



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Oil and Gas Management



Chapter 78a Training Water Management Plans

August 26, 2016

Dial-in number for Audio: 1-877-668-4493

Event Number: 648 375 248

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Tom Wolf, Governor

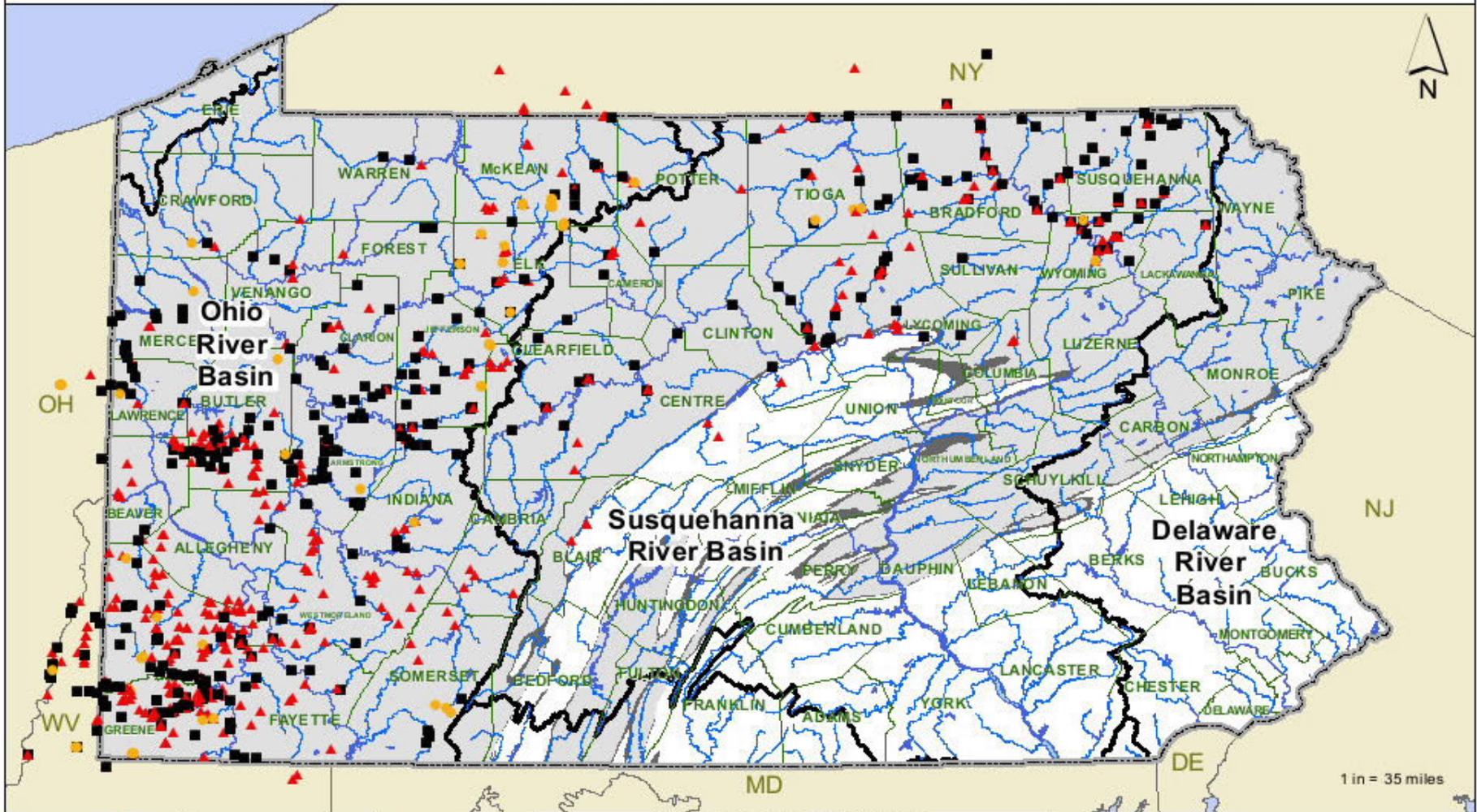
Patrick McDonnell, Acting Secretary

Water Management Plans

§78a.69 OVERVIEW:

- New section
 - Language is similar to Section 3211 of the Oil and Gas Act of 2012
- Updated Water Management Plan (WMP) form

Unconventional Natural Gas Well Development in Pennsylvania Water Management Plans (WMPs) Source Locations as of July 2016



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DEPARTMENT OF ENVIRONMENTAL PROTECTION
Disclaimer: Intended as general information and may not include all WMP information submitted to DEP for the period stated.

| Source Type | Number of Approved Sources | | | TOTAL |
|---------------|----------------------------|------------------|--------------|-------------|
| | Susquehanna River Basin | Ohio River Basin | Out of State | |
| Surface water | 103 | 267 | 31 | 401 |
| Ground water | 5 | 47 | 9 | 61 |
| Purchase | 177 | 486 | 32 | 695 |
| TOTAL | 285 | 800 | 72 | 1157 |

Legend

- PA Marcellus Shale**
- Subsurface
 - Surface (Outcrop)
- 73% of Pennsylvania is underlain by Marcellus Shale
- Approved Sources Source Type**
- Ground water
 - Surface water
 - ▲ Purchase

Water Management Plans

§78a.1 DEFINITIONS:

Water Management Plan

Mine Influenced Water

Water sources

Public water supply

Water purveyor

Threatened or Endangered species

PNDI receipt

Water Management Plans

Water Management Plan (WMP) – 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 Management Plans

Mine Influenced Water (MIW):

Water in a mine pool or a surface discharge of water caused by mining activities that pollutes or may create a threat of pollution to waters of the Commonwealth, or a surface water polluted by mine pool water or a surface discharge caused by mining activities.

Water Management Plans

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.

Water Management Plans

Water source: (continued)

(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 Management Plans

Public water supply *(old definition):*

A water system that is subject to the Pennsylvania Safe Drinking Water Act (35 P.S. §§**721.1-721.17**).

Public water supply: *(new)*

A source of water used by a water purveyor.

Water Management Plans

Water purveyor (*old definition*):

The owner or operator of a public water supply.

Water purveyor: (*new*)

Any 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), known as the Water Rights Law.

Water Management Plans

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. § 1531 et seq.; the Wild Resource Conservation Act, 32 P.S. § 5301 et seq.; the Fish and Boat Code, 30 Pa.C.S. § 101 et seq.; and the Game and Wildlife Code, 34 Pa.C.S. § 101 et seq.

Water Management Plans

Pennsylvania Natural Diversity Inventory (PNDI)

receipt:

The results generated by the PNDI environmental review tool containing information regarding threatened and endangered species and other critical communities.

<https://conservationexplorer.dcnr.pa.gov/>

Water Management Plans

§ 78a.69 OUTLINE

§ 78a.69(a) WMP required for unconventional operations

§ 78a.69(b) WMP requirements/objectives

§ 78a.69(c) WMP application

§ 78a.69(d) Approval of WMP

§ 78a.69(e) Operational requirements

§ 78a.69(f) Administration of WMPs

§ 78a.69(g) Denial of WMPs

Water Management Plans

§78a.69(a) WMP GENERAL:

- Only applies to Unconventional Operations
- A water purveyor that has a water allocation permit or order of confirmation pursuant to the Water Rights Act or a safe drinking water permit pursuant to the Safe Drinking Water Act is not required to apply for a WMP under this section

Water Management Plans

§78a.69 (b) WMP REQUIREMENTS:

- Protect instream flow
- Prevent adverse effects on quantity and quality of water available to other users
- Protect and maintain designated and existing uses of water sources
- Prevent adverse impacts to water quality in the watershed considered as a whole
- Protect groundwater resources
- Provide for water reuse

Water Management Plans

§78a.69 (c) WMP APPLICATION REQUIREMENTS:

- General water source information
- Water withdrawal and use monitoring plan
- Low flow analysis
- Withdrawal and diversion impact analysis
- Description of how the proposed withdrawal will not affect the quantity and quality of water available to other users
- Reuse plan

Water Management Plans

§78a.69 (c) WMP APPLICATION REQUIREMENTS: (continued)

- Proof of PNDI receipt
- Proof of consultation with the PHMC
- Proof of notification to municipalities and counties

Water Management Plans

§78a.69 (c) WMP APPLICATION REQUIREMENTS: (continued)

Surface water sources:

- An operations plan
- Prevent the rapid movement of invasive, harmful or nuisance species

Water Management Plans

§78a.69 (c) WMP APPLICATION REQUIREMENTS: (continued)

Groundwater sources:

Well report that includes information necessary to evaluate

- Proper well construction
- Hydraulic characteristics of the aquifer
- Sustainability of the groundwater source and
- Proper well abandonment

Water Management Plans

§78a.69 (d) Approval of WMPs:

Qualifying approvals from other entities:

- Susquehanna River Basin Commission
- Delaware River Basin Commission
- Great Lakes-St. Lawrence River Basin Commission

Water Management Plans

§78a.69 (e) WMP OPERATIONAL REQUIREMENTS:

- Comply with the approved WMP
- Post a sign at the entrance to the water source
- Measure withdrawals and purchases using continuous recording devices
- Act 220 registration
- Electronic submission of reports to the Department
- Retain the records for **FIVE** years

Water Management Plans

§78a.69 (f) ADMINISTRATION OF WMP:

- WMP Approvals are valid for **5 years**
- WMP Renewal - at least **6 months** prior to the expiration
- WMP Suspension and revocation
- WMP termination

Water Management Plans

§78a.69 (g) DENIAL OF WMP:

- Administratively incomplete
- Application does not demonstrate that the requirements of 78a.69 will be met

Water Management Plans - Form

WMP DRAFT Form Outline:

Applicant and Plan Coverage Information

General Water Source Information

Section A. List of Water Sources

Section B. Water Source and Use Monitoring Plan and Act 220 Registration

Specific Water Source Information

Section A. Surface Water Sources

Section B. Groundwater Sources

Section C. Wastewater, Cooling Water and Mine Water Diversion Sources

Section D. Public Water Supply Sources

Reuse Plan

Signature Block

Water Management Plans - Form

Applicant and Plan Coverage Information

- Provide information such as Applicant name, DEP ID/OGO number, address, contact name and title, telephone number and email
- Identify the oil and gas district where the water is located and /or water will be used

Water Management Plans - Form

List of Proposed Water Sources

- New source, renewal or amendment to an already approved source
- County, municipality, major river basin, proposed 30-day avg. daily withdrawal & instantaneous maximum withdrawal rates and ownership details

Water Management Plans - Form

Water Source and Use Monitoring Plan

- Accurate monitoring and recording of the amount of water withdrawal from each source on a daily basis
- Recording and maintenance of daily water withdrawal from each source and daily instream flow measurements

Water Management Plans - Form

Water Source and Use Monitoring Plan

- Describe the maintenance methods of proposed measuring and recording devices to ensure accurate measurement.
- Indicate the procedure and a statement of intent to provide a one-time notification to the DEP district office prior to source initiation.

Water Management Plans - Form

Specific Water Source Information

- Provide location details including GPS coordinates for the location of proposed sources
- Attach a USGS 7.5 Minute Quadrangle map indicating location of proposed source

Water Management Plans - Form

Surface Water Source

- Rivers, streams, lakes
- Operations plan
- Stream Impact and Low flow analysis
- Stream classification and uses
- Withdrawal impact analysis

Water Management Plans - Form

Groundwater Sources

- Stream Impact and Low flow analysis
 - Conduct an aquifer test and Compute 7-day, 10-year low flow
- Stream classification and uses
- Withdrawal impact analysis
- Well Report

Water Management Plans - Form

Wastewater, Cooling Water or Mine Water

Discharge Sources

- Include NPDES Permit Number for existing discharge
- Operations plan
- Wastewater, Cooling Water or Mine Water Diversion impact analysis

Water Management Plans - Form

Public Water Supply Sources

- Include PADWIS ID Number
- Source Narrative
 - Proposed activity should not adversely affect the quantity and quality of the Public Water Supply
 - Ensure compliance with all Safe Drinking Water Act and Water Allocation permit conditions and operational limitations

Water Management Plans - Form

Reuse Plan

- Develop a reuse plan for fluids that will be used to hydraulically fracture wells
- Wastewater source reduction strategy in compliance with §95.10(b) to satisfy the reuse plan requirement



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Questions?

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