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May 18, 2015

VIA ONLINE SUBMISSION

Mr. Patrick McDonnell
Director, Policy Office
Pennsylvania Department of Environmental Protection
P.O. Box 2063
Harrisburg, Pennsylvania 17105-2063

RE: Comments on PA DEP's Advanced Notice of Final Rulemaking (April 4, 2015)
25 Pa. Code Chapter 78a – *Environmental Protection Performance Standards, Unconventional Wells*

Dear Mr. McDonnell:

Anadarko Petroleum Corporation (Anadarko) has reviewed the Advanced Notice of Final Rulemaking for Chapter 78 and Chapter 78a. We understand and support the Department's mission to protect Pennsylvania's natural resources and to provide for the health and safety of its citizens. With that mindset, we have carefully considered these proposed changes and respectfully submit our comments and suggestions.

On behalf of Anadarko, I appreciate this opportunity to participate in the regulatory process and look forward to working with the Department to responsibly develop Pennsylvania's oil and natural gas resources. Please feel free to contact me if you have any questions or concerns.

Respectfully,

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Regulatory Manager
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Attachments: Comments on Advanced Notice of Final Rulemaking (Chapter 78a)

Cc: Mr. Brian Moore, HSE Manager, Anadarko (via email)
Mr. Scott Perry, Esq., Deputy Secretary, PA-DEP (via email)
Mr. Kurt Klapkowski, Bureau Director, PA-DEP (via email)
Oil & Gas Technical Advisory Board, Unconventional (via email)

General Comments

- The Department will be wholly relying on electronic submissions, filings and associated reporting when these changes become active. It has been our experience that the Department's electronic platforms are unreliable, somewhat temperamental and regularly fail to perform as designed/expected. We implore the Department to be committed to upgrading its systems and associated support as well as investing in the tools necessary to make these systems reliable and repeatable.
- There are numerous instances in where citations, references, and nomenclature used throughout this proposed rulemaking are used inconsistently between subsections, are not properly defined, or are thought to be too broad. We hope the Department will strive to make the necessary corrections and provide further clarification (or definition) where applicable.

§ 78a.1. Definitions.

- *Condensate* – we recommend that the proposed definition be amended to provide further clarity. Recommended language is *"a liquid hydrocarbon phase exhibiting an API-gravity between 45-75 degrees that occurs in association with natural gas."*
- *Floodplain* – it is recommended that the term "*Flood Insurance Studies*" be replaced with "*Flood Insurance Rate Maps*" to better identify the appropriate FEMA reference documents.
- *Oil and gas operations* – the inclusion of the term "*seismic operations*" in this definition is inaccurate and not applicable to regulation contained in Chapter 78 or Chapter 78a as the only Department authorization/permit required to undertake seismic operations is related to the use of certain specialized charges that are regulated under the Explosives Acts of 1937 and 1957 and 25 Pa. Code Chapters 210 and 211 via the Department's Bureau of District Mining Operations. It is recommended that *"seismic operations"* should be removed from this definition.
- *Other critical communities*—as proposed, the definition reads as overly broad and ambiguous insofar as it appears to include various species that are not listed, proposed, or contemplated to be designated as threatened, endangered, warranting special concern, or any combination thereof. Therefore, we recommend that "*other critical communities*" shall be defined to mean:

  > "*(1) Plant and animal species that are not listed as threatened or endangered by an agency having jurisdiction over that species, consisting of the following:*
  >
  > > *(i) Plant and animal species that are classified, by an agency having jurisdiction over those species, as rare, tentatively undetermined or candidate,*
  > >
  > > *(ii) Plant and animal species that are classified, by an agency having jurisdiction over those species, as special concern species.*
  >
  > *(2) The specific and discrete areas within the range of a threatened or endangered species at the time it is listed, within which are found the physical and biological features essential to the conservation of the species and which require special management considerations or protection; critical communities shall not include the entire range of the threatened or endangered species.*

(3) Significant non-species resources, consisting of the following, unique geological features; significant natural features or significant natural communities that are managed and protected by regulation or policy of an agency having jurisdiction over such features."

- *Well Development Pipelines* – the proposed nomenclature is confusing and misleading. It recommended that the original nomenclature "*Temporary Pipelines*" be used and further clarified as to whether or not this definition is inclusive or exclusive of fresh water temporary pipelines.

§ 78a.15. Application Requirements.

As currently proposed, the language contained in this section appears to establish provisions and standards that exceed those set-forth in other regulation applicable to a vast number of other industries. The purpose of a permit application is to ensure that a proposed project meets (at a minimum) the regulatory requirements established to avoid permanently impacting environmental resources as well as addresses and mitigates those impacts that may not be able to be avoided. To that end, the following language is being submitted as a possible alternative to what is currently being proposed:

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

(b) The permit application will not be considered complete until the applicant submits a complete and accurate plat, an approvable bond or other means of complying with section 1606-E of the Fiscal Code (72 P.S. § 1606E), the fee in compliance with § 78a.19 (relating to permit application fee schedule), proof of the notifications required under section 3211(b.1) of the act (relating to well permits), necessary requests for variance or waivers or other documents required to be furnished by law or the Department, and the information in subsections (b.1)–(e) and (h). The person named in the permit shall be the same person named in the bond or other security.

(b.1) If the proposed limit of disturbance of the well site is within 100 feet measured horizontally from any watercourse or body of water except wetlands smaller than one acre that are not exceptional value, the applicant shall demonstrate the employment of best management practices at the well site intended to provide protection for those watercourses or bodies of water. The applicant may rely upon other plans developed under this chapter or permits obtained from the Department to make this demonstration, including:

(1) An erosion and sediment control plan or permit consistent with 25 PA Code Chapter 102 (relating to Erosion and Sediment Control),
(2) A water obstruction and encroachment permit issued pursuant to 25 PA Code Chapter 105 (relating to Dam Safety and Waterway Management),
(3) Applicable portions of the PPC Plan prepared in accordance with § 78a.55(a)-(b),
(4) Applicable portions of the Emergency Response Plan prepared in accordance with § 78a.55(i), and
(5) Applicable portions of Site Containment Plan prepared in accordance with 58 PA.C.S. §3218.2 (relating to containment for unconventional wells).

(b.2) For the purposes of compliance with 58 Pa.C.S. § 3215(a) an abandoned water well does not constitute a water well.

(c) The applicant shall submit information identifying parent and subsidiary business corporations operating in this Commonwealth with the first application submitted after the effective date of this rulemaking and provide any changes to this information with each subsequent application.

(d) The applicant shall demonstrate that the proposed well, well site or access road will not impact threatened or endangered species by submitting a PNDI receipt to the Department. If any potential impact is identified in the PNDI receipt to a threatened or endangered species, the applicant shall demonstrate how the impact will be avoided or minimized and mitigated in accordance with State and Federal laws pertaining to the protection of threatened or endangered species to the satisfaction of the applicable jurisdictional agency. The applicant shall provide written documentation to the Department supporting this demonstration, including any avoidance/mitigation plan, clearance letter, determination or other correspondence resolving the potential species impact with the applicable jurisdictional agency.

(e) If an applicant seeks to locate a well on a well site where the applicant has obtained a permit under §102.5 (relating to permit requirements) and complied with §102.6(a)(2) (relating to permit applications and fees), the applicant is deemed to comply with subsection (b.1). The applicant is deemed to comply with subsection (d) if the permit was obtained within two years from the receipt of the application submitted under this section or if the applicant supplies an updated PNDI clearance letter with the application.

(f) An applicant proposing to construct a well site at a location that may impact a public resource as provided in paragraph (1) shall notify the applicable public resource agency, if any, in accordance with paragraph (2). The applicant shall also provide the information in paragraph (3) to the Department in the well permit application.

(1) This subsection applies if the proposed limit of disturbance of the well site is located:
(i) In or within 200 feet of a publicly owned park, forest, game land or wildlife area,
(ii) In or within the designated corridor of a State or National scenic river,
(iii) Within 200 feet of a designated National natural landmark,
(iv) Within the specific and discrete area designated as other critical communities by a PNDI receipt,
(v) Within 200 feet of a designated historical or archeological site listed on the Federal or State list of historic places
(vi) Within 1,000 feet of a groundwater well, surface water intake, reservoir or other water supply extraction point used by a water purveyor,
(vii) Within 200 feet of a designated common area on a school's property,
(viii) Within 200 feet of a designated playground, or
(ix) Within an area designated as a Wellhead Protection Area as part of a Department-approved Wellhead Protection Plan.

(2) The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1). The applicant shall forward by certified mail a copy of the plat identifying the proposed limit of disturbance of the well site and information in paragraph (3) to the public resource agency at least 21 days prior to submitting its well permit application to the Department. The applicant shall submit proof

of notification with the well permit application. From the date of notification, the public resource agency shall have 21 days to provide written comments to the Department and the applicant on the functions, uses and values of the public resource and the measures, if any, that the public resource agency recommends the Department consider to avoid or minimize probable harmful impacts to the public resource where the well, well site or access road is located. The applicant may provide a response to the Department to the comments. If comments are not received by the end of 21 days from the public resource agency, the requirement for public resource comment is considered to be complete and satisfied.
(3) The applicant shall include the following information in the well permit application on forms provided by the Department:
(i) An identification of the public resource,
(ii) A description of the functions, uses and values of the public resource, and
(iii) A description of the measures proposed to be taken to avoid or mitigate impacts, if any.
(4) The information required in paragraph (3) shall be limited to the discrete area of the public resource that will be affected by the well, well site or access road.

(g) If the proposed well, well site or access road poses a probable harmful impact to a public resource as demonstrated by the associated public resource agency comments, the Department may include conditions in the well permit to avoid or mitigate those impacts to the public resource's current functions, uses and values. The Department will consider the impact of any potential permit condition on the applicant's ability to exercise its property rights with regard to the development of oil and gas resources and the degree to which any potential condition may impact or impede the optimal development of the oil and gas resources. The issuance of a permit containing conditions imposed by the Department under this subsection is an action that is appealable to the Environmental Hearing Board. The Department has the burden of proving that the conditions were necessary to protect against probable harmful impact of the public resource.

(h) An applicant proposing to drill a well that involves 1 to 5 acres of earth disturbance over the life of the project and is located in a watershed that has a designated or existing use of high quality or exceptional value pursuant to 25 PA Code Chapter 93 (relating to water quality standards) shall submit an erosion and sediment control plan consistent with 25 PA Code Chapter 102 (relating to erosion and sediment control) with the well permit application for review and approval."

§ 78a.17. Permit Expiration and Renewal.

It is recommended that the Department make the following changes to proposed expiration periods to allow for reasonable certainty in project planning as it relates to the duration and validity of well permits. That is, given the limited well pad construction window due to seasonality, coupled with the requirement to have a valid well permit prior to commencing well pad construction, a longer initial duration and shorter extension duration is proposed as follows:

§ 78a.17.(a) – *"A well permit expires two (2) years after issuance if drilling has not…"*
§ 78a.17.(b) – *"An operator may request a one (1) year renewal of an unexpired…"*

§ 78a.41. Noise Mitigation.
<Option 1>

The incorporation of the provisions in this section were not included in previous drafts of this proposed rulemaking. Therefore, we encourage the Department to remove this section from consideration in this rulemaking and include these provisions in a future rulemaking whereby all interested parties would be given the opportunity to aid in developing meaningful provisions.
<Option 2>
As these provisions have not previously been included in the context of this rulemaking, the following language should be incorporated in lieu of what is currently proposed:

"The Operator shall consider implementing sound attenuation controls to minimize impacts to sensitive receptors located within 500 feet from the edge of the well pad during well drilling and completion operations."

§ 78a.51. Protection of Water Supplies.

§ 78a.51(d)(2): The Pennsylvania Safe Drinking Water Act (PSDWA) is specific to public water supplies and purveyors and does not contemplate private water wells that may be used as a water supply. In the event a restored or replaced water supply exhibited, prior to pollution, higher quality than that required under PSDWA, will the Department then consider the restored or replaced private water supply subject to all testing and reporting requirements of a public water supply? Furthermore, in most instances where the pre-existing quality of a private water supply did not meet PSDWA standards, it will be practically impossible to attain better water quality with a restored or replacement supply due to the geological and/or hydrogeological conditions in which the subject supply is located. Lastly, it appears as though this proposed amendment is inconsistent with Chapter 32, Section 3218(a). Therefore, it is recommended that the Department remove this section from consideration.

§ 78a.52. Predrilling or Prealteration survey.

§ 78a.52 (d): The defenses afforded to an operator under section 3218(d)(2)(i) of the Act hinge upon documenting a pre-drilling or pre-alteration condition, not a pre-permitting condition. As such, conditioning the preservation of these defenses on the issuance of an API Number that is assigned long before the Department issues a well drilling permit that is subsequently valid for a minimum of one (1) year is arbitrary. This provision should be amended to allow for timely submissions of all sample results in a timeframe that is logical in light of the pre-drilling or pre-alteration conditions described in the Act.

§ 78a.52a. Area of Review.

Anadarko is supportive of the Department's desire to proactively locate, document, and address abandoned and orphaned oil and gas wells in the stipulated vicinity of a well that will be hydraulically fractured. However, there are conceivable limitations on being able to locate, document, and address all abandoned and orphaned oil and gas wells. Therefore, we propose the following two (2) changes/clarifications to what has been proposed:

§ 78a.52a(a): *"The operator shall identify, if possible, the surface- and bottom-hole locations of active, inactive..."*

§ 78a.52a(d): We believe that the Department has an obligation to provide written acknowledgement that it has received the report required by subsection (c) within the stipulated timeframe as well as a statement indicating that the report has been reviewed. Therefore, we are proposing the following language to aid in meeting this request:

"Department shall provide written acknowledgements stating 1) the date the report was received by Department, and 2) the date the Department reviewed the report. Department shall provide these acknowledgements within 2 business days following the electronic submission of the requirements set forth in subsection (c)."

§ 78a.56. Temporary Storage.

We request further clarification of the below subsection given the ambiguous nature of the proposed language.

§ 78a.56(a)(2): Does the Department interpret a series of closed, steel containers (e.g., those commonly referred to as "frac tanks") that are connected by a series of manifolds and piping to be modular aboveground storage structures that exceed 20,000 gallons capacity? That is, will a series of tanks that are plumbed together be treated a single structure or, for the purposes of volumetric thresholds, will each tank be treated as individual structures?

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

§ 78a.57(a): As currently written, it is unclear whether or not the proposed subsection intends to eliminate "*open top structures*" for the storage of brine and other production fluids IF these structures can be permitted under the Residual Waste Management regulations (e.g., Chapters 287-289, 293, 299). It is recommended that the Department clarify the intention of this provision and the impacts to an operator's ability to obtain authorization through another program.

§ 78a.57a. Centralized Tank Storage.

"*Centralized Tank Storage*" is currently not defined in this rulemaking. It is recommended that the Department develop a specific definition for "*centralized tank storage*" to alleviate ambiguity and confusion.

§ 78a.57a(f)(8): The units of measure referenced in this clause are "*yards*"; all other units of measure referenced throughout this subsection are "*feet*". It is recommended that the Department use the same units of measure (e.g., "*feet*") throughout the rulemaking.

§ 78a.57a(i)(11): This provision appears to establish a new permeability requirement for secondary containment ($1x10^{-10}$ cm/sec) that differs from the existing permeability requirements used by Oil and Gas and, more importantly, those standards set forth in various Waste Management regulations. These requirements needs to be consistent within and across the Department's program areas. The current standard ($1x10^{-6}$ cm/sec) should be retained.

§ 78a.57a(i)(12): "*Emergency containment*" is currently not defined in this rulemaking. More importantly, "*emergency containment*" appears to conflict with the term "*secondary containment*". It is unknown what differences exist between the various references to

containment. It is recommended that the Department provide further clarification as what is meant by these provisions and whether or not the Department will require three (3) forms of containment to be incorporated at the applicable facilities.

§ 78.59a. Impoundment Embankments.
§ 78.59b. Freshwater Impoundments.

The above-captioned subsections are extremely similar and somewhat complimentary of one another. Given the common elements associated therein, it is recommended that these subsections be combined into a comprehensive subsection – e.g., *§ 78.59. Embankments and Freshwater Impoundments.*

§ 78.59b(g): As written, the operational trigger for restoration of a freshwater impoundment is *"...within 9 months of completion of drilling..."*. In our opinion, the Department has referenced the incorrect operation trigger for restoration. That is, given the occasional disjointed nature of development operations due to multiple external factors, it is possible that a well could be drilled to total depth and subsequently remain idle for some time before needing to utilize the freshwater impoundment in well completion operations. Therefore, we strongly encourage the Department to incorporate the following language in lieu of the above: *"...within 9 months of the date of first production of the last well to be brought into production that serviced by the impoundment."*

§ 78a.68 Oil and Gas Gathering Pipelines.

§ 78a.68(c)(1): Based on the context of this sentence, we believe the term "*restoration*" is improperly used. It is recommended that the Department use the term "*backfilling*" which is consistent with and supports the requirements in §78a.68(d).

§ 78a.68b. Well Development Pipelines for Oil and Gas Operations.

Please see comment in "Definitions" regarding proposed change in nomenclature

§ 78a.68b(j): To eliminate ambiguity, it is recommended that "*consecutive*" be incorporated into this subsection as follows: *"...not in use for more than 7 consecutive calendar days..."*.

§ 78a.73. General Provision for Well Construction and Operation.

§ 78a.73(c): For the purposes of notifying the operators of active and inactive wells identified through the review process required in § 78a.52a, it is recommended that the threshold for notification be changed from the currently proposed *"...1500 feet measured vertically..."* to *"...500 feet measured vertically..."*. The use of "*1500 feet*" appears to be arbitrary since there is an apparent lack of data that supports the Department's proposal and no additional justification has been provided.

Additionally, the requirement to notify the Department of *"...any treatment pressure changes indicative of abnormal fracture propagation..."* is similarly arbitrary. That is, the proposed requirement is far-reaching and ambiguous without any supporting technical data either defines what is meant by abnormal fracture propagation or quantifies the delta between treating pressures-design and treating pressures-actual necessary to trigger a cessation in operations

and immediate notification to the Department. It is recommended that the following be removed from consideration: *"or of any treatment pressure changes indicative of abnormal fracture propagation at the well being stimulated"*.