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

Department of Environmental Protection Policy Office
400 Market Street
P.O. Box 2063
Harrisburg, PA 17105-2063

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

Dear Department of Environmental Protection Policy Office:

The National Park Service (NPS) is pleased to provide comments on 25 PA. Code CHS. 78 and 78a. Draft Final 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 of Pennsylvania (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 the Commonwealth; 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 Commonwealth regulatory agencies; and to promote the protection of NPS resources. We are pleased to see a number of changes from previous drafts which we believe have strengthened resource protection requirements in these regulations. We address each in turn below.

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.”¹ The primary statutory directive for the NPS 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.”² 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 (e.g., Historic Sites Act of 1935 [54 U.S.C. § 320101], 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. All National Park System Affiliated Areas require significant partnerships and non-traditional approaches to adequately manage and protect their 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 Commonwealth³. We hope 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. The 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(l)(3) requirements and restrictions as contained in the LWCF program manual in effect and any pertinent program policies and regulations. Through the project’s grant agreement (contract) the Commonwealth agrees to the post-completion compliance requirements including that any non-outdoor recreation use of

¹ 54 U.S.C. § 100101(b)

² The Organic Act of 1916, 54 U.S.C. § 100101(a), (1916)

³ The map and list are dated 2014, but were rechecked and are still accurate.

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 36 CFR 59.3.

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).

Specific NPS Comments on Proposed Regulations

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

§ 78a.1 and § 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 § 78a.1, nor does it appear to be defined anywhere in the current version of CH 78a or CH 78. Although definitions are implied in numerous sections none is clearly provided. We believe it would be helpful

to clearly define this term given its extensive use throughout these regulations. We are also pleased to see the changes in this version of the proposed regulations significantly restricting the use of brine, which we believe will better allow the Commonwealth to meet its intended goal to ensure that particular chemicals and substances used in hydraulic fracture stimulation do not end up in the waters of the Commonwealth. We previously expressed concerns that 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), could potentially impact NPS resources. The proposed changes to CH. 78a appear to alleviate many of those concerns.

- **Conventional and Unconventional Formation:** As currently written, the definitions of conventional formation (in CH 78) 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 separation of the regulations into CH 78 and CH 78a has helped, but we believe more should be done.

The definition of conventional in CH 78 as “a formation that is not an unconventional formation” is a circular definition that hinges on the definition of “unconventional formation.”⁴ 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 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

⁴ 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.”

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.”⁵

When the Elk Sandstone 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. While some differentiation is made between the materials from well stimulation of conventional wells and how they can be used or disposed of, confusion remains that might better be clarified with a revised definition. Without this clarification there could be 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. We provide more detail on our concerns in the specific sections that follow.

- **Discrete Area:** This term is undefined in the regulations, but used in § 78a.15(f)(4) and § 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 § 78a.15(f)(4) and § 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.

⁵ 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.

- **Limit of Disturbance:** We recommend this phrase be defined in the definitions section of the regulations, especially as it plays such a prominent role in impacts on public resources such as National Parks.
- **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 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?
- **Public Resource Agency:** The proposed regulations list the “United States Fish and Wildlife Service”, our sister bureau in the Department of the Interior, in the definition of “public resource agency”. We request that the “National Park Service” also be listed in the definition.
- **Water Protection Depth:** We believe this may be a typo or mistake, and should read, “the depth to a point 50 feet above the surface casing seat.” The water protection depth cannot extend to a depth below the surface casing seat where the casing and cement acts as the barrier to provide protection. If regulations require setting of surface casing seat to a depth of 50 feet below the freshwater interval, then the water protection depth would be to that depth or 50 feet “above” the surface casing seat. There is no protection below the surface casing seat unless intermediate casing is run and cemented. However, one may assume there is protection 50 feet above the surface casing seat as there is 50 feet of cement separating the open borehole annular from the freshwater interval after one generally drills/penetrates 50 feet below the freshwater interval to set surface casing (50 feet generally provides the minimal measure of protection through separation).
- **Well Site:** Does this definition include the access roads and gathering lines “necessary for or incidental to the drilling, production or plugging of a well”? We believe the definition should be made more explicit to include these features.

§ 78a.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.

§ 78a.15 (f)(1)(i) and § 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 36 CFR 59.3. 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.

§ 78a.15 (f)(1)(ii) and § 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.

§ 78a.15 (f)(1)(iii) and § 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.

§ 78a.15(f)(1)(v) and § 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 for the reasons cited in our comment above at § 78a.15 (f)(1)(i).

§ 78a.15 (f)(1)(i through viii) – The NPS suggested in past comments that all distance requirements under Section 78a.15 (f) be stipulated as distances from the edge of the well pad and not “the proposed surface location of the well.” The “surface location” language has been

replaced in this version of the regulations with “limit of disturbance of the well site.” While we have concerns about the definition of “well site”, as outlined above, we appreciate this change in language, and believe it to be more protective than our original recommendation.

§ 78a.15(f)(2) – We had previously raised concerns over the 15 day notification time periods outlined in this section of the proposed regulations. We are pleased to see the time periods have been changed to 30 days as we recommended. This is a more manageable timeframe for public resource agencies (such as NPS) to provide written comments to the Department. 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” would ensure applicants meet the required proof of notification stipulation in the regulations.

§ 78a.15(f)(4) and § 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 § 78a.1 and § 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.

§ 78a.51 Protection of Water Supplies

§ 78a.51(b) – We are concerned that units of the National Park System may fall within a category not specifically identified in the draft regulations. Under the new definition, NPS is clearly not a water purveyor. In some instances we may not be the landowner, but are the land manager. We are also unlikely to be categorized as an “affected person.” NPS is responsible in some of our parks for supplying, or at least providing, water to our visitors and staff. We suggest that this section be revised to include all providers of “potable water supplies”, rather than limiting the definition to landowners, water purveyors and affected persons.

Additionally, we suggest that pollution or diminution of water supplies by any well site activities, including well site construction, temporary water or other fluid storage, gathering lines or pipelines be included in this section.

We have a question as to the need for the following statement in § 78a.51(c): “The presumption established by section 3218(c) of the act is not applicable to pollution resulting from well site construction.” We would like clarification as to why well site construction is not included. Certainly such construction could result in temporary and permanent impacts.

We are pleased to see that the “criteria for adequacy” that was apparently used in ACT 13 is again defined in this section in terms of Reliability, Quality, Quantity and Serviceability [(1) (i) – (v)]. This establishes a relatively high bar compared to most states.

§ 78a.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.

§ 78a.52 Predrilling 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 78a.52(f). This clarification would make the section consistent with requirements set forth in 78a.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.

§ 78a.52a. Area of Review (Formerly Abandoned and Orphaned Well Identification)

The issue of potential communication between hydraulically fractured wells and existing abandoned or orphaned wells is of paramount importance and concern 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 so that 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.

The language in this section overall is a substantial improvement over the previous version. We appreciate the inclusion of a requirement for a monitoring plan. 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 § 78a.15 (1)(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 § 78a.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).

§ 78a.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.

§ 78a.55 Control and Disposal Planning; Emergency Response for Unconventional Wells

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

(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, nearby landowners, including public resource agencies, if applicable, or the general public upon request and shall be available at the site during drilling and completion activities for review.”*”

See our recommended changes above to the definition of public resource agency.

§ 78a.56 Temporary Storage

We are pleased to see that pits will no longer be allowed for storage of regulated substances and wastes. This should be much more effective in protecting the land and waters of the Commonwealth.

We do still have a number of questions and concerns about this section. The term “temporary” is undefined. Many of the horizontal wells in the Commonwealth are planned to contain a number of wellheads, to be drilled over a period of time. Given both the lack of pipelines to move product to market in some locations, and the low price for natural gas at this time, a number of wells are shut in, or planned wells remain undrilled. The potential exists for “temporary storage” of substances or wastes generated onsite or to be beneficially reused to last many years, perhaps decades. We recommend the Department define “temporary”, and set a time limit for onsite storage.

We are also concerned over the lack of requirements for secondary containment for these materials, and leak detection systems for these tanks. Given the long timeframe they may be onsite, both secondary containment and leak detection systems would seem prudent to protect Commonwealth resources. We also recommend that the quality of the tanks language from the first sentence of § 78a.57(d) on page 49 be added to this section.

§ 78a.56(a)(5) – This section stipulates that open tanks or open storage structures can be used to contain regulated substances. However, § 78a.57(a) says open top structures may not be used to store brine and other fluids produced during operation of the well. Please clarify the materials that can be stored in open tanks and open top structures. We also recommend that open tanks include mesh on top to prevent negative impacts to wildlife. The Upper Delaware Scenic and Recreational River, as well as other NPS units in the Commonwealth, have bats and birds that are protected species. Mesh covering the openings could prevent negative impacts to these species.

§ 78a.57 Control, Storage & Disposal of Production Fluids

§ 78a.57(c) – This section requires secondary containment “sufficient to hold the volume of the largest single aboveground 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 36 CFR Part 9, Subpart B (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.

§ 78a.57(e) – We also are concerned that it appears underground or partially buried storage tanks are now allowed, when in past versions of these proposed regulations they were not allowed. Please clarify the reason(s) for this change. Brine and other fluids produced during operation of the well could go on for thirty or more years. Despite corrosion standards, we are concerned with the potential for leaks which could ultimately impact Commonwealth and NPS resources and lands. We recommend that either the use of underground or partially buried storage tanks be disallowed, or a requirement for a leak detection system is included.

§ 78a.57a Centralized Tank Storage

§ 78a.57a(a) and § 78a.57a(c) – As we've recommended elsewhere in this letter, the NPS would like to be notified should an operator propose to build a centralized tank storage site near NPS lands and resources. Visitors are an integral part of every NPS unit and we have a responsibility to plan for and ensure their safety, as well as that of our staff and volunteers. Specific notification will allow the NPS to work with the Commonwealth and the prospective operator to ensure safety for all.

§ 78a.57a(f)(5) - We believe 100 feet from a watercourse is an insufficient distance to adequately protect these features. NPS uses a 500 foot distance from a watercourse with exceptions in our 9B regulations. The Commonwealth may also want to stipulate distances based on stream orders in order to best protect Pennsylvania waters.

§ 78a.57a(f)(8) - "Park" is undefined in this section. Please clarify whether this term is used exclusively in the context of a school or if the meaning should be interpreted more broadly. The NPS has a number of units of various sizes, many of which host school groups for instructional purposes. We recommend a larger setback than 300 yards from a facility which requires emergency containment, a high level alarm and automatic high-level cutoff devices or manned operator shutdown, and emergency containment structures.

§ 78a.57a(n)(2) – This section requires restoration of the tank storage site "within 9 months of completion of drilling the last well serviced by the centralized tank storage site or the expiration of the last well permit that the site was intended to service." As we detail elsewhere in this letter, given the number of multi-wellhead well sites with plans to slowly develop all wellheads over time, the current lack of pipeline capacity in some locations, and the low price of natural gas, this restoration timeline could stretch out for decades and still stay within the bounds of the section requirements. Please clarify if this potential scenario is acceptable to the Department. We would recommend additional restrictions to control the likely lifetime of a centralized tank storage site. These could include a maximum number of years of operation, or additional reporting requirements at the initial application stage to identify specific well permits the site is intended to

service. We are concerned about potential impacts to nearby NPS units and resources from aging tank storage sites.

§ 78a.57a(o) – The owner or operator may request approval to deviate from the requirements of this section. Will there be public or specific agency notice and a chance to comment? NPS is concerned about deviations without notification which might put NPS resources, visitors or staff in danger.

§ 78a.59a Impoundment Embankments

§ 78a.59a(9)(i) – We are pleased to see reference to requirements found at 25 PA Code, Chapter 102. Additionally, we recommend the use of native trees and shrubs. 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.

§ 78a.59c and § 78.59c Centralized Impoundments

We are pleased to see that centralized impoundments will no longer be allowed to be built under the proposed regulations. However, we would like clarification on the language in § 78a.59c(a) and § 78.59c(a). It appears that the owners of an already existing centralized impoundment have the option during a three year period to apply for a permit in accordance with Chapter 289 to convert their centralized impoundment to a residual waste disposal impoundment, with no clear direction or timeline for closing such a converted facility. Please clarify if we are reading this section correctly. If we are, we have concerns we'd like to see addressed. We believe neighbors, including public land managers such as the NPS, should be notified in writing when the permit is first filed if the centralized impoundment is adjacent, uphill, upstream or would otherwise potentially impact said neighbors. Such a permanent facility could negatively impact the land, resources and values that the NPS is charged with protecting. Adequate notification would allow the NPS to participate in the permitting process.

Finally, we recommend that centralized impoundments never be permitted to convert to residual waste disposal impoundments if they are located within 500 feet of a water course or 100 feet from a 100-year floodplain, whichever is greater. NPS has responsibility under Section 7 of the Wild and Scenic Rivers Act for many hundreds of miles of these rivers in the Commonwealth that could potentially be adversely affected by leaks or failures of such impoundments.

§ 78a.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, NPS recommended 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)**).”

We are pleased to see that most of this language was added to the current version of the regulations. We still feel however, that the 100’ buffer distance described is not 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.

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 § 78a.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 are also pleased to see that our recommendations in previous comments to cite Section 78a.53 have been incorporated.

§ 78a.62 and § 78.62 Disposal of Residual Waste – Pits

We are pleased to see that disposal of residual waste in pits is no longer allowed for unconventional wells in CH 78a without a permit or other Department approval. It would be helpful if the nature of that permit and the requirements for approval were spelled out here in the regulations.

We are very concerned to see that disposal of residual waste, including contaminated drill cuttings and waste generated by the drilling or stimulation of an oil or gas well is allowed in a pit for conventional wells. Residual waste has now been defined using the definitions at 25 PA Code § 287.1. This definition includes, “Garbage, refuse, other discarded material or other waste,

including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous.” We would like clarification as to what materials generated by the drilling or stimulation of an oil or gas well would not be considered hazardous. We also would like clarification as to how contaminated drill cuttings would not be considered hazardous. 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 are pleased to see that floodplains have been added to this section. 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 are pleased to see our recommended correction to “50 times” from the previous “50%”.

§ 78a.63 and § 78.63 Disposal of Residual Waste – Land Application

We are pleased to see that disposal of residual waste by land application is no longer allowed for unconventional wells in CH 78a without a permit or other Department approval. As with the section above, it would be helpful if the nature of that permit and the requirements for approval were specified here in the regulations.

We are very concerned to see that disposal of residual waste, including contaminated drill cuttings and the solid fraction of residual waste generated by the drilling of an oil or gas well is allowed to be disposed of by land application for conventional wells. Residual waste has now been defined using the definitions at 25 PA Code § 287.1. This definition includes, “Garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous.” As in the above section on pits, we would like clarification as to what materials generated by the drilling of an oil or gas well would not be considered hazardous. We also would like clarification as to how contaminated drill cuttings would not be considered hazardous. We request clarification of this section so that we can understand what materials may be buried near National Park System lands.

§ 78.63(a)(7) – We recommend that floodplains be added to this section. We also 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.

§ 78a.64 Containment Around Oil and Condensate Tanks

Please see comment listed below under § 78.64a.

§ 78a.64a Containment Systems and Practices at Well Sites

We are encouraged to see that condensate tanks are now included in these requirements for containment systems. We are also pleased to see the language stating that “(a) Well sites shall be designed and constructed using containment systems and practices that prevent spills of regulated substances to the ground surface and to prevent spills from leaving the well site.”, and “(b) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within a containment system.” These provisions will help to assure better protection of the lands and waters of the Commonwealth.

We are also encouraged to see the requirements prescribing the materials used in, and the characteristics of containment systems. This will help to ensure their effectiveness.

These sections require secondary containment having “sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10% to allow 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 9B regulations.

We understand that existing condensate tanks of at least 1,320 gallons must meet new requirements for secondary containment within, at most, two years from the effective date of adoption of the proposed rulemaking.

We request clarification on whether the new requirements for secondary containment apply to all other existing operations, or only new operations? We suggest this more protective standard be required of both existing and new drilling operations.

§ 78a.65 Site Restoration

The following comments on § 78a.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, managed, or administered by the National Park Service.

§ 78a.65 (a)(3)(a)(3) – This section addresses “minimizing” remaining impervious areas and restoring lands to “approximate original conditions.” 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.

§ 78a.65 (b) – We are pleased to see that the definition has been expanded to make clear the need to fill all holes, as we previously recommended.

§ 78a.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.

§ 78a.66 and § 78.66 Reporting and Remediating Spills and Releases

§ 78a.66(b)(2) and § 78.66(b)(2) – 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.

§ 78a.69 Water Management Plans

§ 78a.69(b)(1) – We support a requirement that the applicant conduct a study demonstrating that their proposed passby flow meets the aquatic life needs of organisms and biological communities downstream of their water withdrawal site.

We also support measures being specified to minimize the impingement and entrainment of aquatic species at water intakes, such as the Pennsylvania Fish and Boat Commission’s recommendations that shallow water intakes have appropriate mesh size of the grate covering the water intake structure, and maximum water intake velocity. The grate size should be 3/32 inch, and the water intake velocity should be no more than 0.5 ft/second, as specified in the *Canadian Department of Fisheries and Oceans Freshwater Intake End-Of-Pipe Fish Screen Guideline*, to minimize the potential for entrainment of aquatic species.

Applicants should be required to develop practices and procedures and methods that will prevent the transport and introduction of invasive aquatic species from one drainage to another.

We believe that applicants should also be required to develop and implement a site specific Non-Point Source Pollution Control Plan (NPSPCP) for the proposed withdrawal locations.

§ 78a.69(f)(1) – This section states that “approvals for individual water sources within a WMP 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.

§ 78a.70 and § 78.70 Road-Spreading of Brine for Dust Control and Road Stabilization
§ 78a.70a and § 78.70a Pre-Wetting, Anti-Icing and De-Icing

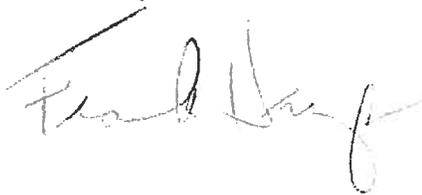
We are pleased to see that road-spreading of brine for dust control, road stabilization, pre-wetting, anti-icing and de-icing will no longer be allowed for unconventional wells. We believe this change from past versions of the regulations will better protect Commonwealth resources and allow us to better protect NPS lands.

We do appreciate the inclusion of regulation subsections which addressed our concerns about over-application of brine in specific locations over time. However, we still have some concerns about the spreading of brine from conventional wells. The NPS does own (and maintains) some roads in the Commonwealth. NPS 9B regulations prohibit the spreading of brine (36 CFR 9.45). We also ask that under § 78.70a(c)(9), that NPS be informed when such plans are submitted to the PA Department of Transportation. State Highway 191 is located within the boundary of the NPS's Upper Delaware Scenic and Recreational River (UPDE). The highway runs quite close to the river, which the NPS is charged with protecting.

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, Energy Specialist for the Northeast Region at mary_c_krueger@nps.gov or 617-223-5066.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Frank Hays".

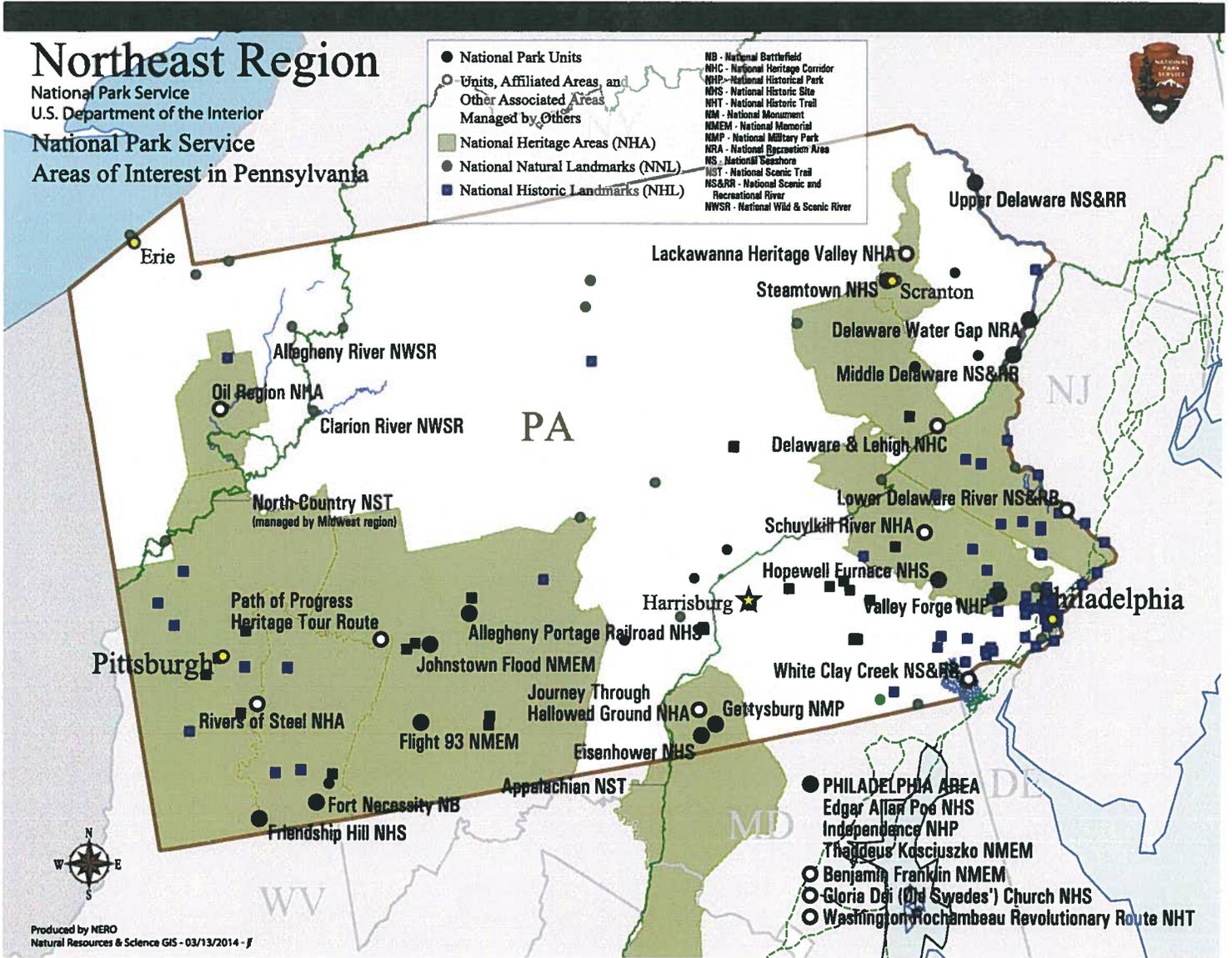
Frank Hays
Acting Associate Regional Director, Resource Stewardship
Northeast Region

Enclosure

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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 Tincum 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