

CHAPTER 78a. UNCONVENTIONAL WELLS

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Authority

The provisions of this Chapter 78a issued under 58 Pa.C.S §§ 3202, 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c) and 3274; section 5 of The Clean Streams Law (35 P.S. § 691.5); section 105 of the Solid Waste Management Act (35 P.S. § 6018.105); section 5 of the Dam Safety and Encroachments Act (32 P.S. § 693.5); section 104 of the Land Recycling and Environmental Remediation Standards Act (35 P.S. § 6026.104); sections 301 and 302 of the Radiation Protection Act (35 P.S. §§ 7110.301 and 7110.302); section 3 of the Unconventional Well Report Act (58 P.S. § 1003); section 13.2 of the act of July 10, 2014 (P.L. 1053, No. 126) adding section 1741.1-E of The Fiscal Code (72 P.S. § 1741.1-E); and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P.S. §§ 510-17 and 510-20), unless otherwise noted, unless otherwise noted.

Source

The provisions of this Chapter 78a adopted October 7, 2016, effective October 8, 2016, 46 Pa.B. 6431, unless otherwise noted.

Subchapter A. GENERAL PROVISIONS

Sec.	
78a.1.	Definitions.
78a.2.	Applicability.

§ 78a.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise, or as otherwise provided in this chapter:

*ABACT—Antidegradation best available combination of technologies*—The term as defined in § 102.1 (relating to definitions).

*Abandoned water well*—

- (i) A water well that is no longer equipped in such a manner as to be able to draw groundwater.
- (ii) The term includes a water well where the pump, piping or electrical components have been disconnected or removed or when its use on a regular or prescribed basis has been discontinued.

(iii) The term does not include a water well that is not currently used, but is equipped or otherwise properly maintained in such a manner as to be able to draw groundwater as an alternative, backup or supplemental water supply.

*Accredited laboratory*—A laboratory accredited by the Department under Chapter 252 (relating to environmental laboratory accreditation).

*Act*—58 Pa.C.S. §§ 3201—3274 (relating to development).

*Act 2*—The Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.908).

*Anti-icing*—Brine applied directly to a paved road prior to a precipitation event.

*Approximate original conditions*—Reclamation of the land affected to pre-construction contours so that it closely resembles the general surface configuration of the land prior to construction activities and blends into and complements the drainage pattern of the surrounding terrain, and can support the land uses that existed prior to the applicable oil and gas operations to the extent practicable.

*Attainable bottom*—The depth, approved by the Department, which can be achieved after a reasonable effort is expended to clean out to the total depth.

*Barrel*—A unit of volume equal to 42 US liquid gallons.

*Body of water*—The term as defined in § 105.1 (relating to definitions).

*Borrow pit*—An area of earth disturbance activity where rock, stone, gravel, sand, soil or similar material is excavated for construction of well sites, access roads or facilities that are related to oil and gas development.

*Building*—An occupied structure with walls and roof within which persons live or customarily work.

*Casing seat*—The depth to which casing is set.

*Cement*—A mixture of materials for bonding or sealing that attains a 7-day maximum permeability of 0.01 millidarcies and a 24-hour compressive strength of at least 500 psi in accordance with applicable standards and specifications.

*Cement job log*—A written record that documents the actual procedures and specifications of the cementing operation.

*Centralized impoundment*—A facility authorized by a Permit for a Centralized Impoundment Dam for Oil and Gas Operations (DEP # 8000-PM-OOGM0084).

*Certified mail*—Any verifiable means of paper document delivery that confirms the receipt of the document by the intended recipient or the attempt to deliver the document to the proper address for the intended recipient.

*Coal area*—An area that is underlain by a workable coal seam.

*Coal protective casing*—A string of pipe which is installed in the well for the purpose of coal segregation and protection. In some instances the coal protective casing and the surface casing may be the same.

*Common areas of a school's property*—An area on a school's property accessible to the general public for recreational purposes. For the purposes of this definition, a school is a facility providing elementary, secondary or postsecondary educational services.

*Condensate*—A low-density, high-API gravity liquid hydrocarbon phase that generally occurs in association with natural gas. For the purposes of this definition, high-API gravity is a specific gravity scale developed by the American Petroleum Institute for measuring the relative density of various petroleum liquids, expressed in degrees.

*Conductor pipe*—A short string of large-diameter casing used to stabilize the top of the wellbore in shallow unconsolidated formations.

*Deepest fresh groundwater*—The deepest fresh groundwater bearing formation penetrated by the wellbore as determined from drillers logs from the well or from other wells in the area surrounding the well or from historical records of the normal surface casing seat depths in the area surrounding the well, whichever is deeper.

*De-icing*—Brine applied to a paved road after a precipitation event.

*Drill cuttings*—Rock cuttings and related mineral residues generated during the drilling of an oil or gas well.

*Floodplain*—The area inundated by the 100-year flood as identified on maps and flood insurance studies provided by the Federal Emergency Management Agency, or in the absence of these maps or studies or any evidence to the contrary, the area within 100 feet measured horizontally from the top of the bank of a perennial stream or 50 feet from the top of the bank of an intermittent stream.

*Freeboard*—The vertical distance between the surface of an impounded or contained fluid and the lowest point or opening on a lined pit edge or open top storage structure.

*Fresh groundwater*—Water in that portion of the generally recognized hydrologic cycle which occupies the pore spaces and fractures of saturated subsurface materials.

*Gas storage field*—A gas storage reservoir and all of the gas storage wells connected to the gas storage reservoir.

*Gas storage reservoir*—The portion of a subsurface geologic formation or rock strata used for or being tested for storage of natural gas that:

- (i) Has sufficient porosity and permeability to allow gas to be injected or withdrawn, or both.
- (ii) Is bounded by strata of insufficient porosity or permeability, or both, to allow gas movement out of the reservoir.
- (iii) Contains or will contain injected gas geologically or by pressure control.

*Gas storage well*—A well located and used in a gas storage reservoir for injection or withdrawal purposes, or an observation well.

*Gathering pipeline*—A pipeline that transports oil, liquid hydrocarbons or natural gas from individual wells to an intrastate transmission pipeline regulated by the Pennsylvania Public Utility Commission or interstate transmission pipeline regulated by the Federal Energy Regulatory Commission.

*Gel*—A slurry of clay or other equivalent material and water at a ratio of not more than seven barrels of water to each 100 pounds of clay or other equivalent matter.

*Inactive well*—A well granted inactive status by the Department under section 3214 of the act (relating to inactive status) and § 78a.101 (relating to general provisions).

*Intermediate casing*—A string of casing set after the surface casing and before production casing, not to include coal protection casing, that is used in the wellbore to isolate, stabilize or provide well control.

*L.E.L.*—Lower explosive limit.

*Limit of disturbance*—The boundary within which it is anticipated that earth disturbance activities (including installation of best management practices) will take place.

*Mine influenced water*—Any of the following:

- (i) Water in a mine pool.
- (ii) Surface discharge of water caused by mining activities that pollutes or may create a threat of pollution to waters of the Commonwealth.
- (iii) A surface water polluted by mine pool water.
- (iv) A surface discharge caused by mining activities.

*Modular aboveground storage structure*—An aboveground structure used to store wastewater that requires final assembly at a well site to function and which can be disassembled and moved to another well site after use.

*Noncementing material*—A mixture of very fine to coarse grained nonbonding materials, including unwashed crushed rock, drill cuttings, earthen mud or other equivalent material approved by the Department.

*Noncoal area*—An area that is not underlain by a workable coal seam.

*Nonporous material*—Nontoxic earthen mud, drill cuttings, fire clay, gel, cement or equivalent materials approved by the Department that will equally retard the movement of fluids.

*Observation well*—A well used to monitor the operational integrity and conditions in a gas storage reservoir, the reservoir protective area, or strata above or below the gas storage horizon.

*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 well development, 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.

*Other critical communities—*

(i) Species of special concern identified on a PNDI receipt, including plant or animal species:

(A) In a proposed status categorized as proposed endangered, proposed threatened, proposed rare or candidate.

(B) That are classified as rare or tentatively undetermined.

(ii) The term does not include threatened and endangered species.

*Owner—*

(i) A person who owns, manages, leases, controls or possesses a well or coal property.

(ii) The term does not apply to orphan wells, except when the Department determines a prior owner or operator benefited from the well as provided in section 3220(a) of the act (relating to plugging requirements).

*PCSM—Post-construction stormwater management—*The term as defined in § 102.1.

*PCSM plan—*The term as defined in § 102.1.

*PNDI—Pennsylvania Natural Diversity Inventory—*The Pennsylvania Natural Heritage Program's database containing data identifying and describing this Commonwealth's ecological information, including plant and animal species classified as threatened and endangered as well as other critical communities provided by the Department of Conservation and Natural Resources, the Fish and Boat Commission, the Game Commission and the United States Fish and Wildlife Service. The database informs the online environmental review tool. The database contains only those known occurrences of threatened and endan-

gered species and other critical communities, and is a component of the Pennsylvania Conservation Explorer.

*PNDI receipt*—The results generated by the Pennsylvania Natural Diversity Inventory Environmental Review Tool containing information regarding threatened and endangered species and other critical communities.

*PPC plan—Preparedness, Prevention and Contingency plan*—A written preparedness, prevention and contingency plan.

*Perimeter area*—An area that begins at the outside coal boundaries of an operating coal mine and extends within 1,000 feet beyond those boundaries or an area within 1,000 feet beyond the mine permit boundaries of a coal mine already projected and permitted but not yet being operated.

*Permanently cemented*—Surface casing or coal protective casing that is cemented until cement is circulated to the surface or is cemented with a calculated volume of cement necessary to fill the theoretical annular space plus 20% excess.

*Pit*—A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials designed to hold fluids, semifluids or solids.

*Playground*—

- (i) An outdoor area provided to the general public for recreational purposes.
- (ii) The term includes community-operated recreational facilities.

*Pre-wetting*—Mixing brine with antiskid material prior to roadway application.

*Primary containment*—A pit, tank, vessel, modular aboveground storage structure, temporary storage facility or other equipment designed to hold regulated substances including all piping and other appurtenant facilities located on the well site.

*Private water supply*—A water supply that is not a public water supply.

*Process or processing*—The term has the same meaning as “processing” as defined in section 103 of the Solid Waste Management Act (35 P.S. § 6018.103).

*Production casing*—A string of pipe other than surface casing and coal protective casing which is run for the purpose of confining or conducting hydrocarbons and associated fluids from one or more producing horizons to the surface.

*Public resource agency*—An entity responsible for managing a public resource identified in § 78a.15(d) or (f)(1) (relating to application requirements) including the Department of Conservation and Natural Resources, the Fish and Boat Commission, the Game Commission, the United States Fish and Wildlife Service, the United States National Park Service, the United States Army Corps of Engineers, the United States Forest Service, counties, municipalities and playground owners.

*Public water supply*—A source of water used by a water purveyor.

*Regional groundwater table*—

(i) The fluctuating upper water level surface of an unconfined or confined aquifer where the hydrostatic pressure is equal to the ambient atmospheric pressure.

(ii) The term does not include the perched water table or the seasonal high groundwater table.

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

*Residual waste*—The term as defined in § 287.1 (relating to definitions).

*Retrievable*—When used in conjunction with surface casing, coal protective casing or production casing, the casing that can be removed after exerting a prudent effort to pull the casing while applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater.

*Seasonal high groundwater table*—The saturated condition in the soil profile during certain periods of the year. The condition can be caused by a slowly permeable layer within the soil profile and is commonly indicated by the presence of soil mottling.

*Secondary containment*—A physical barrier specifically designed to minimize releases into the environment of regulated substances from primary containment or well development pipelines, to prevent comingling of incompatible released regulated substances and to minimize the area of potential contamination, to the extent practicable.

*Sheen*—An iridescent appearance on the surface of the water.

*Soil mottling*—Irregular marked spots in the soil profile that vary in color, size and number.

*Stormwater*—Runoff from precipitation, snowmelt, surface runoff and drainage.

*Surface casing*—A string or strings of casing used to isolate the wellbore from fresh groundwater and to prevent the escape or migration of gas, oil or other fluids from the wellbore into fresh groundwater. The surface casing is also commonly referred to as the water string or water casing.

*Threatened or endangered species*—Those animal and plant species identified as a threatened or endangered species as determined under the Endangered Species Act of 1973 (16 U.S.C.A. §§ 1531—1544), the Wild Resource Conservation Act (32 P.S. §§ 5301—5314), 30 Pa.C.S. (relating to Fish and Boat Code) and 34 Pa.C.S. (relating to Game and Wildlife Code).

*Tophole water*—Water that is brought to the surface while drilling through the strata containing fresh groundwater and water that is fresh groundwater or water that is from a body of surface water. Tophole water may contain drill cuttings typical of the formation being penetrated but may not be polluted or contaminated by additives, brine, oil or man-induced conditions.

*Total depth*—The depth to which the well was originally drilled, subsequently drilled or the depth to which it was plugged back in a manner approved by the Department.

*Tour*—A workshift in drilling of a well.

*Unconventional formation*—A geological shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore.

*Unconventional well or well*—A bore hole drilled or being drilled for the purpose of or to be used for the production of natural gas from an unconventional formation.

*WMP—Water management plan*—A plan associated with drilling or completing a well in an unconventional formation that demonstrates that the withdrawal and use of water sources within this Commonwealth protects those sources, as required under law, and protects public health, safety and welfare.

*Water protection depth*—The depth to a point 50 feet below the surface casing seat.

*Water purveyor*—Either of the following:

- (i) The owner or operator of a public water system as defined in section 3 of the Pennsylvania Safe Drinking Water Act (35 P.S. § 721.3).
- (ii) Any person subject to the act of June 24, 1939 (P.L. 842, No. 365) (32 P.S. §§ 631—641), known as the Water Rights Law.

*Water source*—

- (i) Any of the following:
  - (A) Waters of the Commonwealth.
  - (B) A source of water supply used by a water purveyor.
  - (C) Mine pools and discharges.
  - (D) Any other waters that are used for drilling or completing a well in an unconventional formation.
- (ii) The term does not include flowback or production waters or other fluids:
  - (A) Which are used for drilling or completing a well in an unconventional formation.
  - (B) Which do not discharge into waters of the Commonwealth.

*Water supply*—A supply of water for human consumption or use, or for agricultural, commercial, industrial or other legitimate beneficial uses.

*Watercourse*—The term as defined in § 105.1.

*Waters of the Commonwealth*—The term as defined in section 1 of The Clean Streams Law (35 P.S. § 691.1).



*Well development impoundment*—A facility that is:

- (i) Not regulated under § 105.3 (relating to scope).
- (ii) A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials although lined with synthetic materials.
- (iii) Designed to hold surface water, fresh groundwater and other fluids approved by the Department.
- (iv) Constructed for the purpose of servicing multiple well sites.

*Well development pipelines*—Pipelines used for oil and gas operations that:

- (i) Transport materials used for the drilling or hydraulic fracture stimulation, or both, of a well and the residual waste generated as a result of the activities; and,
- (ii) Lose functionality after the well site it serviced has been restored under § 78a.65 (relating to site restoration).

*Well operator or operator*—Any of the following:

- (i) The person designated as the operator or well operator on the permit application or well registration.
- (ii) If a permit or registration was not issued, a person who locates, drills, operates, alters or plugs a well or reconditions a well with the purpose of production from the well.
- (iii) If a well is used in connection with the underground storage of gas, a storage operator.

*Well site*—The area occupied by the equipment or facilities necessary for or incidental to the drilling, production or plugging of a well.

*Wellhead protection area*—The term as defined in § 109.1 (relating to definitions).

*Wetland*—The term as defined in § 105.1.

*Workable coal seam*—Either of the following:

- (i) A coal seam in fact being mined in the area in question under the act and this chapter by underground methods.
- (ii) A coal seam which, in the judgment of the Department, reasonably can be expected to be mined by underground methods.

#### **Authority**

The provisions of this § 78a.1 amended under 58 Pa.C.S. § 3211(d) and 3274; and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20).

#### **Source**

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### **§ 78a.2. Applicability.**

This chapter applies to unconventional wells and supersedes any regulations in Chapter 78 (relating to oil and gas wells) applicable to unconventional wells.

**Subchapter B. PERMITS, TRANSFERS AND OBJECTIONS****PERMITS AND TRANSFERS**

Sec.

- 78a.11. Permit requirements.
- 78a.12. Compliance with permit.
- 78a.13. Permit transfers.
- 78a.14. Transfer of well ownership or change of address.
- 78a.15. Application requirements.
- 78a.16. Accelerated permit review.
- 78a.17. Permit expiration and renewal.
- 78a.18. Disposal and enhanced recovery well permits.
- 78a.19. Permit application fee schedule.

**OBJECTIONS**

- 78a.21. Opportunity for objections and conferences; surface landowners.
- 78a.22. Objections by owner or operator of coal mine.
- 78a.23. Time for filing objections by owner or operator of coal mine.
- 78a.24. Information to be provided with objections by owner or operator of coal mine.
- 78a.25. Conferences—general.
- 78a.26. Agreement at conference.
- 78a.27. Continuation of conference.
- 78a.28. Final action if objections do not proceed to panel.
- 78a.29. Composition of panel.
- 78a.30. Jurisdiction of panel.
- 78a.31. Scheduling of meeting by the panel.
- 78a.32. Recommendation by the panel.
- 78a.33. Effect of panel on time for permit issuance.

**PERMITS AND TRANSFERS****§ 78a.11. Permit requirements.**

- (a) No person may drill or alter a well unless that person has first obtained a permit from the Department.
- (b) No person may operate a well unless one of the following conditions has been met:
  - (1) The person has obtained a permit under the act.
  - (2) The person has registered the well under the act.
  - (3) The well was in operation on April 18, 1985, under a permit that was obtained under the Gas Operations Well-Drilling Petroleum and Coal Mining Act (52 P.S. §§ 2104, 2208, 2601 and 2602) (Repealed).

**§ 78a.12. Compliance with permit.**

A person may not drill, alter or operate a well except in accordance with a permit or registration issued under the act and in compliance with the terms and conditions of the permit, this chapter and the statutes under which it was promulgated. A copy of the permit shall be kept at the well site during drilling or alteration of a well.

**§ 78a.13. Permit transfers.**

(a) No transfer, assignment or sale of rights granted under a permit or registration may be made without prior written approval of the Department. Permit transfers may be denied for the reasons set forth in section 3211(e.1)(4) and (5) of the act (relating to well permits).

(b) The Department may require the transferee to fulfill the drilling, plugging, well site restoration, water supply replacement and other requirements of the act, regardless of whether the transferor started the activity and regardless of whether the transferor failed to properly perform the transferor's obligations under the act.

**§ 78a.14. Transfer of well ownership or change of address.**

(a) Within 30 days after the sale, assignment, transfer, conveyance or exchange of a well, the new owner or operator shall notify the Department, in writing, of the transfer of ownership.

(b) The notice must include the following information:

(1) The names, addresses and telephone numbers of the former and new owner, and the agent if applicable.

(2) The well permit or registration number.

(3) The effective date of the transfer of ownership.

(4) An application for a well permit transfer if there is a change in the well operator.

(c) The permittee shall notify the Department of a change in address or name within 30 days of the change.

**§ 78a.15. Application requirements.**

(a) An application for a well permit shall be submitted electronically to the Department on forms provided through its web site and contain the information required by the Department to evaluate the application.

(b) The permit application will not be considered complete until the applicant submits a complete and accurate plat, an approvable bond or other means of complying with Subchapter G (relating to bonding requirements) and section 3225 of the act (relating to bonding), the fee in compliance with § 78a.19 (relating to permit application fee schedule), proof of the notifications required under section 3211(b.1) of the act (relating to well permits), necessary requests for variance or waivers or other documents required to be furnished by law or the Department and the information in subsections (b.1), (b.2), (c)—(f) and (h). The person named in the permit shall be the same person named in the bond or other security.

(b.1) If the proposed limit of disturbance of the well site is within 100 feet measured horizontally from any watercourse or any high quality or exceptional value body of water or any wetland 1 acre or greater in size, the applicant shall demonstrate that the well site location will protect those watercourses or bodies

of water. The applicant may rely upon other plans developed under this chapter or approved by the Department to make this demonstration, including:

- (1) An erosion and sediment control plan or permit consistent with Chapter 102 (relating to erosion and sediment control).
  - (2) A water obstruction and encroachment permit issued under Chapter 105 (relating to dam safety and waterway management).
  - (3) Applicable portions of the PPC plan prepared in accordance with § 78a.55(a) and (b) (relating to control and disposal planning; emergency response for unconventional wells).
  - (4) Applicable portions of the emergency response plan prepared in accordance with § 78a.55(i).
  - (5) Applicable portions of the site containment plan prepared in accordance with section 3218.2 of the act (relating to containment for unconventional wells).
- (b.2) For purposes of compliance with section 3215(a) of the act (relating to well location restrictions), an abandoned water well does not constitute a water well.
- (c) The applicant shall submit information identifying parent and subsidiary business corporations operating in this Commonwealth with the first application submitted after October 8, 2016, and provide any changes to this information with each subsequent application.
- (d) The well permit application must include a detailed analysis of the impact of the well, well site and access road on threatened and endangered species. This analysis must include:
- (1) A PNDI receipt.
  - (2) If any potential impact is identified in the PNDI receipt to threatened or endangered species, demonstration of how the impact will be avoided or minimized and mitigated in accordance with State and Federal laws pertaining to the protection of threatened or endangered species and critical habitat. The applicant shall provide written documentation to the Department supporting this demonstration, including any avoidance/mitigation plan, clearance letter, determination or other correspondence resolving the potential species impact with the applicable public resource agency.
- (e) If an applicant seeks to locate a well on an existing well site where the applicant has obtained a permit under § 102.5 (relating to permit requirements) and complied with § 102.6(a)(2) (relating to permit applications and fees), the applicant may comply with subsections (b.1) and (d) if the permit was obtained within 2 years from the receipt of the application submitted under this section.
- (f) An applicant proposing to drill a well at a location that may impact a public resource as provided in paragraph (1) shall notify the applicable public resource agency, if any, in accordance with paragraph (2). The applicant shall also provide the information in paragraph (3) to the Department in the well permit application.

- (1) This subsection applies if the proposed limit of disturbance of the well site is located:
- (i) In or within 200 feet of a publicly owned park, forest, game land or wildlife area.
  - (ii) In or within the corridor of a State or National scenic river.
  - (iii) Within 200 feet of a National natural landmark.
  - (iv) In a location that will impact other critical communities.
  - (v) Within 200 feet of a historical or archeological site listed on the Federal or State list of historic places.
  - (vi) Within 200 feet of common areas on a school's property or a playground.
  - (vii) Within zones 1 or 2 of a wellhead protection area as part of a wellhead protection program approved under § 109.713 (relating to wellhead protection program).
  - (viii) Within 1,000 feet of a water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor.
- (2) The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1), if any. The applicant shall forward by certified mail a copy of the plat identifying the proposed limit of disturbance of the well site and information in paragraph (3) to the public resource agency at least 30 days prior to submitting its well permit application to the Department. The applicant shall submit proof of notification with the well permit application. From the date of notification, the public resource agency has 30 days to provide written comments to the Department and the applicant on the functions and uses of the public resource and the measures, if any, that the public resource agency recommends the Department consider to avoid, minimize or otherwise mitigate probable harmful impacts to the public resource where the well, well site and access road is located. The applicant may provide a response to the Department to the comments.
- (3) The applicant shall include the following information in the well permit application on forms provided by the Department:
- (i) An identification of the public resource.
  - (ii) A description of the functions and uses of the public resource.
  - (iii) A description of the measures proposed to be taken to avoid, minimize or otherwise mitigate impacts, if any.
- (4) The information required under paragraph (3) shall be limited to the discrete area of the public resource that may be affected by the well, well site and access road.
- (g) The Department will consider the following prior to conditioning a well permit based on impacts to public resources:
- (1) Compliance with all applicable statutes and regulations.
  - (2) The proposed measures to avoid, minimize or otherwise mitigate the impacts to public resources.

- (3) Other measures necessary to protect against a probable harmful impact to the functions and uses of the public resource.
- (4) The comments and recommendations submitted by public resource agencies, if any, and the applicant's response, if any.
- (5) The optimal development of the gas resources and the property rights of gas owners.
- (h) An applicant proposing to drill a well that involves 1 acre to less than 5 acres of earth disturbance over the life of the project and is located in a watershed that has a designated or existing use of high quality or exceptional value under Chapter 93 (relating to water quality standards) shall submit an erosion and sediment control plan consistent with Chapter 102 with the well permit application for review and approval and shall conduct the earth disturbance in accordance with the approved erosion and sediment control plan.

#### Cross References

This section cited in 25 Pa. Code § 78a.1 (relating to definitions).

#### § 78a.16. Accelerated permit review.

In cases of hardship, an operator may request an accelerated review of a well permit application. For the purposes of this section, hardship includes cases where immediate action is necessary to protect public health or safety, to control pollution or to effect other environmental or safety measures, and extraordinary circumstances beyond the control of the operator. Permits issued shall be consistent with the requirements of the act.

#### § 78a.17. Permit expiration and renewal.

(a) A well permit expires 1 year after issuance if drilling has not started. If drilling is started within 1 year after issuance, the well permit expires unless drilling is pursued with due diligence. Due diligence for the purposes of this subsection means completion of drilling the well to total depth within 16 months of issuance. A permittee may request an extension of the 16-month expiration from the Department for good cause. This request shall be submitted electronically to the Department through its web site.

(b) An operator may request a single 2-year renewal of an unexpired well permit. The request shall be accompanied by a permit fee, the surcharge required under section 3271 of the act (relating to well plugging funds) and an affidavit affirming that the information on the original application is still accurate and complete, that the well location restrictions are still met and that the entities required to be notified under section 3211(b)(2) of the act (relating to well permits) have been notified of this request for renewal. If new water wells or buildings are constructed that are not indicated on the plat as originally submitted, the attestation shall be updated as part of the renewal request. Any new water well or building owners shall be notified of the renewal request; however, the setbacks

outlined in section 3215(a) of the act (relating to well location restrictions) do not apply provided that the original permit was issued prior to the construction of the building or water well. The request shall be received by the Department at least 15 calendar days prior to the expiration of the original permit.

**§ 78a.18. Disposal and enhanced recovery well permits.**

Disposal or enhanced recovery well permits shall meet the requirements of § 78.18 (relating to disposal and enhanced recovery well permits).

**§ 78a.19. Permit application fee schedule.**

(a) An applicant for an unconventional well shall pay a permit application fee of \$12,500.

(b) At least every 3 years, the Department will provide the EQB with an evaluation of the fees in this chapter and recommend regulatory changes to the EQB to address any disparity between the program income generated by the fees and the Department's cost of administering the program with the objective of ensuring fees meet all program costs and programs are self-sustaining.

**Authority**

The provisions of this § 78a.19 amended under 58 Pa.C.S. §§ 3211(d) and 3274; and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20).

**Source**

The provisions of this § 78a.19 amended July 31, 2020, effective August 1, 2020, 50 Pa.B. 3845. Immediately preceding text appears at serial page (383865).

**Cross References**

This section cited in 25 Pa. Code § 78a.15 (relating to application requirements).

**OBJECTIONS**

**§ 78a.21. Opportunity for objections and conferences; surface landowners.**

(a) The surface landowner of the tract on which the proposed well is located may object to the well location based on the assertion that the well location violates section 3215 of the act (relating to well location restrictions) or on the basis that the information in the application is untrue in a material respect, and request a conference under section 3251 of the act (relating to conferences).

(b) The objection and request for a conference shall be filed in writing with the Department within 15 calendar days of receipt of the plat by the surface landowner. The objection must contain the following:

- (1) The name, address and telephone number of the person submitting the objection.
- (2) The name of the well operator, and the name and number of the proposed well.
- (3) A statement of the objection and a request for a conference if a conference is being requested.

**§ 78a.22. Objections by owner or operator of coal mine.**

The owner or operator of an operating coal mine or a coal mine already projected and platted, but not yet being operated, may file written objections to a proposed well location with the Department if the following apply:

- (1) The well, when drilled, would penetrate within the outside coal boundaries of such a mine or within 1,000 feet beyond the boundaries.
- (2) In the opinion of the owner or operator, the well will unduly interfere with or endanger the mine or persons working in the mine.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.23. Time for filing objections by owner or operator of coal mine.**

(a) A coal mine owner or operator who objects to a proposed gas well for financial considerations, and wishes to go before a panel with an objection over which the panel has jurisdiction, shall file objections to a proposed gas well within 10 calendar days of the receipt of the plat.

(b) A coal mine owner or operator who does not wish to go before a panel with an objection over which the panel has jurisdiction, or who is not raising financial objections to the proposed gas well, shall file objections to a proposed well within 15 calendar days of the receipt of the plat.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.24. Information to be provided with objections by owner or operator of coal mine.**

(a) The objections shall be filed in writing and must contain the following information, if applicable:

- (1) The name, address and telephone number of the person filing the objection, and the date on which a copy of the plat was received.
- (2) The name and address of the applicant for the well permit and the name and number of the well.
- (3) The type of well—for example, oil, gas, injection, and the like—that is the subject of the objections.
- (4) The location of the well in relation to the coal owned or operated by the objecting party.
- (5) The area through which the well will be drilled, specifically:
  - (i) Whether the well will be drilled through a mining area that is projected, platted or permitted, but not yet being operated.
  - (ii) Whether the well will be drilled through a perimeter area.
  - (iii) Whether the well will penetrate a workable coal seam.
  - (iv) Whether the well will be located above an active mine.



- (v) Whether the well will penetrate an operating mine.
  - (6) A copy of the plans, maps or projections of the mining area underlying the proposed gas well showing the location of the proposed well.
  - (7) Whether the owner or operator believes that the well will pose undue interference or endangerment to the mine, and the nature of the threat.
  - (8) The financial impact posed by the well, to which objections may be heard by a panel under § 78a.30 (relating to jurisdiction of panel).
  - (9) Whether the well will violate the act, the Coal and Gas Resource Coordination Act (58 P.S. §§ 501—518) or another applicable law administered by the Department.
- (b) The objections must include an alternate location, if possible, on the tract of the well operator that would overcome the objections or at which the interference would be minimized. The Department is not bound to consider alternate locations that are proposed after the close of the first conference.

#### Cross References

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

### § 78a.25. Conferences—general.

- (a) If a timely objection to the location is filed by the coal owner or operator under §§ 78a.22—78a.24 (relating to objections by owner or operator of coal mine; time for filing objections by owner or operator of coal mine; and information to be provided with objections by owner or operator of coal mine), or if objections are made by the Department, the Department will fix a time and place for a conference within 10 calendar days from the date of service of the objections upon the well operator, unless all parties agree to an extension of time for the conference.
- (b) The Department may decide not to hold a conference if it determines that the objections are not valid or if the objection is resolved.
- (c) The Department will attempt to schedule the conference as late as possible in the 10-day period if the well is subject to the Coal and Gas Resource Coordination Act (58 P.S. §§ 501—518). The Department will not schedule a conference under section 3212 of the act (relating to permit objections) if it receives written notice that the gas well operator or the coal mine owner or operator has made a written request to convene a panel to resolve objections to the location of a gas well over which a panel has jurisdiction in accordance with §§ 78a.29—78a.33.
- (d) The conference will be governed by §§ 78a.26—78a.28 (relating to agreement at conference; continuation of conference; and final action if objections do not proceed to panel).
- (e) The Department or a person having a direct interest in the subject matter of the act may request a conference any time to attempt to resolve by mutual agreement a matter arising under the act.

**Cross References**

This section cited in 25 Pa. Code § 78a.30 (relating to jurisdiction of panel).

**§ 78a.26. Agreement at conference.**

(a) If the parties reach an agreement at the conference, and if the Department approves the location, the Department will cause the agreement to be reduced to writing.

(b) If the Department does not reject the agreement within 10 calendar days after the agreement is reduced to writing, the agreement becomes effective.

(c) An agreement reached at the conference shall be consistent with the requirements of the act and applicable statutes. An agreement that is not in accordance with the act, the Coal and Gas Resource Coordination Act (58 P.S. §§ 501—518) and applicable law shall be deemed to be null and void.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.27. Continuation of conference.**

The Department may continue the conference for good cause. Good cause includes one or more of the following:

(1) The need for supplemental data, maps or surveys.

(2) The need to verify that the agreement or a proposed well location is consistent with the requirements of the act, the Coal and Gas Resource Coordination Act (58 P.S. §§ 501—518) and other applicable requirements.

(3) The need for the presence of essential witnesses whose unavailability is due to good cause.

(4) The need for further investigation into the allegations that are the basis for the objections.

(5) Agreement by all parties that a continuance is beneficial to the resolution of the objections.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.28. Final action if objections do not proceed to panel.**

If the panel does not have jurisdiction over the objections, under § 78a.30 (relating to jurisdiction of panel), or if the panel has jurisdiction but the parties choose not to proceed to a panel, the Department may proceed to issue or deny the permit, under sections 3211 and 3212 of the act (relating to well permits; and permit objections). No permit will be issued for a well at a location that in the opinion of the Department would endanger the safety of persons working in a coal mine.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.29. Composition of panel.**

(a) If the gas well operator and the objecting coal owner or operator are unable to agree upon a drilling location, and the gas well is subject to the jurisdiction of a panel under § 78a.30 (relating to jurisdiction of panel), the well operator or a coal owner or operator may convene a panel.

(b) The panel shall consist of one person selected by the objecting coal owners or operators, a second person selected by the permit applicant and a third selected by these two.

(c) The parties shall submit their positions to the panel within such time as the panel prescribes, in accordance with section 12 of the Coal and Gas Resource Coordination Act (58 P.S. § 512).

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.30. Jurisdiction of panel.**

(a) A panel shall hear objections by the owner or operator of the coal mining area only if the proposed gas well is not subject to the Oil and Gas Conservation Law (58 P.S. §§ 401—419) and one of the following applies:

(1) The well will be drilled through an area that is projected and permitted, but not yet being operated.

(2) The well will be drilled through a perimeter area.

(3) The well will penetrate a workable coal seam, and will be located above an active mine, but will not penetrate an operating mine.

(b) The panel shall hear only objections that were filed by the owner or operator of the mining areas set forth in subsection (a).

(c) If after a conference in accordance with § 78a.25 (relating to conferences—general), the Department has unresolved objections, the panel does not have jurisdiction to convene or to hear objections.

**Cross References**

This section cited in 25 Pa. Code § 78a.24 (relating to information to be provided with objections by owner or operator of coal mine); 25 Pa. Code § 78a.25 (relating to conferences—general); 25 Pa. Code § 78a.28 (relating to final action if objections do not proceed to panel); and 25 Pa. Code § 78a.29 (relating to composition of panel).

**§ 78a.31. Scheduling of meeting by the panel.**

The panel shall convene a meeting within 10 calendar days of the panel chairperson's receipt of a written request to do so by the permit applicant or by the objecting coal owner or operator.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general); 25 Pa. Code § 78a.32 (relating to recommendation by the panel).

**§ 78a.32. Recommendation by the panel.**

(a) The panel shall make its recommendation of where the proposed well should be located, based upon the financial considerations of the parties.

(b) The panel shall make its recommendation within 10 calendar days of the close of the meeting held under § 78a.31 (relating to scheduling of meeting by the panel).

(c) If the Department determines that the first recommended location endangers a mine or the public, it will reject the location and notify the panel to make another recommendation. The panel shall submit another recommended location to the Department within 10 calendar days of the Department's notification.

(d) If the Department determines that the second recommended location endangers a mine or the public, the Department may designate a location where it has determined that the well will not unduly interfere with or endanger the mine or the public and issue a permit for the well at that designated location. However, if the Department has not designated such a location, and if the Department determines that a well drilled at any proposed or panel-recommended alternate location will unduly interfere with or endanger the mine or the public, it will deny the permit.

(e) No permit will be issued for a well at a location that would, in the opinion of the Department, endanger the safety of persons working in a coal mine.

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**§ 78a.33. Effect of panel on time for permit issuance.**

The period of time during which the objections are being considered by a full panel will not be included in the 45-day period for the issuance or denial of a permit under section 3211(e) of the act (relating to well permits).

**Cross References**

This section cited in 25 Pa. Code § 78a.25 (relating to conferences—general).

**Subchapter C. ENVIRONMENTAL PROTECTION PERFORMANCE STANDARDS**

- Sec.
- 78a.51. Protection of water supplies.
  - 78a.52. Predrilling or prealteration survey.
  - 78a.52a. Area of review.
  - 78a.53. Erosion and sediment control and stormwater management.
  - 78a.54. General requirements.
  - 78a.55. Control and disposal planning; emergency response for unconventional wells.
  - 78a.56. Temporary storage.
  - 78a.57. Control, storage and disposal of production fluids.
  - 78a.58. Onsite processing.
  - 78a.59a. Impoundment embankments.
  - 78a.59b. Well development impoundments.
  - 78a.59c. Centralized impoundments.
  - 78a.60. Discharge requirements.
  - 78a.61. Disposal of drill cuttings.
  - 78a.62. Disposal of residual waste—pits.
  - 78a.63. Disposal of residual waste—land application.
  - 78a.63a. Alternative waste management.
  - 78a.64. Secondary containment around oil and condensate tanks.
  - 78a.64a. Secondary containment.
  - 78a.65. Site restoration.
  - 78a.66. Reporting and remediating spills and releases.
  - 78a.67. Borrow pits.
  - 78a.68. Oil and gas gathering pipelines.
  - 78a.68a. Horizontal directional drilling for oil and gas pipelines.
  - 78a.68b. Well development pipelines for oil and gas operations.
  - 78a.69. Water management plans.
  - 78a.70. Road-spreading of brine for dust control and road stabilization.
  - 78a.70a. Pre-wetting, anti-icing and de-icing.

**§ 78a.51. Protection of water supplies.**

(a) A well operator who affects a public or private water supply by pollution or diminution shall restore or replace the affected supply with an alternate source of water adequate in quantity and quality for the purposes served by the supply as determined by the Department.

(b) A landowner, water purveyor or affected person suffering pollution or diminution of a water supply as a result of oil and gas operations may so notify the Department and request that an investigation be conducted. Notice shall be made to the appropriate Department regional office or by calling the Department's Statewide toll free number at (800) 541-2050. The notice and request must include the following:

- (1) The name, address and telephone number of the person requesting the investigation.
- (2) The type, location and use of the water supply.

- (3) Available background quality and quantity data regarding the water supply, if known.
  - (4) Well depth, pump setting and water level, if known.
  - (5) A description of the pollution or diminution.
- (c) Within 10 calendar days of the receipt of the investigation request, the Department will investigate the claim and will, within 45 calendar days of receipt of the request, make a determination. If the Department finds that pollution or diminution was caused by the oil and gas operations or if it presumes the well operator responsible for polluting the water supply of the landowner or water purveyor under section 3218(c) of the act (relating to protection of water supplies) as a result of completion, drilling, stimulation or alteration of the unconventional well, the Department will issue orders to the well operator necessary to assure compliance with this section. The presumption established by section 3218(c) of the act is not applicable to pollution resulting from well site construction.
- (d) A restored or replaced water supply includes any well, spring, public water system or other water supply approved by the Department, which meets the criteria for adequacy as follows:
- (1) *Reliability, cost, maintenance and control.* A restored or replaced water supply, at a minimum, must:
    - (i) Be as reliable as the previous water supply.
    - (ii) Be as permanent as the previous water supply.
    - (iii) Not require excessive maintenance.
    - (iv) Provide the water user with as much control and accessibility as exercised over the previous water supply.
    - (v) Not result in increased costs to operate and maintain. If the operating and maintenance costs of the restored or replaced water supply are increased, the operator shall provide for permanent payment of the increased operating and maintenance costs of the restored or replaced water supply.
  - (2) *Quality.* The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1—721.17), or is comparable to the quality of water that existed prior to pollution if the water quality was better than these standards.
  - (3) *Adequate quantity.* A restored or replaced water supply will be deemed adequate in quantity if it meets one of the following as determined by the Department:
    - (i) It delivers the amount of water necessary to satisfy the water user's needs and the demands of any reasonably foreseeable uses.
    - (ii) It is established through a connection to a public water supply system that is capable of delivering the amount of water necessary to satisfy the water user's needs and the demands of any reasonably foreseeable uses.

(iii) For purposes of this paragraph and with respect to agricultural water supplies, the term “reasonably foreseeable uses” includes the reasonable expansion of use where the water supply available prior to drilling exceeded the actual use.

(4) *Water source serviceability.* Replacement of a water supply includes providing plumbing, conveyance, pumping or auxiliary equipment and facilities necessary for the water user to utilize the water supply.

(e) If the water supply is for uses other than human consumption, the operator shall demonstrate to the Department’s satisfaction that the restored or replaced water supply is adequate for the purposes served by the supply.

(f) Tank trucks or bottled water are acceptable only as temporary water replacement for a period approved by the Department and do not relieve the operator of the obligation to provide a restored or replaced water supply.

(g) If the well operator and the water user are unable to reach agreement on the means for restoring or replacing the water supply, the Department or either party may request a conference under section 3251 of the act (relating to conferences).

(h) A well operator who receives notice from a landowner, water purveyor or affected person that a water supply has been affected by pollution or diminution shall report receipt of notice from an affected person to the Department within 24 hours of receiving the notice. Notice shall be provided electronically to the Department through its web site.

#### Cross References

This section cited in 25 Pa. Code § 78a.66 (relating to reporting and remediating spills and releases).

#### § 78a.52. Predrilling or prealteration survey.

(a) A well operator who wishes to preserve its defense under section 3218(d)(2)(i) of the act (relating to protection of water supplies) that the pollution of a water supply existed prior to the drilling or alteration of the well shall conduct a predrilling or prealteration survey in accordance with this section. For the purposes of this section, “survey” means all of the predrilling or prealteration water supply samples associated with a single well.

(b) A person who wishes to document the quality of a water supply to support a future claim that the drilling or alteration of the well affected the water supply by pollution may conduct a predrilling or prealteration survey in accordance with this section.

(c) The survey shall be conducted by an independent Pennsylvania-accredited laboratory. A person independent of the well owner or well operator, other than an employee of the accredited laboratory, may collect the sample and document the condition of the water supply, if the accredited laboratory affirms that the

sampling and documentation is performed in accordance with the laboratory's approved sample collection, preservation and handling procedure and chain of custody.

(d) An operator electing to preserve its defenses under section 3218(d)(2)(i) of the act shall provide a report containing a copy of all the sample results taken as part of the survey electronically to the Department on forms provided through its web site 10 business days prior to the start of drilling of the well that is the subject of the survey. The operator shall provide a copy of any sample results to the landowner or water purveyor within 10 business days of receipt of the sample results. Survey results not received by the Department within 10 business days may not be used to preserve the operator's defenses under section 3218(d)(2)(i) of the act.

(e) The report describing the results of the survey must contain the following information:

- (1) The location of the water supply and the name of the surface landowner or water purveyor.
- (2) The date of the survey, and the name of the independent Pennsylvania-accredited laboratory and the person who conducted the survey.
- (3) A description of where and how the samples were collected.
- (4) A description of the type and age, if known, of the water supply, and treatment, if any.
- (5) The name of the well operator, name and number of well to be drilled and permit number if known.
- (6) The results of the laboratory analysis.

(f) A well operator who wishes to preserve the defense under section 3218(d)(2)(ii) of the act that the landowner or water purveyor refused the operator access to conduct a survey shall confirm the desire to conduct this survey and that access was refused by issuing notice to the person by certified mail, or otherwise document that access was refused. The notice must include the following:

- (1) The operator's intention to drill or alter a well.
- (2) The desire to conduct a predrilling or prealteration survey.
- (3) The name of the person who requested and was refused access to conduct the survey and the date of the request and refusal.
- (4) The name and address of the well operator and the address of the Department, to which the water purveyor or landowner may respond.

(g) The operator of an unconventional well shall provide written notice to the landowner or water purveyor indicating that the presumption established under section 3218(c) of the act may be void if the landowner or water purveyor refused to allow the operator access to conduct a predrilling or prealteration survey. Proof of written notice to the landowner or water purveyor shall be provided to the Department for the operator to retain the protections under section 3218(d)(2)(ii) of the act. Proof of written notice will be presumed if provided in accordance with section 3212(a) of the act (relating to permit objections).



**§ 78a.52a. Area of review.**

(a) The operator shall identify the surface and bottom hole locations of any of the following having well bore paths within 1,000 feet measured horizontally from the vertical well bore and 1,000 feet measured from the surface above the entire length of a horizontal well bore:

- (1) Active wells.
- (2) Inactive wells.
- (3) Orphan wells.
- (4) Abandoned wells.
- (5) Plugged and abandoned wells.

(b) Identification of wells listed in subsection (a) must be accomplished by the following:

- (1) Conducting a review of the Department's well databases and other available well databases.
- (2) Conducting a review of historical sources of information, such as applicable farm line maps, where accessible.
- (3) Submitting a questionnaire by certified mail on forms provided by the Department to landowners whose property is within the area identified in subsection (a) regarding the precise location of wells on their property.

(c) The operator shall submit a report summarizing the review, including:

- (1) A plat showing the location and GPS coordinates of all wells identified under subsection (b).
- (2) Proof that the operator submitted questionnaires under subsection (b)(3).
- (3) A monitoring plan for wells required to be monitored under § 78a.73(c) (relating to general provision for well construction and operation), including the methods the operator will employ to monitor these wells.
- (4) To the extent that information is available, the true vertical depth of identified wells.
- (5) The sources of the information provided for identified wells.
- (6) To the extent that information is available, surface evidence of failed well integrity for any identified well.

(d) The operator shall submit the report required under subsection (c) to the Department at least 30 days prior to the start of drilling the well or at the time the permit application is submitted if the operator plans to start drilling the well less than 30 days from the date of permit issuance. The report shall be provided to the Department electronically through the Department's web site.

(e) The Department may require other information necessary to review the report submitted under subsection (c). The Department may make a determination that additional measures are needed, on a case-by-case basis, to ensure protection of waters of the Commonwealth.

**Cross References**

This section cited in 25 Pa. Code § 78a.73 (relating to general provision for well construction and operation); and 25 Pa. Code § 78a.122 (relating to well record and completion report).

**§ 78a.53. Erosion and sediment control and stormwater management.**

Any person proposing or conducting earth disturbance activities associated with oil and gas operations shall comply with Chapter 102 (relating to erosion and sediment control). Best management practices for erosion and sediment control and stormwater management for oil and gas operations are listed in the *Erosion and Sediment Pollution Control Program Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008, as amended and updated, the *Pennsylvania Stormwater Best Management Practices Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-0300-002, as amended and updated, the *Oil and Gas Operators Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 550-0300-001, as amended and updated, and *Riparian Forest Buffer Guidance*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 395-5600-001, as amended and updated.

**Cross References**

This section cited in 25 Pa. Code § 78a.60 (relating to discharge requirements); and 25 Pa. Code § 78a.61 (relating to disposal of drill cuttings).

**§ 78a.54. General requirements.**

The well operator shall control and dispose of fluids, residual waste and drill cuttings, including tophole water, brines, drilling fluids, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids and drill cuttings, in a manner that prevents pollution of the waters of the Commonwealth and in accordance with §§ 78a.55—78a.58 and 78a.60—78a.63 and with the statutes under which this chapter is promulgated.

**Cross References**

This section cited in 25 Pa. Code § 78a.55 (relating to control and disposal planning; emergency response for unconventional wells).

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

(a) *Preparation and implementation of plan for oil and gas operations.* Persons conducting oil and gas operations shall prepare and implement site-specific PPC plans according to §§ 91.34 and 102.5(l) (relating to activities utilizing pollutants; and permit requirements).

(b) *Preparation and implementation of plan for well sites.* In addition to the requirements in subsection (a), the well 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 gas well or transporting those regulated substances to, on or from a well site.

(c) *Containment practices.* The well operator's PPC plan must describe the 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 (relating to secondary containment). The PPC plan must include a description of the equipment to be kept onsite during drilling and hydraulic fracturing operations that can be utilized to prevent a spill from leaving the well site.

(d) *Requirements.* The well operator's PPC plan must also identify the control and disposal methods and practices utilized by the well operator and be consistent with the act, The Clean Streams Law (35 P.S. §§ 691.1—691.1001), the Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003) and §§ 78a.54, 78a.56—78a.58 and 78a.60—78a.61. The PPC plan must also include a pressure barrier policy developed by the operator that identifies barriers to be used during identified operations.

(e) *Revisions.* The well operator shall revise the PPC plan prior to implementing a change to the practices identified in the PPC plan.

(f) *Copies.* A 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.

(g) *Guidelines.* With the exception of the pressure barrier policy required under subsection (d), a PPC plan developed in conformance with the *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.

(h) *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 and be prominently displayed at the well site during drilling, completion or alteration activities.

(i) *Emergency response for unconventional well sites.*

(1) *Applicability.* This subsection applies to unconventional wells.

(2) *Definitions.* For the purposes of this subsection, the following definitions apply:

*Access road*—A road connecting a well site to the nearest public road, private named road, administrative road with a name and address range, or private unnamed road with an address range.

*Address*—A location, by reference to a road or a landmark, made by a county or municipality responsible for assigning addresses within its jurisdiction.

*Administrative road*—A road owned and maintained by the Commonwealth open to the public at the discretion of the Commonwealth that may or may not have a name and address range.

*Emergency responder*—Police, firefighters, emergency medical technicians, paramedics, emergency management personnel, public health personnel, State certified hazardous materials response teams, Department emergency personnel and other personnel authorized in the course of their occupations or duties, or as an authorized volunteer, to respond to an emergency.

*Entrance*—The point where the access road to a well site connects to the nearest public road, private named road, administrative road with a name and address range, or a private unnamed road with an address range.

*GPS coordinates*—The coordinates in latitude and longitude as expressed in degrees decimal to at least six digits after the decimal point based upon the World Geodetic System 1984 Datum or any other datum approved by the Department.

*PEMA*—The Pennsylvania Emergency Management Agency.

*Private named road*—A private road with a name and address range.

*Private road*—A road that is not a public road.

*Private unnamed road*—A private road that is not a private named road.

*Public road*—A road owned and maintained by the Commonwealth, a county within this Commonwealth, a municipality within the Commonwealth or any combination thereof that is open to the public.

*Public safety answering point*—An entity operating in cooperation with local municipalities and counties to receive 9-1-1 calls for a defined geographic area and process calls according to a specific operational policy.

*Well site name*—The name used to designate the well site by the operator on the well permit application submitted to the Department.

(3) *Registration of addresses.*

(i) 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.

(ii) The operator shall determine the GPS coordinates for both the well site and the entrance to the well site. The GPS coordinates must have a horizontal accuracy of plus or minus 6.67 feet or better. If there is more than one well on a well site, one set of GPS coordinates must be used for the well site.

(iii) The operator shall register the 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:

(A) The well site name.

(B) The well site address.

(C) The GPS coordinates for the entrance and the well site.

(iv) When there is a change of well site address, the operator shall register the new address as provided in subparagraph (iii).

(v) When there is a change of the entrance due to a change in the well site address or otherwise, the operator shall register the GPS coordinates for the entrance as provided in subparagraph (iii).

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

- (A) The well site name.
- (B) The well site address.
- (C) The GPS coordinates for the entrance and the well site.

(4) *Signage.*

(i) Prior to construction of the access road, the operator of an unconventional well shall display a reflective sign at the entrance.

(ii) The sign must meet the following requirements:

(A) The sign must be fabricated with approved retroreflective sheeting material meeting ASTM 4956 Type III.

(B) The sign must have a white background with a 2-inch red border and black numbers and letters. Signs for entrances on administrative roads may use other colors provided that the signs use contrasting colors between the background, border, numbers and letters.

(C) The 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.

(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.

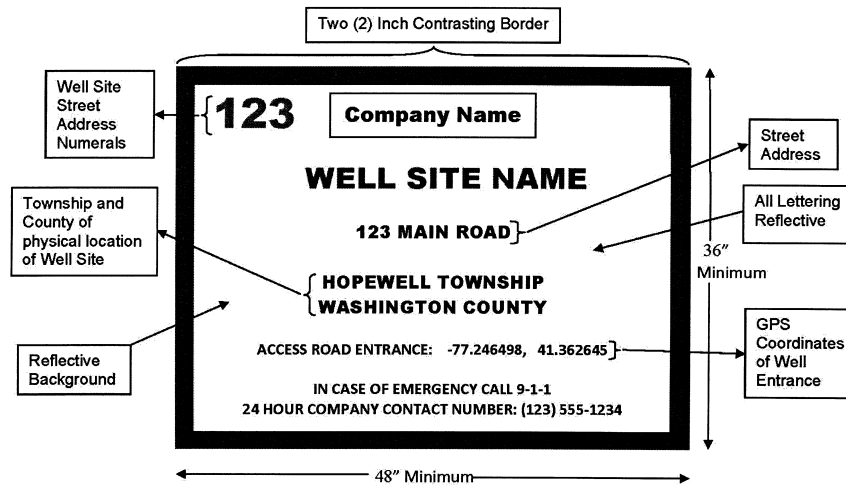
(iv) The bottom of the sign must be positioned a minimum of 3 feet above ground level.

(v) The sign may not contain other markings.

(vi) A sign, as viewed from the applicable road, may not be obstructed from view by vegetation, equipment, vehicles or other obstruction.

(vii) During drilling operations, the American Petroleum Institute (API) permit numbers of the wells at the site may be posted on a nonreflective 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.

Figure 1. Sample Site Entrance Signage



(Not to scale)

(5) *Emergency response planning.*

(i) The 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 must incorporate National Incident Management System planning standards, including the use of the Incident Command System, Incident Action Planning and Common Communications Plans. The plan must include:

(A) 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.

(B) The emergency notification procedures that the operator shall utilize to contact emergency responders during an emergency.

(C) A description of the well site personnel's response to the following well site emergencies:

- (I) Fire.
- (II) Medical emergency.
- (III) Explosion or similar event.
- (IV) Spill.
- (V) Security breach or other security event.

- (VI) Any other incident that necessitates the presence of emergency responders.
- (D) A description of the procedure to be used to provide the most current information to emergency responders in the event of an emergency, including the following:
  - (I) The current Safety Data Sheet (SDS) required under law to be present at the well site.
  - (II) The location of the SDSs at the well site.
  - (III) The name of the position in the operator's organization responsible for providing the information in subclauses (I) and (II).
  - (E) A list containing the location of any fire suppression and spill control equipment maintained by the well operator at the well site.
  - (F) A description of any emergency equipment available to the operator that is located off of the well site.
  - (G) A summary of the risks and hazards to the public within 1/2 mile of the well site and the associated planning assumptions.
  - (H) An outline of the emergency response training plan that the operator has established.
  - (I) 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).
- (ii) The emergency response plan in subparagraph (i) may consist of two parts:
  - (A) A base plan common to all of the operator's well sites containing some of the elements described in subparagraph (i).
  - (B) A site-specific plan containing the remaining elements described in subparagraph (i).
- (iii) The operator shall submit a copy of the current emergency response plan for that well site unless the permit provides otherwise. For plans using the approach in subparagraph (ii), the operator may submit one base plan provided that the site-specific plans are submitted for each well site.
- (iv) The operator shall review the plan and submit an update annually on or before March 1 each year. In the event that updates are not made to the plan for that review period, the operator shall submit a statement indicating the review was completed and updates to the plan were not necessary.
- (v) The plan and subsequent updates shall be submitted to:
  - (A) PEMA.
  - (B) The Department.
  - (C) The county emergency management agency.
  - (D) The Public Safety Answering Point with jurisdiction over the well site.

(vi) A copy of the plan shall be available at the well site during all phases of operation.

(vii) The emergency response plan must address response actions for the following stages of operation at the well site:

- (A) Preparation of the access road and well site.
- (B) Drilling of the well.
- (C) Hydraulic fracturing and stimulation of the well.
- (D) Production.
- (E) Well site restoration.
- (F) Plugging of the well.

(viii) The requirements in subparagraphs (i)—(vii) may be met by implementing guidance issued by the Department in coordination with PEMA.

(6) *Transition.*

(i) This subsection is effective January 26, 2013, except as provided in subparagraph (ii).

(ii) For a well site containing a well that is being drilled or has been drilled as of January 26, 2013, or a well site for which a well permit has been issued but wells have not started drilling as of January 26, 2013, or a well site for which an administratively complete application is pending as of January 26, 2013, as provided in subparagraph (i), the following applies:

- (A) Paragraph (3) is effective on February 25, 2013.
- (B) Paragraph (4) is effective on July 25, 2013.
- (C) Paragraph (5) is effective on April 26, 2013.

#### **Cross References**

This section cited in 25 Pa. Code § 78a.15 (relating to application requirements); 25 Pa. Code § 78a.54 (relating to general requirements); and 25 Pa. Code § 78a.72 (relating to use of safety devices—blow-out prevention equipment).

#### **§ 78a.56. Temporary storage.**

(a) Except as provided in §§ 78a.60(b) and 78a.61(b) (relating to discharge requirements; and disposal of drill cuttings), the operator shall contain regulated substances and wastes used at or generated at a well site in a tank, series of tanks or other storage structures approved by the Department. The operator shall install or construct and maintain the tank or series of tanks or other approved storage structures in accordance with the following requirements:

(1) The tank, series of tanks or other approved storage structure shall be constructed and maintained with sufficient capacity to contain all regulated substances which are used or produced during drilling, altering, completing, recompleting, servicing and plugging the well.

(2) Modular aboveground storage structures that exceed 20,000 gallons capacity may not be utilized to store regulated substances without prior Depart-



ment approval. The Department will maintain a list of approved modular storage structures on its web site.

(3) The operator shall obtain siting approval from the Department for site-specific installation of all modular aboveground storage structures for each individual well site where use of the modular aboveground storage structure is proposed.

(4) After obtaining approval to utilize a modular aboveground storage structure at a specific well site, the owner or operator shall notify the Department at least 3 business days before the beginning of construction of these storage structures. The notice shall be submitted electronically to the Department through its web site and include the date the storage structure installation will begin. If the date of installation is extended, the operator shall renotify the Department with the date that the installation will begin, which does not need to be 3 business days in advance.

(5) If open tanks or open storage structures are used, the tanks and storage structures shall be maintained so that at least 2 feet of freeboard remain at all times unless the tank or storage structure is provided with an overflow system to a standby tank with sufficient volume to contain all excess fluid or regulated substances. If an open standby tank or standby open storage structure is used, it shall be maintained with 2 feet of freeboard. If this subsection is violated, the operator shall immediately take the necessary measures to ensure the structural stability of the tank or other storage structure, prevent spills and restore the 2 feet of freeboard.

(6) Tanks and other approved storage structures shall be designed, constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties.

(7) Unless an individual is continuously present at the well site, operators shall equip all tank valves and access lids to regulated substances with reasonable measures to prevent unauthorized access by third parties such as locks, open end plugs, removable handles, retractable ladders or other measures that prevent access by third parties. Tanks storing only freshwater, fire prevention materials and spill response kits are excluded from the requirements of this paragraph.

(8) The operator shall display a sign on the tank or other approved storage structure identifying the contents and an appropriate warning of the contents such as flammable, corrosive or a similar warning.

(9) A tank or other approved storage structure that contains drill cuttings from below the casing seat, regulated substances or fluids other than tophole water, fresh water and uncontaminated drill cuttings shall be impermeable.

(10) Condensate, whether separated or mixed with other fluids at a concentration greater than 1% by volume, may not be stored in any open top structure or pit. Aboveground tanks used for storing or separating condensate during well completion shall be monitored and have controls to prevent vapors from

exceeding the L.E.L. of the condensate outside the tank. Tanks used for storing or separating condensate must be grounded.

(b) The operator may request to use practices other than those specified in subsection (a) which provide equivalent or superior protection by submitting a request to the Department for approval. The request shall be made electronically to the Department through its web site on forms provided by the Department.

(c) Disposal of uncontaminated drill cuttings in a pit or by land application shall comply with § 78a.61.

(d) Pits may not be used for temporary storage. An operator using a pit for temporary storage as of October 8, 2016, shall properly close the pit in accordance with appropriate restoration standards no later than April 8, 2017. Any spills or leaks detected shall be reported and remediated in accordance with § 78a.66 (relating to reporting and remediating spills and releases) prior to pit closure.

#### Cross References

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements) 25 Pa. Code § 78a.55 (relating to control and disposal planning; emergency response for unconventional wells); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

#### § 78a.57. Control, storage and disposal of production fluids.

(a) Unless a permit has been obtained under § 78a.60(a) (relating to discharge requirements), the operator shall collect the brine and other fluids produced during operation of the well in a tank or a series of tanks, or other device approved by the Department for subsequent disposal or reuse. Open top structures may not be used to store brine and other fluids produced during operation of the well. An operator using a pit for storage of production fluids as of October 8, 2016, shall report the use of the pit to the Department no later than April 8, 2017, and shall properly close the pit in accordance with appropriate restoration standards no later than October 10, 2017. Any spills or leaks detected shall be reported and remediated in accordance with § 78a.66 (relating to reporting and remediating spills and releases) prior to pit closure. Except as allowed in this subchapter or otherwise approved by the Department, the operator may not discharge the brine and other fluids on or into the ground or into the waters of the Commonwealth. Unless separately permitted under the Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003), wastes may not be stored at a well site unless the wastes are generated at or will be beneficially reused at that well site.

(b) An operator may not use a pit for the control, handling or storage of brine and other fluids produced during operation of a well.

(c) Secondary containment is required for all new, refurbished or replaced aboveground primary containment, including their associated manifolds, that contain brine and other fluids produced during operation of the well. If one tank in a series of tanks is added, refurbished or replaced, secondary containment is

required for the entire series of tanks. The secondary containment area provided by dikes or other methods of secondary containment open to the atmosphere must have containment capacity sufficient to hold the volume of the largest single aboveground tank, plus an additional 10% of volume for precipitation. Compliance with § 78a.64 (relating to secondary containment around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary containment fulfills the requirements in this subsection.

(d) Primary containment used to store brine or other fluids produced during operation of the well shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to Nationally recognized industry standards and the manufacturer's specifications. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

(e) Underground or partially buried storage tanks used to store brine or other fluids produced during operation of the well shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to Nationally recognized industry standards and the manufacturer's specifications. A well operator utilizing underground or partially buried storage tanks as of October 8, 2016, shall provide electronically to the Department a list of the well sites through its web site where the underground or partially buried storage tanks are located by April 8, 2017. A well operator shall register the location of an additional underground storage tank prior to installation. Registration shall utilize forms provided by the Department and be submitted electronically to the Department through its web site.

(f) All new, refurbished or replaced aboveground storage tanks that store brine or other fluid produced during operation of the well must comply with the corrosion control requirements in §§ 245.531—245.534 (relating to corrosion and deterioration prevention), with the exception of use of Department-certified inspectors to inspect interior linings or coatings.

(g) All new, refurbished or replaced underground storage tanks that store brine or other fluid produced during operation of the well must comply with the corrosion control requirements in § 245.432 (relating to operation and maintenance including corrosion protection) with the exception of use of Department-certified inspectors to inspect interior linings.

(h) All new, refurbished or replaced tanks storing brine or other fluids produced during operation of the well must be reasonably protected from unauthorized acts of third parties. Unless the tank is surrounded by a fence, tank valves and access lids must utilize locks, open end plugs or removable handles and ladders on tanks must be retractable or other measures that prevent access by third parties.

(i) Tanks storing brine or other fluids produced during operation of the well shall be inspected by the operator at least once per calendar month and documented. Deficiencies noted during the inspection shall be addressed and rem-

edied. When substantial modifications are necessary to correct deficiencies, they shall be made in accordance with manufacturer's specifications and applicable engineering design criteria. Any deficiencies identified during the inspection shall be reported to the Department electronically through its web site within 3 days of the inspection and remedied prior to continued use of the tank. Inspection records shall be maintained for 1 year and made available to the Department upon request.

#### Cross References

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements); 25 Pa. Code § 78a.55 (relating to control and disposal planning; emergency response for unconventional wells); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

### § 78a.58. Onsite processing.

(a) The operator may request approval by the Department to process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells or mine influenced water at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(b) Approval from the Department is not required for the following activities conducted at a well site:

- (1) Mixing fluids with freshwater.
- (2) Aerating fluids.
- (3) Filtering solids from fluids.

(c) Activities described in subsection (b) shall be conducted within secondary containment.

(d) An operator processing fluids or drill cuttings generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells shall develop an action plan specifying procedures for monitoring for and responding to radioactive material produced by the treatment processes, as well as related procedures for training, notification, recordkeeping and reporting. The action plan shall be prepared in accordance with the Department's *Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 250-3100-001, as amended and updated, or in a manner at least as protective of the environment, facility staff and public health and safety and which meets all statutory and regulatory requirements.

(e) The operator may request to process drill cuttings only at the well site where those drill cuttings were generated by submitting a request to the Department for approval. The request shall be submitted on forms provided by the

Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(f) Processing residual waste generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells other than as provided for in subsections (a) and (b) shall comply with the Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003).

(g) Processing of fluids in a manner approved under subsection (a) will be deemed to be approved at subsequent well sites provided the operator notifies the Department of location of the well site where the processing will occur at least 3 business days prior to the beginning of processing operations. The notice shall be submitted electronically to the Department through its web site and include the date activities will begin.

(h) Sludges, filter cake or other solid waste remaining after the processing or handling of fluids under subsection (a) or (b), including solid waste mixed with drill cuttings, shall be characterized under § 287.54 (relating to chemical analysis of waste) before the solid waste leaves the well site.

#### Cross References

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements); 25 Pa. Code § 78a.55 (relating to control and disposal planning; emergency response for unconventional wells); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

### § 78a.59a. Impoundment embankments.

(a) Embankments constructed for well development impoundments for oil and gas operations must meet the following requirements:

(1) The foundation for each embankment shall be stripped and grubbed to a minimum depth of 2 feet below existing contour prior to any placement and compaction of fill.

(2) Any springs encountered in the embankment foundation area shall be drained to the downstream toe of the embankment with a drain section 2 feet by 2 feet in dimension consisting of PennDOT Type A sand, compacted by hand tamper. Geotextiles may not be used around sand. The last 3 feet of this drain at the downstream slope must be constructed of AASHTO # 8 material.

(3) The minimum top width of the embankment must be 12 feet.

(4) The inside and outside slope must have a slope no steeper than 3 horizontal to 1 vertical.

(5) Soils to be used for embankment construction must be classified in accordance with ASTM D-2487 (Unified Soils Classification). Soil samples must be classified at a minimum rate of one sample per 10,000 cubic yards of placed fill with at least one test per source with an additional test conducted each time the material changes. At least one sample must be classified in accordance with ASTM D-2487. Soils utilized during embankment construction shall be described and identified in accordance with ASTM D-2488—09A

(Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)). Soil identification and description in accordance with this procedure shall be performed at a minimum rate of one sample per 1,000 cubic yards of placed fill. Results of testing of materials shall be provided to the Department upon request.

(6) The embankment must be constructed out of soils designated as GC, GM, SC, SM, CL or ML, only. Soils with split designations when one of the designations is not GC, GM, SC, SM, CL or ML may not be used. Soils must contain a minimum of 20% of No. 200 sieve materials or larger. Results of testing of materials shall be provided to the Department upon request.

(7) Particles greater than 6 inches in any dimension may not be used for embankment construction.

(8) Soil used in embankment construction must be compacted. Soil compaction shall be conducted in accordance with the following:

(i) Compaction shall be conducted with a sheepsfoot or pad roller.

(ii) The maximum loose lift thickness must be 9 inches.

(iii) Soil shall be compacted until visible nonmovement of the embankment material.

(iv) Soil shall be compacted to a minimum of 95% of the standard proctor in accordance with ASTM D698 (Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort). Satisfactory compaction shall be verified by field density testing in accordance with ASTM D1556 (Standard Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method) or ASTM D6938 (Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)) with a minimum of one test per 2,000 square yards of lift surface and at least one test per lift.

(9) Exposed embankment slopes shall be permanently stabilized using one or a combination of the following methods:

(i) Exposed embankments shall be limed, fertilized, seeded and mulched, and permanent vegetative ground covering in compliance with § 102.22 (relating to site stabilization) shall be established upon completion of construction of the impoundment.

(ii) Compacted rock fill or riprap placed on the downstream face of the embankment as a cover having a minimum depth of 2 feet. The rock fill must be durable, evenly distributed and underlain by a Class 2, Type A geotextile.

(b) The owner or operator may request approval from the Department to deviate from the requirements in this section. The request must demonstrate that the alternate practice provides equivalent or superior protection to the requirements of this section.

**Cross References**

This section cited in 25 Pa. Code § 78a.59b (relating to well development impoundments); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

**§ 78a.59b. Well development impoundments.**

(a) In addition to meeting the requirements of § 78a.59a (relating to impoundment embankments), any new well development impoundments must be in compliance with this section.

(b) A well operator using a well development impoundment prior to October 8, 2016, shall register the location of the well development impoundment by December 7, 2016, by providing the Department, through the Department's web site, with electronic notification of the GPS coordinates, township and county where the well development impoundment is located as well as certification as to whether the impoundment meets the requirements in subsections (d), (e) and (h). Any impoundments that do not comply with the requirements in subsections (d), (e) and (h) shall be upgraded to meet these requirements or restored in accordance with subsection (g) by October 10, 2017.

(c) A well operator shall register the location of a new well development impoundment prior to construction. Registration of the well development impoundment may be transferred to another operator. Registration transfers shall utilize forms provided by the Department and be submitted electronically to the Department through its web site.

(d) Well development impoundments shall be constructed with a synthetic impervious liner.

(e) Unless an individual is continuously present at a well development impoundment, a fence must completely surround the well development impoundment to prevent unauthorized acts of third parties and damage caused by wildlife.

(f) The bottom of the impoundment must be at least 20 inches above the seasonal high groundwater table. The applicant may maintain the required separation distance of 20 inches by passive artificial means such as an under-drain system throughout the lifetime of the impoundment. In no case shall the regional groundwater table be affected by the passive artificial system. The operator shall document the depth of the seasonal high groundwater table, the manner in which the depth of the seasonal high groundwater table was ascertained, the distance between the bottom of the impoundment and the seasonal high groundwater table, and the depth of the regional groundwater table if the separation between the impoundment bottom and seasonal high groundwater table is maintained by artificial means. A soil scientist or other similarly trained person using accepted and documented scientific methods shall make the determination. The determination must contain a statement certifying that the impoundment bottom is at least 20 inches above the seasonal high groundwater table according to observed field



conditions. The name, qualifications and statement of the person making the determination and the basis of the determination shall be provided to the Department upon request.

(g) Well development impoundments shall be restored by the operator that the impoundment is registered to within 9 months of completion of hydraulic fracturing of the last well serviced by the impoundment. An impoundment is restored under this subsection by the operator removing excess water and the synthetic liner, returning the site to approximate original conditions, including preconstruction contours, and supporting the land uses that existed prior to oil and gas operations to the extent practicable. An extension of the restoration requirement may be approved under § 78a.65(c) (relating to site restoration). If requested by the landowner in writing, on forms provided by the Department, the requirement to return the site to approximate original contours may be waived by the Department if the liner is removed from the impoundment.

(h) Prior to storing mine influenced water in a well development impoundment, the operator shall develop a mine influenced water storage plan and submit it to the Department for approval.

(1) The mine influenced water storage plan shall be submitted on forms provided by the Department and include the following:

(i) A demonstration that the escape of the mine influenced water stored in the well development impoundment will not result in air, water or land pollution, or endanger persons or property.

(ii) A procedure and schedule to test the mine influenced water. This testing shall be conducted at the source prior to storage in the impoundment.

(iii) A records retention schedule for the mine influenced water test results.

(2) An operator with an approved mine influenced water storage plan shall maintain records of all mine influenced water testing prior to storage. These records shall be made available to the Department upon request.

(i) The Department may require the operator to test water sources proposed to be stored in a well development impoundment prior to storage.

#### **Cross References**

This section cited in 25 Pa. Code § 78a.63a (relating to alternative waste management).

#### **§ 78a.59c. Centralized impoundments.**

(a) An operator using a centralized impoundment as of October 8, 2016, shall close the centralized impoundment in accordance with this section or obtain a permit in accordance with Subpart D, Article IX (relating to residual waste management). The closure plan shall be submitted electronically to the Department through its web site for review and approval no later than April 8, 2017. The



operator shall properly close the centralized impoundment in accordance with the approved plan or obtain a permit in accordance with Subpart D, Article IX no later than October 8, 2019.

(b) The closure plan must provide for the following:

(1) Removal of any impermeable membrane, concrete and earthen liner so that water movement to subsoils is achieved.

(2) Restoration of the site to approximate original conditions, including preconstruction contours, and backfilling the impoundment to above finished grade to allow for settlement of fill and so the impoundment will no longer impound water.

(3) A plan for the removal of equipment, structures, wastes and related material from the facility.

(4) An estimate of when final closure will occur, including an explanation of the basis for the estimate.

(5) A description of the steps necessary for closure of the facility.

(6) A narrative description, including a schedule of measures that are proposed to be carried out in preparation for closure and after closure at the facility, including measures relating to the following:

(i) Water quality monitoring including, but not limited to, analyses of samples from the monitoring wells that were installed at the time of the construction of the centralized impoundment.

(ii) A soil sampling plan that explains how the operator will analyze the soil beneath the impoundment's liners. Analysis shall be based on a grid pattern or other method approved by the Department. Any spills or leaks detected shall be reported and remediated in accordance with § 78a.66 (relating to reporting and remediating spills and releases) prior to impoundment closure.

(iii) Compliance with Chapter 102 (relating to erosion and sediment control) including erosion and sediment control and PCSM.

(iv) Access control, including maintenance of access control.

(v) The name, address and telephone number at which the operator may be reached.

#### Cross References

This section cited in 25 Pa. Code § 78a.63a (relating to alternative waste management).

### § 78a.60. Discharge requirements.

(a) The owner and operator may not cause or allow a discharge of a substance, fill or dredged material to the waters of the Commonwealth unless the discharge complies with this subchapter and Chapters 91, 92a, 93, 95, 102 and 105, The Clean Streams Law (35 P.S. §§ 691.1—691.1001), the Dam Safety and Encroachments Act (32 P.S. §§ 693.1—693.27) and the act.

(b) The owner and operator may not discharge tophole water or water in a pit as a result of precipitation by land application unless the discharge is in accordance with the following requirements:

(1) No additives, drilling muds, regulated substances or drilling fluids other than gases or fresh water have been added to or are contained in the water, unless otherwise approved by the Department.

(2) The pH is not less than 6 nor greater than 9 standard units, or is characteristic of the natural background quality of the groundwater.

(3) The specific conductance of the discharge is less than 1,000  $\mu\text{mhos/cm}$ .

(4) There is no sheen from oil and grease.

(5) The discharge water shall be spread over an undisturbed, vegetated area capable of absorbing the tophole water and filtering solids in the discharge, and spread in a manner that prevents a direct discharge to surface waters and complies with § 78a.53 (relating to erosion and sediment control and stormwater management).

(6) Upon completion, the area complies with § 78a.53.

(7) The area of land application is not within 200 feet of a water supply or within 100 feet of a watercourse or body of water or within the floodplain.

(8) If the water does not meet the requirements of paragraph (2) or (4), the Department may approve treatment prior to discharge to the land surface.

(c) Compliance with subsection (b) shall be documented by the operator and made available to the Department upon request while conducting activities under subsection (b) and submitted under § 78a.65(e)(1) and (2) (relating to site restoration).

#### Cross References

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements); 25 Pa. Code § 78a.55 (relating to control and disposal planning; emergency response for unconventional wells); 25 Pa. Code § 78a.56 (relating to temporary storage); 25 Pa. Code § 78a.57 (relating to control, storage and disposal of production fluids); 25 Pa. Code § 78a.61 (relating to disposal of drill cuttings); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

#### § 78a.61. Disposal of drill cuttings.

(a) *Drill cuttings from above the surface casing seat—pits.* The owner or operator may dispose of drill cuttings from above the surface casing seat determined in accordance with § 78a.83(c) (relating to surface and coal protective casing and cementing procedures) in a pit at the well site if the owner or operator satisfies the following requirements:

(1) The drill cuttings are generated from the well at the well site.

(2) The drill cuttings are not contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water or gases.

(3) The disposal area is not within 100 feet of a watercourse or body of water or within the floodplain.

(4) The disposal area is not within 200 feet of a water supply.

(5) The pit is designed, constructed and maintained to be structurally sound.

(6) The free liquid fraction of the waste shall be removed and disposed under § 78a.60 (relating to discharge requirements).

(7) The pit shall be backfilled to the ground surface and graded to promote runoff with no depression that would accumulate or pond water on the surface. The stability of the backfilled pit must be compatible with the adjacent land.

(8) The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78a.53 (relating to erosion and sediment control and stormwater management). The revegetation shall establish a diverse, effective, permanent, vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface of the landowner, the surface shall be stabilized against erosion.

(b) *Drill cuttings from above the surface casing seat—land application.* The owner or operator may dispose of drill cuttings from above the surface casing seat determined in accordance with § 78a.83(c) by land application at the well site if the owner or operator satisfies the following requirements:

(1) The drill cuttings are generated from the well at the well site.

(2) The drill cuttings are not contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water or gases.

(3) The disposal area is not within 100 feet of a watercourse or body of water or within the floodplain.

(4) The disposal area is not within 200 feet of a water supply.

(5) The soils have a minimum depth from surface to bedrock of 20 inches.

(6) The drill cuttings are not spread when saturated, snow covered or frozen ground interferes with incorporation of the drill cuttings into the soil.

(7) The drill cuttings are not applied in quantities which will result in runoff or in surface water or groundwater pollution.

(8) The free liquid fraction is disposed in accordance with § 78a.60.

(9) The drill cuttings are spread and incorporated into the soil. The loading and application rate of drill cuttings may not exceed a maximum of drill cuttings to soil ratio of 1:1.

(10) The land application area shall be revegetated to stabilize the soil surface and comply with § 78a.53. The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(c) *Drill cuttings from below the surface casing seat.* After removal of the free liquid fraction and disposal in accordance with § 78a.60, drill cuttings from below the surface casing seat determined in accordance with § 78a.83(c) may not be disposed of on the well site unless authorized by a permit or other approval is obtained from the Department in accordance with § 78a.62 or § 78a.63 (relating to disposal of residual waste—pits; and disposal of residual waste—land application).

(d) *Alternative practices.* The owner or operator may request to use solidifiers, dusting, unlined pits, attenuation or other alternative practices for the disposal of uncontaminated drill cuttings by submitting a request to the Department for approval. The request shall be made on forms provided by the Department and shall demonstrate that the practice provides equivalent or superior protection to the requirements of this section. The Department will maintain a list of approved solidifiers on its web site. The operator does not need to request approval from the Department for use of approved solidifiers.

(e) *Notifications.* The owner or operator shall notify the Department at least 3 business days before disposing of drill cuttings under this section. This notice shall be submitted electronically to the Department through its web site and include the date the cuttings will be disposed. If the date of disposal is extended, the operator shall renotify the Department of the date of disposal, which does not need to be 3 business days in advance. The owner or operator shall also provide notice of disposal to the surface landowner, including the location of the disposed drill cuttings, within 10 business days of completion of disposal.

#### Cross References

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements); 25 Pa. Code § 78a.55 (relating to control and disposal planning; emergency response for unconventional wells); 25 Pa. Code § 78a.56 (relating to temporary storage); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

### § 78a.62. Disposal of residual waste—pits.

An owner or operator proposing to dispose of residual waste, including contaminated drill cuttings, in a pit at the well site shall obtain a residual waste pit disposal permit issued under this chapter prior to constructing the waste disposal pit.

#### Cross References

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements); 25 Pa. Code § 78a.61 (relating to disposal of drill cuttings); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

**§ 78a.63. Disposal of residual waste—land application.**

An owner or operator proposing disposal of residual waste, including contaminated drill cuttings, at the well site by land application shall obtain a residual waste land application permit issued under this chapter prior to land application of the waste.

**Cross References**

This section cited in 25 Pa. Code § 78a.54 (relating to general requirements); 25 Pa. Code § 78a.61 (relating to disposal of drill cuttings); and 25 Pa. Code § 78a.63a (relating to alternative waste management).

**§ 78a.63a. Alternative waste management.**

An operator seeking to manage waste on a well site in any manner other than provided in §§ 78a.56—78a.58, 78a.59a, 78a.59b, 78a.59c and 78a.60—78a.63 shall submit a request electronically to the Department through its web site describing the alternate management practice and shall demonstrate that the practice provides equivalent or superior protection to the requirements in these sections.

**§ 78a.64. Secondary containment around oil and condensate tanks.**

(a) If an owner or operator uses a tank or tanks with a combined capacity of at least 1,320 gallons to contain oil or condensate produced from a well, the owner or operator shall construct and maintain a dike or other method of secondary containment which satisfies the requirements under 40 CFR Part 112 (relating to oil pollution prevention) around the tank or tanks which will prevent the tank contents from entering waters of the Commonwealth.

(b) The secondary containment provided by the dikes or other method of secondary containment must 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.

(c) 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.

(d) After complying with subsection (c), drainage of secondary containment is acceptable if:

(1) The accumulation in the secondary containment consists of only precipitation directly to the secondary containment and drainage will not cause a harmful discharge or result in a sheen.

(2) The secondary containment drain valve is opened and resealed, or other drainage procedure, as applicable, is conducted under responsible supervision.

(e) An owner or operator who installed a tank or tanks with a combined capacity of at least 1,320 gallons prior to October 8, 2016, to store condensate

produced from a well shall meet the requirements of this section when a tank is replaced, refurbished or repaired or by October 9, 2018, whichever is sooner.

**Cross References**

This section cited in 25 Pa. Code § 78a.57 (relating to control, storage and disposal of production fluids).

**§ 78a.64a. Secondary containment.**

- (a) Well sites shall be designed and constructed using secondary containment.
- (b) 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.
- (c) Secondary containment must meet all of the following:
  - (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.
  - (2) Secondary containment must have a coefficient of permeability no greater than  $1 \times 10^{-10}$  cm/sec.
  - (3) 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 must satisfy compatibility test methods as approved by the Department.
- (d) Methods of 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 fulfill the requirements in this subsection. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.
- (e) All secondary containment shall be inspected weekly to ensure integrity. If the secondary containment is damaged or compromised, the well operator shall repair the secondary containment as soon as practicable. The well operator shall 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.
- (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. If the secondary containment did not completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with § 78a.66 (relating to reporting and remediating spills and releases).

(g) Stormwater that comes into contact with regulated substances stored within the secondary containment shall be managed as residual waste.

(h) Inspection reports and maintenance records shall be available at the well site for review by the Department.

(i) Documentation of chemical compatibility of secondary containment with material stored within the system shall be provided to the Department upon request.

#### Cross References

This section cited in 25 Pa. Code § 78a.65 (relating to site restoration).

### § 78a.65. Site restoration.

(a) *Restoration.* The owner or operator shall restore land surface areas disturbed to construct the well site as follows:

(1) *Post-drilling.* Within 9 months after completion of drilling a well, the owner or operator shall undertake post-drilling restoration of the well site in accordance with a restoration plan developed in accordance with subsection (b) and remove all drilling supplies, equipment, primary containment and secondary containment not necessary for production or needed to safely operate the well.

(i) When multiple wells are drilled or permitted to be drilled on a single well site, post-drilling restoration is required within 9 months after completion of drilling all permitted wells on the well site or 9 months after the expiration of all existing well permits on the well site, whichever is later.

(ii) A drill hole or bore hole used to facilitate the drilling of a well shall be filled with cement, soil, uncontaminated drill cuttings or other earthen material before moving the drilling equipment from the well site.

(iii) Drilling supplies and equipment not needed for production may only be stored on the well site if express written consent of the surface landowner is obtained and the supplies or equipment are maintained in accordance with § 78a.64a (relating to secondary containment).

(iv) The areas necessary to safely operate the well include the following:

(A) Areas used for service vehicle and rig access.

(B) Areas used for storage tanks and secondary containment.

(C) Areas used for wellheads and appurtenant oil and gas processing facilities.

(D) Areas used for any necessary safety buffer limited to the area surrounding equipment that is physically cordoned off to protect the facilities.

(E) Areas used to store any supplies or equipment consented to by the surface landowner.

(F) Areas used for operation and maintenance of long-term PCSM best management practices.

(2) *Post-plugging.* Within 9 months after plugging the final well on the well site, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site to approximate original conditions and restore stormwater runoff rate, volume and quality to preconstruction condition in accordance with § 102.8 (relating to PCSM requirements).

(3) *Wells not drilled.* If a well site is constructed and the well is not drilled, the well site shall be restored within 9 months after the expiration of the well permit unless the Department approves an extension for reasons of adverse weather or lack of essential fuel, equipment or labor.

(b) *Restoration plan.* An operator of a well site shall develop and implement a restoration plan. The restoration plan must address:

(1) The restoration of areas not needed to safely operate the well to approximate original conditions.

(2) The proposed site configuration after post-drilling restoration including the areas of the well site being restored.

(3) The minimization of impervious areas. Impervious areas include, but are not limited to, areas where soil has been compacted, areas where soil has been treated with amendments to firm or harden the soil, and areas underlain with an impermeable liner.

(4) The removal of all drilling supplies and equipment not needed for production, including primary and secondary containment.

(5) The manner in which the restoration of the disturbed areas will achieve meadow in good condition or better or otherwise incorporate ABACT or non-discharge alternative PCSM best management practices (BMP).

(6) PCSM BMPs remaining in place and proof of compliance with § 102.8(l) and (m), or a licensed professional certification of complete site restoration to approximate original contours and return to preconstruction stormwater runoff rate, volume and quality in accordance with § 102.8(g). The owner or operator shall remain responsible for compliance with the terms of the restoration plan including long-term operation and maintenance of all PCSM BMPs on the project site and is responsible for any violations occurring on the project site, prior to written approval of the final restoration report.

(7) The permanent stabilization of the restored areas by either of the following:

(i) In accordance with § 102.22 (relating to site stabilization).

(ii) Through implementation of PCSM BMPs as required under § 102.8, including § 102.8(a)—(m).



(8) An operator of a well site who is required to obtain a permit under § 102.5(c) (relating to permit requirements) may develop a written restoration plan containing drawings and a narrative that address the requirements of paragraphs (1)—(7) to demonstrate compliance with § 102.8(n).

(c) *Extension of drilling or production period.* The restoration period in this subsection may be extended through approval by the Department for an additional period of time, not to exceed 2 years.

(1) A request to extend the restoration period shall be submitted electronically on forms provided by the Department through the Department's web site not more than 6 months after the completion of drilling.

(2) The request must specify the reasons for the request to extend the restoration period not to exceed 24 months. The request must include a justification for the length of extension and demonstrate that either:

(i) The extension will result in less earth disturbance, increased water reuse or more efficient development of the resources.

(ii) Restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

(3) A demonstration that the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources must include the following:

(i) A demonstration that the site is stabilized and the BMPs utilized on the well site will address PCSM.

(ii) A demonstration that the portions of the well site not occupied by production facilities or equipment will be returned to approximate original conditions.

(d) *Areas not restored.* Disturbed areas associated with well sites that are not included in a restoration plan, and other remaining impervious surfaces, must comply with all requirements in Chapter 102 (relating to erosion and sediment control). The PCSM plan provisions in § 102.8(n) apply only to the portions of the restoration plan that provide for restoration of disturbed areas to meadow in good condition or better or otherwise incorporate ABACT or nondischarge PCSM BMPs.

(e) *Post-drilling restoration reports.* Within 60 calendar days after post-drilling restoration under subsection (a)(1), the operator shall submit a restoration report to the Department. The well operator shall forward a copy of all restoration reports to the surface landowner. The report shall be made electronically on forms provided by the Department through the Department's web site and must identify the following:

(1) The date of land application of the topsoil water.

(2) The results of pH and specific conductance tests and an estimated volume of discharge.

(3) The method used for disposal or reuse of the free liquid fraction of the waste, and the name of the hauler and disposal facility, if any.

(4) The location, including GPS coordinates, of the pit in relation to the well, the depth of the pit, the type and thickness of the material used for the pit subbase, the type and thickness of the pit liner, the type and nature of the waste, the type of any approved solidifier, a description of the pit closure procedures used and the pit dimensions.

(5) The location of the area used for land application of the waste, and the results of a chemical analysis of the waste soil mixture if requested by the Department.

(6) The types and volumes of waste produced and the name and address of the waste disposal facility and waste hauler used to dispose of the waste.

(7) The name, qualifications and basis for determination that the bottom of a pit used for encapsulation is at least 20 inches above the seasonal high groundwater table.

(f) *Post-plugging restoration reports.* Within 60 calendar days after post-plugging restoration under subsection (a)(2), the operator shall submit a restoration report to the Department. The well operator shall forward a copy of all restoration reports to the surface landowner. The report shall be made electronically on forms provided by the Department through the Department's web site and must include the following:

(1) A description of the types and volumes of waste produced, and the name and address of the waste disposal facility and waste hauler used to dispose of the waste.

(2) Confirmation that earth disturbance activities, site restoration including an installation of any PCSM BMPs and permanent stabilization in accordance with § 102.22 have been completed.

(g) *Written consent.* Written consent of the landowner on forms provided by the Department satisfies the restoration requirements of this section provided the operator develops and implements a site restoration plan that complies with subsections (a) and (b)(2)—(7) and all PCSM requirements in Chapter 102.

#### Cross References

This section cited in 25 Pa. Code § 78a.1 (relating to definitions); 25 Pa. Code § 78a.59b (relating to well development impoundments); 25 Pa. Code § 78a.60 (relating to discharge requirements); 25 Pa. Code § 78a.67 (relating to borrow pits); and 25 Pa. Code § 78a.68b (relating to well development pipelines for oil and gas operations).

### § 78a.66. Reporting and remediating spills and releases.

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

(b) *Reporting releases.*

(1) An operator or other responsible party shall report the following spills and releases of regulated substances to the Department in accordance with paragraph (2):

- (i) A spill or release of a regulated substance causing or threatening pollution of the waters of the Commonwealth in the manner required under § 91.33 (relating to incidents causing or threatening pollution).
  - (ii) 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.
- (2) 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. To the extent known, the following information shall be provided:
- (i) The name of the person reporting the spill or release and telephone number where that person can be reached.
  - (ii) The name, address and telephone number of the operator or other responsible party.
  - (iii) The date and time of the spill or release or when it was discovered.
  - (iv) The location of the spill or release, including directions to the site, GPS coordinates or the 9-1-1 address, if available.
  - (v) A brief description of the nature of the spill or release and its cause, what potential impacts to public health and safety or the environment may exist, including any available information concerning the pollution or threatened pollution of surface water, groundwater or soil.
  - (vi) The estimated weight or volume of each regulated substance spilled or released.
  - (vii) The nature of any injuries.
  - (viii) Remedial actions planned, initiated or completed.
- (3) The operator or other responsible party shall take necessary interim corrective actions to prevent:
- (i) The regulated substance from polluting or threatening to pollute the waters of the Commonwealth.
  - (ii) Damage to property.
  - (iii) Impacts to downstream users of waters of the Commonwealth.
- (4) 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. The operator or other responsible party shall restore or replace a polluted water supply in accordance with § 78a.51 (relating to protection of water supplies). The 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.
- (5) 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.

(6) After responding to a spill or release, the operator or other responsible party shall decontaminate equipment used to handle the regulated substance, including storage containers, processing equipment, trucks and loaders, before returning the equipment to service. Contaminated wash water, waste solutions and residues generated from washing or decontaminating equipment shall be managed as residual waste.

(c) *Remediating releases.* Remediation of an area polluted by a spill or release is required. The operator or other responsible party shall remediate a release in accordance with the following:

(1) 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 or release and properly managing the impacted soil in accordance with the Department's waste management regulations. The operator or responsible party shall notify the Department of its intent to remediate a spill or release in accordance with this paragraph at the time the report of the spill or release is made.

(2) 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 (relating to administration of Land Recycling Program) in the following manner:

(i) Within 15 business days of the spill or release, the operator or other responsible party shall provide an initial written report that includes, to the extent that the information is available, the following:

- (A) The regulated substance involved.
- (B) The location where the spill or release occurred.
- (C) The environmental media affected.
- (D) Pollution or threatened pollution of water supplies.
- (E) Impacts to buildings or utilities.
- (F) Interim remedial actions planned, initiated or completed.
- (G) 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 time frames within which it expects to take those actions.

(ii) 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.

(iii) Within 180 calendar days of the spill or release, the operator or other responsible party shall perform a site characterization to determine the extent and magnitude of the pollution and submit a site characterization

report to the appropriate Department regional office describing the findings. The time to submit the site characterization report may be extended by the Department. The report must include a description of any interim remedial actions taken.

(iv) The report under subparagraph (iii) 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.

(v) If the site characterization indicates that the interim remedial actions taken did not adequately remediate the spill or release, the operator or other responsible party shall develop and 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 must contain the elements outlined in § 245.311(a) (relating to remedial action plan), as well as a schedule for the submission of remedial action progress reports.

(vi) Within 45 days after the selected remediation standard has been attained, the operator or other responsible party shall submit a remedial action completion report to the appropriate Department regional office for approval. Remedial action completion reports shall contain the elements outlined in § 245.313(b) (relating to remedial action completion report).

#### Cross References

This section cited in 25 Pa. Code § 78a.56 (relating to temporary storage); 25 Pa. Code § 78a.57 (relating to control, storage and disposal of production fluids); 25 Pa. Code § 78a.59c (relating to centralized impoundments); and 25 Pa. Code § 78a.64a (relating to secondary containment).

#### § 78a.67. Borrow pits.

(a) An operator who owns or controls a borrow pit that does not require a permit under the Noncoal Surface Mining Conservation and Reclamation Act (52 P.S. §§ 3301—3326) under the exemption in section 3273.1(b) of the act (relating to relationship to solid waste and surface mining), because the borrow pit is used exclusively for extraction of minerals for the purpose of oil and gas well development, including access road construction, shall operate, maintain and reclaim the borrow pit in accordance with the performance standards in Chapter 77, Subchapter I (relating to environmental protection performance standards) and in accordance with Chapter 102 (relating to erosion and sediment control), and other applicable laws. The mining permit exemption only applies so long as the borrow pit is servicing an oil and gas well site where a well is permitted under section 3211 of the act (relating to well permits) or registered under section 3213 of the act (relating to well registration and identification) and the requirements of section 3225 of the act (relating to bonding) are satisfied by filing a surety or collateral bond for wells drilled on or after April 18, 1985. Borrow pits shall be subject to The Clean Streams Law (35 P.S. §§ 691.1—691.1001), and regulations

promulgated thereunder, including Chapter 102. For purposes of determining permitting requirements under § 102.5(c) (relating to permit requirements), areas subject to the mining permit exemption shall be considered part of the project along with the well site being serviced.

(b) Operators shall register the location of their existing borrow pits by December 7, 2016, by providing the Department, electronically, through the Department's web site, with the GPS coordinates, township and county where the borrow pit is located. The operator shall register the location of a new borrow pit in the same manner prior to construction.

(c) Borrow pits used for the development of oil and gas well sites and access roads that no longer meet the conditions under section 3273.1 of the act must meet one of the following:

(1) Be restored within 9 months after completion of drilling the final well on a well site serviced by the borrow pit or 9 months after the expiration of all well permits on well sites serviced by the borrow pit, whichever occurs later. An extension of the restoration requirement may be approved under § 78a.65(c) (relating to site restoration).

(2) Obtain a noncoal surface mining permit for its continued use, unless relevant exemptions apply under the Noncoal Surface Mining Conservation and Reclamation Act and regulations promulgated thereunder.

(d) A well operator who owns or operates a borrow pit constructed prior to October 8, 2016, shall have the borrow pit inspected by a qualified person for compliance with the requirements of this section prior to April 6, 2017. Any borrow pits that do not comply with subsection (a) shall be upgraded to meet the requirements of this section or restored by October 10, 2017.

### **§ 78a.68. Oil and gas gathering pipelines.**

(a) The requirements of this section apply to all earth disturbance activities associated with oil and gas gathering pipeline installations and supporting facilities including the construction right-of-way, work space areas, pipe storage yards, borrow and disposal areas, access roads and other necessary areas identified on the erosion and sediment control plan. The construction, installation, use, maintenance, repair and removal of oil and gas gathering pipelines under this section shall be conducted in accordance with Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management).

(b) Highly visible flagging, markers or signs shall be used to identify the shared boundaries of the limit of disturbance, wetlands and locations of threatened or endangered species habitat prior to land clearing. The flagging, markers or signs shall be maintained throughout earth disturbance activities and restoration or PCSM activities.

(c) The operator shall maintain topsoil and subsoil during excavation under the following, unless otherwise authorized by the Department:

(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.
- (d) Backfilling of the gathering 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.
- (e) Equipment may not be refueled within the floodway or within 50 feet of any body of water.
- (f) Materials staging areas must be located outside of a floodway or greater than 50 feet from any body of water, unless otherwise approved in writing by the Department.
- (g) All buried metallic gathering pipelines shall be installed and placed in operation in accordance with 49 CFR Part 192, Subpart I or Part 195, Subpart H (relating to requirements for corrosion control; and corrosion control).

**§ 78a.68a. Horizontal directional drilling for oil and gas pipelines.**

- (a) 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 not begin prior to authorization by the Department in accordance with Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management).
- (b) Prior to beginning of any horizontal directional drilling activity, the person planning to conduct those activities shall develop a PPC plan under § 102.5(l) (relating to permit requirements). The PPC plan 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 shall be made available to the Department upon request.
- (c) The Department shall be notified at least 24 hours prior to beginning of any horizontal directional drilling 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.
- (d) All required permits and Safety Data Sheets must be onsite during horizontal directional drilling activities and shall be made available to the Department upon request.



(e) Materials staging areas shall be located outside of a floodway, as defined in § 105.1 (relating to definitions), of any watercourse or greater than 50 feet from any body of water, unless otherwise approved in writing by the Department.

(f) Drilling fluid additives other than bentonite and water shall 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 preapproved horizontal directional drilling fluid additive does not require separate Department approval.

(g) Horizontal directional drilling 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.

(h) Horizontal directional drilling activities may not result in a discharge of drilling fluids to waters of the Commonwealth. If a discharge occurs during horizontal directional drilling activities, the person subject to subsection (a) shall immediately implement the contingency plan developed under subsection (b).

(i) When a drilling fluid discharge or loss of drilling fluid circulation is discovered, the loss or discharge shall be immediately reported to the Department, and the person subject to subsection (a) shall request an emergency permit under § 105.64 (relating to emergency permits), if necessary for emergency response or remedial activities to be conducted.

(j) Any water supply complaints received by the person subject to subsection (a) shall be reported to the Department within 24 hours electronically through its web site.

(k) Horizontal directional drilling fluid returns and drilling fluid discharges shall be managed in accordance with Subpart D, Article IX (relating to residual waste management).

### **§ 78a.68b. Well development pipelines for oil and gas operations.**

(a) The construction, installation, use, maintenance, repair and removal of well development pipelines shall meet applicable requirements in Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management).

(b) Operators shall install well development pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources aboveground except when 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.

(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 applications for construction or modification of culverts and bridges).

(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 crossing.

(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. 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.

(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.

(g) Well development 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. Leaks or other defects discovered during pressure testing shall be repaired prior to use. Pressure test results and any defects and repairs to the well development pipeline shall be documented and made available to the Department upon request.

(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.

(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.

(j) Well development pipelines not used to transport fluids for more than 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 12 months without approval from the Department.

(k) Flammable materials may not be transported through a well development pipeline.

(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).

(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.

(n) Records required under this section shall be retained by the operator for 1 year after the well development pipeline is removed.

#### Cross References

This section cited in 25 Pa. Code § 78a.55 (relating to control and disposal planning: emergency response for unconventional wells).

### § 78a.69. Water management plans.

(a) *General.*

(1) Except as provided in paragraph (2), a person may not withdraw or use water from water sources within this Commonwealth for drilling or hydraulic fracture stimulation of any natural gas well governed by this chapter except in accordance with a WMP approved by the Department. The WMP must demonstrate that the withdrawal and use of the water sources protects those water sources as required by law and protects public health, safety and welfare.

(2) A water purveyor that has a water allocation permit or order of confirmation under the act of June 24, 1939 (P.L. 842, No. 365) (32 P.S. §§ 631—641), known as the Water Rights Law, or a safe drinking water permit under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1—721.17), as applicable, is not required to apply for a WMP under this section.

(b) *WMP requirements.* A WMP must meet the following requirements:

- (1) Protect instream flow.
- (2) Prevent adverse effects on quantity and quality of water available to other users.
- (3) Protect and maintain designated and existing uses of water sources.
- (4) Prevent adverse impacts to water quality in the watershed considered as a whole.
- (5) Protect groundwater resources including nearby water wells.
- (6) Provide for water reuse.

(c) *Application requirements.* A request for approval under this section shall be submitted on forms furnished by the Department and must include, but not be limited to, the following:

- (1) General water source information including identification of source name, source type, average daily and instantaneous maximum withdrawal rates.
- (2) A plan for monitoring and reporting of water sources and uses.
- (3) A low flow analysis.
- (4) A withdrawal and diversion impact analysis.
- (5) A description of how the proposed withdrawal will not adversely affect the quantity or quality of water available to other users of the same water

sources. When obtaining water from a water purveyor, the application must include a description of how the withdrawal will not adversely affect the water purveyor's system.

(6) For surface water sources:

(i) An operations plan that includes an intake design, a flow schematic showing how water is to be withdrawn, a site layout and a footprint for each surface water withdrawal.

(ii) A description of measures to be taken to prevent the rapid movement of invasive, harmful or nuisance species by vehicles, equipment or other facilities from one site to another.

(7) For groundwater sources, a well report that includes information necessary to evaluate:

(i) Proper well construction.

(ii) The hydraulic characteristics of the aquifer.

(iii) The suitability of the proposed groundwater source.

(iv) Proper well abandonment.

(v) Information consistent with Department guidance, including the *Public Water Supply Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 383-2125-108, as amended and updated, and the *Groundwater Monitoring Guidance Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 383-3000-001, as amended and updated, satisfies this requirement.

(8) A reuse plan for fluids that will be used to hydraulically fracture wells. Proof of a wastewater source reduction strategy in compliance with § 95.10(b) (relating to treatment requirements for new and expanding mass loadings of Total Dissolved Solids (TDS)) satisfies the reuse plan requirement.

(9) Proof of consultation with the Pennsylvania Natural Heritage Program regarding the presence of a State or Federal threatened or endangered species at the location of a withdrawal.

(10) Proof of notification of the proposed withdrawal to municipalities and counties where the water source will be located.

(11) Proof of consultation with the Pennsylvania Historic and Museum Commission regarding the presence of a historical or archaeological site included on the Federal or State list of historical places at the location of a withdrawal.

(d) *Approval of WMPs.* The Department will presume that the requirements in subsection (b) and section 3211(m)(2) of the act (relating to well permits) are met when an approval from the Susquehanna River Basin Commission, the Delaware River Basin Commission or the parties to the Great Lakes-St. Lawrence River Basin Water Resources Compact is obtained for a water withdrawal, to the extent that the requirements in subsection (c) are considered in granting the approval.

(e) *Operational requirements.* A person whose WMP has been approved by the Department shall comply with the WMP, and shall meet the following:

(1) Prior to any withdrawal, post a sign at the entrance to the water source withdrawal location displaying the name of the person and contact telephone number, water withdrawal approval conditions including daily withdrawal volume, maximum instantaneous withdrawal rate and passby flow requirements, if applicable, and the WMP water source expiration date.

(2) Measure water withdrawals and purchases using continuous-recording devices or flow meters. Water sources having passby flow conditions shall conduct instream flow monitoring and measuring using methods acceptable to the Department.

(3) Submit reports to the Department by electronic means consisting of daily withdrawal volumes, in-stream flow measurements or water source purchases, or both, as required by the Department.

(4) Retain withdrawal data and daily instream flow measurements and purchases for at least 5 years. These records shall be available for review by the Department upon request.

(f) *Administration of WMPs.*

(1) Approvals for individual water sources within a WMP are valid for 5 years.

(2) A WMP renewal application shall be submitted at least 6 months prior to the expiration of the 5-year term for withdrawal or use of a water source under a WMP.

(3) The Department may suspend or revoke an approved water source within a WMP for failure to comply with the WMP or for any reasons in section 3211(m) of the act and sections 3252 and 3259 of the act (relating to public nuisances; and unlawful conduct).

(4) A person whose WMP has been approved by the Department may terminate approval of any water source within an approved WMP by submitting a letter to the Department's Oil and Gas District Office requesting termination of the water source approval.

(g) *Denial.* The Department may deny an application for a WMP for either of the following reasons:

(1) The WMP application is administratively incomplete.

(2) The WMP application does not demonstrate that the requirements of this section will be met.

### **§ 78a.70. Road-spreading of brine for dust control and road stabilization.**

Production brines from unconventional wells may not be used for dust suppression and road stabilization.

**§ 78a.70a. Pre-wetting, anti-icing and de-icing.**

Production brines from unconventional wells may not be used for pre-wetting, anti-icing and de-icing.

**Subchapter D. WELL DRILLING, OPERATION AND PLUGGING****GENERAL**

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### GENERAL

#### § 78a.71. Use of safety devices—well casing.

(a) The operator shall equip the well with one or more strings of casing of sufficient cemented length and strength to attach proper well control equipment and prevent blowouts, explosions, fires and casing failures during installation, completion and operation.

(b) The operator shall determine the amount and type of casing to be run and the amount and type of cement to be used in accordance with current prudent industry practices and engineering. In making the determinations, the operator shall consider the following:

- (1) Successful local practices for similar wells.
- (2) Maximum anticipated surface pressure.
- (3) Collapse resistance.
- (4) Tensile strength.
- (5) Chemical environment.
- (6) Potential mechanical damage.
- (7) Manufacturing standards, including American Petroleum Institute or equivalent specifications for pipe used in wells drilled below the Onondaga formation or where blow-out preventers are required.

#### § 78a.72. Use of safety devices—blow-out prevention equipment.

(a) The operator shall use blow-out prevention equipment after setting casing with a competent casing seat in the following circumstances:

- (1) When drilling a well that is intended to produce natural gas from an unconventional formation.
- (2) When drilling out solid core hydraulic fracturing plugs to complete a well.
- (3) When well head pressures or natural open flows are anticipated at the well site that may result in a loss of well control.
- (4) When the operator is drilling in an area where there is no prior knowledge of the pressures or natural open flows to be encountered.
- (5) On wells regulated by the Oil and Gas Conservation Law (58 P.S. §§ 401—419).
- (6) When drilling within 200 feet of a building.

(b) Blow-out prevention equipment used must be in good working condition at all times.

(c) Controls for the blow-out preventer shall be accessible to allow actuation of the equipment. Additional controls for a blow-out preventer with a pressure

rating of greater than 3,000 psi, not associated with the rig hydraulic system, shall be located at least 50 feet away from the drilling rig so that the blow-out preventer can be actuated if control of the well is lost.

(d) The operator shall use pipe fittings, valves and unions placed on or connected to the blow-out prevention systems that have a working pressure capability that exceeds the anticipated pressures.

(e) The operator shall conduct a complete test of the ram type blow-out preventer and related equipment for both pressure and ram operation before placing it in service on the well. The operator shall test the annular type blow-out preventer in accordance with the manufacturer's published instructions, or the instructions of a professional engineer, prior to the device being placed in service. Blow-out prevention equipment that fails the test may not be used until it is repaired and passes the test.

(f) When the equipment is in service, the operator shall visually inspect blow-out prevention equipment during each tour of drilling operation and during actual drilling operations test the pipe rams for closure daily and the blind rams for closure on each round trip. When more than one round trip is made in a day, one daily closure test for blind rams is sufficient. Testing shall be conducted in accordance with American Petroleum Institute publication API RP53, "API Recommended Practice for Blowout Prevention Equipment Systems for Drilling Wells," or other procedure approved by the Department. The operator shall record the results of the inspection and closure test in the drillers log before the end of the tour. If blow-out prevention equipment is not in good working order, drilling shall cease when cessation of drilling can be accomplished safely and not resume until the blow-out prevention equipment is repaired or replaced and retested.

(g) All lines, valves and fittings between the closing unit and the blow-out preventer stack must be flame resistant and have a rated working pressure that meets or exceeds the requirements of the blow-out preventer system.

(h) When a blowout preventer is installed or required under subsection (a), there shall be present on the well site an individual with a current certification from a well control course accredited by the International Association of Drilling Contractors or other organization approved by the Department. The certification shall be available for review at the well site. The Department will maintain a list of approved accrediting organizations on its web site.

(i) Well drilling and completion operations requiring pressure barriers, as identified by the operator under § 78a.55(d) (relating to control and disposal planning; emergency response for unconventional wells), shall employ at least two mechanical pressure barriers between the open producing formation and the atmosphere that are capable of being tested. The mechanical pressure barriers shall be tested according to manufacturer specifications prior to operation. If during the course of operations the operator only has one functioning barrier, opera-

tions shall cease until additional barriers are added and tested or the redundant barrier is repaired and tested. Stripper rubber or a stripper head may not be considered a barrier.

(j) A coiled tubing rig or a hydraulic workover unit with appropriate blow-out prevention equipment shall be employed during post-completion cleanout operations in horizontal unconventional formations.

(k) The minimum amount of intermediate casing that is cemented to the surface to which blow-out prevention equipment may be attached shall be in accordance with the following:

<i>Proposed Total Vertical Depth (in feet)</i>	<i>Minimum Cemented Casing Required (in feet of casing cemented)</i>
Up to 5,000	400
5,001 to 5,500	500
5,501 to 6,000	600
6,001 to 6,500	700
6,501 to 7,000	800
7,001 to 8,000	1,000
8,001 to 9,000	1,200
9,001 to 10,000	1,400
Deeper than 10,000	1,800

(l) Upon completion of the drilling operations at a well, the operator shall install and utilize equipment, such as a shut-off valve of sufficient rating to contain anticipated pressure, lubricator or similar device, as may be necessary to enable the well to be effectively shut-in while logging and servicing the well and after completion of the well.

**§ 78a.73. General provision for well construction and operation.**

(a) The operator shall construct and operate the well in accordance with this chapter and ensure that the integrity of the well is maintained and health, safety, environment and property are protected.

(b) The operator shall prevent gas, oil, brine, completion and servicing fluids, and any other fluids or materials from below the casing seat from entering fresh groundwater, and shall otherwise prevent pollution or diminution of fresh groundwater.

(c) The operators of active, inactive, abandoned, and plugged and abandoned wells identified as part of an area of review survey conducted under § 78a.52a



(relating to area of review) that likely penetrate within 1,500 feet measured vertically from the stimulation perforations, if known, shall be notified. Notice shall be provided at least 30 days prior to the start of drilling the well or at the time the permit application is submitted to the Department if the start of drilling is planned less than 30 days from the date of permit issuance. Orphan wells, abandoned wells, and plugged and abandoned wells identified as part of an area of review survey conducted under § 78a.52a that either penetrate within 1,500 feet measured vertically from the stimulation perforations or have an unknown true vertical depth shall be visually monitored during stimulation activities. The operator shall immediately notify the Department of any change to a well being monitored, of any treatment pressure or volume changes indicative of abnormal fracture propagation at the well being stimulated or if otherwise made aware of a confirmed well communication incident associated with their stimulation activities. Notice shall be provided to the Department electronically through the Department's web site. In an event such as this, the operator shall cease stimulating the well that is the subject of the area of review survey and take action to prevent pollution of waters of the Commonwealth or discharges to the surface. The operator may not resume stimulation of the well that is the subject of the area of review survey without Department approval.

(d) An operator that alters an orphan well, or an abandoned well or plugged and abandoned well by hydraulic fracturing shall plug the altered well in accordance with this chapter, or the operator may adopt the altered well and place it into production.

(e) After a well has been completed, recompleted, reconditioned or altered the operator shall prevent surface shut-in pressure and surface producing back pressure inside the surface casing or coal protective casing from exceeding the following pressure: 80% multiplied by 0.433 psi per foot multiplied by the casing length (in feet) of the applicable casing.

(f) After a well has been completed, recompleted, reconditioned or altered, if the surface shut-in pressure or surface producing back pressure exceeds the pressure as calculated in subsection (e), the operator shall take action to prevent the migration of gas and other fluids from lower formations into fresh groundwater. To meet this standard the operator may cement or install on a packer sufficient intermediate or production casing or take other actions approved by the Department. This section does not apply during testing for mechanical integrity in accordance with State or Federal requirements.

(g) Excess gas encountered during drilling, completion or stimulation shall be flared, captured or diverted away from the drilling rig in a manner that does not create a hazard to the public health or safety.

(h) The well must be equipped with a check valve to prevent backflow from the pipelines into the well.

**Cross References**

This section cited in 25 Pa. Code § 78a.52a (relating to area of review); 25 Pa. Code § 78a.83 (relating to surface and coal protective casing and cementing procedures); 25 Pa. Code § 78a.83b (relating to casing and cementing—lost circulation); and 25 Pa. Code § 78a.88 (relating to mechanical integrity of operating wells).

**§ 78a.74. Venting of gas.**

The venting of gas to the atmosphere from a well is prohibited when the venting produces a hazard to the public health and safety.

**§ 78a.75. Alternative methods.**

(a) A well operator may request approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well under section 3221 of the act (relating to alternative methods).

(b) A well operator seeking approval under this section shall file an application with the Department on forms furnished by the Department. The application must:

- (1) Describe the proposed alternative method or material, in reasonable detail.
- (2) Indicate the manner in which the alternative will satisfy the goals of the act and this chapter.
- (3) Include a drawing or schematic of the alternative method, if appropriate.

(c) The well operator shall notify all coal owners and operators and gas storage operators of record of the proposal, by certified mail. The well operator shall state in the application that he has sent the certified mail notice to the coal owners and operators and gas storage operators of record, either simultaneously with or prior to submitting the proposal to the Department.

(d) The coal owners and operators and gas storage operators of record shall have up to 15 days from their receipt of the notice to file objections or to indicate concurrence with the proposed alternative method or material.

(e) If no objections are filed within 15 days from receipt of the notice, and if none are raised by the Department, the Department will make a determination whether to allow the use of the proposed alternative method or material.

**Cross References**

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.83 (relating to surface and coal protective casing and cementing procedures); and 25 Pa. Code § 78a.87 (relating to gas storage reservoir protective casing and cementing procedures).

**§ 78a.75a. Area of alternative methods.**

(a) A well operator may request approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well under section 3221 of the act (relating to alternative methods).

(b) To establish an area of alternative methods, the Department will publish a notice in the *Pennsylvania Bulletin* of the proposed area of alternative methods and provide the public with an opportunity to comment on the proposal. After reviewing any comments received on the proposal, the Department will publish a final designation of the area and required alternative methods in the *Pennsylvania Bulletin*.

(c) Wells drilled within an area of alternative methods established under subsection (b) must meet the requirements specified by the Department unless the operator obtains approval from the Department to drill, operate or plug the well in a different manner that is at least as safe and protective of the environment as the requirements of the area of alternative methods.

**§ 78a.76. Drilling within a gas storage reservoir area.**

(a) An operator proposing to drill a well within a gas storage reservoir area or a reservoir protective area shall forward by certified mail a copy of the well location plat, the drilling, casing and cementing plan, and the anticipated date drilling will start to the gas storage reservoir operator and to the Department for approval by the Department and shall submit proof of notification to the gas storage reservoir operator to the Department with the well permit application.

(b) The storage operator may file an objection with the Department to the drilling, casing and cementing plan or the proposed well location within 15 calendar days of receipt of the notification and request a conference in accordance with section 3251 of the act (relating to conferences).

**§ 78a.77. Wells in a hydrogen sulfide area.**

(a) An operator proposing to drill a well within a 1-mile radius of a well drilled to or through the same formation where hydrogen sulfide has been found while drilling shall install monitoring equipment during drilling at the well site to detect the presence of hydrogen sulfide in accordance with American Petroleum Institute publication RP49, "Recommended Practices for Safe Drilling of Wells Containing Hydrogen Sulfide."

(b) When hydrogen sulfide is detected in concentrations of 20 ppm or greater, the well shall be drilled in accordance with American Petroleum Institute publication RP49, "Recommended Practices for Safe Drilling of Wells Containing Hydrogen Sulfide."

(c) An operator who operates a well in which hydrogen sulfide is discovered in concentrations of 20 ppm or greater shall operate the well in a way that presents no danger to human health or to the environment.

(d) When an operator discovers hydrogen sulfide in concentrations of 20 ppm or greater during the drilling of a well, the operator shall notify the Department and identify the location of the well and the concentration of hydrogen sulfide detected. The Department will maintain a list of all notices that will be available to operators for their reference.

**§ 78a.78. Pillar permit applications.**

(a) The Department will use recommendations for coal pillar size and configuration set forth in the coal pillar study, listed in the Department's *Coal Pillars*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 550-2100-006, as amended and updated, as a basis for approval or disapproval of coal pillar permit applications submitted by underground coal mine operators.

(b) Where proposed coal pillar size and configuration does not conform to the recommendations of the coal pillar study referenced in subsection (a), the underground coal mine operator may request Department approval for an alternate coal pillar size and configuration.

**CASING AND CEMENTING****§ 78a.81. General provisions.**

(a) The operator shall conduct casing and cementing activities under this section and §§ 78a.82, 78a.83, 78a.83a, 78a.83b, 78a.83c and 78a.84—78a.87 or an approved alternate method under § 78a.75 (relating to alternative methods). The operator shall case and cement a well to accomplish the following:

- (1) Allow effective control of the well at all times.
- (2) Prevent the migration of gas or other fluids into sources of fresh groundwater.
- (3) Prevent pollution or diminution of fresh groundwater.
- (4) Prevent the migration of gas or other fluids into coal seams.

(b) The operator shall drill through fresh groundwater zones with diligence and as efficiently as practical to minimize drilling disturbance and commingling of groundwaters.

**Cross References**

This section cited in 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

**§ 78a.82. Use of conductor pipe.**

If the operator installs conductor pipe in the well, the following provisions apply:

- (1) The operator may not remove the pipe.
- (2) Conductor pipe shall be installed in a manner that prevents the subsurface infiltration of surface water or fluids by either driving the pipe into place or cementing the pipe from the seat to the surface.
- (3) Conductor pipe must be made of steel unless a different material is approved for use by the Department.

**Cross References**

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

**§ 78a.83. Surface and coal protective casing and cementing procedures.**

(a) For wells drilled, altered, reconditioned or recompleted after February 5, 2011, surface casing or any casing functioning as a water protection casing may not be utilized as production casing unless one of the following applies:

(1) In oil wells where the operator does not produce any gas generated by the well and the annulus between the surface casing and the production pipe is left open.

(2) The operator demonstrates that the pressure in the well is no greater than the pressure permitted under § 78a.73(e) (relating to general provision for well construction and operation), demonstrates through a pressure test or other method approved by the Department that all gas and fluids will be contained within the well, and installs a working pressure gauge that can be inspected by the Department.

(b) If the well is to be equipped with threaded and coupled casing, the operator shall drill a hole so that the diameter is at least 1 inch greater than the outside diameter of the casing collar to be installed. If the well is to be equipped with plain-end welded casing, the operator shall drill a hole so that the diameter is at least 1 inch greater than the outside diameter of the casing coupling.

(c) The operator shall drill to approximately 50 feet below the deepest fresh groundwater or at least 50 feet into consolidated rock, whichever is deeper, and immediately set and permanently cement a string of surface casing to that depth. Except as provided in subsection (f), the surface casing may not be set more than 200 feet below the deepest fresh groundwater except if necessary to set the casing in consolidated rock. The surface hole shall be drilled using air, freshwater or freshwater-based drilling fluid. Prior to cementing, the wellbore shall be conditioned to ensure an adequate cement bond between the casing and the formation. The surface casing seat shall be set in consolidated rock. When drilling a new well or re-drilling an existing well, the operator shall install at least one centralizer within 50 feet of the casing seat and then install a centralizer in intervals no greater than every 150 feet above the first centralizer.

(d) The operator shall permanently cement the surface casing by placing the cement in the casing and displacing it into the annular space between the wall of the hole and the outside of the casing.

(e) Where potential oil or gas zones are anticipated to be found at depths within 50 feet below the deepest fresh groundwater, the operator shall set and permanently cement surface casing prior to drilling into a stratum known to contain, or likely containing, oil or gas.

(f) If additional fresh groundwater is encountered in drilling below the permanently cemented surface casing, the operator shall document the depth of the fresh ground water zone in the well record and protect the additional fresh groundwater by installing and cementing a subsequent string of casing or other procedures approved by the Department to completely isolate and protect fresh groundwater. The string of casing may also penetrate zones bearing salty or brackish water with cement in the annular space being used to segregate the various zones. Sufficient cement shall be used to cement the casing to the surface. The operator shall install at least one centralizer within 50 feet of the casing seat and then install a centralizer in intervals no greater than, if possible, every 150 feet above the first centralizer.

(g) The operator shall set and cement a coal protective string of casing through workable coal seams. The base of the coal protective casing shall be at least 30 feet below the lowest workable coal seam. The operator shall install at least two centralizers. One centralizer shall be within 50 feet of the casing seat and the second centralizer shall be within 100 feet of the surface.

(h) Unless an alternative method has been approved by the Department in accordance with § 78a.75 (relating to alternative methods), when a well is drilled through a coal seam at a location where the coal has been removed or when a well is drilled through a coal pillar, the operator shall drill to a depth of at least 30 feet but no more than 50 feet deeper than the bottom of the coal seam. The operator shall set and cement a coal protection string of casing to this depth. The operator shall equip the casing with a cement basket or other similar device above and as close to the top of the coal seam as practical. The bottom of the casing must be equipped with an appropriate device designed to prevent deformation of the bottom of the casing. The interval from the bottom of the casing to the bottom of the coal seam shall be filled with cement either by the balance method or by the displacement method. Cement shall be placed on top of the basket between the wall of the hole and the outside of the casing by pumping from the surface. If the operator penetrates more than one coal seam from which the coal has been removed, the operator shall protect each seam with a separate string of casing that is set and cemented or with a single string of casing which is stage cemented so that each coal seam is protected as described in this subsection. The operator shall cement the well to isolate workable coal seams from each other.

(i) If the operator sets and cements casing under subsection (g) or (h) and subsequently encounters additional fresh groundwater zones below the deepest cemented casing string installed, the operator shall protect the fresh groundwater by installing and cementing another string of casing or other method approved by the Department. Sufficient cement shall be used to cement the casing to the surface. The additional casing string may also penetrate zones bearing brackish or salt water, but shall be run and cemented prior to penetrating a zone known to or likely to contain oil or gas. The operator shall install at least one centralizer

within 50 feet of the casing seat and then, if possible, install a centralizer in intervals no greater than every 150 feet above the first centralizer.

(j) If it is anticipated that cement used to permanently cement the surface casing cannot be circulated to the surface a cement basket may be installed immediately above the depth of the anticipated lost circulation zone. The casing shall be permanently cemented by the displacement method. Additional cement may be added above the cement basket, if necessary, by pumping through a pour string from the surface to fill the annular space. Filling the annular space by this method does not constitute permanently cementing the surface or coal protective casing under § 78a.83b (relating to casing and cementing—lost circulation).

#### Cross References

This section cited in 25 Pa. Code § 78a.61 (relating to disposal of drill cuttings); 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.83c (relating to intermediate and production casing); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

### § 78a.83a. Casing and cementing plan.

(a) The operator shall prepare and maintain a casing and cementing plan showing how the well will be drilled and completed. The plan must demonstrate compliance with this subchapter and include the following information:

- (1) The anticipated depth and thickness of any producing formation, expected pressures, anticipated fresh groundwater zones and the method or information by which the depth of the deepest fresh groundwater was determined.
- (2) The diameter of the borehole.
- (3) Casing type, whether the casing is new or used, depth, diameter, wall thickness and burst pressure rating.
- (4) Cement type, yield, additives and estimated amount.
- (5) The estimated location of centralizers.
- (6) The proposed borehole conditioning procedures.
- (7) Alternative methods or materials as required by the Department as a condition of the well permit.

(b) The plan shall be available at the well site for review by the Department.

(c) Upon request, the operator shall provide a copy of the well-specific casing and cementing plan to the Department for review and approval.

(d) Revisions to the plan made as a result of onsite modification shall be documented in the plan and be available for review by the Department. The person making the revisions to the plan shall initial and date the revisions.

#### Cross References

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).



**§ 78a.83b. Casing and cementing—lost circulation.**

(a) If cement used to permanently cement the surface or coal protective casing is not circulated to the surface despite pumping a volume of cement equal to or greater than 120% of the calculated annular space, the operator shall determine the top of the cement, notify the Department and meet one of the following requirements as approved by the Department:

(1) Run an additional string of casing at least 50 feet deeper than the string where circulation was lost and cement the additional string of casing back to the seat of the string where circulation was lost and vent the annulus of the additional casing string to the atmosphere at all times unless closed for well testing or maintenance. Shut-in pressure on the casing seat of the additional string of casing may not exceed the requirements of § 78a.73(e) (relating to general provision for well construction and operation).

(2) Run production casing and set the production casing on a packer in a competent formation below the string where circulation was lost and vent the annulus of the production casing to the atmosphere at all times unless closed for well testing or maintenance.

(3) Run production casing at least to the top of the formation that is being produced and cement the production casing to the surface.

(4) Run intermediate and production casing and cement both strings of casing to the surface.

(5) Produce oil but not gas and leave the annulus between the surface casing and the production pipe open.

(b) In addition to meeting the requirements of subsection (a), the operator may also pump additional cement through a pour string from the surface to fill the annular space.

**Cross References**

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.83 (relating to surface and coal protective casing and cementing procedures); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

**§ 78a.83c. Intermediate and production casing.**

(a) Prior to cementing the intermediate and production casing, the borehole, mud and cement shall be conditioned to ensure an adequate cement bond between the casing and the formation.

(b) If the well is to be equipped with an intermediate casing, centralizers shall be used and the casing shall be cemented to the surface by the displacement method. Gas may be produced off the intermediate casing if a shoe test demonstrates that all gas will be contained within the well and a relief valve is installed at the surface that is set less than the shoe test pressure. The shoe test pressure shall be recorded in the completion report.



(c) Except as provided in § 78a.83 (relating to surface and coal protective casing and cementing procedures), each well must be equipped with production casing. The production string may be set on a packer or cemented in place. If the production casing is cemented in place, centralizers shall be used and cement shall be placed by the displacement method with sufficient cement to fill the annular space to a point at least 500 feet above true vertical depth or at least 200 feet above the uppermost perforations, whichever is greater.

#### Cross References

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

### § 78a.84. Casing standards.

(a) The operator shall install casing that can withstand the effects of tension, and prevent leaks, burst and collapse during its installation, cementing and subsequent drilling and producing operations.

(b) Except as provided in subsection (c), all casing must be a string of new pipe with an internal pressure rating that is at least 20% greater than the anticipated maximum pressure to which the casing will be exposed.

(c) Used casing may be approved for use as surface, intermediate or production casing but shall be pressure tested after cementing and before continuation of drilling. A passing pressure test is holding the anticipated maximum pressure to which it will be exposed for 30 minutes with not more than a 10% decrease in pressure.

(d) New or used plain end casing, except when being used as conductor pipe, that is welded together for use must meet the following requirements:

(1) The casing must pass a pressure test by holding the anticipated maximum pressure to which the casing will be exposed for 30 minutes with not more than a 10% decrease in pressure. The operator shall notify the Department at least 24 hours before conducting the test. The test results shall be entered on the drilling log.

(2) The casing shall be welded using at least three passes with the joint cleaned between each pass.

(3) The casing shall be welded by a person trained and certified in the applicable American Petroleum Institute, American Society of Mechanical Engineers, American Welding Society or equivalent standard for welding casing and pipe or an equivalent training and certification program as approved by the Department. The certification requirements of this paragraph shall take effect August 5, 2011. A person with 10 years or more of experience welding casing as of February 5, 2011, who registered with the Department by November 7, 2011, is deemed to be certified.

(e) When casing through a workable coal seam, the operator shall install coal protective casing that has a minimum wall thickness of 0.23 inch.

(f) Casing which is attached to a blow-out preventer with a pressure rating of greater than 3,000 psi shall be pressure tested after cementing. A passing pressure test must be holding the anticipated maximum pressure to which the casing will be exposed for 30 minutes with not more than a 10% decrease. Certification of the pressure test shall be confirmed by entry and signature of the person performing the test on the driller's log.

#### Cross References

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

### § 78a.85. Cement standards.

(a) When cementing surface casing or coal protective casing, the operator shall use cement that meets or exceeds the ASTM International C 150, Type I, II or III Standard or API Specification 10. The cement must also:

- (1) Secure the casing in the wellbore.
- (2) Isolate the wellbore from fresh groundwater.
- (3) Contain any pressure from drilling, completion and production.
- (4) Protect the casing from corrosion from, and degradation by, the geochemical, lithologic and physical conditions of the surrounding wellbore. For wells employing coal protective casing, this includes, but is not limited to, formulating cement to withstand elevated sulfate concentrations and other geochemical constituents of coal and associated strata which have the potential to adversely affect the integrity of the cement.
- (5) Prevent gas flow in the annulus. In areas of known shallow gas producing zones, gas block additives and low fluid loss slurries shall be used.

(b) After the casing cement is placed behind surface casing, the operator shall permit the cement to set to a minimum designed compressive strength of 350 pounds per square inch (psi) at the casing seat. The cement placed at the bottom 300 feet of the surface casing must constitute a zone of critical cement and achieve a 72-hour compressive strength of 1,200 psi and the free water separation may be no more than 6 milliliters per 250 milliliters of cement. If the surface casing is less than 300 feet, the entire cemented string constitutes a zone of critical cement.

(c) After any casing cement is placed and cementing operations are complete, the casing may not be disturbed for a minimum of 8 hours by doing any of the following:

- (1) Releasing pressure on the cement head within 4 hours of cementing if casing equipment check valves did not hold or casing equipment was not

equipped with check valves. After 4 hours, the pressure may be released at a continuous, gradual rate over the next 4 hours provided the floats are secure.

(2) Nippling up on or in conjunction to the casing.

(3) Slacking off by the rig supporting the casing in the cement sheath.

(4) Running drill pipe or other mechanical devices into or out of the well-bore with the exception of a wireline used to determine the top of cement.

(d) Where special cement or additives are used, the operator may request approval from the Department to reduce the cement setting time specified in subsection (c).

(e) The operator shall notify the Department a minimum of 1 day before cementing of the surface casing begins, unless the cementing operation begins within 72 hours of the start of drilling.

(f) A copy of the cement job log shall be available at the well site for inspection by the Department during drilling operations. The cement job log must include the mix water temperature and pH, type of cement with listing and quantity of additive types, the volume, yield and density in pounds per gallon of the cement and the amount of cement returned to the surface, if any. Cementing procedural information must include a description of the pumping rates in barrels per minute, pressures in psi, time in minutes and sequence of events during the cementing operation.

(g) The cement job log shall be maintained by the operator after drilling operations for at least 5 years and be made available to the Department upon request.

#### Cross References

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

### § 78a.86. Defective casing or cementing.

In a well that has defective, insufficient or improperly cemented casing, the operator shall report the defect to the Department within 24 hours of discovery by the operator and shall correct the defect. The operator shall correct the defect or submit a plan to correct the defect for approval by the Department within 30 days. If the defect cannot be corrected or an alternate method is not approved by the Department, the well shall be plugged under §§ 78a.91—78a.98 (relating to plugging).

#### Cross References

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); and 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells).

**§ 78a.87. Gas storage reservoir protective casing and cementing procedures.**

(a) In addition to the other provisions in this subchapter, a well drilled through a gas storage reservoir or a gas storage reservoir protective area shall be drilled, cased and cemented as follows:

(1) An operator shall use drilling procedures capable of controlling anticipated gas flows and pressures when drilling from the surface to 200 feet above a gas storage reservoir or gas storage horizon.

(2) An operator shall use drilling procedures capable of controlling anticipated gas storage reservoir pressures and flows at all times when drilling from 200 feet above a gas storage reservoir horizon to the depth at which the gas storage protective casing will be installed. Operators shall use blow-out prevention equipment with a pressure rating in excess of the allowable maximum storage pressure for the gas storage reservoir.

(3) To protect the gas storage reservoir, an operator shall run intermediate or production casing from a point located at least 100 feet below the gas storage horizon to the surface. The operator shall cement this casing by circulating cement to a point at least 200 feet above the gas storage reservoir or gas storage horizon.

(4) When cementing casing in a well drilled through a gas storage reservoir, the operator shall ensure that no gas is present in the drilling fluids in an amount that could interfere with the integrity of the cement.

(b) A request by an operator for approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well drilled through a gas storage reservoir under section 3221 of the act (relating to alternative methods) shall be made in accordance with § 78a.75 (relating to alternative methods).

**Cross References**

This section cited in 25 Pa. Code § 78a.81 (relating to general provisions).

**OPERATING WELLS****§ 78a.88. Mechanical integrity of operating wells.**

(a) Except for wells that have been granted inactive status, the operator shall inspect each operating well at least quarterly to ensure it is in compliance with the well construction and operating requirements of this chapter and the act. The results of the inspections shall be recorded and retained by the operator for at least 5 years and be available for review by the Department and the coal owner or operator.

(b) At a minimum, inspections shall determine:

(1) The well-head pressure or water level measurement.

(2) The open flow on the annulus of the production casing or the annulus pressure if the annulus is shut in.

(3) If there is evidence of gas escaping from the well and the amount escaping, using measurement or best estimate of quantity.

(4) If there is evidence of progressive corrosion, rusting or other signs of equipment deterioration.

(c) For structurally sound wells in compliance with § 78a.73(e) (relating to general provision for well construction and operation), the operator shall follow the reporting schedule outlined in subsection (e).

(d) For wells exhibiting progressive corrosion, rusting or other signs of equipment deterioration that compromise the integrity of the well, or the well is not in compliance with § 78a.73(e), the operator shall immediately notify the Department and take corrective actions to repair or replace defective equipment or casing or mitigate the excess pressure on the surface casing seat or coal protective casing seat according to the following hierarchy:

(1) The operator shall reduce the shut-in or producing back pressure on the casing seat to achieve compliance with § 78a.73(e).

(2) The operator shall retrofit the well by installing production casing to reduce the pressure on the casing seat to achieve compliance with § 78a.73(e). The annular space surrounding the production casing must be open to the atmosphere. The production casing shall be either cemented to the surface or installed on a permanent packer. The operator shall notify the Department at least 7 days prior to initiating the corrective measure.

(3) Additional mechanical integrity tests, including, but not limited to, pressure tests, may be required by the Department to demonstrate the integrity of the well.

(e) The operator shall submit an annual report to the Department identifying the compliance status of each well with the mechanical integrity requirements of this section. The report shall be submitted on forms prescribed by, and available from, the Department or in a similar manner approved by the Department.

#### **§ 78a.89. Gas migration response.**

(a) When an operator or owner is notified of or otherwise made aware of a potential natural gas migration incident, the operator shall immediately conduct an investigation of the incident. The purpose of the investigation is to determine the nature of the incident, assess the potential for hazards to public health and safety, and mitigate any hazard posed by the concentrations of stray natural gas.

(b) The investigation undertaken by the operator under subsection (a) shall include, but not be limited to, the following:

(1) A site visit and interview with the complainant to obtain information about the complaint and to assess the reported natural gas migration incident.

(2) A field survey to assess the presence and concentrations of natural gas and aerial extent of the stray natural gas.

- (3) If necessary, establishment of monitoring locations at potential sources, in potentially impacted structures and the subsurface.
- (c) If combustible gas is detected inside a building or structure at concentrations equal to or greater than 10% of the L.E.L., the operator shall do the following:
  - (1) Immediately notify the Department, local emergency response agency, gas and electric utility companies, police and fire departments, and, in conjunction with the Department and local emergency response agencies, take measures necessary to ensure public health and safety.
  - (2) Initiate mitigation measures necessary to control and prevent further migration.
  - (3) Implement the additional investigation and mitigation measures as provided in subsection (e)(1)—(5).
- (d) The operator shall notify the Department and, in conjunction with the Department, take measures necessary to ensure public health and safety, if sustained detectable concentrations of combustible gas satisfy any of the following:
  - (1) Greater than 1% and less than 10% of the L.E.L., in a building or structure.
  - (2) Equal to or greater than 25% of the L.E.L. in a water well head space.
  - (3) Detectable in the soils.
  - (4) Equal to or greater than 7 mg/l dissolved methane in water.
- (e) The Department may require the operator to take the following additional actions:
  - (1) Conduct a field survey to assess the presence and concentrations of combustible gas and the areal extent of the combustible gas in the soils, surface water bodies, water wells and other potential migration pathways.
  - (2) Collect gas or water samples, or both, at a minimum for molecular and stable carbon and hydrogen isotope analyses from the impacted locations such as water wells, and from potential sources of the migration such as gas wells.
  - (3) Conduct an immediate evaluation of the operator's adjacent oil or gas wells to determine well cement and casing integrity and to evaluate the potential mechanism of migration. This evaluation may include assessing pressures for all casing intervals, reviewing records for indications of defective casing or cement, application of cement bond logs, ultrasonic imaging tools, geophysical logs and other mechanical integrity tests as required. The initial area of assessment must include wells within a radius of 2,500 feet and may be expanded if required by the Department.
  - (4) Take action to correct any defect in the oil and gas wells to mitigate the stray gas incident.
  - (5) Establish monitoring locations and monitoring frequency in consultation with the Department at potential sources, in potentially impacted structures and the subsurface.

(f) If concentrations of stray natural gas as defined in subsection (c) or (d) are not detected, the operator shall notify the Department, and do the following if requested by the Department:

- (1) Conduct additional monitoring.
- (2) Document findings.
- (3) Submit a closure report.

(g) If concentrations of stray natural gas are detected inside a building or structure at concentrations equal to or greater than 10% of the L.E.L., the operator and owner shall file a report with the Department by phone and email within 24 hours after the interview with the complainant and field survey of the extent of stray natural gas. Additional daily or weekly reports shall be submitted if requested by the Department.

(h) For all stray natural gas migration incidents, a final written report documenting the results of the investigation shall be submitted to the Department for approval within 30 days of the close of the incident, or in a time frame otherwise approved by the Department. The final report must include the following:

- (1) Documentation of all results of the investigation, including analytical data and monitoring results.
- (2) Operational changes established at the operator's oil and gas wells in this Commonwealth.
- (3) Measures taken by the operator to repair any defects at any of the investigated oil and gas wells.
  - (i) Reports submitted in accordance with this section that contain an analysis of geological or engineering data shall be prepared and sealed by a geologist or engineer licensed in this Commonwealth.

## PLUGGING

### § 78a.91. General provisions.

(a) Upon abandoning a well, the owner or operator shall plug the well under §§ 78a.92—78a.98 or an approved alternate method under section 3221 of the act (relating to alternative methods) to stop the vertical flow of fluids or gas within the well bore unless one of the following applies:

- (1) The Department has granted inactive status under §§ 78a.101—78a.105 (relating to inactive status).
- (2) The well is part of a plugging schedule that has been approved by the Department and the operator is complying with that schedule, and the schedule takes into account potential harm that the well poses to the environment or public health and safety.

(3) The Department has approved the identification of the well as an orphan well under section 3213 of the act (relating to well registration and identification), and the Department has not determined a prior owner or opera-

tor received economic benefit after April 18, 1979, from this well other than economic benefit derived only as a landowner or from a royalty interest.

(b) The operator shall plug a well where a radioactive logging source has been lost under §§ 78a.92—78a.98 and 78a.111.

(c) When a well is being plugged from the attainable bottom, the operator shall install a 50-foot plug of cement at the attainable bottom and plug the remainder of the well under §§ 78a.92—78a.98.

(d) If the production casing cannot be retrieved, the operator shall plug strata bearing or having borne oil, gas or water by perforating the casing and squeezing cement into the annulus or other method approved by the Department. The maximum distance the stub of the uncemented production casing may extend is 100 feet below the surface casing seat or coal protective casing seat, whichever is deeper. The uncemented portion of the casing left in the well above the total depth or attainable bottom may not extend through a formation bearing or having borne oil, gas or water or extend to a point where it interferes with subsequent plugging requirements of §§ 78a.92(a)(2) and 78a.93(a)(2) and (b)(4) (relating to wells in coal areas—surface or coal protective casing is cemented; and wells in coal areas—surface or coal protective casing anchored with a packer or cement). The remainder of the well shall be plugged under §§ 78a.92—78a.98.

(e) When plugging a well, an operator shall ensure that no gases are present in the well in an amount that could interfere with cementing the well.

(f) When plugging a well with a casing string cemented through a gas storage reservoir or reservoir protective area, an operator shall use bridge plugs immediately above and below the gas storage reservoir unless an alternate plugging plan has been approved by the Department.

(g) When a well located in a coal area is plugged to allow mining through it, the person authorized by the Department to plug the well under the act or section 13 of the Coal and Gas Resource Coordination Act (58 P.S. § 513) shall clean out the gas well to a depth of at least 200 feet below the coal seam which will be mined and, unless impracticable, to a point 200 feet below the deepest minable coal seam the well penetrates.

(h) In lieu of the plugging requirements of §§ 78a.92—78a.95 and 78a.97, an operator may cement a well from the total depth or attainable bottom to the surface. Wells in coal areas still shall meet the venting requirements of § 78a.92 or § 78a.93.

#### Cross References

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); 25 Pa. Code § 78a.92 (relating to wells in coal areas—surface or coal protective casing is cemented); 25 Pa. Code § 78a.93 (relating to wells in coal areas—surface or coal protective casing anchored with a packer or cement); 25 Pa. Code § 78a.94 (relating to wells in noncoal areas—surface casing is not cemented or not present); and 25 Pa. Code § 78a.95 (relating to wells in noncoal areas—surface casing is cemented).



**§ 78a.92. Wells in coal areas—surface or coal protective casing is cemented.**

(a) In a well underlain by a workable coal seam, where the surface casing or coal protective casing is cemented and the production casing is not cemented or the production casing is not present, the owner or operator shall plug the well as follows:

(1) The retrievable production casing shall be removed by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater. The well shall be filled with nonporous material from the total depth or attainable bottom of the well to a point 50 feet below the lowest stratum bearing or having borne oil, gas or water. At this point there shall be placed a plug of cement, which shall extend for at least 50 feet above this stratum. Each overlying formation bearing or having borne oil, gas or water shall be plugged with cement a minimum of 50 feet below this formation to a point 50 feet above this formation. The zone between cement plugs shall be filled with nonporous material. The cement plugs shall be placed in a manner that will completely seal the hole. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other materials approved by the Department. Where the production casing is not retrievable, the operator shall plug that portion of the well under § 78a.91(d) (relating to general provisions).

(2) After plugging strata bearing or having borne oil, gas or water, the well shall be filled with nonporous material to a point approximately 100 feet below the surface or coal protective casing seat, whichever is deeper. At this point, a 100-foot plug of cement shall be installed.

(3) After the plug has been installed below the casing seat, the inner casing shall be emptied of liquid from the surface to the plug of cement. A vent or other device approved by the Department shall then be installed on top of the inner string of casing to prevent liquids and solids from entering the well but permit access to the full internal diameter of the inner casing when required. The vent or other device approved by the Department must extend, when finally in place, a distance of at least 72 inches above ground level and the permit or registration number must be permanently affixed.

(b) The owner or operator shall plug a well, where the surface casing, coal protective casing and production casing are cemented, as follows:

(1) If the total depth or attainable bottom is deeper than the cemented production casing seat, the operator shall plug that portion of the well under subsection (a)(1).

(2) Cement plugs shall be set in the cemented portion of the production casing so that the plugs will extend from at least 50 feet below each stratum bearing or having borne oil, gas or water to a point at least 100 feet above each stratum bearing or having borne, oil, gas or water. A Department-approved mechanical plug may be set 20 feet above each stratum bearing or having borne oil, gas or water as a substitute for the plug of cement. Nonporous material must separate each cement plug or mechanical plug. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other materials as approved by the Department.

(3) Following the plugging of the cemented portion of the production casing, the uncemented portion of the production casing shall be separated from the cemented portion and retrieved by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater. The maximum distance the stub of the uncemented portion of the production casing may extend is 100 feet below the surface or coal protective casing whichever is lower. In no case may the uncemented portion of the casing left in the well extend through a formation bearing or having borne oil, gas or water. Other stratum above the cemented portion of the production casing bearing or having borne oil, gas or water shall be plugged by filling the hole with nonporous material to 20 feet above the stratum and setting a 50-foot plug of cement. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other material as approved by the Department. When the uncemented portion of the production casing is not retrievable, the operator shall plug that portion of the well under § 78a.91(d).

(4) After plugging all strata bearing or having borne oil, gas or water, the well shall be filled with nonporous material to a point approximately 100 feet below the surface or coal protective casing seat, whichever is deeper. At this point a 200-foot cement plug shall be placed so that the plug extends from 100 feet below the casing seat to a point at least 100 feet above the casing seat.

(5) After the 200-foot plug has been installed, the remainder of the well shall be plugged and vented as described in subsection (a)(3).

(c) A person authorized by the Department under the act or section 13 of the Coal and Gas Resource Coordination Act (58 P.S. § 513) to plug a gas well that penetrates a workable coal seam that was drilled prior to November 30, 1955, or which was permitted after that date but not plugged in accordance with the act, shall plug the well to mine through it in the following manner:

(1) The gas well shall be cleaned out to a depth of at least 200 feet below the coal seam which is proposed to be mined and, unless impracticable, to a point 200 feet below the deepest mineable coal seam that the well penetrates.

- (2) The gas well shall be plugged in accordance with section 13(a)(1), (2), (3) or (4) of the Coal and Gas Resource Coordination Act.

**Cross References**

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); 25 Pa. Code § 78a.91 (relating to general provisions); and 25 Pa. Code § 78a.97 (relating to plugging a well stimulated with explosives).

**§ 78a.93. Wells in coal areas—surface or coal protective casing anchored with a packer or cement.**

(a) In a well where the surface casing or coal protective casing and production casing are anchored with a packer or cement, the owner or operator shall plug the well as follows:

(1) The retrievable production casing shall be removed by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater. The well shall be filled with nonporous material from the total depth or attainable bottom of the well to a point 50 feet below the lowest stratum bearing or having borne oil, gas or water. At this point there shall be placed a plug of cement, which must extend for at least 50 feet above this stratum. Each overlying formation bearing or having borne oil, gas or water shall be plugged with cement a minimum of 50 feet below this formation to a point 50 feet above this formation. The zone between cement plugs shall be filled with nonporous material. The cement plugs shall be placed in a manner that will completely seal the hole. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other material as approved by the Department. When the production casing is not retrievable, the operator shall plug this portion of the well under § 78a.91(d) (relating to general provisions).

(2) The well shall then be filled with nonporous material to a point approximately 200 feet below the lowest workable coal seam, or surface or coal protective casing seat, whichever is deeper. Beginning at this point a 100-foot plug of cement shall be installed.

(3) After it has been established that the surface casing or coal protective casing is free and can be retrieved, the surface or coal protective casing shall be retrieved by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or

120% of the casing weight, whichever is greater. A string of casing with an outside diameter of at least 4 1/2 inches for gas wells, or at least 2 inches for oil wells, shall be run to the top of the 100-foot plug described in paragraph (2) and cemented to the surface.

(4) If the surface or coal protective string is not free and cannot be retrieved, it shall be perforated or cut below the lowest workable coal to allow the cement used to cement the 4 1/2-inch or 2-inch casing to communicate between the surface casing or coal protective casing, or both, and the well bore. A string of casing of at least 4 1/2 inches for gas wells or at least 2 inches for oil wells shall be run to the top of the 100-foot plug described in paragraph (2) and cemented to the surface.

(5) The inner casing shall then be emptied of liquid and cement from the base of the casing to the surface and a vent or other device approved by the Department shall be installed on the top of the casing to prevent liquids and solids from entering the well, but permit ready access to the full internal diameter of the inner casing. The inner string of casing and the vent or other device approved by the Department must extend, when finally in place, a distance of at least 72 inches above ground level and the permit or registration number must be permanently affixed to the vent.

(b) The owner or operator shall plug a well, where the surface casing and coal protective casing is anchored with a packer or cement and the production casing is cemented, as follows:

(1) If the total depth or attainable bottom is deeper than the cemented production casing seat, the operator shall plug that portion of the well under subsection (a)(1).

(2) A cement plug shall be set in the cemented portion of the production casing so that the plugs extend from at least 50 feet below each stratum bearing or having borne oil, gas or water to a point at least 100 feet above each stratum bearing or having borne, oil, gas or water. A Department approved mechanical plug may be set 20 feet above the stratum bearing or having borne oil, gas or water as a substitute for the plug of cement. Nonporous material shall separate each cement plug or mechanical plug. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other materials as approved by the Department.

(3) Following the plugging of the cemented portion of the production casing, the uncemented portion of the production casing shall be separated from the cemented portion and retrieved. The maximum distance the stub of the uncemented portion of the production casing may extend is 100 feet below the surface or coal protective casing whichever is lower. In no case may the uncemented portion of the casing left in the well extend through a formation bearing or having borne oil, gas or water. Other stratum above the cemented portion of the production casing bearing or having borne oil, gas or water shall be plugged by filling the hole with nonporous material to 20 feet above the stra-

tum and setting a 50-foot plug of cement. The operator may treat multiple strata as one stratum and plug as described in this paragraph with a single column of cement or other material approved by the Department. When the uncemented portion of the production casing is not retrievable, the operator shall plug that portion of the well under § 78a.91(d).

(4) The well shall be filled with nonporous material to a point approximately 300 feet below the bottom of the surface casing or coal protective casing, whichever is deeper. In this case, a 100-foot plug of cement shall then be placed in the well beginning at that point and extending to a point approximately 200 feet below the bottom of the casing seat.

(5) After it has been established that the surface casing or coal protective casing is free and can be retrieved, the surface or coal protective casing shall be retrieved and a string of casing with an outside diameter of not less than 4 1/2 inches for gas wells, or not less than 2 inches for oil wells, shall be run to the top of the 100-foot plug described in paragraph (4) and cemented to the surface.

(6) If the surface or coal protective string is not free and cannot be retrieved, it shall be perforated or cut below the lowest workable coal seam to allow the cement used to cement the 4 1/2-inch or 2-inch casing to communicate between the surface casing or coal protective casing, or both, and the well bore. A string of casing of not less than 4 1/2 inches for gas wells or not less than 2 inches for oil wells shall be run to the top of the 100-foot plug described in paragraph (4) and cemented to the surface.

(7) The inner casing shall then be emptied of liquid and cement from the base of the casing to the surface and a vent or other device approved by the Department shall be installed on the top of the casing to prevent liquids and solids from entering the well, but permit ready access to the full internal diameter of the inner casing. The inner string of casing and the vent or other device approved by the Department shall extend, when finally in place, a distance of not less than 72 inches above ground level and the permit or registration number shall be permanently affixed to the vent.

(c) A person authorized by the Department under the act or section 13 of the Coal and Gas Resource Coordination Act (58 P.S. § 513) to plug a gas well that penetrates a workable coal seam which was drilled prior to November 30, 1955, or which was permitted after that date but not plugged in accordance with the act shall plug the well to mine through it in the following manner:

(1) The gas well shall be cleaned out to a depth of at least 200 feet below the coal seam which is proposed to be mined and, unless impracticable, to a point 200 feet below the deepest minable coal seam which the well penetrates.

(2) The well shall be plugged in accordance with section 13(a)(2) or (4) of the Coal and Gas Resource Coordination Act.

**Cross References**

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); 25 Pa. Code § 78a.91 (relating to general provisions); and 25 Pa. Code § 78a.97 (relating to plugging a well stimulated with explosives).

**§ 78a.94. Wells in noncoal areas—surface casing is not cemented or not present.**

(a) The owner or operator shall plug a noncoal well, where the surface casing and production casing are not cemented, or is not present as follows:

(1) The retrievable production casing shall be removed by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater. The well shall be filled with nonporous material from the total depth or attainable bottom of the well to a point 50 feet below the lowest stratum bearing or having borne oil, gas or water. At this point there shall be placed a plug of cement, which must extend for at least 50 feet above this stratum. Each overlying formation bearing or having borne oil, gas or water shall be plugged with cement a minimum of 50 feet below this formation to a point 50 feet above this formation. The zone between cement plugs shall be filled with nonporous material. The cement plugs shall be placed in a manner that will completely seal the hole. The operator may treat multiple strata as one stratum and plug as described in this paragraph with a single column of cement or other materials as approved by the Department. When the production casing is not retrievable, the operator shall plug this portion of the well under § 78a.91(d) (relating to general provisions).

(2) After plugging strata bearing or having borne oil, gas or water, the well shall be filled with nonporous material to approximately 100 feet below the surface casing seat and there shall be placed another plug of cement or other equally nonporous material approved by the Department extending at least 50 feet above that point.

(3) After setting the uppermost 50-foot plug, the retrievable surface casing shall be removed by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater. The hole shall be filled from the top of the 50-foot plug to the surface with nonporous material other than gel. If the surface casing is not retrievable, the hole shall be filled from the top of the 50-foot plug to the surface with a noncementing material.

(b) The owner or operator shall plug a well, where the surface casing is not cemented or not present, and the production casing is cemented as follows:

(1) If the total depth or attainable bottom is deeper than the cemented production casing seat, the operator shall plug that portion of the well under subsection (a)(1).

(2) Cement plugs shall be set in the cemented portion of the production casing so that each plug extends from at least 50 feet below each stratum bearing or having borne oil, gas or water to a point at least 100 feet above each stratum. A Department-approved mechanical plug may be used as a substitute for the plug of cement. The mechanical plug shall be set 20 feet above each stratum having borne oil, gas or water. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other material approved by the Department.

(3) Following the plugging of the cemented portion of the production casing, the uncemented portion of the production string shall be separated from the cemented portion and retrieved. The maximum distance the stub of the uncemented portion of the production casing may extend is 100 feet below the surface casing. In no case may the uncemented portion of the production casing left in the hole extend through stratum bearing or having borne oil, gas or water. Other stratum bearing or having borne oil, gas or water shall be plugged by filling the hole with nonporous material to 20 feet above the stratum and setting a 50-foot plug of cement. When the uncemented portion of the production casing is not retrievable, the operator shall plug that portion of the well under § 78a.91(d).

(4) The remainder of the well shall be plugged under subsection (a)(2) and (3).

#### Cross References

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); 25 Pa. Code § 78a.91 (relating to general provisions); and 25 Pa. Code § 78a.97 (relating to plugging a well stimulated with explosives).

### § 78a.95. Wells in noncoal areas—surface casing is cemented.

(a) The owner or operator shall plug a well, where the surface casing is cemented and the production casing is not cemented or not present, as follows:

(1) The retrievable production casing shall be removed by applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120%, whichever is greater. If this fails, an attempt shall be made to separate the casing by cutting, ripping, shooting or other method approved by the Department, and making a second attempt to remove the casing by exerting a pulling force equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater. The well shall be filled with nonporous material from the total depth or attainable bottom of the well to a point 50 feet below the lowest



stratum bearing or having borne oil, gas or water. At this point there shall be placed a plug of cement, which extends for at least 50 feet above this stratum. Each overlying formation bearing or having borne oil, gas or water shall be plugged with cement a minimum of 50 feet below this formation to a point 50 feet above this formation. The zone between cement plugs shall be filled with nonporous material. The cement plugs shall be placed in a manner that will completely seal the hole. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other materials as approved by the Department. When the production casing is not retrievable, the operator shall plug this portion of the well under § 78a.91(d) (relating to general provisions).

(2) After plugging all strata bearing or having borne oil, gas or water, the well shall be filled with nonporous material to approximately 100 feet below the surface casing seat. Another plug of cement, or other equally nonporous material approved by the Department, shall be placed extending at least 50 feet above that point.

(3) After setting the 50-foot plug, the hole shall be filled from the top of the 50-foot plug to the surface with a noncementing material or the operator shall set a 100-foot cement plug which extends 50-feet into the surface casing and fill the hole to the surface with noncementing material.

(b) The owner or operator shall plug a noncoal well, where the surface casing and production casing are cemented, as follows:

(1) If the total depth or attainable bottom is deeper than the cemented production casing seat, the operator shall plug that portion of the well under subsection (a)(1).

(2) Cement plugs shall be set in the cemented portion of the production casing so that each plug extends from at least 50 feet below each stratum bearing or having borne oil, gas or water to a point at least 100 feet above the stratum. A Department-approved mechanical plug may be used as a substitute for the plug of cement. The mechanical plug shall be set 20 feet above each stratum having borne oil, gas or water. The operator may treat multiple strata as one stratum and plug as described in this subsection with a single column of cement or other materials approved by the Department.

(3) Following the plugging of the cemented portion of the production casing, the uncemented portion of the production string shall be separated from the cemented portion and retrieved. The maximum distance the stub of the uncemented portion of the production casing may extend is 100 feet below the surface casing. In no case may the uncemented portion of the production casing left in the hole extend through stratum bearing or having borne oil, gas or water. Other stratum bearing or having borne oil, gas or water shall be plugged by filling the hole with nonporous material to 20 feet above the stratum and



setting a 50-foot plug of cement. When the uncemented portion of the production casing is not retrievable, the operator shall plug that portion of the well under § 78a.91(d).

(4) The remainder of the well shall be plugged under subsection (a)(2) and (3).

#### Cross References

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); 25 Pa. Code § 78a.91 (relating to general provisions); and 25 Pa. Code § 78a.97 (relating to plugging a well stimulated with explosives).

### § 78a.96. Marking the location of a plugged well.

Upon the completion of plugging or replugging a well, the operator shall erect over the plugged well a permanent marker of concrete, metal, plastic or equally durable material. The marker must extend at least 4 feet above the ground surface and enough below the surface to make the marker permanent. Cement may be used to hold the marker in place provided the cement does not prevent inspection of the adequacy of the well plugging. The permit or registration number shall be stamped or cast or otherwise permanently affixed to the marker. In lieu of placing the marker above the ground surface, the marker may be buried below plow depth and shall contain enough metal to be detected at the surface by conventional metal detectors.

#### Cross References

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); and 25 Pa. Code § 78a.91 (relating to general provisions).

### § 78a.97. Plugging a well stimulated with explosives.

Where strata bearing or having borne oil, gas or water in the well have been stimulated with explosives, thereby creating cavities which cannot be readily filled as described in §§ 78a.92—78a.95, the well operator shall place at the nearest suitable point, but at least 20 feet above the stratum, a plug of cement which extends at least 50 feet above that point. If the stimulation has been done above one or more strata bearing or having borne oil, gas or water in the well, plugging in the applicable manner specified in §§ 78a.92—78a.95 shall be done at the nearest suitable points, to at least 20 feet below and at least 20 feet above the stratum stimulated. From a point immediately above and below these plugs, the well shall be plugged under §§ 78a.94 and 78a.95 (relating to wells in non-coal areas—surface casing is not cemented or not present; and wells in noncoal areas—surface casing is cemented).

#### Cross References

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); and 25 Pa. Code § 78a.91 (relating to general provisions).

**§ 78a.98. Restricting surface water from the well bore.**

When casing, including conductor pipe, is left in the well at the surface, the area between the casings or the casing and the well bore shall be permanently filled to the surface with a nonporous material to restrict surface water from the well bore.

**Cross References**

This section cited in 25 Pa. Code § 78a.86 (relating to defective casing or cementing); and 25 Pa. Code § 78a.91 (relating to general provisions).

**INACTIVE STATUS****§ 78a.101. General provisions.**

Upon application, the Department will grant inactive status for 5 years for a permitted or registered well if the application meets the requirements of section 3214 of the act (relating to inactive status) and §§ 78a.102—78a.105. The Department may require information to demonstrate that the conditions imposed by § 78a.102 (relating to criteria for approval of inactive status) are satisfied.

**Cross References**

This section cited in 25 Pa. Code § 78a.1 (relating to definitions); and 25 Pa. Code § 78a.91 (relating to general provisions).

**§ 78a.102. Criteria for approval of inactive status.**

To obtain inactive status, the applicant shall affirmatively demonstrate to the Department's satisfaction that:

- (1) The condition of the well is sufficient to:
  - (i) Prevent damage to the producing zone or contamination of fresh water or other natural resources or surface leakage of substances.
  - (ii) Stop the vertical flow of fluid or gas within the well bore.
  - (iii) Protect fresh groundwater.
  - (iv) Pose no threat to the health and safety of persons, property or the environment.
- (2) The well complies with one of the following:
  - (i) The well meets casing and cementing requirements of §§ 78a.81—78a.83, 78a.83a, 78a.83b, 78a.83c and 78a.84—78a.86.
  - (ii) For wells not drilled in conformance with casing and cementing requirements of §§ 78a.81—78a.83, 78a.83a, 78a.83b, 78a.83c and 78a.84—78a.86, and for the purpose of the annual monitoring of wells granted inactive status as required under § 78a.103 (relating to annual monitoring of inactive wells), the applicant demonstrates that:
    - (A) For oil and gas wells equipped with surface casing, the operator shall demonstrate that the liquid level in the well bore is maintained at a level at no higher than the water protection depth. For purposes of this

clause where oil or gas bearing formations are encountered less than 100 feet below the surface casing seat, the water protection depth shall be that point midway between the top of the oil or gas bearing formation and the surface casing seat.

(B) If the liquid level in an oil or gas well equipped with surface casing stands above the water protection depth and below the groundwater table depth, the operator shall test the liquid to determine its quality. If the liquid has a total dissolved solids content or conductivity generally equivalent to fresh groundwater in the immediate area, the casing is assumed to be either leaking or not set deep enough to shut off groundwater, and mechanical integrity is not demonstrated and inactive status will not be granted unless the operator demonstrates that the well is in compliance with the shut-in portion of the mechanical integrity test requirements of the Under Ground Injection Control program under the Safe Drinking Water Act (42 U.S.C.A. §§ 300f—300j-26). If the liquid has a total dissolved solids content or conductivity equivalent to the production formation or production liquid, mechanical integrity is considered to be demonstrated.

(C) For oil wells not equipped with surface casing or for oil wells equipped with surface casing that cannot be approved for inactive status under clause (A) or (B), the operator shall modify the well to meet one of the following:

(I) The operator shall set a string of casing on a packer sufficiently deep to isolate the fresh groundwater system. The casing shall be set to the water protection depth for wells in the area, and the requirements of clause (A) or (B) shall be met.

(II) The operator has set a temporary plug or mechanical seal at the water protection depth and isolated the fresh groundwater system. The operator may demonstrate the integrity of the plug by demonstrating that water standing above the plug is, and continues to be, fresh water not contaminated by production fluids, or by other means acceptable to the Department.

(III) The operator shall fill the well with a freshwater bentonite gel or other material approved by the Department which will restrict vertical migration of gas or fluids in the well bore. The operator shall monitor the gel level and report significant changes to the Department on an annual basis and take remedial action approved by the Department.

(D) For gas wells equipped with production casing separate from the surface casing, the annulus between the surface or coal protective casing and the production casing is vented to the atmosphere. The owner or operator of a well granted inactive status under this clause shall monitor the annular vents for gas flow volumes. If the gas flow volume exceeds 5,000 cubic feet per day, the owner or operator shall notify the Department and take remedial action approved by the Department.

(E) For gas wells not equipped with separate production casing, but with cemented or uncemented surface casing present, the produced gas shut-in pressure is less than the pressure necessary to cause gas migration into the adjacent formation at the surface casing seat. Compliance with this condition may be demonstrated by mechanical tests of the casing and by evidence that the gas wellhead shut-in pressure does not exceed 0.433 psi per foot of surface or coal protective casing depth.

(3) If gas exists at an inactive oil well, the operator may vent the gas to the atmosphere or equip the well to confine the gas to the producing formation. If this gas flow is greater than 5,000 cubic feet per day, the owner or operator shall notify the Department and take remedial action approved by the Department.

(4) The applicant shall certify that the well is of future utility and shall present a viable plan for utilizing the well within a reasonable time. In addition to providing information to demonstrate compliance with paragraphs (1) and (2), the application for inactive status must include the following:

- (i) A plan showing when the well will be used.
- (ii) A certification identifying that one of the following applies:
  - (A) Significant reserves remain in place and the operator plans to produce the well.
  - (B) The well will be used as a disposal well.
  - (C) The well will be used as a storage well.
  - (D) The well will be used as an observation well.
  - (E) The well will be used as a secondary or tertiary recovery injection well or that the well will be used for other purposes specified by the applicant.
- (iii) Other information necessary for the Department to make a determination on inactive status.

#### Cross References

This section cited in 25 Pa. Code § 78a.91 (relating to general provisions); 25 Pa. Code § 78a.101 (relating to general provisions); 25 Pa. Code § 78a.103 (relating to annual monitoring of inactive wells); 25 Pa. Code § 78a.104 (relating to term of inactive status); and 25 Pa. Code § 78a.105 (relating to revocation of inactive status).

### § 78a.103. Annual monitoring of inactive wells.

The owner or operator of a well granted inactive status shall monitor the integrity of the well on an annual basis and shall report the results to the Department. The owner or operator shall give the Department 3 business days prior notice of the annual monitoring and mechanical integrity testing. For wells that were drilled in accordance with the casing and cementing standards of §§ 78a.81—78a.83, 78a.83a, 78a.83b, 78a.83c and 78a.84—78a.86, the operator shall monitor the integrity of the well by using the method described in § 78a.102(2)(ii)(A),

(B), (D) or (E) (relating to criteria for approval of inactive status), as appropriate. For a well that was not drilled in accordance with the casing and cementing standards, the wells shall be monitored in accordance with § 78a.102(1). To qualify for continued inactive status, the owner or operator shall demonstrate, by the data in the monitoring reports, that the condition of the well continues to satisfy the requirements of § 78a.102. The owner or operator shall submit the report by March 31 of the following year.

#### Cross References

This section cited in 25 Pa. Code § 78a.91 (relating to general provisions); 25 Pa. Code § 78a.101 (relating to general provisions); 25 Pa. Code § 78a.102 (relating to criteria for approval of inactive status); 25 Pa. Code § 78a.104 (relating to term of inactive status); and 25 Pa. Code § 78a.105 (relating to revocation of inactive status).

#### § 78a.104. Term of inactive status.

Approval of inactive status for a well is valid for 5 years unless revoked. After 5 years, the owner or operator shall plug or return to active status a well granted inactive status unless the Department grants an application for a 1-year extension. The operator of a well granted inactive status may apply for renewal of inactive status by demonstrating that the well continues to satisfy the conditions imposed on the well by §§ 78a.102 and 78a.103 (relating to criteria for approval of inactive status; and annual monitoring of inactive wells).

#### Cross References

This section cited in 25 Pa. Code § 78a.91 (relating to general provisions); 25 Pa. Code § 78a.101 (relating to general provisions); and 25 Pa. Code § 78a.105 (relating to revocation of inactive status).

#### § 78a.105. Revocation of inactive status.

The Department may revoke inactive status and may order the immediate plugging of a well if one of the following applies:

- (1) The well is in violation of the act or regulations administered by the Department.
- (2) The operator of the inactive well has become insolvent, to the extent that the plan provided under § 78a.102 (relating to criteria for approval of inactive status) is no longer viable to return the well to active status, or the operator otherwise demonstrates a lack of ability or intention to comply with applicable laws and regulations.
- (3) The condition of the well no longer satisfies the requirements of section 3214 of the act (relating to inactive status) and § 78a.102 and §§ 78a.103 and 78a.104 (relating to annual monitoring of inactive wells; and term of inactive status).
- (4) The owner or operator is unwilling or unable to perform his obligations under the act.

**Cross References**

This section cited in 25 Pa. Code § 78a.91 (relating to general provisions); and 25 Pa. Code § 78a.101 (relating to general provisions).

**RADIOACTIVE LOGGING SOURCES****§ 78a.111. Abandonment.**

(a) The owner or operator may not abandon a radioactive source licensed by the Commonwealth for logging purposes without consent of the Department. Approval of a plan of abandonment may be arranged with the Department by telephone and is to be followed by a written report to the Department within 30 days after abandonment of the radioactive source. The plan shall be approved by the Department.

(b) The operator shall notify the Department of his intention to leave a radioactive source in a well.

(c) The operator shall mechanically equip a well in which a radioactive source is abandoned to prevent the accidental or intentional mechanical disintegration of the radioactive source.

(1) The operator shall cover the radioactive source being abandoned in the bottom of a well with a substantial standard color-dyed cement plug on top of which a mechanical stop or deflector shall be set. The dye must contrast with the color of the formation to alert a re-entry operator prior to encountering the source.

(2) In a well where a logging source has been cemented in place behind a casing string and above total depth, upon plugging the well, a color-dyed cement plug shall be placed opposite the abandoned source inside the well bore and a mechanical stop or deflector shall be placed on top of the plug.

(3) If, after expending a reasonable effort, the operator cannot comply with paragraph (1) or (2) because of hole conditions, the operator shall request Department approval to cease efforts to comply with paragraph (1) or (2) and shall obtain approval for an alternate method for abandoning the source and plugging the well.

(d) Upon plugging a well in which a radioactive source is left in the hole, the operator shall place a permanent plaque by welding, bolting or cementing it to the top of the bore hole in a manner approved by the Department that re-entry cannot be accomplished without disturbing the plaque. The plaque shall serve as a visual warning to a person re-entering the hole that a radioactive source has been abandoned in-place in the well. The plaque shall depict the trefoil radiation symbol with the words "Caution, Radioactive Material" under 10 CFR 20.1901(a) (relating to caution signs) and must be constructed of a long-lasting material such as monel, stainless steel, bronze or brass. The marker must bear the following information:

- (1) Farm name.
- (2) Permit number.

- (3) Name and address of operator.
  - (4) The type and strength of radioactive material abandoned in the well.
  - (5) The total well depth.
  - (6) Depth at which the source was abandoned.
  - (7) A warning not to drill below the plug-back depth or to enlarge the casing.
  - (8) The date the source was abandoned.
- (e) Prior to workover or re-entry activity, if a radioactive source is present, the operator shall have the plan of operation approved by the Department before the workover or re-entry is permitted.
- (f) This section does not relieve the licensee, owner or operator from the obligation to comply with Federal regulations and this title, including Chapters 225 and 226 (relating to radiation safety requirements for industrial radiographic operations; and licenses and radiation safety requirements for well logging).

#### Cross References

This section cited in 25 Pa. Code § 78a.91 (relating to general provisions).

### Subchapter E. WELL REPORTING

- Sec.
- 78a.121. Production reporting.
- 78a.122. Well record and completion report.
- 78a.123. Logs and additional data.
- 78a.124. Certificate of plugging.

#### § 78a.121. Production reporting.

- (a) Each operator of an unconventional well shall submit a monthly production and status report for each well on an individual basis within 45 calendar days of the close of each monthly reporting period. Production shall be reported for the preceding reporting period. When the production data is not available to the operator on a well basis, the operator shall report production on the most well-specific basis available.
- (b) The monthly production report must include information on the amount and type of waste produced and the method of waste disposal or reuse, including the specific facility or well site where the waste was managed. Waste information submitted to the Department in accordance with this subsection is deemed to satisfy the residual waste biennial reporting requirements of § 287.52 (relating to biennial report).
- (c) The production report shall be submitted electronically to the Department through its web site.

**§ 78a.122. Well record and completion report.**

(a) For each well that is drilled or altered, the operator shall keep a detailed drillers log at the well site available for inspection until drilling is completed. Within 30 calendar days of cessation of drilling or altering a well, the well operator shall submit a well record to the Department on a form provided by the Department that includes the following information:

- (1) Name, address and telephone number of the permittee.
- (2) Permit number, and farm name and number.
- (3) Township and county.
- (4) Date drilling started and completed.
- (5) Method of drilling.
- (6) Size and depth of conductor pipe, surface casing, coal protective casing, intermediate casing, production casing and borehole.
- (7) Type and amount of cement and results of cementing procedures.
- (8) Elevation and total depth.
- (9) Drillers log that includes the name and depth of formations from the surface to total depth, depth of oil and gas producing zone, depth of fresh water and brines and source of information.
- (10) Certification by the operator that the well has been constructed in accordance with this chapter and any permit conditions imposed by the Department.
- (11) Whether methane was encountered other than in a target formation.
- (12) The country of origin and manufacture of tubular steel products used in the construction of the well.
- (13) The borrow pit used for well site development, if any.
- (14) Other information required by the Department.

(b) Within 30 calendar days after completion of the well, when the well is capable of production, the well operator shall arrange for the submission of a completion report to the Department on a form provided by the Department that includes the following information:

- (1) Name, address and telephone number of the permittee.
- (2) Name, address and telephone number of the service companies.
- (3) Permit number, and farm name and number.
- (4) Township and county.
- (5) Perforation record.
- (6) Stimulation record which includes the following:
  - (i) A descriptive list of the chemical additives in the stimulation fluid, including any acid, biocide, breaker, brine, corrosion inhibitor, crosslinker, demulsifier, friction reducer, gel, iron control, oxygen scavenger, pH adjusting agent, proppant, scale inhibitor and surfactant.
  - (ii) The percent by mass of each chemical additive in the stimulation fluid.



- (iii) The trade name, vendor and a brief descriptor of the intended use or function of each chemical additive in the stimulation fluid.
  - (iv) A list of the chemicals intentionally added to the stimulation fluid, by name and chemical abstract service number.
  - (v) The maximum concentration, in percent by mass, of each chemical intentionally added to the stimulation fluid.
  - (vi) The total volume of the base fluid.
  - (vii) A list of water sources used under an approved WMP and the volume of water used from each source.
  - (viii) The total volume of recycled water used.
  - (ix) The pump rate and pressure used in the well.
  - (7) Actual open flow production and shut in surface pressure.
  - (8) Open flow production and shut in surface pressure, measured 24 hours after completion.
  - (9) The well development impoundment, if any, used in the development of the well.
  - (10) Certification by the operator that the monitoring plan required under § 78a.52a (relating to area of review) was conducted as outlined in the area of review report.
- (c) When the well operator submits a stimulation record, it may designate specific portions of the stimulation record as containing a trade secret or confidential proprietary information. The Department will prevent disclosure of the designated confidential information to the extent permitted under the Right-to-Know Law (65 P.S. §§ 67.101—67.3104) or other applicable State law.
- (d) The well record required under subsection (a) and the completion report required under subsection (b) shall be submitted electronically to the Department through the Department's web site.

### § 78a.123. Logs and additional data.

- (a) The well operator shall, within 90 days of completion or recompletion of drilling, submit a copy of any electrical, radioactive or other standard industry logs which have been run.
- (b) In addition, if requested by the Department within 1 year of the completion or recompletion of drilling, the well operator shall file with the Department a copy of the drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis and lithologic log or sample description or other similar data as compiled. Information is not required unless the operator has had the information described in this subsection compiled in the ordinary course of business. Interpretation of the data is not required to be filed.
- (c) Upon notification by the Department prior to drilling, the well operator shall collect additional data specified by the Department, such as representative

drill cuttings and samples from cores taken, and other geological information that the operator can reasonably compile. Interpretation of the data is not required to be filed.

(d) Data requested by the Department under subsections (b) and (c) shall be retained by the well operator and filed with the Department no more than 3 years after completion of the well. Upon request for good cause, the Department may extend the deadline up to 5 years from the date of completion or recompletion of drilling the well. The Department may request submission of the information before these time frames if the information is necessary to conduct an investigation or for enforcement proceedings.

(e) The Department is entitled to utilize information collected under this section in enforcement proceedings, in making designations or determinations under section 1927-A of The Administrative Code of 1929 (71 P.S. § 510-27), and in aggregate form for statistical purposes.

#### **§ 78a.124. Certificate of plugging.**

(a) Within 30 calendar days after the well has been plugged, the owner or operator of the well shall submit a certificate of plugging to the Department and each coal operator, lessee or owner who was sent notice by certified mail of the intent to plug the well.

(b) The certificate of plugging must be on a form provided by the Department and contain information required by the Department.

(c) The certificate of plugging shall be prepared and signed by two experienced and qualified people who participated in the work, and shall also be signed by the well owner or operator.

### **Subchapter G. BONDING REQUIREMENTS**

Sec.

78a.301. Scope.

78a.302. Requirement to file a bond.

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78a.304. Terms and conditions for surety bonds.

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78a.306. Collateral bonds—letters of credit.

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78a.308. Collateral bonds—negotiable bonds.

78a.310. Replacement of existing bond.

78a.311. Failure to maintain adequate bond.

78a.312. Forfeiture determination.

78a.313. Incapacity of operators.

78a.314. Preservation of remedies.

**Cross References**

This subchapter cited in 25 Pa. Code § 78a.15 (relating to application requirements).

**§ 78a.301. Scope.**

In addition to the requirements of section 3225 of the act (relating to bonding), this subchapter specifies certain requirements for surety bonds, collateral bonds, replacement of existing bonds, maintaining adequate bond and bond forfeiture.

**§ 78a.302. Requirement to file a bond.**

For a well that has not been plugged, the owner or operator shall file a bond or otherwise comply with the bonding requirements of section 3225 of the act (relating to bonding) and this chapter. A bond or bond substitute is not required for a well drilled before April 18, 1985.

**§ 78a.303. Form, terms and conditions of the bond.**

(a) The following types of security are approvable:

(1) A surety bond as provided in § 78a.304 (relating to terms and conditions for surety bonds).

(2) A collateral bond as provided in §§ 78a.305—78a.308.

(b) A person submitting a bond shall comply with the Department guidelines establishing minimum criteria for execution and completion of the bond forms and related documents.

(c) A bond shall be conditioned upon compliance with the drilling, water supply replacement, restoration and plugging requirements in the act, this chapter and permit conditions relating thereto. The bonds are penal in nature and are designed to ensure compliance by the operator to protect the environment, public health and safety affected by the oil and gas well.

(d) The person named in the bond or other security shall be the same as the person named in the permit.

**§ 78a.304. Terms and conditions for surety bonds.**

(a) The bond of a surety company that has failed, refused or unduly delayed to pay, in full, on a forfeited surety bond is not approvable.

(b) Only the bond of a surety authorized to do business in this Commonwealth is approvable. If the principal place of business of the surety is outside of this Commonwealth, or if the surety is not a Pennsylvania corporation, the surety bond shall also be signed by an authorized resident agency of the surety that maintains an office in this Commonwealth.

(c) The surety may cancel the bond by filing written notice of cancellation with the Department, the operator and the principal on the bond, only under the following conditions:

(1) The notice of cancellation shall be sent by certified mail, return receipt requested. Cancellation may not take effect until 120 days after receipt of the

notice of cancellation by the Department, the operator and the principal on the bond as evidenced by return receipts.

(2) Within 30 days after receipt of a notice of cancellation, the operator shall provide the Department with a replacement bond under § 78a.310 (relating to replacement of existing bond).

(d) The Department will not accept surety bonds from a surety company when the total bond liability to the Department on the bonds filed by the operator, the principal and related parties exceeds the surety company's single risk limit as provided by The Insurance Company Law of 1921 (40 P.S. §§ 341—991.2610).

(e) The bond must provide that the surety and the principal shall be jointly and severally liable for payment of the bond amount.

(f) The bond must provide that the amount shall be confessed to judgment and execution upon forfeiture.

(g) The Department will retain, during the term of the bond, and upon forfeiture of the bond, a property interest in the surety's guarantee of payment under the bond which is not affected by the bankruptcy, insolvency or other financial incapacity of the operator or principal on the bond.

(h) The surety shall give written notice to the Department, if permissible under law, to the principal and the Department within 10 days of a notice received or action filed by or with a regulatory agency or court having jurisdiction over the surety alleging one of the following:

(1) The insolvency or bankruptcy of the surety.

(2) A violation of regulatory requirements applicable to the surety, when as a result of the violation, suspension or revocation of the surety's license to do business in this Commonwealth or another state is under consideration by a regulatory agency.

#### Cross References

This section cited in 25 Pa. Code § 78a.303 (relating to form, terms and conditions of the bond).

### § 78a.305. Terms and conditions for collateral bonds—general.

(a) Collateral documents shall be executed by the owner or operator.

(b) The market value of collateral deposited shall be at least equal to the required bond amount with the exception of United States Treasury Zero Coupon Bonds which shall have a maturity date of not more than 10 years after the date of purchase and at maturity a value of at least \$25,000.

(c) Collateral shall be pledged and assigned to the Department free from claims or rights. The pledge or assignment shall vest in the Department a property interest in the collateral which shall remain until release as provided by law and is not affected by the bankruptcy, insolvency or other financial incapacity of the operator.

(d) The Department's ownership rights to deposited collateral shall be such that the collateral is readily available to the Department upon forfeiture. The Department may require proof of ownership and other means, such as secondary agreements, as it deems necessary to meet the requirements of this subchapter. If the Department determines that deposited collateral does not meet the requirements of this subchapter, it may take action under the law to protect its interest in the collateral.

#### Cross References

This section cited in 25 Pa. Code § 78a.303 (relating to form, terms and conditions of the bond).

### § 78a.306. Collateral bonds—letters of credit.

(a) Letters of credit submitted as collateral for collateral bonds shall be subject to the following conditions:

(1) The letter of credit must be a standby or guarantee letter of credit issued by a Federally-insured or equivalently protected financial institution, regulated and examined by the Commonwealth or a Federal agency and authorized to do business in this Commonwealth.

(2) The letter of credit must be irrevocable and must be so designated. However, the Department may accept a letter of credit for which a limited time period is stated if the following conditions are met and are stated in the letter:

(i) The letter of credit is automatically renewable for additional time periods unless the financial institution gives at least 90 days prior written notice to both the Department and the operator of its intent to terminate the credit at the end of the current time period.

(ii) The Department has the right to draw upon the credit before the end of its time period, if the operator fails to replace the letter of credit with other acceptable means of compliance with section 3225 of the act (relating to bonding) within 30 calendar days of the financial institution's notice to terminate the credit.

(3) Letters of credit must name the Department as the beneficiary and be payable to the Department, upon demand, in part or in full, upon presentation of the Department's drafts, at sight. The Department's right to draw upon the letter of credit does not require documentary or other proof by the Department that the customer has violated the conditions of the bond, the permit or other requirements.

(4) A letter of credit is subject to 13 Pa.C.S. (relating to Uniform Commercial Code) and the latest revision of *Uniform Customs and Practices for Documentary Credits* as published in the International Chamber of Commerce Publication No. 400.

(5) The Department will not accept a letter of credit from a financial institution which has failed, refused or unduly delayed to pay, in full, on a letter of credit or a certificate of deposit previously submitted as collateral to the Department.

(6) The issuing financial institution shall waive rights of set-off or liens which it has or might have against the letter of credit.

(b) If the Department collects any amount under the letter of credit due to failure of the operator to replace the letter of credit after demand by the Department, the Department will hold the proceeds as cash collateral as provided by this subchapter. The operator may obtain the cash collateral after he has submitted and the Department has approved a bond or other means of compliance with section 3225 of the act.

#### Cross References

This section cited in 25 Pa. Code § 78a.303 (relating to form, terms and conditions of the bond).

### § 78a.307. Collateral bonds—certificates of deposit.

A certificate of deposit submitted as collateral for collateral bonds is subject to the following conditions:

(1) The certificate of deposit shall be made payable to the operator and shall be assigned to the Department by the operator, in writing, as required by the Department and on forms provided by the Department. The assignment shall be recorded upon the books of the financial institution issuing the certificate.

(2) The certificate of deposit shall be issued by a Federally-insured or equivalently protected financial institution which is authorized to do business in this Commonwealth.

(3) The certificate of deposit must state that the financial institution issuing it waives rights of setoff or liens which it has or might have against the certificate.

(4) The certificate of deposit must be automatically renewable and fully assignable to the Department. Certificates of deposit must state on their face that they are automatically renewable.

(5) The operator shall submit certificates of deposit in amounts which will allow the Department to liquidate those certificates prior to maturity, upon forfeiture, for the full amount of the bond without penalty to the Department.

(6) The Department will not accept certificates of deposit from financial institutions which have failed, refused or unduly delayed to pay, in full, on certificates of deposit or letters of credit which have previously been submitted as collateral to the Department.

(7) The operator is not entitled to interest accruing after forfeiture is declared by the Department, until the forfeiture declaration is ruled invalid by a court having jurisdiction over the Department, and the ruling is final.

**Cross References**

This section cited in 25 Pa. Code § 78a.303 (relating to form, terms and conditions of the bond).

**§ 78a.308. Collateral bonds—negotiable bonds.**

Negotiable bonds submitted and pledged as collateral for collateral bonds under section 3225(a)(3) of the act (relating to bonding) are subject to the following conditions:

(1) The Department will use the current market value of governmental securities, other than United States Treasury Zero Coupon Bonds, for the purpose of establishing the value of the securities for bond deposit.

(2) The current market value must be at least equal to the amount of the required bond.

(3) The Department may periodically evaluate the securities and may require additional amounts if the current market value is insufficient to satisfy the bond amount requirements for the oil or gas well operations.

(4) The operator may request and receive the interest accruing on governmental securities filed with the Department as the interest becomes due and payable. An operator will not receive interest accruing on governmental securities until the full amount of the bond has been accumulated. No interest may be paid for postforfeiture interest accruing during appeals and after resolution of the appeals, when the forfeiture is adjudicated, decided or settled in favor of the Commonwealth.

**Cross References**

This section cited in 25 Pa. Code § 78a.303 (relating to form, terms and conditions of the bond).

**§ 78a.310. Replacement of existing bond.**

(a) An owner or operator may replace an existing surety or collateral bond with another surety or collateral bond that satisfies the requirements of this chapter, if the liability which has accrued against the bond, the owner or operator who filed the first bond and the well operation is transferred to the replacement bond. An owner or operator may not substitute a phased deposit of collateral bond under section 3225(d) and (d.1) of the act (relating to bonding) for a valid surety bond or collateral that has been filed and approved by the Department.

(b) The Department will not release existing bonds until the operator has submitted and the Department has approved acceptable replacement bonds.

**Cross References**

This section cited in 25 Pa. Code § 78a.304 (relating to terms and conditions for surety bonds).

**§ 78a.311. Failure to maintain adequate bond.**

The permittee shall maintain a bond in an amount and with sufficient guarantee as provided by this chapter. If a surety company that had provided surety

bonds, or a financial institution that had provided certificates of deposit or letters of credit for an operator enters into bankruptcy or liquidation, has its license suspended or revoked or for another reason indicates an inability or unwillingness to provide an adequate financial guarantee of the obligations under the bond, the operator shall submit a bond within 45 days of notice from the Department.

**§ 78a.312. Forfeiture determination.**

(a) A collateral or surety bond may be forfeited when the Department determines that the operator fails or refuses to comply with the act, this title, an order of the Department, or the terms or conditions of the permit relating to drilling, water supply replacement, plugging and site restoration.

(b) If forfeiture of the bond is required, the Department will:

(1) Send written notification by mail to the permittee, and the surety, if any, of the Department's intent to forfeit the bond and describe the grounds for forfeiture. The notification will also provide an opportunity to take remedial action or submit a schedule for taking remedial actions acceptable to the Department within 30 days of the notice of intent to forfeit, in lieu of collecting the bond.

(2) If the permittee and surety, if any, fail either to take remedial action or to submit a plan acceptable to the Department within 30 days of the notice of the intent to forfeit, the bond will be subject to forfeiture and collection up to the face amount thereof. The Department will issue a declaration to forfeit the bond.

(3) The declaration to forfeit is an action which may be appealable to the Environmental Hearing Board under section 4 of the Environmental Hearing Board Act (35 P.S. § 7514).

**§ 78a.313. Incapacity of operators.**

An owner or operator shall notify the Department by certified mail within 10 calendar days after the start of a voluntary or involuntary proceeding under 11 U.S.C.A. §§ 101—1532, known as the Federal Bankruptcy Act, naming the owner or operator as debtor.

**§ 78a.314. Preservation of remedies.**

Remedies provided or authorized by law for violation of statutes, including the act, the applicable environmental protection acts, this title, the terms and conditions of permits and orders of the Department, are expressly preserved. Nothing in this subchapter is an exclusive penalty or remedy for the violations. No action under this subchapter waives or impairs another remedy or penalty provided in law or equity.

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