Chapter 78a
Oil and Gas Regulations
Pipelines
August 22, 2016

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Tom Wolf, Governor
Patrick McDonnell, Acting Secretary
Pipelines Covered in Chapter 78

• No pipeline-specific regulations under Chapter 78.
• Current DEP inspections of pipelines primarily use Chapters 102 and 105 to protect the Waters of the Commonwealth.
• New Chapter 78a regulations address Pipelines in Sections 78a.68, 78a.68a, and 78a.68b.
In Sections 78a.68, 78a.68a, and 78a.68b three types of pipelines are covered:

• Gathering Pipelines (§78a.68)
• Horizontal Directional Drilling (HDD) (§78a.68a)
• Well Development Pipelines (§78a.68b)
§ 78a.1 Definitions. Gathering Pipeline – a DEP regulated pipeline that transports oil, liquid hydrocarbons or natural gas from individual wells to an intrastate or interstate transmission pipeline.
Gathering Pipelines

Pipeline Diagram

- Gathering Lines
- Transmission Lines
- Distribution Lines
• Erosion and Sediment Pollution Control General Permit – 2 (ESCGP-2)
  – County Conservation District (CCDs)/DEP Bureau of Waterways, Engineering and Wetlands
  – DEP Bureau of Oil and Gas Planning and Program Management District Offices
Gathering Pipelines
• § 78a.68(a) **Requirements** of this section apply to all **earth disturbances** associated with **gathering pipelines** during construction/installation/use/maintenance/repair/removal.

• These activities must be conducted in accordance with Chapters 102 and 105.

• This includes: the **construction right-of-ways**, **work space areas**, **pipe storage yards**, **borrow and disposal areas**, **access roads** and other **necessary areas identified** on required **E&S Control Plans**.
• § 78a.68(b) Highly visible flagging, markers or signs must be used to identify the shared boundaries of the LOD, wetlands and locations of T&E habitat prior to land clearing. The flagging, markers or signs shall be maintained throughout the earth disturbance activities and into the final restoration stage and PCSM activities.
§ 78a.68(c) Topsoil and Subsoil

(1) Topsoil and subsoil must remain segregated until restoration.

(2) Topsoil and subsoil must be prevented from entering watercourses and bodies of water.

(3) Topsoil **cannot be used** as bedding for pipelines.

(4) Native topsoil and imported topsoil must be of equal or greater quality to ensure the land is capable of supporting the uses that existed prior to earth disturbance.
§ 78a.68(d) Backfilling of the pipeline trench.

• Shall be conducted in a manner that minimizes soil compaction at the surface to ensure that water infiltration will be sufficient to support the establishment of vegetative growth to meet stabilization or restoration requirements.
Gathering Pipeline Backfilling
§ 78a.68(e) Refueling: equipment may not be refueled within the floodway or within 50 feet of any body of water.
§ 78a.68(f) **Materials staging areas** shall be located **outside of a floodway or greater than 50 feet from any body of water**, unless otherwise approved in writing by the department.
§ 78a.68(g) All buried metallic gathering pipelines shall be installed and placed in operation in accordance with 49 CFR Part 192, Subpart I (relating to requirements for corrosion control) or 195, Subpart H (relating to corrosion control).
Gathering Pipeline Corrosion Control

Anti-corrosion Spray Coating
Underground steel pipes offer the strength to transport fluids at high pressures, but they are vulnerable to corrosion driven by electrochemical processes. A measure of protection can be offered by driving a magnesium rod into the ground near the pipe and providing an electrical connection to the pipe. Since the magnesium has a standard potential of -2.38 volts compared to -.41 volts for iron, it can act as a anode of a voltaic cell with the steel pipe acting as the cathode. With damp soil serving as the electrolyte, a small current can flow in the wire connected to the pipe. The magnesium rod will be eventually consumed by the reaction - while the steel pipe as the cathode will be protected by the reaction.
Horizontal Directional Drilling (HDD)
§ 78a.68a(a) No horizontal directional drilling activities associated with pipeline construction related to oil and gas operations, including gathering and transmission pipelines, that occur beneath any body of water or watercourse may commence prior to authorization by the Department in accordance with Chapters 102 and 105
§ 78a.68a(b) Prior to any HDD activity, the person planning to conduct those activities shall develop a PPC plan (§ 102.5(l)). It must include a site specific contingency plan that describes the measures to be taken to control, contain and collect any discharge of drilling fluids and minimize impacts to waters of the Commonwealth. The PPC plan must be present onsite during drilling operations and made available to the Department upon request.
§ 78a.68a(c) The Department shall be notified at least **24 hours** prior to beginning of any HDD activities, including conventional boring, beneath any body of water or watercourse. Notice shall be made **electronically** to the Department through its **web site** and include the name of the **municipality** where the activities will occur, **GPS** coordinates of the **entry point** of the drilling operation and the **date** when drilling will begin.
§ 78a.68a(d) **All required permits** and Safety Data Sheets (**SDSs**) shall be **on site** during horizontal directional drilling activities and be made available to the Department upon request.
§ 78a.68a(e) **Materials staging areas** shall be located **outside of a floodway** (as that term is defined in § 105.1) of any watercourse or greater than **50 feet from any body of water**, unless otherwise approved in writing by the department.
§ 78a.68a(f) **Drilling fluid additives** other than bentonite and water **must be approved by the Department prior** to use. All approved horizontal directional drilling fluid additives will be listed on the Department’s web site.

**Use of a pre-approved** horizontal directional drilling fluid **additives does not** require separate Department approval.
§ 78a.68a(g) HDD activities shall be monitored for pressure and loss of drilling fluid returns.

Bodies of water and watercourses over and adjacent to horizontal directional drilling activities shall also be monitored for any signs of drilling fluid discharges. Monitoring shall be in accordance with the PPC plan.
§ 78a.68a(h) HDD activities may not result in a discharge of drilling fluids to waters of the Commonwealth. If a discharge occurs during the authorized HDD activities, the person subject to this authorization shall immediately implement the site specific contingency plan as outlined and approved in the PPC Plan.
§ 78a.68a(i) When a drilling fluid discharge or loss of drilling fluid circulation is discovered during an authorized HDD activity, the loss or discharge shall be immediately reported to the Department, and the person subject to this authorization shall request an emergency permit under § 105.64, if necessary for emergency response or remedial activities to be conducted.
§ 78a.68a(j) Any water supply complaints received by the person subject to the HDD authorization, shall be reported to the Department within 24 hours ELECTRONICALLY through its web site.
§ 78a.68a(k) HDD fluid returns and drilling fluid discharges shall be managed in accordance with Subpart D, Article IX - relating to residual waste management.
§ 78a.1 Definitions. Well Development Pipelines are pipelines used for oil and gas operations that:

- Transport materials used for the well drilling or hydraulic fracture stimulation, or both, and the residual waste generated as a result of these activities.
- WD pipelines lose functionality after the well site it serviced has been restored under § 78.65 (relating to site restoration).
§ 78a.68b(a) The construction, installation, use, maintenance, repair, and removal of well development pipelines must meet applicable requirements in Chapters 102 and 105.
§ 78a.68b(b) Operators shall install WD pipelines aboveground that transport fluids OTHER THAN fresh ground water, surface water, water from water purveyors or other Department-approved sources.
WELL DEVELOPMENT (WD) pipelines

§ 78a.68b(b) (cont’d) **Exceptions**

Crossing pathways, roads or railways where the pipeline may be *installed below ground surface*,

or

Crossing a watercourse or *body of water* where the pipeline may be installed below the ground surface *with prior Department approval*. 
§ 78a.68b(c) Well Development pipelines MAY NOT be installed through existing stream culverts, storm drain pipes or under bridges crossing streams without approval by the Department under § 105.151 (relating to permit application for construction or modification of culverts and bridges).
§ 78a.68b(d) The section of a Well Development pipeline crossing over a watercourse or body of water, except wetlands, MAY NOT have joints or couplings, unless secondary containment is provided. Well Development pipeline crossings over wetlands must utilize a single section of pipe to the extent practicable. Shut off valves shall be installed on both sides of the temporary Well Development pipeline crossing.
§ 78a.68b.(e) In addition to the requirements of subsection (c), well development pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, must have shut off valves, check valves or other methods of segmenting the pipeline, placed at designated intervals, to be determined by the pipeline diameter, that prevent the discharge of more than 1,000 barrels of fluid.
§ 78a.68b(e) (con’t) **Elevation changes** that would effectively limit flow in the event of a pipeline leak **shall be taken into consideration** when determining the placement of shut off valves and be considered **effective flow barriers**.

§ 78a.55(i)(5)(i)(I) The location of and monitoring plan for any emergency **shutoff valves** located along well development pipelines must be included in the operator’s emergency response plan.
§ 78a.68b(f) **Highly visible flagging, markers or signs** shall be placed at **regular intervals, no greater than 75 feet**, along the entire length of the Well Development pipeline.
§ 78a.68b(g) WD pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved, repaired or altered. A passing test is holding 125% of the anticipated maximum pressure for 2 hours.
§ 78a.68b(g) (cont’d) Leaks or other defects discovered during pressure testing shall be repaired prior to use. **Pressure test results** and **any defects and repairs** to the WD pipeline **shall be documented** and made available to the Department upon request.
§ 78a.68b(h) Water used for hydrostatic pressure testing shall be discharged in a manner that does not result in a discharge to waters of the Commonwealth unless approved by the Department in writing.
§ 78a.68b(i) Well Development pipelines shall be inspected prior to and during each day the pipeline is not emptied and depressurized. Inspection dates and any defects and repairs to the Well Development pipeline shall be documented and made available to the Department upon request.
§ 78a.68b(j) Well Development pipelines not used to transport fluids for more than seven (7) consecutive calendar days shall be emptied and depressurized.

In no case may a well development pipeline be used to transport or store fluids for more than twelve months without approval from the department.
§ 78a.68b(k) **Flammable materials** may not be transported through a **well development** pipeline.
§ 78a.68b(l) Well development pipelines shall be removed in accordance with the required restoration timeline of the well site it serviced under § 78a.65 (relating to site restoration).
§ 78a.68b(m) An operator shall keep records regarding the location of all well development pipelines, the type of fluids transported through those pipelines and the approximate period of time that the pipeline was installed. The records shall be made available to the Department upon request.
§ 78a.68b(n) **Records** required under this section **shall be retained** by the operator for **one (1) year** after the Well Development pipeline is **removed**.
Questions?

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