil Storage Facilities, Chapter 691, Appendix A and perform a structure to soil potential reading for each tank and each piping run that is cathodically protected.

The electrode must be in direct contact with clean soil. The readings must be taken over the center line of each tank and piping run. Wet soil provides better readings. Readings cannot be accurately taken in frozen ground.

**Item 66: Double-Walled Tanks?** Enter the reading, taken at the tank mid-point, in the top space provided.

**Item 67: Single-Walled Tanks?** The Rules for Underground Oil Storage Facilities, Chapter 691 require a minimum of three (3) readings for each single wall tank: one at each end and one at the midpoint, all taken over the center line.

**Item 68: Product Pipe?** Record the lowest reading taken over the center of each piping run.

Readings less than negative (-) 0.85V are failing.

The person taking the readings must sign the Cathodic Protection section certifying that they performed the inspection for this section in accordance with nationally accepted standards and also certify that they are a properly certified Maine underground oil storage tank installer or a properly certified Maine underground oil storage tank

inspector that has also been certified by the Board of Underground Storage Tank Installers as a cathodic protection tester.

### Impressed Current Systems

**Item 69: System met test requirements of NACE TM 101-2007?** Verify that the impressed current system passes requirements specified in National Association of Corrosion Engineers Test Method 101-2007.

**Item 70: Monthly log present and filled out properly?** Verify that the facility is performing monthly inspections of the rectifier that involve reading and recording voltage and/or amperage readings. A written log of these inspections must be maintained. Rectifier voltage and/or amperage outputs are compared to the recommended operating levels that were determined during system installation.

## **N. Temporarily Out of Service (OOS) Tanks** (page 9)

Even if product is not being added to or removed from a tank it must be properly maintained.

If the tank and/or piping is cathodically protected, it must be checked yearly to make sure it is still protected from corrosion.

If the tank contains more than one inch of product, the leak detection system must be maintained and inspected annually. Daily Inventory cannot be done on a system where product is not being pumped.

**Note:** For additional conditions, see the *Rules for Underground Oil Storage Tank Facilities*, 06-096 C.M.R., Chapter 691 § 11.B.

**Item 71: Date of last dispensing or delivery?** The date the tank or facility became inactive is the day after the last fuel delivery, dispensing or use. The out of service date is NOT the date an installer performed actions listed in Items 72 – 74 below. If you are not sure of the exact OOS date, explain in the comments section.

**Item 72-a: Tank pumped out? (Less than 1” product, water, and/or residual)** Verify that each OOS tank has less than one inch (1”) of product, water, or residual.

**OR**

**Item 72-b: Electronic Monitoring (tank & piping) is properly operating?** If the tank contains more than one inch (1”) of product, water or residual, then leak detection systems must be maintained. If Item 72-b is checked, you must evaluate the leak detection system and fill out the appropriate section of the inspection form (Inspection Items 20, 23-28).

For tanks that are or will be out of service more than three (3) months check the following.

**Item 73: Vent lines open and functioning properly?** Make sure the tank is properly vented. An open vent is required for safety reasons and to prevent damage to the tank.

**Item 74: All other lines, pumps, manways and ancillary equipment capped and secured?** Make sure the fill cap is locked. A locked fill prevents delivery errors and dumping of hazardous waste. It also prevents rainwater from entering the tank by this route. Make sure the product piping has been disconnected and capped and the dispensers and manways are secure. (**Note:** Product piping for seasonal tanks does not have to be disconnected and capped). Dispenser covers, manway covers and lids must be in place.

**A facility must be tested as directed by the Department before it can be placed back into service.**

\*\*\*\*\*

After completing the appropriate sections of the Inspection Report, fill out the Inspection Summary Report (Page 1). Sign and date the Summary form at the appropriate signature line(s).

# APPENDIX

## Contents

1. Daily Inventory/Monthly Fuel Log
2. Interstitial Monitoring Log for Double-Walled Systems
3. UST Alarm Console Weekly Monitoring Log
4. Monitoring Well Log
5. Monthly Gasoline Throughput Log
6. Impressed Current Log
7. Spill Log



# DAILY INVENTORY / MONTHLY FUEL REPORT



Month/ Year \_\_\_\_\_

Facility & Location: \_\_\_\_\_ Registration Number: \_\_\_\_\_

Tank Size and Fuel Type: \_\_\_\_\_ Certified By: \_\_\_\_\_

Date	Opening Inventory (Book Inventory of Previous Day)	Gallons Pumped	Gallons Delivered	Book Inventory Balance	Closing Stick Inventory	Cumulative Over or <Short>	Inches Water	Initials
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Math Check		-	+	=				

Leak Check: Sum of Gallons pumped ( \_\_\_\_\_ ) x .01 = \_\_\_\_\_  
 IF SUM OF "CUMULATIVE OVER OR SHORT" IS GREATER THAN LEAK CHECK RESULT IT IS CONSIDERED  
 EVIDENCE OF A POSSIBLE LEAK AND YOU MUST NOTIFY DEP AT (207) 287-7688

KEEP THIS COMPLETED FORM FOR AT LEAST THREE YEARS ON SITE









# Monthly Gasoline Throughput Log



Facility: \_\_\_\_\_ Registration #: \_\_\_\_\_

Location: \_\_\_\_\_

Gallons Pumped From Each Tank						
20__	Tank #	Monthly Total				
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

Total Yearly Volume: \_\_\_\_\_

**Instructions for Monthly Gasoline Throughput Log Sheet**

Department of Environmental Protection Regulation 118 “Gasoline Service Station Vapor Control”, administered by the Bureau of Air Quality Control, requires all gasoline dispensing facilities to keep records of the amount of gasoline that is dispensed each month. These records must be available for inspection and copies provided to Department staff upon request.

To calculate the monthly volume of gasoline dispensed at the Station, fill in the sum of the **Gallons Pumped** from the **Monthly Fuel Report/Daily Inventory** for each gasoline tank for the appropriate month. Add the monthly gallons pumped for all gasoline tanks at the station and place the sum in the Monthly Total box. At the end of the year, add the monthly totals and place the sum in the **Annual Total** box. Do not include volume of diesel fuel, K-1 or any fuel dispensed other than gasoline on this sheet.

Some vapor control is required at stations with an annual throughput greater than 100,000 gallons. See the regulation for details or contact MeDEP/Air Bureau office in Augusta, Bangor, Portland, or Presque Isle.



