MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
ANNUAL OVERFILL PREVENTION DEVICE INSPECTION

- Inspection of all overfill devices is required at installation and at least once every 12 months thereafter.
- In the absence of a recognized industry procedure or manufacturer's recommended practice the "MDEQ Overfill Device Inspection Procedure" may be utilized.
- All new Overfill Prevention Devices installed after October 5, 2018 must be Drop Tube Device or Electronic Alarm.

Date of Inspection

UST Facility			Person Conducting Inspection	
Facility Name	MDEQ Facility ID #		Inspector's Name	
Physical Address			Company	
City	County	State **MS**	MDEQ Certification #	Expiration Date
UST Owner			Inspector's Signature	Date

Inspection Results for the Year ____

	Tank ID (product stored)				
	Tank Volume (gallons)				
	Tank Diameter (inches)				
	Overfill device present	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Overfill Device Manufacturer				
	Overfill Device Model				
	Device is New	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Device in good condition (Note Criteria in Inspection Procedure)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Ball Float Valve	All accessible tank top fittings are tight	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Ball Float Valve	Tank does NOT have a suction or tank syphon line installed	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Ball Float Valve	Standard drop tubes are installed & in good condition	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Ball Float Valve	Length of Ball Float Valve (inches)				
Ball Float Valve	Height of tank top manway (if applicable) (inches)				
Ball Float Valve	Distance below top of tank that ball float valve is set (inches)				
Ball Float Valve	Indicate tank capacity when flow restriction occurs (%)				
Drop Tube Device	Complete shut off occurs below any ball float nipple in the tank	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Drop Tube Device	Assembly and all gaskets/seals in good condition	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Drop Tube Device	Length of upper tube to the "Reference Point" (inches)				
Drop Tube Device	Length of Fill Riser pipe (Seating position to tank top) (Inches)				
Drop Tube Device	Height of tank top manway (if applicable) (inches)				
Drop Tube Device	Distance below tank top where "Reference Point" is located (Inches)				
Drop Tube Device	Distance between Reference Point and Complete Shut off Point				
Drop Tube Device	Distance below tank top where complete shut off occurs (inches)				
Drop Tube Device	Indicate tank capacity when complete (2nd Stage) shut off occurs (%)				
Electronic Alarm	Alarm is both audible and visible to delivery driver	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Electronic Alarm	Distance below top of tank that electronic alarm is set (inches)				
Electronic Alarm	Indicate tank capacity when alarm occurs (%)				
Electronic Alarm	ATG Printout attached	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Inspection result (Pass/Fail)				

Comments:

Alternative Methods

- Alternative methods include: precision type ball float valves that are set to restrict flow at a height greater than 90% tank capacity or drop tube devices are set to completely shut off flow at a height greater than 95% tank capacity.
- Overfill devices installed prior to 10/5/2018 may use alternative methods but must complete pg. 2 of this form in full to "Pass" an overfill device. Alternative methods pg. 2 must be reevaluated every 3 years after initial inspection using an Alternative Method. Any device using an Alternative Method must have pg. 2 of this form completed prior to 10/5/2020 **and** a copy sent to MDEQ. No device will be allowed to pass using Alternative Method if there is NOT a completed form in MDEQ's file for a (device) dated prior to 10/5/2020.

PRODUCED BY THE MISSISSIPPI DEPT. OF ENVIRONMENTAL QUALITY, OFFICE OF POLLUTION CONTROL, UST BRANCH
P.O. BOX 2261 JACKSON, MS 39225 PHONE (601) 961-5171 FAX (601) 961-5093 http://www.mdeq.ms.gov 4/2019

Alternative Method Evaluation

Alternative method cannot be used if:

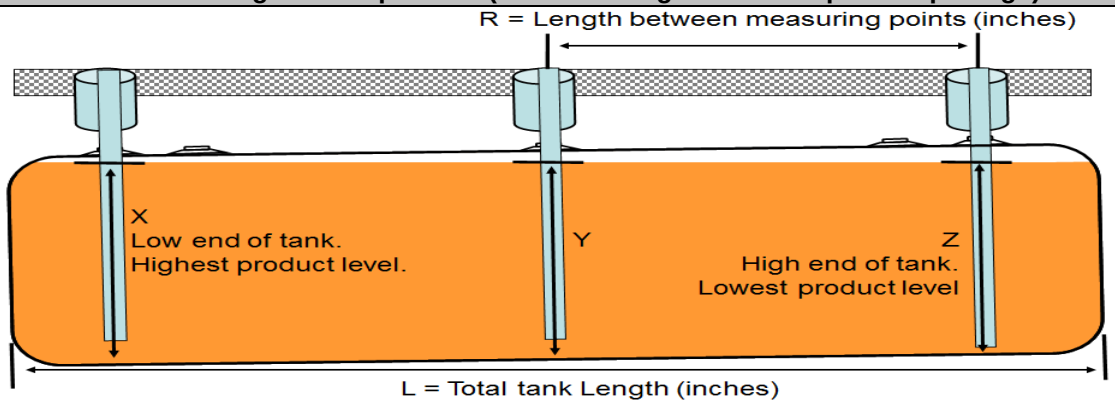
a.) Tank Volume is less than 4,000 gallons or Overfill Device was installed after 10/5/2018.

b.) If overall tank tilt cannot be determined.

c.) If any of the applicable "Alternative Method Results" are marked as "NO".

MDEQ Facility ID Number:	
Date of Inspection:	

Reference Diagram & Equations (Product Gauged at two separate openings)



Overall Tank Tilt = (Difference between product levels) * (L/R)

Tank Deflection = Tank Diameter from tank chart (-) The measured tank diameter

Ullage (Inches) at low end when device is at high end = Distance below tank top at High end (-) Tank Tilt (-) Deflection

Ullage (inches) at low end when device is at middle = Distance below tank top at Middle of tank (-) Half of Tank Tilt (-) Deflection

Tank Tilt Determination

Method of Determining Tank Tilt	☐ Product level gauged at two separate tank openings	☐ Elevation of each end of tank surveyed with a level
	☐ Measured with a tank inclinometer	☐ Other (specify):

Tank ID (product stored)				
Tank capacity greater than 4,000 gallons?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Tank Tilt can be determined	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Total Tank Length (inches)				
Length between measuring points (R) (Inches)				
Product level measured at "X" (inches)				
Product level measured at "Y" (inches)				
Product level measured at "Z" (inches)				
Difference between product levels (inches)				
Overall Tank Tilt (inches)				

Tank Deflection Determination

Tank diameter as it appears on tank chart (inches)				
Measured Tank Diameter (Inches)				
Tank Deflection (Inches)				

Device Position and Ullage Calculation

Type of Device: (Ball Float or Drop Tube)		☐ B.F. ☐ D.T	☐ B.F. ☐ D.T	☐ B.F. ☐ D.T	☐ B.F. ☐ D.T
Overfill Device is Installed at	Low End ("X" position)	☐	☐	☐	☐
	Center ("Y" position)	☐	☐	☐	☐
	High End ("Z" position)	☐	☐	☐	☐
Distance of Device below tank top at low end of tank (inches)					
Ullage (gallons): (based on depth of device below tank top at the low end of the tank)					

Alternative Method Results (mark all that apply)

Manifolded tank tops **OR** the overfill devices installed in them appear to be level with each other	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Ball float is "precision" type and initial restriction occurs 30 min before tank top fittings wetted.	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Drop tube device is "2 Stage" device and complete shut off occurs before tank top fittings wetted. (Ullage of at least 1 inch required.)	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Inspection for Alternative Method (Pass / Fail)				

General Inspection Procedure and Conversion Table

MDEQ Overfill Prevention Device Inspection Procedure	
Ball Float Valve	1. Remove ball float riser cap or fitting. Remove ball float and visually inspect it's condition. (That the ball is free of holes / cracks and moves freely in the cage. Verify that the vent hole in the pipe is open and near the top of the tank.) 2. Ensure all tank top riser fittings are in good condition and appear to be vapor tight (e.g. ATG riser cap). 3. Ensure that "standard" drop tubes are properly installed in the tank fill riser and in good condition with no visible holes. 4. Measure and record distance from tank top to where the ball float seats (where flow restriction occurs). Use tank charts to verify that the ball float device is the proper length to restrict flow at 90% tank capacity. 5. Reinstall the ball float valve in accordance with manufacturer's installation instructions.
Drop Tube Device	1. Remove tank fill cap and visually confirm that tight-fill adapter on fill riser is tight and in good condition. 2. Remove the drop tube from the tank (Unless alternative method provided by manufacturer and approved by MDEQ). 3. Verify condition of the device. (That the float(s) move freely without binding, that the poppet moves into the flow path, and that the bypass valve in the drop tube is open, free of blockage, and not bypassed by another hole in upper tube.) 4. Ensure that the drop tube assembly is in good condition and all necessary gaskets/seals are in place. 5. Measure and record distance from tank top to where complete shut off occurs. Use tank charts to verify that the drop tube device is adjusted to shut off flow at 95% tank capacity. If ball float is present (with or without a functional ball), complete the ball float valve inspection procedure and pg. 2 to verify that point of restriction or tube is above where complete shut off occurs. 6. Reinstall the drop tube device in accordance with manufacturer's installation instructions.
Electronic Alarm	1. Remove the electronic alarm device from the tank and visually inspect for damage or corrosion. 2. Ensure the device functions correctly by causing an overfill alarm condition (e.g. slide float upward). 3. Use tank charts to ensure that the electronic alarm device activates at 90% tank capacity. 4. Ensure that alarm is both audible and visible by the delivery person as an overfill alarm. 5. Reinstall the electronic alarm device in accordance with the manufacturer's installation instructions. 6. Attach Electronic Alarm printout (if applicable) from ATG showing overfill alarms that occurred during testing.

Fraction to Decimal Conversion Table (inches)	
1/8	**0.125**
1/4	**0.25**
3/8	**0.375**
1/2	**0.5**
5/8	**0.625**
3/4	**0.75**
7/8	**0.875**

MDEQ Additional Guidance

The following guidance is included to assist you in both performing the annual inspection and filling out the form appropriately. Guidance addresses specific questions in regard to MDEQ's intent behind them and what and / or how it should be documented on this form. In all cases, a recognized industry recommended practices or manufacturer's instructions should be used to inspect the devices.

Note: OPW recently revised its installation procedure for the 71-SO model flapper type overfill devices. Appendix C was added. OPW staff confirmed that these measurements were also applicable to the 61 SO model valves and that instruction for the 61-SO model valves will be revised soon. Please review Appendix C before attempting to fill out this form for all OPW flapper type devices.

1.) Tank ID (product stored) – Label the tank where device is installed. (Ex. Regular E-10, Premium, etc.)
2.) Tank Volume (gallons) – list the tank or compartment's actual volume. The volume shown on the tank chart corresponding to 100% tank capacity.
3.) Tank Diameter (inches) – List the tank or compartment's diameter shown on the tank chart.
4.) Overfill Device Manufacturer – list the manufacturer of the device. (Ex. OPW, FFS, EMCO)
5.) Overfill Device Model – list the model of the overfill device (Ex. 61-SO, 71-SO, Auto Limiter, Defender)
6.) Device is New – If you are installing a new device or if you know that the device was recently installed then mark this box as "Yes". All devices installed after 10/5/2018 cannot use an alternative method and must be drop tube device set with complete shut off at 95% or electronic alarm set at 90%.
7.) Device in good condition – Note the specific criteria listed in the inspection procedure section. Condition is NOT limited to those criteria only. Should you question function of the device you should contact the device manufacturer for further guidance and / or fail the device. (Ex. If you don't think the flapper will float in fuel due to excessive corrosion or rust)
8.) Under Ball Float Valve inspection:
   a. All accessible tank top fittings are tight – You should visually inspect all accessible riser pipes and or components above the tank for holes. (This includes: the line leak detector vent tube, the spill bucket drain valve, the riser pipe that the STP is installed in, all additional riser pipe caps (if accessible), and the ATG fitting / plug on the cap that seals off the wiring to in-tank probe.) Any issues observed that cannot be fixed before you leave the site should result in a failed OF inspection for Ball Float device.
   b. Tank does not have a suction or syphon line installed – If the tank has a syphon line or the piping is suction piping then the ball float valve cannot be used as overfill prevention.
   c. Standard drop tubes are installed and in good condition – This is referencing the standard static drop tube (non-overfill type) that is installed in the fill riser pipe. The standard tube should be visually inspected for holes, excessive corrosion, missing or loose screws (jack plate kit), seals, and loose tight fill adapters. Any issue observed that cannot be fixed before you leave the site should result in a failed OF inspection for Ball Float device.
   d. Length of Ball Float Valve (inches) - With ball float removed from the tank, measure the length of the ball float from where the ball seats (or would seat) to the top of the steel nipple.
   (You are measuring the length of the steel pipe / nipple itself up to where it screws in to the adapter. The adapter above the nipple has an additional set of threads that is used to screw into the ball float extractor fitting, but these are not the threads to measure to.)
   e. Height of tank top manway (if applicable) (inches) - Should the ball float valve (with or without a functional ball) be installed in a tank top manway the height must be accounted for. Measure the height of the tank top manway in inches and report accordingly. If the ball float valve is NOT installed in a tank top manway then the height is Zero (0) inches above tank top.

f. Distance below top of tank that ball float valve is set (inches) - You should subtract the "height of the tank top manway" from the length of the ball float valve. That will give your depth below tank top at which restriction occurs. If the ball float is NOT installed in a tank top manway then the distance below tank top is the same as the length of the ball float valve in inches. If this number is Negative (-), the device is not installed below tank top and the device fails this inspection.

g. Indicate tank capacity when flow restriction occurs (%) – Use the appropriate tank chart to find the volume corresponding to your measured distance below tank top at which the ball is set. Indicate % capacity at which initial restriction occurs. (**Note:** If the % is NOT 90% or less then the 2nd page of this form for "Alternative Methods" must be filled out completely if you PASS the device.)

9.) Under Drop Tube Device inspection:

a. Complete shut off occurs below any ball float nipple in the tank – (This includes a functional ball float device and ball float nipples where the ball is not present). You should open and inspect all tank top risers for the presence of a ball float device. If device is not present, answer this question as "Yes".

If device is present, you must measure its depth below tank top and record that measurement in the "Ball Float Valve" section. (**Note:** Failure to inspect for ball float devices or failure to record their measurements on this form may result in penalties levied against you by MDEQ.) To determine "Yes" or "No" you must fill out pg. 2 "Alternative Method Evaluation" for both the ball float valve or nipple AND the drop tube device. Use the calculated "distance of device below tank top at low end of tank (inches) to determine your answer to this question. If the ball float valve is not accessible you should answer this question as "NO" until access / verification can be made. A "NO" answer to this question should result in a Failed OF device inspection for the tank.

The complete shut off point on the drop tube device must be below where the ball seats (or would seat) on the ball float valve. This is critical for function of the drop tube device. (In all cases, the max ball float depth allowed by the manufacturers should be followed. For OPW drop tube devices the current max allowed is 6 inches. For Frankin Fueling Systems drop tube devices the current max allowed is 3 inches.)

b. Assembly gaskets / seals in good condition – This includes but is not limited to: the gasket between the upper tube and tank fill riser, the seal on the poppet valve that moves into the flow path during delivery, and seals between the upper tube and the body of the device. In order for drop tube devices to restrict flow to approx 5 gpm and allow ample time for the delivery driver to shut off the flow of fuel into the tank the upper tube must be liquid and vapor tight. Any bypass in the upper tube will result in faster flow of fuel into the tank after restriction occurs and will not allow the drop tube device to completely shut off the flow of fuel into the tank.

c. Length of upper tube to the "Reference Point" (inches) – With the drop tube device removed from the tank, measure the distance of the upper tube to the "Reference point" in inches.

The "Reference Point", is the position on the drop tube device used to determine where complete (2nd stage) shut off occurs. For some models the location of the "Reference Point" maybe the same location where complete (2nd stage) shut off occurs. (For OPW devices, the "Reference Point" is located at the seam where upper tube meets the device, however this is NOT the same location at which Stage 2 occurs. It is simply the reference point used to determine the location of Stage 2.) (For devices where 95% is marked on the device, the mark is typically both the Reference point and the point where complete shut off occurs).

d. Length of Fill Riser pipe (Seating position to tank top) (Inches) – Determine the location on the fill riser where the upper tube seats. (Typically this is the very top of the riser pipe below tight fill adapter) Measure from that seating positon to the top of the tank to determine the length of the fill riser pipe in inches.

e. Height of tank top manway (if applicable) (inches) - Should the drop tube device be installed in a tank top manway the height must be accounted for. Measure the height of the tank top manway in inches and report accordingly. If the drop tube device is NOT installed in a tank top manway then the height is Zero (0) inches above tank top.

f. Distance below tank top where "Reference Point" is located (inches) – equals the "Length of the upper tube to the Reference point" (-) "Length of the Fill Riser pipe" (-) "Height of Tank Top manway". If this number is Negative (-), the device is installed in the riser pipe and fails inspection. (For OPW devices the "Reference Point" cannot be less than 6 and 1/2 inches below tank top.)

g. Distance between "Reference Point" and Complete (2nd stage) shut off point (inches) – If the "Reference Point" is NOT the same as the "Complete shut off point" what is the difference between the two points in inches. Use the manufacturers installation instructions to determine where complete shut off occurs on the device. (For OPW 61 and 71 SO models the distance between the two points is 1.5 inches.)

h. Distance below tank top where complete shut off occurs (inches) – List the distance below tank top at which complete (2nd Stage) shut off occurs. You already have the "Distance below tank top to the Reference point". Using that number, you should subtract or add the "Distance between Reference point and Complete Shut off point. (For OPW 61 and 71 SO models you should subtract 1.5 inches from the "Distance below tank top to the Reference Point".)

i. Indicate tank capacity when complete (2nd stage) shut off occurs (%)- Use the appropriate tank chart and find the volume corresponding to the "Distance below tank top at which complete shut off occurs". Indicate the % capacity at which complete shut off occurs. (**Note:** If it is not 95% or less then the 2nd page of this form for "Alternative Methods" must be filled out completely if you PASS the device.)

10.) Under Electronic Alarm Inspection:

a. Alarm is both audible and visible to the delivery driver –. An external audible and visual alarm must be near by the tank bed and functional. To test function of the alarm it is NOT sufficient to simply press the test button. You must remove the in-tank probe and raise the fuel float in accordance with manufacturer's test procedure to ensure that the alarm activates.

b. Distance below top of tank that electronic alarm is set (inches) – With the in-tank probe removed from the tank slowly raise the fuel float until the external alarm activates. At that point measure the distance from the bottom of the probe to the bottom of the fuel float. Determine the distance below tank top in inches at which the alarm activates.

c. Indicate tank capacity when the alarm occurs (%) - Use the appropriate tank chart and find the volume corresponding to your measured distance below tank top at which the external alarm activates. Indicate the % capacity at which the alarm activates.

d. ATG Printout Attached – Attach a copy of the ATG printout showing the alarm condition was simulated.

11.) Inspection Result (Pass or Fail) – If your device meets the required % and specific questions listed the device Passes. If your device does not meet the required % then you should fill out pg. 2 completely if you intend on using an alternative method to pass the device. If the device was installed after 10/5/2018 or if this inspection is after 10/5/2020 but no one ever filed a copy of the initial Alternative Method determination for the device with MDEQ then the device fails inspection and there is no need in filling out Alternative Methods section.

Alternative Method Evaluation Guidance

Should the device NOT be set for 90% (ball float) or 95% (Drop Tube Device) from page 1 of this form, then page 2 (Alternative Methods) section must be filled out completely if you intend on passing the device. Page 2 should also be used if both ball float valve (with or without ball) and drop tube device is installed in a tank. Alternative Methods are only allowed for ball float devices or drop tube devices installed prior to 10/5/2018 with the condition that the initial inspection using Alternative Methods is received by 10/5/2020 by MDEQ. The Alternative Methods page 2 must be reevaluated every 3 years after initial inspection.

1.) Tank Tilt Determination:

- **a.** Tank Capacity greater than 4,000 gallons? – If the tank or compartment capacity is NOT over 4,000 gallons then alternative methods cannot be used and you may stop here. The device fails inspection.
- **b.** Tank Tilt can be determined? – You must be able to determine tank tilt using one of the methods listed. (**Note:** It is NOT sufficient to use the tank tilt programed in the ATG to determine overall tank tilt. You must use one of the methods listed to determine overall tilt.) If you cannot determine tank tilt, then alternative methods cannot be used and you may stop here. The device fails annual inspection.
- **c.** Determine the total tank length (inches) – Use the appropriate tank chart to determine the overall length of the tank or compartment in inches. (This measurement corresponds to "L" in the equation shown.) (This is assuming you are using 2 openings in the tank as your method of determining overall tank tilt.)
- **d.** Determine the length between measuring points (inches) – Use a measuring stick to measure the distance between 2 of the tanks fill risers in inches. (This measurement corresponds to "R" in the equation shown.) (This is assuming you are using 2 openings in the tank as your method of determining overall tank tilt.) For greater accuracy you should select two riser pipes that give you the greatest "R" distance.
- **e.** Gauging of fuel levels at each opening –
    - i. For the 2 riser pipes at which you obtained the "R" measurement, use a gauge stick to measure the fluid level height to the nearest 1/16 inch. (Total water and fuel present.)
    - ii. Use the 2 fluid level measurements obtained to determine the position of both of the risers. Observe the layout of the tank. Where are the two riser pipes located? Where is the STP located? If the riser pipe used is located in the approximate middle of the tank then that is your "Y" position and the fluid level measured there should be reported as "Y". If the riser pipe used is located at the end of the tank or compartment tank then your position is "X" or "Z" and the fluid level measured there should be reported accordingly. Typically, the higher fluid level measurements will be at the "Y" or "Z" position. Typically, the lower fluid level measurements will be at the "X" or "Y" position. (See reference diagram provided for guidance.)
    - iii. Report the fluid level measurements in inches for the corresponding position ("X", "Y", or "Z".) Only 2 fluid level measurements are required using this method.
- **f.** What is the difference between your 2 fluid level measurements? – Subtract one from the other. (Only use the 2 fluid level measurements that correspond to your "R" measurement locations.)
- **g.** What is the overall tilt of the tank (inches)? – Use the equation provided to determine overall tank tilt. Use your "L" and "R" measurements along with the difference between your 2 fluid level measurements. (All measurements MUST be in inches and positive numbers.)
  Equation below:

Overall Tank Tilt = (Difference between product levels) * (L / R)

2.) Tank Deflection Determination:

- **a.** Tank Diameter as it appears on tank chart (inches) – List the tank diameter shown on the applicable tank chart in inches. (This number should correspond to your listed diameter on pg. 1 of the form.)
- **b.** Measured Tank Diameter (inches) – Physically measure the tanks diameter to the nearest 1/16 inch, preferably at the low end of the tank. If the low end is not accessible, then measure at as many openings as possible along the top of the tank or compartment. You should list the measured diameter that results in the largest amount of deflection observed. (Ex. Tank diameter on tank chart is 96 inches. You measure 94.5 inches, 95 inches, and 95.5 inches at three different riser pipes. You should list 94.5 inches as your "Measured Tank Diameter".)
- **c.** Tank Deflection (Inches) – Subtract the "Measured Tank Diameter" from the "Tank Diameter as it appears on the tank chart". (In the example above, 96 inches – 94.5 inches = 1.5 inches deflection.)

3.) Device Position and Ullage Calculation:

- **a.** Type of Device (Ball Float or Drop Tube) – Select the type of device being evaluated. (If your trying to figure out if "Complete shut off occurs below any ball float nipple in the tank" from pg. 1, you should have two columns in this section filled out. One for the ball float and one for the drop tube.)
- **b.** Where is the Overfill device installed at? – Check only one box as "X", "Y", or "Z" position. Check the box that most accurately describes where the device is installed at.
- **c.** Distance of Device below tank top at low end of tank (inches) -
  - i. If Device is installed in the high end, position "Z", perform the following calculation:

Ullage (Inches) = "Distance below tank top at <u>High End</u>" – "Overall Tank Tilt" – "Deflection"

  - ii. If the Device is installed in the middle of the tank, position "Y", perform the following calculation: (Note: Device is in middle. (1/2) means you should use half of the tank tilt.)

Ullage (inches) = "Distance below tank top at <u>Middle of tank</u>" – (1/2) "Overall Tank Tilt" – "Deflection"

  - iii. If the Device is installed in the low end of the tank, position "X", verify that "Overall Tank Tilt" is greater than the amount of "Deflection".
    1. If it is, use the measurement from pg. 1. (For Ball float that is the "Distance below top of tank that ball valve is set")(For Drop Tube Device that is "Distance below tank top where complete shut off occurs".)
    2. If it is **NOT** then tank deflection (at the middle or high end) is greater than (more than) the Overall Tank Tilt, you should subtract the difference.

"The Difference" = Deflection – Overall Tank Tilt.

Ullage (inches) = "Distance Below top of tank at low end" – "The Difference"

- **d.** Ullage (gallons) (based on depth of device below tank top at the low end of the tank)- Use the tank chart to calculate ullage based on the "Distance of device below tank top at the low end" (Part c.)

Note: This Ullage (gallons) is NOT the actual ullage volume in the tank. It is a conservative estimate of the Ullage in the tank (prior to the low end being wetted) accounting for measured tank tilt and tank deflection.

This is NOT the ullage to use to determine if the "precision" ball float device will restrict flow 30 minutes prior to tank top fittings being wetted. You must check Manufacturers installation instructions and use the appropriate "Safety Factor" provided to calculate the "Safe" ullage amount necessary to provide flow restriction 30 minutes prior to tank tops being wetted.

This is the conservative ullage amount to use to determine if complete shut off (2nd Stage) of drop tube devices leaves enough ullage in the tank to meet manufacturer minimum ullage requirements for drop tube devices.

4.) Alternative Method Results (mark all that apply):

- **a.** Manifolded tank tops **OR** the devices installed in them are level with one another? – This only applies to tank systems with syphon / tank manifold line installed. The tops of both tanks must be level with one another. Use appropriate method to determine this. If it is determined that the tank tops are NOT level, then the devices installed in ALL manifolded tanks must be level with one another. Use appropriate method to determine this. If this cannot be accurately determined, then Alternative Methods cannot be used to Pass the device and the device Fails.
- **b.** Ball float is precision type and initial restriction occurs 30 minutes before tank top fittings are wetted? – Verify that the ball float is precision type. (**Note:** If you don't know the difference or if it can't be determined do not just say that it is. MDEQ will be verifying and will penalize accordingly.) If the device is NOT precision type then "Alternative Methods" cannot be used to Pass the device and the device Fails the annual inspection. If the device is precision type, utilize the appropriate equation provided by the ball float manufacturer to determine that initial restriction occurs 30 minutes before tank top fittings are wetted. You should use, "Distance of Device below tank top at low end of tank (inches)" as the measurement to input into the manufacturer's equation. (You CANNOT simply use the ullage (gallons) at the low end of the tank to answer this question.)
- **c.** Drop tube device is a "2 Stage" device and complete shut off occurs before tank top fittings are wetted? – Verify by model of overfill device that it is a "2 Stage" device with the complete shut off point occurring below all tank top fittings. You should use, "Distance of Device below tank top at low end of tank (inches)" as the measurement to determine this. If you have at least 1 inch ullage at the low end complete shut off should occur before tank top fittings are wetted. You should, verify that tank ullage at complete shut off meets the minimum ullage requirements set by the manufacturer. (Ex. For Franklin Fueling devices ullage at complete shut off cannot be less than 250 gallons.)

5.) Inspection for Alternative Method (Pass / Fail) – (Note this Pass / Fail result ONLY means that the tank can use an "Alternative Method". It does NOT mean that the device passes or fails the annual inspection. Documenting device failures is done on page 1 of this form.)

Reasons the tank can't use an "Alternative method" (Fail) include (but not limited to):

- **a.** Tank capacity is 4,000 gallons or less.
- **b.** Tank tilt cannot be determined by an approved method.
- **c.** Device Position and Ullage Calculations
  - i. If the "Distance of device below tank top at the low end of tank (inches) is a Negative number. If you run the calculation and get a negative number, where the device is set at is above the top of the tank at the low end. Tank top fittings at the low end of the tank may be wetted during delivery.
  - ii. If the "Ullage (gallons)" does NOT meet the device manufacturer's minimum requirements.
  - iii. If you have both a ball float device and drop tube device installed in the same tank. Compare the measurements for: "Distance of the device below tank top at the low end of tank (inches)" for each. The distance for the drop tube device should be GREATER than the distance for the ball float valve.
- **d.** If any of the applicable Alternative Method result questions are marked as NO.
- **e.** If the device does NOT meet the minimum requirements set by the manufacturer.