

2018 Retail Fueling Facility Compliance Training for Owners and Operators

Greg Bareta, PE
Storage Tank Regulation Section Chief
Bureau of Weights and Measures
Wisconsin Department of Agriculture,
Trade and Consumer Protection
greg.bareta@wi.gov
(608) 224-5150

Topics Covered

- 2015 EPA Rule Revision
 - Post repair testing
 - Internal lining
 - EPA Sump testing requirements
 - ATCP 93 rule changes
 - Repair of sumps
- ATCP 93 Implementation Timeline
- Wisconsin 2020 Sump upgrade fact sheet/FAQ



EPA UST Rule Revision

➤ Repairs (Immediate):

- EPA: adds a requirement for owners and operators to test within 30 days after a repair to spill and overfill equipment and secondary containment areas.
- Post-repair testing for underground tank systems in accordance with ATCP 93.500(7)- current code.
 - *Standards.* Repairs to underground tank systems shall be made by the manufacturer's authorized representative or in accordance with a standard developed by a nationally recognized association or an independent testing laboratory that is acceptable to the department.
 - (e) *Precision tightness testing.* Repaired tanks and piping shall have precision tightness testing in accordance with s. ATCP 93.515 (4) before being placed back into service.

3

EPA UST Rule Revision

➤ Internal Lining (immediate):

- EPA: Owners and operators must permanently close tanks using internal lining as the sole method of corrosion protection, if the internal lining fails the periodic inspection and cannot be repaired according to a code of practice. (API 1631)
- ATCP 93.535 (7) Repair of tank linings shall comply with the requirements of API 1631 and the lining manufacturer's specifications.
- (7g) Tanks that have an overall average tank metal thickness or an average tank thickness of a designated thin wall area of less than 75% or any through-wall perforations shall be immediately closed per ATCP 93.560.
- (8) A lined tank that requires repairs to more than 10 percent of the lined surface shall be returned to service only if all of the following conditions are met:
 - (a) The tank meets the structural requirements in subs. (7), (7g), and (7r) before the lining repair.
 - (b) The tank has impressed current corrosion protection installed in accordance with s. ATCP 93.520 before being placed back into service.

4

EPA Sump Testing and Alternatives

- In 2015, the EPA published a rule revision with several new requirements that have various implementation deadlines. The majority of the new requirements were already incorporated into ATCP 93 during the last revision in 2009. However, effective October 13, 2018 the United States Environmental Protection Agency (EPA) rule, 40 CFR 280 implements the following requirements that are not currently addressed in ATCP 93:
- Spill prevention equipment, aka spill bucket, testing (periodic test every 3 years)
- Containment sump testing for sumps used for piping interstitial monitoring (periodic test every 3 years)
- The revised ATCP 93 rule is going to match the EPA requirements when ATCP 93 becomes effective in early 2019.

EPA Sump Testing and Alternatives

- Containment sump clarification(s):
- The EPA periodic testing requirement of containment sumps is required only when the containment sump is used for secondary containment of the piping and interstitial monitoring is used for release detection of that piping. The first test has to be completed by October 13, 2018 for these types of systems and the spill buckets. Thereafter the sump containment and spill bucket tests have to be repeated once every three years.
- Exception: Double wall secondary containment sumps that are continuously monitored by either a pressure, vacuum, or liquid filled secondary system are exempt from the periodic testing requirement.

EPA Sump Testing and Alternatives

- Important considerations from the EPA Underground Storage Tank (UST) Technical Compendium about the 2015 UST Regulations (Link: <https://www.epa.gov/ust/underground-storage-tank-ust-technical-compendium-about-2015-ust-regulations>):
- For piping installations installed on or after October 13, 2015, the installation test of the spill buckets and containment sumps can be used as the first periodic test.
- Follow up periodic testing has to be completed within 3 years from the date of the first test. Example: first test performed July 25th 2016; next test has to be performed by July 25th 2019.

EPA Sump Testing and Alternatives

- Spill buckets and secondary containment sumps that have a continuous monitoring system; pressure, vacuum, or liquid filled secondary systems are exempt from the periodic testing requirement.
- For containment sumps, low level liquid testing is allowed if a liquid level sensor is mounted at the lowest point in the sump and a periodic test is performed by adding liquid to a point that will ensure activation of the sensor; and
 - The pump automatically shuts off when product activates the sensor, or
 - The dispenser automatically shuts off when product activates the sensor, and the facility is always staffed when the pumps are operational.
- For a containment sump with a multi-product dispenser the submersible or dispenser shut-down has to occur for all products since the interstitial sensor cannot distinguish between products.

EPA Sump Testing and Alternatives

- The links below provide further detail on the EPA requirements:
- <https://www.epa.gov/ust/implementation-time-frames-2015-underground-storage-tank-requirements>
- <https://www.epa.gov/ust/underground-storage-tank-ust-technical-compendium-about-2015-ust-regulations>

EPA Sump Testing and Alternatives

- Proposed ATCP 93 code language:
- ATCP 93.500(8)(c) (periodic):
- (c) Except for double-walled containment sumps with continuous electronic pressure, vacuum, or liquid-filled interstitial monitoring, all new or existing containment sumps that are part of a piping interstitial monitoring system shall be tested for leaks at least once every three years in accordance with the one of the following methods:
 - 1. Methods prescribed in sub. (6) (d)
 - 2. A code of practice developed by a nationally recognized association or independent testing laboratory
 - 3. Other method approved by the department.
- Spill buckets covered by similar language in ATCP 93.505(3)(b).

EPA Sump Testing and Alternatives

- Proposed ATCP 93 code language:
- ATCP 93.500(6)(d) (installation):
- (d) Sumps. 1. Secondary containment sumps shall be fabricated and installed in a manner that prevents release of liquids. These sumps shall be tested for leaks hydrostatically at installation, in accordance with the manufacturer's instructions and the adopted standard PEI RP 1200, except as provided in subd. 2.
- 2. The testing may be omitted for a sump that has continuous electronic pressure, vacuum, or liquid-filled interstitial monitoring in addition to double-wall construction, if the monitoring system is tested at installation to verify that it operates in accordance with the manufacturer's specifications.
- Spill buckets covered by similar language in ATCP 93.505(2)(a)3.b.

Repair of sumps

- Proposed ATCP 93 code language:
- ATCP 93.500 (7):
- (h) *Spill containment equipment.* Repaired spill containment equipment shall be tested in accordance with the methods prescribed in s. ATCP 93.505 (2)(a) 3. before it is placed back into service.
- (i) *Containment sumps.* Any repair that affects any portion of containment sump for a UST system shall include testing of the affected portion in accordance with the methods prescribed in sub. (6) (d) to verify that the containment complies with this chapter before that portion is placed back into service.

Timeline for ATCP 93

- April 16- Official deadline for public comments
- May 18- Completion of comment review
- July 24- Presentation to DATCP Board for final rule approval
- August- Seek approval of Governor
- January 2019- Presentation of final rule to Legislature for review
- April or May 2019- ATCP 93 to be published and in effect

ATCP 93 Containment sumps- Installation and 2020 upgrade

Wisconsin Administrative Code chapter ATCP 93 requires the addition of submersible and dispenser aboveground-to-underground transition containment sumps for new, existing, and upgraded piping systems. ATCP 93 also requires the addition of aboveground-to-underground (and vice-versa) transition containment sumps for new or replacement systems only. The requirements for the installation of the required containment sumps and associated monitoring equipment are:

ATCP 93.500 (5) *Secondary Containment For Piping* and ATCP 93.615(5)(f) *Secondary Containment* require approved secondary containment with non-discriminating* electronic interstitial monitoring if underground product piping is installed as part of a new tank system or when 50 percent or more of a pipe run** is replaced. Exceptions to these requirements are:

- When underground fill piping drops vertically into a tank
- Sumps for new or replacement underground fill piping that does not drop vertically into a tank may be monitored visually on a monthly basis, instead of monitored with an electronic sensor.

* "Non-discriminating" monitors and sensors are those that will detect any type of liquid.

** A pipe run is considered the length of pipe from one connection point to another, i.e., the dispenser connection to the tank connection or the length of pipe between dispenser or transition sump connections. The replacement percent dimensions are calculated only on the subject pipe run not the aggregate of all pipe runs.

ATCP 93 Containment sumps- Installation and 2020 upgrade

Examples of how secondary containment requirements apply to new or upgraded installations:

Installation of new containment sumps only, no piping addition or upgrade:

- All existing pipe connections at the top of the tank and beneath all freestanding pumps and dispensers that routinely contain product need to be placed within secondary containment sumps by (12/31/2020). Sump upgrades will not require non-discriminating electronic sensors at the completion of the sump upgrade until 12/31/2020.
- Any existing dispenser that shows visible contamination must have a liquid-tight secondary containment sump installed under it by December 31 of the next calendar year. Non-discriminating electronic sensors shall be installed by 12/31/2020.
- Safe suction systems existing prior to February 1, 2009 only require sump containment and leak detection sensor at the dispenser, not the tank top.

ATCP 93 Containment sumps- Installation and 2020 upgrade

Installation of pressurized, suction, or safe suction piping system or replacement/upgrade of \geq 50% of existing pressurized, suction, or safe suction piping system:

- Secondary containment piping shall be of a double-wall design and include containment sumps at the tank top, dispenser, and aboveground-to-underground transitions (and vice-versa).
- The pipe run between the tank and the first dispenser must be sloped to drain a minimum 1/8 inch per foot back to the tank sump. The tank sump must also include a non-discriminating electronic sensor.
- All new dispenser sumps must include non-discriminating electronic sensors even if the pipe configuration allows for pipe drainage to the succeeding sumps.
- All new dispenser sumps must include non-discriminating electronic sensors even if the pipe configuration allows for pipe drainage to the submersible sump via a connecting flow tube.
- All new piping transition sumps must include non-discriminating electronic sensors.
- Some piping systems are unable to maintain the required piping pitch back to the underground storage tank. In these cases the installation of a solenoid valve immediately downstream of the submersible pump is necessary to prevent siphoning of the tank contents. Additional leak detection devices may be required and the leak detection manufacturer should be consulted to determine the proper location for the line-leak detector.

ATCP 93 Containment sumps- Installation and 2020 upgrade

Addition to or relocation of dispenser island with or without existing containment sump(s):

Addition to or relocation of a dispenser island with or without existing containment sump(s) will require installation of secondary containment sumps and non-discriminating electronic sensor at the time of the addition or relocation of dispenser island.

Addition to or relocation of a dispenser to an existing island with or without existing containment sump:

Addition to or relocation of dispenser to an island with or without existing containment sumps will require installation of secondary containment sumps and addition of non-discriminating electronic sensor at the time of the addition or relocation of dispenser on an island.

ATCP 93 Containment sumps- Installation and 2020 upgrade

Examples of how secondary containment requirements apply to existing installations:

Existing tank top and dispenser sumps, no piping addition or upgrade and no existing *non-discriminating electronic sensors*:

Existing tank top and dispenser sumps will not require non-discriminating electronic sensors until December 31, 2020.

Replacement of an existing dispenser island without existing containment sumps (no change to location of island or individual dispenser):

Replacement of dispenser islands will not require addition of secondary containment sump or non-discriminating electronic sensors at the time of the replacement. However, containment sumps and non-discriminating electronic sensors shall be installed by December 31, 2020.

Replacement of an existing dispenser island with existing containment sumps (no change to location of island or individual dispenser):

Replacement of dispenser islands will require re-installation of secondary containment sump and non-discriminating electronic sensors at the time of the island replacement.

ATCP 93 Containment sumps- Installation and 2020 upgrade

Replacement of an existing dispenser without a secondary containment sump with a new dispenser:

Upgrade with dispenser sump and non-discriminating electronic sensor not required until December 31, 2020.

ATCP 93 Containment sumps- Installation and 2020 upgrade

Equipment requirements:

Containment sump construction requirements:

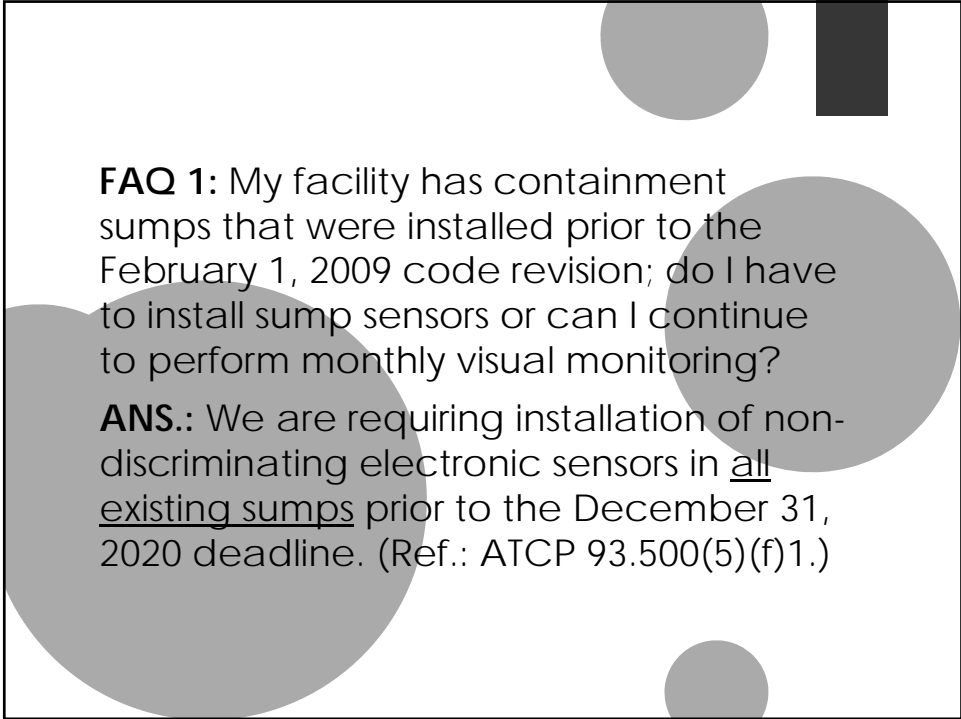
- New installations require an approved listed* manufactured containment sump.
- Fabricated sump containment boxes, dispenser pans and linings are acceptable means of upgrade compliance for existing systems.

* "Listed" means equipment or material that has been labeled or identified by an organization concerned with product evaluation acceptable to the department. The listing of the equipment indicates compliance with appropriate standards or performance for a specified purpose.

Acceptable equipment for containment sump non-discriminating electronic sensor monitoring:

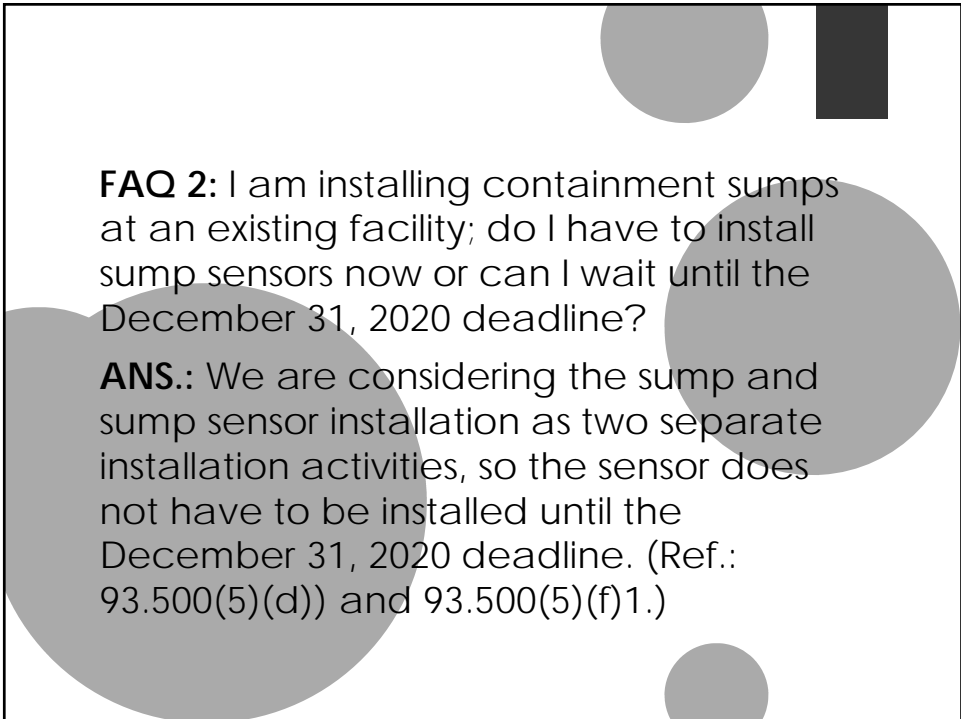
Non-discriminating electronic sensors require material approval from the department and must be either:

- a sensor monitored by an Automatic Tank Gauge (ATG); or
- a stand-alone sensor wired directly to the dispenser or submersible control in order to disable the operation of the respective dispenser or submersible.



FAQ 1: My facility has containment sumps that were installed prior to the February 1, 2009 code revision; do I have to install sump sensors or can I continue to perform monthly visual monitoring?

ANS.: We are requiring installation of non-discriminating electronic sensors in all existing sumps prior to the December 31, 2020 deadline. (Ref.: ATCP 93.500(5)(f)1.)



FAQ 2: I am installing containment sumps at an existing facility; do I have to install sump sensors now or can I wait until the December 31, 2020 deadline?

ANS.: We are considering the sump and sump sensor installation as two separate installation activities, so the sensor does not have to be installed until the December 31, 2020 deadline. (Ref.: 93.500(5)(d)) and 93.500(5)(f)1.)

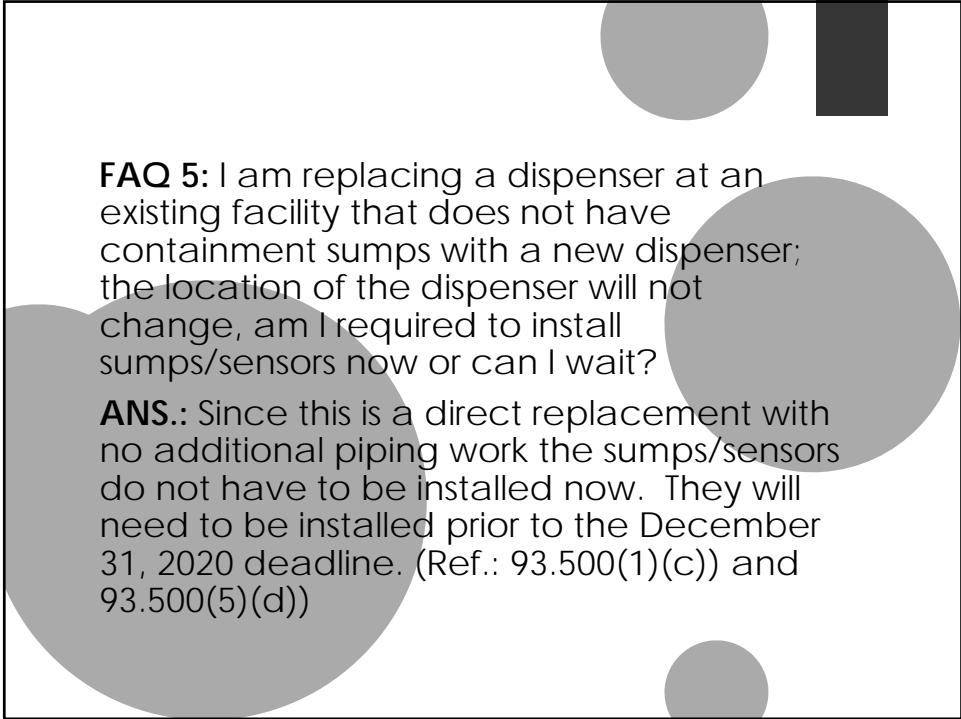
FAQ 3: I am installing containment sumps at an existing facility; can I field fabricate a sump using a pourable form-in-place paste?

ANS.: Fabricated sump containment boxes, dispenser pans and linings are acceptable means of upgrade compliance for existing systems.

- ▶ If it is suspected and confirmed via a sump tightness test that the containment sump is no longer liquid tight, the sump can be repaired one time. Following the repair the sump shall pass another tightness test.
- ▶ Upon failing any subsequent tightness tests the sump shall be replaced with a manufactured sump.

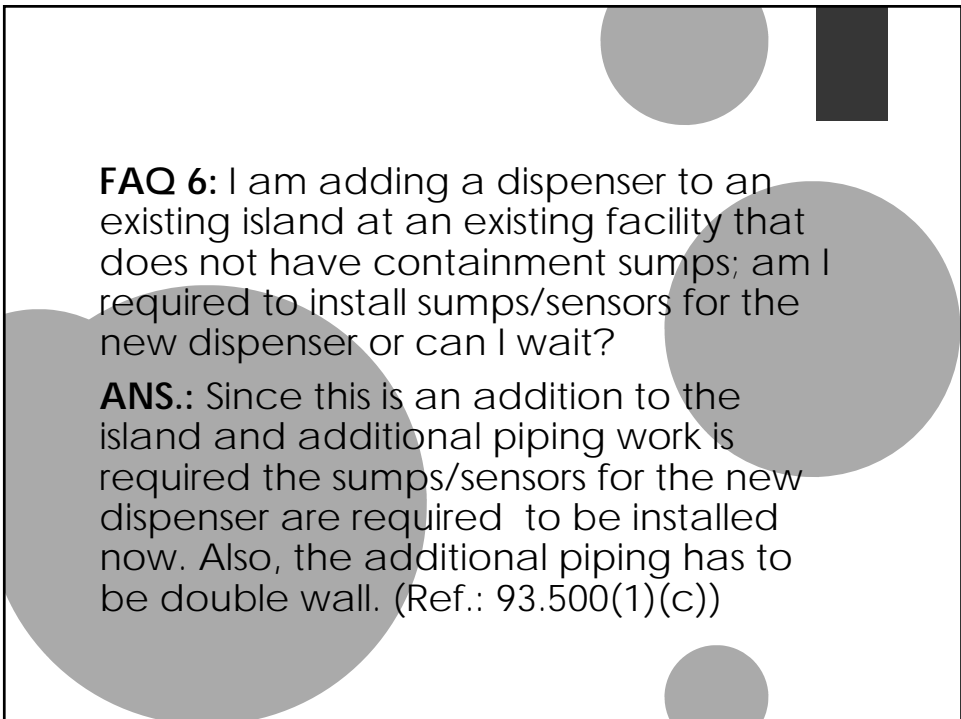
FAQ 4: I am replacing a dispenser island at an existing facility that does not have containment sumps; the location/size of the island will not change and the dispensers will remain in the same location, am I required to install sumps/sensors now or can I wait?

ANS.: Since this is a direct replacement with no additional piping work the sumps/sensors do not have to be installed now. They will need to be installed prior to the December 31, 2020 deadline. (Ref.: 93.500(1)(c)) and 93.500(5)(d))



FAQ 5: I am replacing a dispenser at an existing facility that does not have containment sumps with a new dispenser; the location of the dispenser will not change, am I required to install sumps/sensors now or can I wait?

ANS.: Since this is a direct replacement with no additional piping work the sumps/sensors do not have to be installed now. They will need to be installed prior to the December 31, 2020 deadline. (Ref.: 93.500(1)(c)) and 93.500(5)(d))



FAQ 6: I am adding a dispenser to an existing island at an existing facility that does not have containment sumps; am I required to install sumps/sensors for the new dispenser or can I wait?

ANS.: Since this is an addition to the island and additional piping work is required the sumps/sensors for the new dispenser are required to be installed now. Also, the additional piping has to be double wall. (Ref.: 93.500(1)(c))

FAQ 7: I am re-locating a dispenser island (and dispensers) at an existing facility that does not have containment sumps; am I required to install sumps/sensors at the new dispenser island location or can I wait?

ANS.: Since this would be considered a new installation sumps/sensors are required to be installed on the new island. Also, the new piping has to be double wall. (Ref.: 93.500(1)(c))

FAQ 8: What is required for containment sump *non-discriminating electronic sensor* monitoring.

ANS.: *Non-discriminating electronic sensors* shall be either:

- ▶ a sensor monitored by an Automatic Tank Gauge (ATG); or
- ▶ a stand-alone sensor wired directly to the dispenser or submersible control in order to disable the operation of the respective dispenser or submersible.

QUESTIONS?



29