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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Oil and Gas Management

Chapter 78a Training

Emergency Response, Secondary Containment, Reporting/Remediating Spills & Releases

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Tom Wolf, Governor

Patrick McDonnell, Acting Secretary

Purpose of Presentation

The purpose of this presentation is to discuss the existing and new regulations for Emergency Response / control and disposal planning, secondary containment and reporting and remediating spills and releases



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§ 78a.55 Control and disposal planning + emergency response for unconventional wells



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Emergency Response Planning

Who is required to prepare & Implement site Specific PPC Plans ?

Persons conducting oil and gas operations shall prepare and implement **site specific PPC plans** according to **§§ 91.34 and 102.5(I)**

Emergency Response Planning

Oil and gas operations—The term includes the following:

- (i) Well site preparation, construction, drilling, hydraulic fracturing, completion, production, operation, alteration, plugging and site restoration associated with an oil or gas well.**
- (ii) Water withdrawals, residual waste processing, water and other fluid management and storage, used exclusively for the development of oil and gas wells.**
- (iii) Construction, installation, use, maintenance and repair of:**
 - (A) Oil and gas gathering and transmission pipelines.**
 - (B) Natural gas compressor stations.**
 - (C) Natural gas processing plants or facilities performing equivalent functions.**
- (iv) Construction, installation, use, maintenance and repair of all equipment directly associated with activities in subparagraphs (i)—(iii) to the extent that the equipment is necessarily located at or immediately adjacent to a well site, impoundment area, oil and gas pipeline, natural gas compressor station or natural gas processing plant.**
- (v) Earth disturbance associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.**

Emergency Response Planning

§ 91.34 : PPC Plan outlining measures necessary to prevent polluting substances from directly or indirectly reaching Commonwealth Waters.

§ 102.5(I): Prepare & implement PPC plan when materials (polluting substances) are used , stored or transported from site **during earth disturbance activity.**

Emergency Response Planning

WELL OPERATOR REQUIREMENTS :

- Operator shall **prepare and develop a site specific PPC plan** prior to storing, using, or generating **regulated substances** on a well site from the drilling, alteration, production, plugging or other activity associated with a well or transporting those regulated substances to, on or from a well site.

Emergency Response Planning

Regulated substance – The term as defined in section 103 of Act 2 (35 P.S. § 6026.103) :

“Regulated substance.” The term shall include hazardous substances and contaminants regulated under the act of October 18, 1988 (P.L.756, No.108), known as the Hazardous Sites Cleanup Act, and substances covered by the act of June 22, 1937 (P.L. 1987, No.394), known as The Clean Streams Law, the act of January 8, 1960 (1959 P.L.21 19, No.787), known as the Air Pollution Control Act, the act of July 7, 1980 (P.L.380, No.97), known as the Solid Waste Management Act, the act of July 13, 1988 (P.L.525, No.93), referred to as the Infectious and Chemotherapeutic Waste Law, and the act of July 6, 1989 (P.L.169, No.32), known as the Storage Tank and Spill Prevention Act.

Emergency Response Planning

PPC PLAN REQUIREMENTS :

- **Identify the control and disposal methods** and practices utilized by the well operator.
- **Include a pressure barrier policy** developed by the operator that identifies barriers to be used during identified operations.

Emergency Response Planning

PPC PLAN REVISIONS & COPIES:

- Revise the PPC plan prior to implementing a change to the practices identified in the PPC plan.
- Copy of the well operator's PPC plan shall be provided to the Department, the Fish and Boat Commission or the landowner upon request and shall be **available at the site** during drilling and completion activities for review.

Emergency Response Planning

PPC EMERGENCY CONTACTS :

- A **list** of **emergency contact phone numbers for the area** in which the well site is located must be included in the PPC plan.
- **LIST prominently displayed at the well site** during drilling, completion or alteration activities.

DEP Emergency Contact Numbers		
Region	Emergency Phone	Counties Supervised
Southeast	484-250-5900	Bucks, Chester, Delaware, Montgomery, Philadelphia
Northeast	570-826-2511	Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming
South-central	866-825-0208	Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York
North-central	570-327-3636	Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union
Southwest	412-442-4000	Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland
Northwest	814-332-6945 After Hours: 800-373-3398	Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren
RCSOB	1-800-541-2050	Statewide and Interstate

Control and Disposal Planning

PPC Guidelines :

- Guidelines for the Development and Implementation of Environmental Emergency Response Plans, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 400-2200-001, as amended and updated, will be deemed to meet the requirements of this section.

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-48522/400-2200-001.pdf>

Emergency Response Planning

Emergency Response for unconventional well sites

- **Applicability : This subsection (i) under 78a.55 applies to unconventional wells.**

Emergency Response Planning

UNCONVENTIONAL PPC PLAN MUST DESCRIBE :

- **Containment practices** to be utilized and the area of the well site where primary and secondary containment will be employed as required under **§ 78a.64a**
- **Equipment** to be kept **onsite** during drilling and hydraulic fracturing operations that can be utilized **to prevent a spill from leaving the well site.**

Emergency Response Planning

§ 78a.64a. Secondary containment :

C (1) **Secondary containment must be used on the well site** when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback are brought onto or generated at the well site.

Emergency Response Planning

WELL SITE REGISTRATION:

- Prior to construction of an access road to a well site, the operator of an unconventional well shall request a street address for the well site from the county or municipality responsible for assigning street addresses.
- The operator shall determine the **GPS coordinates for both the well site and the entrance to the well site.**

Emergency Response Planning

WELL SITE REGISTRATION:

Register following with PEMA, the Department, the Public Safety Answering Point and the county emergency management organization within the county where the well site is located:

- The well site name.
- The well site address.
- The GPS coordinates for the entrance and the well site.

Emergency Response Planning

The following shall be retained at the well site for reference when contacting emergency responders:

- The well site name.
- The well site address.
- The GPS coordinates for the entrance and the well site.

Emergency Response Planning

SIGNAGE :

- **Prior to construction of the access road, the operator of an unconventional well shall display a reflective sign at the entrance.**
- Retroreflective sheeting material meeting ASTM 4956 Type III.
- <http://www.dot.state.mn.us/trafficeng/signing/doc/retroreflectivesheetingIDguide.pdf>

Emergency Response Planning

SIGNAGE:

- May not be obstructed from view by vegetation, equipment, vehicles or other obstruction.
- During drilling operations, the American Petroleum Institute (**API**) **permit numbers** of the wells at the site may be posted on a non-reflective sign **below the principal sign**. The API sign may be removed after the well is completed, provided that it is not otherwise required to be posted.

Emergency Response Planning

SIGN REQUIREMENTS:

- White background with a **2-inch red border** and **black numbers and letters**.
- Sign must be of sufficient size to accommodate the required information described in this section. The **minimum size of a sign must be 36 inches in height and 48 inches in width**.

Emergency Response Planning

(D) The sign must follow the format of Figure 1 and contain:

(I) The address number for the well site displayed horizontally on the first line of the sign in text no smaller than 4 inches in height.

(II) The full address of the entrance, including the county and municipality in which the entrance is located.

(III) The well operator's company name.

(IV) The 24-hour contact telephone information for the operator of the well site.

(V) The GPS coordinates for the entrance.

(VI) The well site name.

(VII) The wording "In Case of Emergency Call 9-1-1."

(iii) The sign must be mounted independently from other signage.

(iv) The bottom of the sign must be positioned a minimum of 3 feet above ground level.

(v) The sign may not contain other markings.

Well Site Signage



Emergency Response Planning

EMERGENCY RESPONSE PLANS (ERP)

- **Operator of an unconventional well shall develop and implement an emergency response plan that provides for equipment, procedures, training and documentation **to properly respond to emergencies that threaten human health and safety for each well site.****
The plan shall incorporate National Incident Management System planning (NIMS)

Emergency Response Planning



Emergency Response Planning



Emergency Response Planning

ERP REQUIREMENTS:

- The **emergency contact information**, including phone numbers, for the well operator's local representative for the well site and the well operator's **24-hour emergency phone number**.
- The **emergency notification procedures** that the operator shall utilize **to contact emergency responders** during an emergency.

Emergency Response Planning

ERP REQUIREMENTS:

- **Description of the well site personnel's response to the following:**
- Fire - Explosion or similar event.
- Spill.
- Medical emergency.
- Security breach or other security event.
- Any other incident that necessitates the presence of emergency responders.

Emergency Response Planning

ERP REQUIREMENTS:

- Description of the procedure to be used to provide the most current information to emergency responders :
- Current **Material Safety Data Sheets** (now SDS)
- **location** of the SDS at the well site.
- **Name of the position** in the operator's organization responsible for providing info above.

Emergency Response Planning

ERP REQUIREMENTS:

- **list** containing the location of any **fire suppression and spill control equipment**
- **Description** of any **emergency equipment** available to the operator located off the well site.
- **Summary** of the **risks and hazards to the public within 1/2 mile** of the well site and the associated planning assumptions.
- **ER Training Plan**

Emergency Response Planning

ERP REQUIREMENTS:

- **THE LOCATION OF AND MONITORING PLAN FOR ANY EMERGENCY SHUTOFF VALVES LOCATED ALONG WELL DEVELOPMENT PIPELINES IN ACCORDANCE WITH § 78a.68b (RELATING TO WELL DEVELOPMENT PIPELINES FOR OIL AND GAS OPERATIONS).**

Emergency Response Planning

§ 78a.68b. Well development pipeline check valves :

- Well development pipelines used to transport fluids other than fresh ground / surface water, **must have shut off valves, check valves** or other methods of segmenting the pipeline placed at designated intervals, that **prevent the discharge of more than 1,000 barrels of fluid.** Shut off valves shall be **installed on both sides of the temporary stream / wetland crossing.**

Emergency Response Planning

ERP **MAY** CONSIST OF TWO PARTS:

- A **base plan** common to all of the operator's well sites.
- A **site-specific plan** containing the remaining required elements.

Emergency Response Planning

The ERP and subsequent updates shall be submitted to:

- PEMA.
- The Department.
- The county emergency management agency.
- The Public Safety Answering Point with jurisdiction over the well site.

Emergency Response Planning

- A copy of the ERP shall be available at the well site during all phases of operation.
- The ERP must address response actions for the following stages of operation at the well site:

Preparation of access road and well site.

Drilling of the well.

Hydraulic fracturing/stimulation of the well.

Production

Restoration

Plugging



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§ 78a.64 Containment around Oil & Condensate tanks



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Secondary Containment - Tanks

APPLICABILITY:

- Tank or tanks with a **combined capacity of at least 1,320 gallons to contain **oil or condensate** produced from a well**
- Owner or operator **shall construct and maintain a dike or other method of secondary containment** which satisfies the requirements under 40 CFR Part 112

Secondary Containment - Tanks

REQUIREMENTS:

- The secondary containment provided by the dikes or other method of secondary containment shall have containment capacity sufficient to hold the volume of the largest single tank, plus a reasonable allowance for precipitation based on local weather conditions and facility operation.

Secondary Containment - Tanks



Secondary Containment - Tanks



Secondary Containment - Tanks



Secondary Containment - Tanks

REQUIREMENTS:

- Prior to drainage of accumulated precipitation from secondary containment, the secondary containment shall be inspected and accumulations of oil picked up and returned to the tank or disposed of in accordance with approved methods.

Secondary Containment - Tanks

REQUIREMENTS:

Drainage of secondary containment is acceptable **if**:

- Secondary containment **consists of only precipitation** directly to the secondary containment and drainage **will not cause a harmful discharge and/or a sheen.**
- The secondary containment **drain valve is opened and resealed**, or other drainage procedure, as applicable, is conducted under responsible supervision.

Secondary Containment - Tanks

EXISTING CONDENSATE TANKS :

An owner or operator who installed a tank or tanks with a combined capacity of at least 1,320 gallons **prior to _____** (effective date of adoption of proposed rulemaking.) **to store condensate produced from a well shall meet the requirements of this section when a tank is replaced, refurbished or repaired or by _____** (date **two years** from the effective date of adoption of proposed rulemaking.), whichever is sooner.



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§ 78a.64a Secondary Containment at unconventional well sites



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Well Site Secondary Containment

REQUIREMENTS:

- **Unconventional Well sites** shall be designed and constructed using secondary containment.
- **All regulated substances**, including solid wastes and other regulated substances in equipment or vehicles, **shall be managed within secondary containment.**

Well Site Secondary Containment

REQUIREMENTS :

Secondary containment on the well site:

- When any **equipment** that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site.
- When **regulated substances** including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback **are brought onto or generated at the well site.**

Well Site Secondary Containment

REQUIREMENTS:

- Secondary containment must have coefficient of permeability no greater than 1×10^{-10} cm/sec.
- Liner compatibility shall satisfy compatibility test methods as approved by the Department.

Well Site Secondary Containment

REQUIREMENTS:

- 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 **must be compatible** and be **resistant** to physical, chemical and other failure during handling, installation and use.

Well Site Secondary Containment

REQUIREMENTS:

- Secondary containment open to the atmosphere must have storage capacity sufficient to **hold the volume of the largest single aboveground primary containment, plus an additional 10% of volume for precipitation.**
- Using double walled tanks capable of detecting a leak in the primary containment fulfills the requirements in this subsection.

Well Site Secondary Containment

REQUIREMENTS:

- **Stormwater that comes into contact with regulated substances** stored within the secondary containment shall be **managed as residual waste**.
- Inspection reports and maintenance records shall be available at the well site for review by the Department.
- Documentation of chemical compatibility of secondary containment with material stored within the system shall be provided to the Department upon request.

Well Site Secondary Containment

REQUIREMENTS:

- Regulated substances that escape from primary containment or are otherwise **spilled onto secondary containment shall be removed ASAP.**
- After removal of the regulated substances **inspect the secondary containment.**
- If the secondary containment **did not completely contain the material, the operator shall notify the Department and remediate the affected area.**

Well Site Secondary Containment

REQUIRED INSPECTIONS & ACTIONS:

- All secondary containment shall be **inspected weekly** to ensure integrity.
- If the secondary containment is damaged or compromised, **repair the secondary containment as soon as practicable.**
- **Maintain records of any repairs until the well site is restored.**
- Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more.

Well Site Secondary Containment



Well Site Secondary Containment



Well Site Secondary Containment



Well Site Secondary Containment



Well Site Secondary Containment



Well Site Secondary Containment





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§ 78a.66 Reporting and remediating spills and releases



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Reporting and Remediating spills

This section applies to reporting and remediating spills or releases of regulated substances on or adjacent to well sites and access roads.

Reporting and Remediating spills

REPORTING RELEASES:

- An operator or other responsible party shall report the following spills and releases of **regulated substances**
- A spill or release of a regulated substance causing or threatening pollution of the waters of this Commonwealth, in the **manner required by § 91.33** (relating to incidents causing or threatening pollution).

Reporting and Remediating spills

PA Code Title 25 Ch. § **91.33(a)**:

- Incidents causing or threatening pollution :
Requires responsible party to immediately notify DEP by telephone when Waters of the Commonwealth are polluted or threatened.
- Report location and nature of the danger and, if reasonably possible to do so, **notify downstream users of the waters.**

Reporting and Remediating spills

REPORTING RELEASES:

- A spill or release of **5 gallons or more** of a **regulated substance** over a 24-hour period that is not completely contained by secondary containment

Reporting and Remediating spills

REPORTING RELEASES:

- In addition to meeting the notification requirements of § 91.33 , the operator or other responsible party shall contact the appropriate Regional Department office **by telephone** or call the Department's Statewide toll free number as soon as practicable, but **no later than 2 hours** after discovering the spill or release.

▶ Reporting and Remediating spills

REPORTING RELEASES - REQUIRED INFORMATION:

- The name of the person reporting the spill or release and telephone number.
- The name, address and telephone number of the operator or other responsible party.
- The date & time of the spill or release or when it was discovered.
- The location of the spill or release, including directions to the site, GPS coordinates or the 911 address, if available.

▶ Reporting and Remediating spills

REPORTING RELEASES – REQUIRED INFORMATION:

- Estimated weight or volume of substance spilled
- The nature of any injuries.
- Remedial actions planned, initiated /completed.
- Description of the nature of the spill or release and its cause, potential impacts to public health, safety or environment including any available information concerning the pollution or threatened pollution of surface water, groundwater or soil.

Reporting and Remediating Spills



Reporting and Remediating Spills



▶ Reporting and Remediating Spills



▶ Reporting and Remediating Spills



▶ Reporting and Remediating Spills



▶ Reporting and Remediating Spills



▶ Reporting and Remediating Spills



Reporting and Remediating Spills



Reporting and Remediating spills

WATER SUPPLY INVESTIGATIONS:

- The operator or other responsible party **shall identify and sample water supplies** that have been polluted or for which there is a potential for pollution in a reasonable and systematic manner.
- Operator or other responsible party shall provide a copy of the **sample results** to the water supply owner and the department **within 5 business days** of receipt of the sample results from the laboratory.

Reporting and Remediating spills

WATER SUPPLY REPLACEMENT:

- **The operator or other responsible party shall restore or replace a polluted water supply in accordance with § 78a.51.**

▶ Reporting and Remediating Spills



▶ Reporting and Remediating Spills



Reporting and Remediating spills

REMEDIATION REQUIREMENTS:

- **The Department may immediately approve temporary emergency storage or transportation methods** necessary to prevent or mitigate harm to the public health, safety or the environment. Storage may be at the site of the incident or at a site approved by the Department.

Reporting and Remediating spills

REMEDIATION REQUIREMENTS:

- **Decontaminate equipment** used to handle the regulated substance, including storage containers, processing equipment, trucks and loaders, before returning equipment to service.
- Contaminated wash water, waste solutions and residues generated from washing or decontaminating shall be **managed as residual waste.**

Reporting and Remediating spills

REMEDIATION REQUIREMENTS:

- Spills or releases to the ground of **less than 42 gallons at a well site** that do not pollute or threaten to pollute waters of the Commonwealth may be remediated **by removing the soil visibly impacted by the spill.**
- **Department notification required** at the time the report of the spill or release is made for intent to remediate a spill or release in this manner.

Reporting and Remediating spills

REMEDIATION REQUIREMENTS:

- For spills or releases to the ground of **greater than or equal to 42 gallons** **or** that pollute or threaten to pollute waters of the **Commonwealth**, the operator or other responsible person **must** demonstrate attainment of one or more of the standards established by Act 2 and Chapter 250

Reporting and Remediating spills

INITIAL REPORT REQUIREMENTS :

- **Within 15 business days** of the spill or release, the operator or OTHER responsible party shall provide an **initial written report**

▶ Reporting and Remediating spills

INITIAL REPORT REQUIREMENTS:

- The regulated substance involved.
- The location where the spill or release occurred.
- The environmental media affected.
- Pollution or threatened pollution of water supplies.
- Impacts to buildings or utilities.
- Interim remedial actions planned, initiated or completed.

Reporting and Remediating spills

INITIAL REPORT REQUIREMENTS:

- **A summary of the actions** the operator or other responsible party intends to take at the site **to address the spill or release** such as a **schedule** for site characterization, to the extent known, and the anticipated timeframes within which it expects to take those actions.

Reporting and Remediating spills

SITE CHARACTERIZATION REPORT REQUIREMENTS:

- **Within 180 calendar days** of the spill or release, the operator or other responsible party **shall perform a site characterization & submit Report** to determine the extent and magnitude of the pollution & any interim remedial actions taken.
- This report **may be considered to be a final remedial action completion report** if the interim remedial actions meet all of the requirements of an Act 2 cleanup standard.

Reporting and Remediating spills

SITE CHARACTERIZATION REPORT REQUIREMENTS:

- After the initial report, **any new pollution or other impacts** identified or discovered during interim remedial actions or site characterization shall also be reported in writing to the Department **within 15 business days of their discovery.**

Reporting and Remediating spills

If the site characterization indicates that the interim remedial actions taken **did not adequately remediate the spill** or release:

- Submit a **remedial action plan** to the appropriate Department regional office **for approval**. The plan is due **within 45 calendar days** of submission of the site characterization to the Department. Remedial action plans shall contain the **elements outlined in § 245.311(a)** as well as a schedule for the submission of remedial action progress reports.

Reporting and Remediating spills

245.311 & 313 Remedial Action Plans & Reports:

The remedial action plan must be complete and concisely organized and contain the following elements, as necessary, based on the nature, extent, type, volume or complexity of the release.

<http://www.pacode.com/secure/data/025/chapter245/s245.311.html>

<http://www.pacode.com/secure/data/025/chapter245/s245.313.html>



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Questions?

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