

FREQUENTLY ASKED QUESTIONS

Environmental Protection Performance Standards at Oil and Gas Well Sites

Secondary containment (§ 78a.64a)

The purpose of this Frequently Asked Questions (FAQ) document is to highlight changes in and address questions about the new regulations. This FAQ should not be used in lieu of reference to the 2012 Oil and Gas Act, 25 Pa. Code Chapter 78a and other applicable laws and regulations. The answers outlined in this FAQ are intended to supplement existing requirements. Nothing in this document shall affect statutory or regulatory requirements.

This document is not an adjudication or a regulation. There is no intent on the part of the Department to give this document that weight or deference. The Department may supplement or amend this document at any time as necessary without notice.

1. What is the secondary containment coefficient of permeability?

In accordance with section 78a.64a(c)(2), secondary containment must have coefficient of permeability no greater than 1×10^{-10} cm/sec. (posted 09/26/16)

2. Will the secondary containment resistance requirement need to follow the same American Society for Testing and Materials (ASTM) standard for permeation of chemical protective clothing?

Section 78a.64a(c)(3) provides:

The physical and chemical characteristics of all liners, coatings or other materials used as part of the secondary containment, that could potentially come into direct contact with regulated substances being stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy compatibility test methods as approved by the Department.

While liner compatibility may be demonstrated by satisfying ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners, ASTM D543 wet patch at 140°F for 72 hours, section 78a.64a(d)(3) accommodates other tests methods to demonstrate liner compatibility). (posted 09/26/16)

3. In section 78a.64a there is a permeability standard for secondary containment on well sites. What is the difference between this section and what is described as secondary containment in sections 78a.57 and 78a.58?

The requirements of section 78a.64a apply to the secondary containment requirements in sections 78a.57 and 78a.58. (posted 09/26/16)

4. What does a record of repair for secondary containment look like?

Section 78a.64a(e) requires operators to maintain records of repairs until the well site is restored. A record of repair may be a signed and dated narrative description of repair work or a contactor receipt, photo, completed work order, or an inspection report. (posted 09/26/16)

5. Does an operator need to keep records of weekly secondary containment inspections? Maintaining containment inspections at the actual well site may not be practical, can these be provided to Department upon request for unmanned sites?

Yes, section 78a.64a(e) states that “The well operator shall maintain records of any repairs until the well site is restored.” Under section 78a.64a(h), “Inspection reports and maintenance records shall be available at the well site for review by the Department.” (posted 09/26/16)

6. Will the DEP develop a weekly inspection checklist or guidance for secondary containment inspections like they did for monthly tank inspections?

Site-specific situations and broad range of secondary containment applications along with wide variations of containing/use/transfer of regulated substances on the well site create too many variables for standard checklists at this time. (posted 09/26/16)

7. Why are tanks inspected monthly and secondary containment weekly?

Tanks and secondary containment serve different purposes on a well site and different inspection timeframes are appropriate. Tanks provide primary storage of regulated substances designed for long-term operation with use with secondary containment. For these reasons, monthly inspections are appropriate for tanks. Secondary containment is designed to minimize releases into the environment from primary containment, to prevent comingling of incompatible released regulated substances and to minimize the area of potential contamination, to the extent practicable. Secondary containment must also be drained of precipitation in accordance with section 78a.64a(d). Because of these functions and requirements for containment, it is appropriate to inspect secondary containment weekly, at a “minimum.” (posted 09/26/16)

8. Are dry materials subject to the requirements of secondary containment? For example, the dry additives used as part of the mud system.

Yes, section 78a.64a(b) requires “All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within secondary containment.” The states of fluids/solids as regulated substances are irrelevant. (posted 09/26/16)

9. How is “equipment required for drilling or completing a well” defined for the purposes of section 78a.64a(c)(1)? For example, drill pipe, casing, tubing, etc.

Equipment is not a defined term, but it is defined in the context of this provision. It is equipment used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations brought on a well site and when regulated substances including

drilling, mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives, or flowback are brought onto or generated at the well site. (posted 09/26/16)

- 10. Is section 78a.64a(e) intended to mean that containment inspections must be conducted weekly from initial construction of the site until the well is plugged when regulated substances are onsite? Within the Chapter 78a Comment and Response Document for this section, the Department stated that containment systems requiring weekly inspections would only be employed during drilling, casing, cementing hydraulic fracturing and flow back operations.**

Operators must conduct weekly inspections of secondary containment systems when used during drilling; casing, cementing hydraulic fracturing and flow back operations. Secondary containment used around oil and condensate tanks (see section 78a.64) and any secondary containment at fluid storage tanks at production sites (see section 78a.57) can be inspected monthly. (posted 04/27/17)

- 11. Clarity is needed regarding the weekly inspection of secondary containment for integrity. Do physical copies need to be on the well site to maintain compliance? Also, what is the expectation for archiving records?**

Section 78a.64a(h) states that inspection reports and maintenance records shall be available at the well site for review by the Department. Section 78a.64a(e) also requires operators to maintain records of any repairs to secondary containment until the well site is restored.

Having original inspection reports, hard copies or electronic copies and records including archiving “available” at the well site at the time of inspection can satisfy the requirements of this section. The regulation does not specifically require records be “located/kept onsite,” although they must be made available to the DEP inspector for review. Secondary containment inspection records should be maintained at least until the next inspection by a DEP inspector, to demonstrate continued compliance with section 78a.64a(h). As noted in subsection (e), records of repairs to secondary containment must be maintained until the well site is restored after drilling (under section 78a.56) or plugging of the well (under sections 78a.57, 78a.64, and 78a.64a). (posted 04/27/17)

- 12. Under section 78a.64a(c)(2), secondary containment must have a coefficient of permeability no greater than 1×10^{-10} cm/sec. Can you explain coefficient of permeability and how the DEP will enforce “no greater than?” For example, which manufacturer’s spec would not meet (be in violation) this standard: 1×10^{-9} cm/sec or 1×10^{-11} cm/sec? Also, which of these manufacturer’s specs would not meet (be in violation) for this standard: 1.5×10^{-10} cm/sec or 0.7×10^{-10} cm/sec?**

1×10^{-9} cm/sec and 1.5×10^{-10} cm/sec do not meet the standard established in the regulation.

Permeability refers to the speed by which liquid moves through the liner. It is easier to think of it without the negative exponentials. Let’s say the standard is 1 cm/sec – that means that liquid could move through one centimeter of liner per second. If the permeability is 100 cm/sec, it is “greater than” the standard, because the liquid can move through 100 centimeters of liner per second (100 times faster/farther). When you think

about the negative exponentials, think about a line moving from left (negative) to right (positive), with greater numbers on the far right. So:

$$1 \times 10^{-11} \text{ cm/sec} < 1 \times 10^{-10} \text{ cm/sec} < 1 \times 10^{-9} \text{ cm/sec} < 1 \text{ cm/sec} < 100 \text{ cm/sec} < 1000 \text{ cm/sec}$$

Containment with a permeability of 1×10^{-11} cm/sec is acceptable (less than 1×10^{-10} cm/sec) while containment with a permeability of 1×10^{-9} cm/sec is NOT acceptable (in violation because it is greater than 1×10^{-10} cm/sec). Everything to the “right” of 1×10^{-10} cm/sec is more permeable than the regulation allows.

1.5×10^{-10} cm/sec is MORE permeable than the standard because the liquid moves FARTHER over the same period and the liner “fails” faster and would be in violation of the standard. A permeability of 0.7×10^{-10} cm/sec represents a better/stronger/less permeable liner because the liquid travels a shorter distance over the same second. Even though the exponential is a negative number, we are measuring distance traveled over time and so when the exponentials are the same (in this case both 10^{-10} cm/sec) it is the first number that controls. (posted 04/27/17)

13. I have equipment on my well site used for processing hydrocarbons (for example, glycol in a dehydrator). This equipment uses “regulated substances” as part of the process and these substances are stored with the equipment. Does this equipment require secondary containment? If the answer is yes, do I need to add secondary containment to equipment on existing well sites, or only for equipment installed after October 8, 2016?

Yes, secondary containment is required for this production equipment if it stores regulated substances. Section 78a.64a(b) states:

All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within secondary containment. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site.

The glycol in the GPU is a regulated substance in equipment that needs to be managed within secondary containment.

Section 78a.64a(b) is not explicitly retroactive, however, and regulatory construction principles do not favor retroactive application absent clear language or explicit intent. Therefore, secondary containment is only required for production equipment brought onto a well site after October 8, 2016. (posted 04/27/17)

14. Minor spills under 5 gallons onto secondary containment that do not threaten waters of the Commonwealth no longer need to be reported to DEP. Do these spills still need to be documented by the operator?

Under section 78a.64a(f), “Regulated substances that escape from primary containment or are otherwise spilled onto secondary containment shall be removed as soon as possible. After removal of the regulated substances the operator shall inspect the secondary containment.” Section 78a.64a(h) states that, “Inspection reports and

maintenance records shall be available at the well site for review by the Department.” Documentation of the inspection of secondary containment after any spill/removal of regulated substance is required. That inspection documentation should include volume or an estimate of regulated substances spilled or escaped.

In addition, an operator’s site-specific PPC plan should contain a provision for documenting spills under the History section. As noted in *Guidelines for the Development and Implementation of Environmental Emergency Response Plans*, # 400-2200-001:

List the previous pollution incidents, the date, the material or waste spilled, approximate amount spilled, environmental damage, and action taken to prevent a recurrence. An important criterion in determining the effectiveness of the plan and its implementation is the history of incidents at the installation. A history of no incidents suggests that the practices and procedures at the site are effective. For a site with a history of incidents, it is important to investigate the reasons for the spills and the response of the company in minimizing the potential for their recurrence. (posted 04/27/17)

**15. Submitting Containment Plan under Section 3218.2(b) of the 2012 Oil and Gas Act
Could you clarify if it is just the Master Containment Plan that needs to be submitted and how we go about submitting those to the department and if this plan needs to be submitted annually, like the Emergency Response Plans?**

The Master Containment Plan only needs submitted to DEP once at the time of permitting to comply with the 2012 Oil and Gas Act. Section 3218.2(b) states that the “[permit] applicant shall submit a plan to the department describing the containment practices to be utilized and the area of the well site where containment systems will be employed. The plan shall include a description of the equipment to be kept onsite during drilling and hydraulic fracturing operations to prevent a spill from leaving the well site.” Keeping the PPC plan updated with site specific secondary containment fulfills the requirements of section 78a.55(c). (posted 04/27/17)