

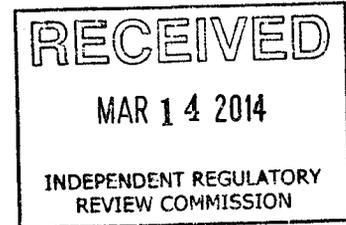
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IN REPLY REFER TO:

## United States Department of the Interior

NATIONAL PARK SERVICE  
Northeast Region  
United States Custom House  
200 Chestnut Street  
Philadelphia, PA 19106



March 13, 2013

Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

[RegComments@pa.gov](mailto:RegComments@pa.gov)  
<http://www.ahs.dep.pa.gov/RegComments>

**Subject: 25 PA. Code CH. 78 Proposed Rulemaking: Environmental Protection Performance Standards at Oil and Gas Well Sites**

Dear Environmental Quality Board members,

The National Park Service (NPS) is pleased to provide comment on 25 PA. Code CH. 78 Proposed Rulemaking: Environmental Protection Performance Standards at Oil and Gas Well Sites. The NPS appreciates the proactive steps the Department of Environmental Protection (DEP) is taking in revising these regulations to protect the significant and vital natural resources in the Commonwealth. This effort will result in necessary and important environmental protections for state and federally managed or administered lands, held in trust for the public, and the resources and ecosystem services they provide that are counted upon by present and future generations for essential benefits such as clean water.

The NPS offers the following comments which are intended to promote understanding of the diverse and nationally significant resources within NPS units and affiliated areas in Pennsylvania, to clarify and strengthen the proposed regulations to aid in a more efficient and effective permitting process, to promote open and early communication between the NPS and PA state regulatory agencies, and to promote the protection of NPS resources. We first provide general information on the National Park System and NPS programs, and then provide specific comments by proposed regulation section.

## **National Park System Units and Affiliated Areas**

The NPS protects the most “superlative natural, historic, and recreational areas... of the United States... (which) are united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage.”<sup>1</sup> The primary statutory directive for the National Park Service is provided by the NPS Organic Act of 1916 which established the purpose of the NPS “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”<sup>2</sup> While the Organic Act unified park management into a national system, the NPS only has direct management authority on lands owned and administered by the federal government. Lands where the NPS provides technical and financial assistance but are neither federally owned nor directly administered by the NPS are referred to as “National Park System Affiliated Areas”. National Park System Affiliated Areas comprise a variety of sites that preserve significant properties outside the National Park System. Some of these have been recognized by Acts of Congress, while others have been designated by the Secretary of the Interior under an appropriate authority (Historic Sites Act of 1935 [16 U.S.C. §§ 461-467], National Wild and Scenic Rivers Act). They include National Natural Landmarks, National Historic Landmarks, National Heritage Areas, National Trails and NPS-administered designated Wild and Scenic Rivers, which include lands within their boundaries that are not in federal ownership. These areas require significant partnerships and non-traditional approaches to adequately protect resources.

In addition to these comments, we are providing a complete map and list of all 197 National Park System units and “affiliated” areas in the Commonwealth. We hope that the map and list will aid state regulators, operators and the public in understanding where oil and gas development may intersect with NPS public resources. We can provide the appropriate data files for inclusion in Commonwealth GIS records if that is desired.

## **Land and Water Conservation Fund (LWCF) Grant-Assisted Locations**

In addition to units and affiliated areas, NPS administers financial assistance through matching grants to states and through states to local units of government under the LWCF State and Local Assistance Program to create a nationwide estate of public outdoor recreation areas to be protected in perpetuity from non-recreation uses. In the case of the Commonwealth, NPS partners with the PA Department of Conservation and Natural Resources (DCNR) to administer the program starting with a grant competition conducted by DCNR. DCNR selects state and local proposals for acquisition and/or development using state-specific criteria developed through a public statewide comprehensive outdoor recreation planning (SCORP) process and recommends them to NPS for LWCF grant assistance. At the time of federal approval, each grant-assisted area is subject to LWCF Act Section 6(f)(3) requirements and restrictions as contained in the

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<sup>1</sup> 16 U.S.C. § 1a-1

<sup>2</sup> The Organic Act of 1916, 16 U.S.C. § 1, (1916)

LWCF program manual in effect and any pertinent program policies and regulations. Through the project's grant agreement (contract) the State agrees to the post-completion compliance requirements including that any non-outdoor recreation use of Section 6(f)(3) property could result in a conversion where the affected property must be replaced with other property of equal or greater fair market value and at least equivalent recreation utility to be developed into the replacement public park/outdoor recreation area pursuant to 36CFR59.3.

In the case of oil and gas development, NPS strongly encourages sponsors of oil and gas development proposals to coordinate as early as possible with the Commonwealth's LWCF State Liaison Officer at DCNR to determine, with NPS assistance if necessary, the degree to which Section 6(f)(3) restricted property will be involved in any way. This early coordination among all parties will ensure that the required federal compliance process will be followed so that compliance is not conducted as an after-thought by occurring too late in the implementation of the proposals. Early coordination will help to avoid unnecessary delays in securing any required federal approvals if a conversion approval and/or other federal decisions are required. The NPS and/or PA DCNR may be contacted for more information on the LWCF State and Local Assistance Program ([www.nps.gov/lwcf](http://www.nps.gov/lwcf)).

### **Specific NPS Comments on Proposed Regulations**

We've organized our specific comments to correspond with the sections of 25 PA Code CH 78 open for comment.

#### **§ 78.1 Definitions**

We appreciate the inclusion of definitions for a number of terms associated with unconventional gas development. We believe there are a few additional terms that should be defined, as well as a few terms that we hope will be clarified. Clearly defined terms is the first step in creating a shared understanding among stakeholders and specifically, will help the NPS understand what is being proposed as development proceeds and how this might affect National Park System units and affiliated areas. We offer the following additions and/or clarifications to the existing list of terms:

- **Approximate Original Conditions:** this definition is relatively clear until the last two words: "extent practicable". This term is not defined. Who will determine whether "to the extent practicable" has been met? What criteria will be used? Cost to the operator? Environmental aspects? Will there be recourse should there be disagreements between the operator and the landowner or impacted neighbors? The NPS is concerned that efforts to restore approximate original conditions after natural gas operations on adjacent lands could be insufficient due to an undefined "extent practicable" clause, resulting in impacts to National Park System resources and values.

- **Brine:** the term brine does not appear in the proposed § 78.1, nor does it appear to be defined anywhere in the current version of CH 78. Although definitions are hinted at in numerous sections none is clearly provided. We believe it would be helpful to clearly define this term given its extensive use throughout CH 78, and to ensure that the use of brine as described in these regulations meets the intended goal to ensure that particular chemicals and substances used in hydraulic fracture stimulation do not end up in the waters of the Commonwealth. Given the use of brine for multiple purposes (e.g. dust suppression, road stabilization, pre-treatment of roads, etc.) and the numerous state and local roads present within and near NPS units such as the Upper Delaware Scenic and Recreational River (UPDE), we believe the use of brine absent a definition as to its contents could potentially impact NPS resources and affect our ability to adequately design monitoring to determine if or when brine is reaching the waters of the Commonwealth.
  
- **Conventional and Unconventional Formation:** As currently written, the definitions of conventional formation and unconventional formation may result in wells which are, by strict application of the definition, conventional, while containing critical elements of unconventional formations. This is important because the regulations ban the use of certain materials from unconventional formations, yet the definition creates a loophole which would allow the use of the very materials which these proposed regulations ban. It is especially important that there is no loophole and that these two types of formations are clearly defined and distinct from one another as they inform the types of materials that can be buried in pits, applied to the land and spread on roads in the Commonwealth, all of which may affect National Park System units and affiliated areas. These activities have the potential for adversely impacting the waters of the Commonwealth should certain materials generated from natural gas development be used.

The definition of conventional as “a formation that is not an unconventional formation” is a circular definition that hinges on the definition of “unconventional formation.”<sup>3</sup> Our recommendation lies in changing this definition. Most of the current definition serves to differentiate unconventional from conventional formations. The phrase “existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval” is the element which we recommend be clarified or dropped for the reasons we discuss below.

One of the critical elements in the definition of unconventional formation appears to be the use of stimulation “by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore” regardless

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<sup>3</sup> The current version of 25 PA Code CH 78 defines “unconventional formation” as: “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.”

of whether such techniques are applied to a vertical or horizontal well bore. Also critical is the lack of economic flow rates or economic volumes necessitating hydraulic fracture stimulation or other techniques. The use of hydraulic fracturing is the critical element in the definition.

The percentage of all natural gas wells that are hydraulically fractured is important in this case. The Congressional Research Service states that “[h]ydraulic fracturing is a technique developed initially to stimulate oil production from wells in declining oil reservoirs. With technological advances, hydraulic fracturing is now widely used to initiate oil and gas production from unconventional (low-permeability) oil and gas formations in which the hydrocarbon was previously inaccessible. This process now is used in more than 90% of new oil and gas wells.”<sup>4</sup>

When this geologic location is included, however, it creates a class of wells that do not exist “below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval”, but to which hydraulic fracturing has been applied, with all the attendant chemical concentrations, presence of naturally occurring radioactive material (NORM), etc. common to the technique. It is the use of material from these wells that the regulations ban. Yet the current definition would define these wells as conventional and allow the use of materials from them simply because their stratigraphic interval was not “below the base of the Elk Sandstone or its geologic equivalent.” This appears to be the opposite of what the Commonwealth intends in the proposed regulations. It could result in adverse impacts to the waters of the Commonwealth should materials from these wells be spread on roads, applied to the land or buried in pits. We recommend dropping the locational element from the unconventional formation definition or clarifying why its inclusion will not result in the potential problems identified.

- **Discrete Area:** This term is undefined in the regulations, but used in § 78.15(f)(4) to set limits for the applicant on the information they are required to submit about public resources (including NPS resources) and efforts to avoid or mitigate impacts to those resources. The NPS seeks clarification of the meaning of the term. We provide more detail on our concerns in our comments on § 78.15(f)(4) below.
- **Leak Protection System:** is undefined in both the current and proposed regulations. Given the importance of these regulations in protecting the waters of the Commonwealth, we believe it should be defined.
- **Natural Gas Processing Plants:** this term is not defined so we are seeking clarification. Does this term include natural gas fractionation (“cracker” plants) and liquefied natural gas (LNG) liquefaction and purification facilities (LNG trains)? These large scale facilities are either being built, proposed or likely to be built in the

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<sup>4</sup> Congressional Research Service, *Hydraulic Fracturing and Safe Drinking Water Act Regulatory Issues*, Mary Tiemann, Specialist in Environmental Policy and Adam Vann, legislative Attorney, January 10, 2013.

Commonwealth. Is the term “natural gas processing plant” meant to be used broadly to include these kinds of facilities or is it meant to be narrower in scope?

- **Occupied Dwelling:** This term is used in § 78.59c(c)(4) on centralized impoundments and is a critical element in determining the required setback location for construction of an impoundment. As we explain further in our comments on this section below, providing a definition in § 78.1 would provide needed clarification in understanding potential impacts to NPS resources.
- **Residual Waste and Waste:** Neither term is defined in the proposed or current regulations. Given the importance of these regulations in protecting the waters of the Commonwealth, and the various controls proposed for these two substances, we believe the terms should be defined.
- **Well Site:** Does this definition include the roads and gathering lines “necessary for or incidental to the drilling, production or plugging of a well”?

#### **§ 78.15 Application Requirements (including Protection of Public Resources)**

The NPS is very appreciative of the efforts the Commonwealth is making to protect public resources where oil and gas development activities occur. We have a few comments on this section, organized by subsection.

**§ 78.15 (f)(1)(i)** - We recommend the DEP add the following language (in bold italics), “in or within 200 feet of a publicly owned *or administered* park, forest, game land or wildlife area.” Adding “or administered” would address a subset of management situations in a variety of units and affiliated areas within the National Park System, as we explain in more detail below. We also recommend the notification requirements be greater than 200 feet. We recommend 1,000 feet as the notification distance from the edge of the well pad. At this distance there is a reasonable potential for subsurface impacts from gas migration associated with possible overpressuring of the annulus, as well as potential surface impacts to natural sounds and night skies, wildlife, viewshed and other resources within National Park System units and affiliated areas.

We also recommend language clarifying that any property acquired and/or developed with federal grant assistance from the Land and Water Conservation Fund (LWCF) is subject to LWCF Act Section 6(f)(3) restrictions to outdoor recreation uses in perpetuity unless such uses are approved by the National Park Service pursuant to the LWCF post-completion regulations at 36CFR59.3. Each LWCF grant-assisted site is encumbered by a Section 6(f)(3) boundary identifying the property subject to these provisions. The LWCF 6(f)(3) restricted areas may or may not include all property within the formal boundary of the public outdoor recreation/park area in question. For the Commonwealth, the governor-appointed LWCF State Liaison Officer is Ms. Lauren Imgrund, of the Department of Conservation and Natural Resources (DCNR) whose

responsibility is to ensure that all LWCF 6(f)(3) restricted property throughout the Commonwealth, including all state and local lands, are used for public outdoor recreation purposes pursuant to the Act and implementing regulations. DCNR can provide more information on LWCF funded areas within the Commonwealth subject to these restrictions. More information on LWCF funded lands is provided below.

§ 78.15 (f)(1)(ii) - We recommend that the language be changed from “in or within the corridor of a state or national scenic river” to “*in or within the corridor of a state designated scenic river or a unit of the National Wild and Scenic River System*” to more accurately reflect the range of potential designations.

§ 78.15 (f)(1)(iii) – National Natural Landmark – We recommend the notification distance be 1,000 feet from the edge of the well pad. As noted above, at this distance there is a reasonable potential for subsurface impacts from gas migration associated with possible overpressuring of the annulus, as well as potential surface impacts to natural sounds and night skies, wildlife, viewsheds, and other resources.

§ 78.15(f)(1)(v) – Historical or archaeological site - We believe the notification distance should be greater than 200 feet. Five hundred feet is likely not a great enough distance when there are vibration and other construction effects that may disturb or undermine the structural integrity, and historic and visual character of such a site. For purposes of notification we again recommend 1,000 feet for these and the reasons cited in our comment above at § 78.15 (f)(1)(i).

§ 78.15 (f)(1)(i through vi) – The NPS suggests that all distance requirements under Section 78.15 (f) be stipulated as distances from the edge of the well pad and not “the proposed surface location of the well.” Surface facilities associated with activities on the well pad may pose more potential for offsite impacts than the well itself.

§ 78.15(f)(2) - We are concerned that the “15 day” notification time period outlined in item #3 is insufficient for public resource agencies (such as NPS) to provide written comments to the Department. We recommend the language be changed to the following, “*From the date of notification, the public resource agency shall have 30 days to provide written comments to the Department . . .*” As an example of more manageable timeframes, The Upper Delaware Council requires 45 days to review proposed wells, per the Upper Delaware Land and Water Use Guidelines incorporated into their project review procedures (UDC); see the Commonwealth of Pennsylvania’s support of the River Management Plan, as stated in *Pennsylvania Code Subchapter MM. Upper Delaware Federal Scenic River*, re support of Upper Delaware designation. The NPS is concerned that with the sheer number of well permit applications that are likely, our limited staff would be overwhelmed with the complex issues needing evaluation in order to ensure that we fulfill our responsibilities to avoid adverse impacts. Additionally, we suggest the revised regulations read (in bold italics), “The applicant shall forward by certified mail, *return receipt requested...*” The U.S. Postal Service “return receipt requested” card would ensure applicants meet the required proof of notification stipulation in the regulations.

**§ 78.15(f)(4)** - Regarding the language “The information required in 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”, the term “discrete area” is not defined, and is ambiguous. As we note above, the term should be defined in § 78.1. This language does not specify who makes the determination of the area that may be affected by the well, well site and access road. We suggest that the resource agency involved, for example the National Park Service, which is most familiar with its resources, should have input as to the area, specific resources and functions that may be affected by the well, well site and access road, and into the measures proposed to avoid or mitigate impacts. The NPS would welcome dialogue with developers to define specific areas of potential impact and seek mutually agreeable measures to avoid or mitigate those impacts.

#### **§ 78.51 Protection of Water Supplies**

**§ 78.51(b)** – We are concerned that units of the National Park System may fall within a category not specifically identified in the draft regulations. The definition of a “water purveyor” appears to only apply to large, municipal-type water suppliers. However, in some units the NPS is responsible for supplying or at least providing water to our visitors and staff. We suggest that this section be revised to refer to all “potable water supplies” rather than limiting the definition to either “well owners” or “water purveyors.” Additionally, we suggest that pollution or diminution of water supplies by any well site activities, including temporary water or other fluid storage, gathering lines or pipelines be included in this section.

**§ 78.51(c)** – The NPS suggests that this section also include a requirement that the Department specifically notify, in turn, neighboring land owners and/or land management agencies (such as NPS) if a claim of water pollution or diminution has been made so that area water supplies can be checked for similar issues and public health and safety can be maintained.

#### **§ 78.52 Drilling or Pre-Alteration Survey**

We suggest that item (f) in this section be clarified to stipulate that well owner(s) are potentially refusing access to their property by a certified lab and not a well operator as currently stated in 78.52(f). This clarification would make the section consistent with requirements set forth in 78.52(c) requiring surveys by a PA accredited lab. Operators would need a Scientific Research and Collecting Permit should testing in National Park System units be desired or required. The regulatory language should specify that federal permits would be needed if public resources need to be tested.

#### **§ 78.52a. Abandoned and Orphaned Well Identification**

The issue of potential communication between hydraulically fractured wells and existing abandoned or orphaned wells is of paramount importance to the NPS. Reported occurrences of “frack hits” (subsurface well communication) and the resulting environmental and safety hazards

is very concerning to agencies such as the NPS, charged with conserving the environment and serving the visiting public.

When drilling operations are proposed near units of the National Park System and affiliated areas, the NPS would like to work closely with the Department and the specific operator wherein the required orphaned or abandoned well surveys could be completed on National Park System owned or administered lands. Due to the large acreages involved, the NPS does not always have accurate surveys of all wells within park boundaries. A cooperative working agreement between the Department, operators, and the NPS to complete the required surveys would benefit all involved parties and assist the Department in a more efficient permitting process. The NPS would be happy to help the Department craft this cooperative working process for inclusion in draft regulations.

We also suggest that this section include language requiring environmental remediation by the operator if orphaned or abandoned wells not previously located or cataloged are adversely impacted by new operations. We also request that park units within the notification distance required in § 78.15 (f)(1)(i) for publicly owned or administered park lands be notified when an operator reports wellbore annulars have become overpressured to a degree that requires some well remedial action in response to defective casing or insufficient or defective cementing as specified under § 78.86. The condition that an underground blowout or elevated sustained casing pressure was occurring in a nearby well would be an indication of an increased threat of gas migration to nearby properties and alert the NPS to potential subsurface resource impacts (increased methane levels in potable aquifers). Impacts to water supplies from increased methane levels or surface resources may then only become apparent upon further groundwater monitoring or inspection for a surface release (i.e. gas, condensate or other fluid seep).

#### **§ 78.53 Erosion and Sediment Control**

We are encouraged to see language specifying that “Any person proposing or conducting earth disturbance activities associated with oil and gas activities shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control)”, and that best management practices for erosion and sediment control for oil and gas well activities 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 guidance therein, stating that activities creating runoff from a permitted project site that discharges to Special Protection Waters streams (those classified as High Quality [HQ] or Exceptional Value [EV]), and that calls for more stringent criteria being used to design the BMPs for these sites, is sound.

Furthermore, language referring to work in these drainages and stating that “Nondischarge alternatives are to be used wherever possible” is fully justifiable. We believe these protections would be strengthened by including a requirement that specifies that Antidegradation Best

Available Combination of Technologies (ABACT) BMPs be used to the fullest extent possible at all times when working in drainages of Special Protection Waters with anti-degradation standards.

#### **§ 78.55 Control and Disposal Planning; Emergency Response for Unconventional Wells**

We recommend the following revision (in bold italics) to the existing text:

***(d.2) “Copies. A copy of the well operator’s PPC plan shall be provided to the Department, the Pennsylvania Fish and Boat Commission, nearby landowners, including the National Park Service, if applicable, or the general public upon request and shall be available at the [well] site during drilling and completion activities for review.”***

#### **§ 78.57 Control, Storage & Disposal of Production Fluids**

**§ 78.57(c)** – This section requires secondary containment “sufficient to hold the volume of the largest tank, plus an additional 10% of volume for precipitation.” Considering the likelihood of extreme weather events coupled with the possibility of events resulting in the rupture of more than one tank in any given secondary containment area, the NPS suggests the Department adopt a standard of requiring a secondary containment “with the sufficient perimeter and height to hold 1.5 times the volume of the largest tank.” We believe this enhanced requirement will better protect lands and waters of the Commonwealth and adjacent areas and has long been employed by the National Park Service for nonfederal oil and gas operations conducted under our regulations found at 36CFR Part 9B. We are happy to discuss our experiences with this section of the 9B regulations with PA regulators.

We also request clarification on whether the above listed requirement applies to all existing operations or only new operations? We suggest this more protective standard be required of both existing and new drilling operations.

#### **§ 78.59a Impoundment Embankments**

**§ 78.59a(9)(i)** – To ensure consistency across Commonwealth regulations, the NPS suggests that this section refer to requirements found at 25 PA Code, Chapter 102, Section 102.4, Erosion and Sediment Control. Additionally, we recommend the use of native trees and shrubs. Requiring the use of native plant species to stabilize impoundment embankments will reduce the introduction of non-native invasive species on oil and gas sites and would help limit the potential spread of non-native or other invasive species to adjacent private or public lands such as units of the National Park System.

### **§ 78.59c Centralized Impoundments**

**§ 78.59c(a)** – A permit is required prior to construction of a centralized impoundment, but we do not see any notification requirements to neighbors, adjacent landowners or those downstream or downhill of such an impoundment. We believe the regulations should clearly specify such notification, especially since all size and hazard potential categories under 25 PA Code 105.91<sup>5</sup> are allowed, even where substantial loss of life or substantial economic loss is possible. As managers of units of the National Park System which attract visitors and include our own staff and volunteers, as well as buildings and resources of national importance, we request notification of the application for a centralized impoundment within one mile of all National Park System units and affiliated areas in the Commonwealth so that we can assess possible impacts; ensure safety for our visitors, staff and volunteers; and so that we might engage in discussion with the applicant and the state to ensure safety and lessen potential impacts. We recommend one mile as the notification distance as it corresponds to the application information requirements for a permit to construct a dam or other waterway management structure under 25 PA Code 105.13(e)(1)(ii).

**§ 78.59c(c)(1)** – Given the importance of floodplains in protecting the waters of the Commonwealth, we recommend a more detailed description, and more protective measure, for avoidance of floodplains be used. We recommend additions (in bold italics) to subsection (1) read, “***At least 300 feet*** from a floodplain of waters of this Commonwealth as defined in section 3215(f)(5) of the act.” The definition at 58 PA C.S. 3215(f)(5) would still serve as the base measurement, but the additional distance would serve to account for more recent periods of increased precipitation and flooding due to increasingly erratic weather events. Additionally, we contend that centralized impoundments pose at least as great a threat to water quality as an unconventional well site and as such the use of the greater set-back distance would provide greater consistency with the minimum set-back distances proposed in PA Act 13 Section 3215.

**§ 78.59c(c)(4)** - This section is focused on “occupied dwellings”, which is undefined in the regulations. We are concerned that this term not be construed to preclude protection of historic buildings and structures, which are not always “occupied” in a residential sense, but are nonetheless deserving of protective measures. We prefer the term “existing building” as used in § 78.62(a)(6), or “existing structure” in order to more accurately account for the presence and protection of historic structures. These structures may be temporarily occupied by park visitors and NPS staff and volunteers, or they may be “out buildings” at historic sites which are integral features of the historic character of the site though rarely or never occupied. The NPS owns or manages a large number of historic structures throughout the Commonwealth. We also partner with private property owners to ensure their continued protection. In the case of National Historic Landmarks (NHLs), we are an active partner with the State Historic Preservation Office (SHPO) at the Bureau for Historic Preservation (BHP). Should there be a federal nexus in any Commonwealth oil and gas development we have an obligation under Section 106 of the

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<sup>5</sup> We also do not see any notification requirement in 25 PA Code 105, which might allow this section of PA Code Ch 78 to reference requirements in that chapter of the PA Code.

National Historic Preservation Act (NHPA) to participate in consultation if there is a potential for an adverse effect to an NHL. Absent a federal nexus we are still concerned with reducing impacts and adverse effects to the historic structures we own or manage.

We are concerned that 500 feet may not be a sufficient distance to protect historic structures, including those we own or manage. Leaving aside the impacts from catastrophic failure of the impoundment, there are numerous potentially adverse effects to historic structures from the truck traffic and construction activities that take place in building an impoundment. The water truck traffic to and from such an impoundment during its operation could also result in adverse effects. Historic structures feature a wide range of foundation and structural systems, many of which are vulnerable to vibration and other potential impacts from construction and operation activities.

We would recommend a generally greater distance, but adequate setback distances are best determined on a case-by-case basis. This is where the addition of a notification requirement and the application requirements at 25 PA Code 105 could potentially resolve our concerns. 25 PA Code 105.13(e)(1)(ii) requires submission of a location map in an application to build a dam or other water feature. “The location map must show all natural features including the names and boundaries of regulated waters of this Commonwealth, natural areas, wildlife sanctuaries, natural landmarks, political boundaries, locations of public water supplies and other geographical or physical features including cultural, archeological and historical landmarks within 1 mile of the site.” (25 PA Code 105.13(e)(1)(ii), emphasis added.)

Were a notification requirement added to the provisions of §78.59c, we might then have the time for our structural engineer and historical architect to identify potential effects, suggest mitigation measures and set up monitoring protocols. The applicant would have already completed the identification and mapping work, so there wouldn’t be an additional data collection burden. The inclusion of these features in the application requirements under 25 PA Code 105 makes it clear the Commonwealth has an interest in protecting cultural, archeological and historic landmarks. A notification provision for centralized impoundments would allow us to carry on a dialogue with the applicant to reduce effects and/or implement appropriate monitoring, and allow the NPS, the SHPO and other managers and owners of historic structures to fulfill our responsibilities to protect these important features. We would be interested in further discussion with PA regulators on this topic.

**§ 78.59c(e)(5)** – Protection for blue line (perennial) streams is provided, but we believe intermittent streams should be protected from impacts as well. Intermittent streams typically do not appear on standard USGS 7.5 minute topographic quad maps, but nonetheless provide critical seasonal habitat for aquatic flora and fauna and connect to blue line streams which flow into many of our National Park System units and affiliated areas. Intermittent streams could be identified during on-the-ground surveys needed to determine the suitability of an area for a centralized impoundment. As such, we recommend centralized impoundments not be constructed within 100 feet of intermittent streams.

### **§ 78.61 Disposal of Drill Cuttings**

To provide additional environmental protections to adjacent lands and waters, such as areas owned or managed by the National Park Service, we recommend the following text in bold italics be added to the rest of the text:

“The disposal area is not within *300 feet*, of a **watercourse** or body of water unless approved as part of a waiver granted by the Department under section **3215(b)** of the act (**58 Pa.C.S. § 3215(b)**).”

The 100’ buffer distance (an arbitrary one-size-fits-all figure) described is not considered adequate for keeping floodwaters from nearby streams from impacting the disposal area. The additional distance we recommend would serve to account for more recent periods of increased precipitation and flooding due to increasingly erratic weather events.

A requirement for the use of native vegetation is also recommended:

“The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sediment[**ation**] control). The revegetation shall establish a diverse, effective, permanent, *native* vegetative cover which is capable of self-regeneration and plant succession to help limit the potential introduction and spread of non-native or other invasive species to adjacent private or public lands. Where vegetation would interfere with the intended use of the surface of the landowner, the surface shall be stabilized against erosion.

Revegetating these areas with native vegetation will help to ensure that the objectives for these plantings are achieved, and that other potential economic and ecological impacts associated with the introduction of new non-native, invasive plant species and spread of existing populations are avoided.

We also suggest that this section (§ 78.61) contain a statement that “disposal of drill cuttings must comply with the requirements found at Section 78.53, Erosion and Sediment Control.”

### **§ 78.62 Disposal of Residual Waste – Pits**

As we noted above (at § 78.1), neither waste, nor residual waste, are defined in these proposed regulations or in the current version of the regulations. The lack of definition has made it difficult to understand what is allowed in this section. We recommend these definitions be addressed at § 78.1 given the attention to these topics in these regulations.

§ 78.62(a)(1) – Please see our comments above (at § 78.1) about the definition of a conventional formation and the attendant definition of an unconventional formation. The current definition of an unconventional formation adds to the difficulty in understanding what is proposed in this section.

The language in this section is unclear leading to a range of questions that we hope can be addressed through additional definition and clarifications to existing and proposed text. As noted above (at § 78.1), definitions for “residual waste” and “waste” have not been provided. The proposed language in this section introduces the additional term “solid waste” and reads, “Solid waste generated by hydraulic fracturing of unconventional wells and solid waste generated by processing of fluids pursuant to § 78.58 [Onsite Processing] may not be disposed of on the well site.” Without providing definitions it is unclear if the Commonwealth is making a distinction between “waste”, “residual waste” and “solid waste”. A range of questions is raised by the existing language including: Is solid waste included in or covered under the term “residual waste” and/or are they considered one and the same thing? Is there some portion of residual waste that is not solid waste? Residual waste can be generated by well drilling or stimulation - can solid waste be generated by the same means? If solid waste from hydraulic fracturing of unconventional wells can't be disposed of on the well site, what solid and/or residual waste is there left to dispose of onsite? We request clarification of this section so that we can understand what materials may be buried near National Park System lands.

§ 78.62(a)(7) – We recommend that residual waste burial in pits not take place in floodplains. As in other sections of our comments we recommend “300 feet” replace “100 feet” in this subsection. This would serve to account for more recent periods of increased precipitation and flooding due to increasingly erratic weather events.

§ 78.62(b)(2) and (3) – We believe this may merely be a typo: subsection (1) reads “does not exceed 50% of the maximum concentration”. Subsections (2) and (3) read, “does not exceed 50 **times**” the primary maximum contaminant level and safe drinking water level respectively (emphasis added).

### **§ 78.63 Disposal of Residual Waste – Land Application**

§ 78.63(a)(1) – We have similar concerns as those described above under § 78.62(a)(1). There are, however, some differences we note. In § 78.62(a)(1), “residual waste is generated by the **drilling or stimulation** of an oil or gas well.” (emphasis added) In § 78.63(a)(1), “residual waste is generated by the drilling of an oil or gas well.” Absent a definition for residual waste, we don't understand how these two sections can be different. In § 78.62(a)(1), “**solid** waste generated by hydraulic fracturing of unconventional wells and **solid** waste generated by processing of fluids pursuant to § 78.58, may not be disposed of on the well site.” (emphasis added) In § 78.63(a)(1), “**residual** waste generated by hydraulic fracturing of unconventional wells and **residual** waste generated by processing pursuant to § 78.58, may not be disposed of by **land application**.”

(emphasis added) Please clarify the reasons for the differences in these comparable sections. As we note elsewhere, definitions for waste, solid waste and residual waste would aid greatly in our understanding of the Commonwealth's intent.

### **§ 78.64 Containment Around Oil and Condensate Tanks**

Please see comment listed below under § 78.64a.

### **§ 78.64a Containment Systems and Practices at Unconventional Well Sites**

**§ 78.64 and § 78.64a** – These sections require secondary containment “sufficient to hold the volume of the largest tank, plus an additional 10% of volume for precipitation.” Considering the likelihood of extreme weather events coupled with the possibility of events resulting in the rupture of more than one tank in any given secondary containment area, the NPS suggests the Department adopt a standard of requiring a secondary containment “with the sufficient perimeter and height to hold 1.5 times the volume of the largest tank.” This enhanced requirement will better protect lands and waters of the Commonwealth and adjacent areas and has long been employed by the National Park Service for nonfederal oil and gas operations conducted under our regulations found at 36CFR Part 9B.

We also request clarification on whether the above listed requirement applies to all existing operations or only new operations? We suggest this more protective standard be required of both existing and new drilling operations.

### **§ 78.65 Site Restoration**

The following comments on § 78.65 are intended to help clarify language in the revised regulations and are also offered with the intent of providing enhanced off-site environmental protections to adjacent private and publically-owned lands such as those owned or managed by the National Park Service.

**§ 78.65 (b)** – This section states that “[a] drill hole or bore hole used to facilitate drilling of a well should be filled with . . . before moving the drilling equipment from the well site.” We suggest language that includes “any shallow drill hole or bore hole, not the main exploratory drill hole . . .” to make clear to operators that this requirement applies to all ancillary drill and bore holes.

**§ 78.65 (d)(1)(ii) and (iii)** – These section address “minimizing” remaining impervious areas and restoring lands “to the extent practicable.” We suggest that the Department either more strictly define these two terms, or refer operators to other regulations, perhaps those found at 25 PA. Code, Chapter 102, Section 102 that may provide more detailed guidance in surface restoration and vegetative species requirements.

§ 78.65 (3)(i)(E) – The NPS suggests that this section be revised to reflect language contained in 25 PA Code, Chapter 102, Section 102.4, Erosion and Sediment Control, recommending the use of native trees and shrubs.

#### **§ 78.66 Reporting and Remediating Releases**

§ 78.66(2) – The NPS suggests that the notification priorities in this section be reordered to require operators to report spills of 5 gallons or more *first* to the statewide toll free number and *second* to the Department. If a spill were to occur on weekends, nights, or holidays when Department personnel are not available, presumably the statewide toll free number would be answered and proper notifications initiated.

Additionally, the NPS asks that the Department's statewide toll free answering center notify the NPS via our emergency contacts directly if lands or waters owned or managed by the NPS are potentially affected so that staff or visitors can be immediately notified of any hazards and federal cleanup actions could be initiated as soon as possible.

#### **§ 78.69 Water Management Plans**

§ 78.69(e) – This section states that “[i]ndividual water sources within a WMP (Water Management Plan) are valid for 5 years.” Considering the sensitive and important water resources that exist in the state, some of which are managed by the NPS, we suggest either a yearly or biennial review of water management plans to ensure that water resources are being protected to the fullest extent and that yearly precipitation rates, which may affect water handling, are being taken into consideration.

#### **§ 78.70 Road-Spreading of Brine for Dust Control and Road Stabilization**

Our review of 25 PA Code CH 78 did not reveal any references to additional regulations or stipulations that would require a coordinated permitting or approval process for any entity spreading brine on roads for dust suppression, anti-icing, or de-icing throughout the various municipalities or even on state roads. We are concerned that this may lead to multiple operators or other entities spreading brine in the same locations at or near the same time. If this were to occur, it could lead to an excessive build up and runoff of brine that may inadvertently affect waters of the Commonwealth or waters and associated resources managed by the NPS. If other state or municipal regulations exist we suggest a reference to those regulations be included in CH 78. If not, additional guidance on this issue is necessary in CH 78 to help protect water quality from potential excessive use of brine on roadways. In addition, any brine-spreading vehicles should be required to display sufficient signage to identify which agency or municipality they belong to, so that any brine-spreading practices by operators can be held accountable to established standards and regulations.

**§ 78.70(c)(4)** – We recommend that DEP require a detailed wetland/waterway investigation be done as a component of water management plans under § 78.69 to ensure that all potential waters of the Commonwealth that would be regulated under PA Code Title 25, Chapter 105 and Section 404 of the Clean Water Act be properly identified.

NWI mapping is not without its limitations. Some of these mapping limitations specific to non-tidal lands in the northeast region include: (1) use of summer leaf-on photography for photo-interpretation, (2) difficulty accurately identifying and delineating forested and linear wetland features, (3) farmed/mowed wetlands difficult to detect and thus map, (4) wetland habitats that are at the drier end of the hydrologic spectrum are often not mapped, and (5) aerial photography age (e.g. most maps use photography from the 1980s) and mapping scale (e.g. 1:40,000 under optimal conditions) (Tiner, 1990; Tiner, 1997; Anderson and Hardin, 1992; Johnston and Meysembourg, 2002; Tiner, 2005; Munoz et al. 2009; Martin et al. 2012).

Of the aforementioned limitations mapping scale may have the greatest relevance to many NPS administered lands as even at the smallest scale mapping product commonly available through NWI (1:40,000) the target mapping unit or estimate of the minimum size wetland that the NWI mapping is attempting to consistently map is no smaller than 1 acre (Tiner, 1997). These limitations can cause NWI mapping to underestimate as many as 82% of the total wetland habitats on a landscape (Morrissey and Sweeney, 2006).

**§ 78.70a Pre-Wetting, Anti-Icing and De-Icing**

Please see comment listed above under 78.70.

We look forward to working closely and cooperatively with the PA DEP to address concerns associated with surface activities associated with oil and gas development and thank you for the opportunity to provide comment. If you have any questions or need additional information please contact Mary Krueger, Renewable Energy Specialist for the Northeast Region at [mary\\_c\\_krueger@nps.gov](mailto:mary_c_krueger@nps.gov) or 617-223-5066.

Thank you for your time and attention to these important matters.

Sincerely,



Kristina M. Heister  
Chief, Natural Resources Division  
Northeast Region

Enclosure

# Northeast Region

National Park Service  
U.S. Department of the Interior

National Park Service

Areas of Interest in Pennsylvania

**Legend**

- National Park Units
- Units, Affiliated Areas, and Other Associated Areas Managed by Others
- National Heritage Areas (NHA)
- National Natural Landmarks (NNL)
- National Historic Landmarks (NHL)

**Abbreviations:**

- NB - National Battlefield
- NHC - National Heritage Corridor
- NHP - National Historic Park
- NHS - National Historic Site
- NHT - National Historic Trail
- NM - National Monument
- NMEM - National Memorial
- NMP - National Military Park
- NRA - National Recreation Area
- NS - National Scenic Area
- NST - National Scenic Trail
- NS&RR - National Scenic and Recreational River
- NWSR - National Wild & Scenic River



03.13.2014

## **National Park Service Areas of Interest in Pennsylvania**

### **National Park Units (17)**

Allegheny Portage Railroad National Historic Site  
Benjamin Franklin National Memorial  
Delaware Water Gap National Recreation Area  
Edgar Allan Poe National Historic Site  
Eisenhower National Historic Site  
Flight 93 National Memorial  
Fort Necessity National Battlefield  
Friendship Hill National Historic Site  
Gettysburg National Military Park  
Gloria Dei Church National Historic Site  
Hopewell Furnace National Historic Site  
Independence National Historical Park  
Johnstown Flood National Memorial  
Steamtown National Historic Site  
Thaddeus Kosciuszko National Memorial  
Upper Delaware Scenic and Recreational River  
Valley Forge National Historical Park

### **National Trails (3)**

Appalachian National Scenic Trail  
North Country National Scenic Trail  
Washington-Rochambeau National Historic Trail

### **National Heritage Areas (7)**

Delaware and Lehigh National Heritage Corridor  
Journey Through Hallowed Ground National Heritage Area  
Lackawanna Heritage Valley  
Oil Region National Heritage Area  
Rivers of Steel National Heritage Area  
Schuylkill River National Heritage Area  
Southwestern PA Heritage Preservation Commission

### **National Natural Landmarks (27)**

Bear Meadows Natural Area  
Box Huckleberry Site  
Cook Forest  
Ferncliff Peninsula Natural Area  
Ferncliff Wildlife and Wildflower Preserve

Florence Jones Reineman Wildlife Sanctuary  
Glens Natural Area  
Hawk Mountain Sanctuary  
Hearts Content Scenic Area  
Hemlocks Natural Area  
Hickory Run Boulder Field  
John Heinz Tinicum Wildlife preserve  
Lake Lacawac  
McConnell's Mill State Park  
Monroe Border Fault  
Nay Aug Park Gorge and Waterfall  
Nottingham Park Serpentine Barrens  
Pine Creek Gorge  
Presque Isle State Park  
Reynolds Spring and Algerine Swamp Bogs  
Snyder-Middleswarth Natural Area  
Susquehanna Water Gaps  
Tamarack Swamp  
Tannersville Cranberry Bog  
Tionesta Scenic and Research Natural Areas  
Titus and Wattsburg Bogs  
Wissahickon Valley

**National Historic Landmarks (136)**

Academy of Music  
Acheson, Edward G., House  
Allegheny County Courthouse and Jail  
American Philosophical Society Hall  
Andalusia  
Antes, Henry, House  
Athenaeum of Philadelphia  
Augustus Lutheran Church  
Bartram, John, House  
Bedford Springs Hotel Historic District  
Boat House Row  
Bomberger's Distillery  
Bradford, David, House  
Brandywine Battlefield  
Buchanan, James, House  
Bushy Run Battlefield  
Cambria Iron Company  
Carlisle Indian School  
Carpenters' Hall  
Cedarcroft

Christ Church  
Church of St. James the Less  
Cliveden  
Colonial Germantown Historic District  
Cope, Edward Drinker, House  
Cornwall Iron Furnace  
Drake Oil Well  
Eakins, Thomas, House  
Eastern State Penitentiary  
Eisenhower National Historic Site  
Elfreth's Alley Historic District  
Emmanuel Episcopal Church  
Ephrata Cloister  
Esherick, Wharton, Studio  
Espy House  
Fairmount Water Works  
Fallingwater  
First Bank of the United States  
Fonthill, Mercer Museum and Moravian Pottery and Tile Works  
Forks of the Ohio  
Founder's Hall, Girard College  
Fulton Opera House  
Fulton, Robert, Birthplace  
Furness Library  
Gemeinhaus-Lewis David De Schweinitz Residence  
Germantown Cricket Club  
Graeme Park  
Green Hills Farm  
Grey Towers  
Gruber Wagon Works  
Hagan, Isaac Newton, House  
Harmony Historic District  
Harper, Frances Ellen Watkins, House  
Harris, John, Mansion  
Harrisburg Central Railroad Station and Trainshed  
Hershey, Milton S., Mansion  
Hill-Physick House  
Honey Hollow Watershed  
Horseshoe Curve  
Institute of the Pennsylvania Hospital  
Insurance Company of North America Building  
Johnson, John, House  
Kennywood Park  
Laurel Hill Cemetery

LeMoyne, F. Julius, House  
Lesley, J. Peter, House  
Lightfoot Mill  
Lukens Historic District  
Marshall, Humphry, House  
Masonic Temple  
Meadowcroft Rockshelter  
Memorial Hall  
Merion Cricket Club  
Merion Friends Meeting House  
Merion Golf Club, East and West Courses  
Mill Grove  
Mother Bethel A.M.E. Church  
Mount Pleasant  
Musical Fund Hall  
Neville House  
New Century Guild  
New Market  
Oakmont Country Club Historic District  
Old Economy  
Old Waterworks  
Old West, Dickinson College  
Packer, Asa, Mansion  
Peale, Charles Willson, House  
Pennsylvania Academy of the Fine Arts  
Pennsylvania Hospital  
Philadelphia City Hall  
Philadelphia Contributionship  
Philadelphia Savings Fund Society Building  
Philadelphia School of Design for Women  
Pinchot, Gifford, House  
Powderly, Terence V., House  
Priestley, Joseph, House  
Printzhof, The  
Pulpit Rocks  
Quay, Matthew S., House  
Race Street Friends Meetinghouse  
Reading Terminal and Trainshed  
Reynolds-Morris House  
RittenhouseTown Historic District  
Searights Tollhouse, National Road  
Second Bank of the United States  
Seventeen-hundred-and-four House  
Smithfield Street Bridge

South, George W., Memorial Protestant Episcopal Church of the Advocate  
St. Mark's Episcopal Church  
St. Mark's Episcopal Church  
St. Peter's Church  
Staple Bend Tunnel  
State Capitol Building, Pennsylvania  
Stenton  
Stiegel-Coleman House  
Sully, Thomas, Residence  
Summerseat  
Tanner, Henry O., House  
Taylor, George, House  
Thomas, M. Carey, Library, Bryn Mawr College  
U.S. Naval Home  
U.S.S. OLYMPIA  
Union Canal Tunnel  
USS BECUNA (SS-319)  
Walnut Street Theatre  
Wanamaker, John, Store  
Washington Crossing State Park  
Waynesborough  
Weiser, Conrad, House  
West, Benjamin, Birthplace  
Woodford  
Woodlands, The  
Woodmont  
Wyck House  
Wyeth, N.C., House and Studio

**National Wild and Scenic Rivers (6)**

Allegheny Wild and Scenic River  
Clarion Wild and Scenic River  
Lower Delaware Scenic and Recreational River  
Middle Delaware National Scenic River  
Upper Delaware Scenic and Recreational River  
White Clay Creek Wild and Scenic River