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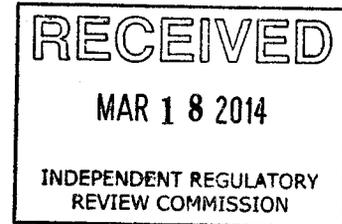


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March 14, 2014

VIA Electronic Mail: RegComments@pa.gov
Environmental Quality Board
Rachel Carson State Office Building
400 Market Street, 16th Floor
Harrisburg, PA 17101-2301



Re: Proposed Rulemaking, 25 Pa. Code Chapter 78
Environmental Protection Performance Standards at Oil and Gas Well Sites

Dear Environmental Quality Board:

Citizens for Pennsylvania's Future, or PennFuture, is a 501(c)(3) charitable organization that works to create a just future where nature, communities and the economy thrive. PennFuture's law staff works to protect Pennsylvania's natural resources for this and future generations by, among other things, commenting on proposed regulatory packages that have the potential to significantly affect our environment. PennFuture respectfully submits the following comments on behalf of its members and supporters who hike, hunt, fish, camp and recreate in our state parks, forests, lakes and streams, all of which have the potential to be impacted by the natural gas industry and this rulemaking package.

Our comments were prepared with the expert assistance of Kathy J. Martin, a registered professional engineer and former Board member and Environmental Stakeholder of the State Review of Oil & Natural Gas Environmental Regulations, or STRONGER. We thank the Environmental Quality Board ("EQB") for both the opportunity both to provide both these written comments and the opportunity to provide spoken comments at the hearings that the EQB conducted around the state earlier this winter. We especially appreciate the EQB's extension of the written comment period from 60 to 90 days, and its willingness, upon request by a number of organizations including PennFuture, to conduct additional public hearings in areas of the Commonwealth where hearings had not originally been scheduled.

78.1 (Definitions)

Freshwater. The regulations should contain a definition of the term "freshwater," being that it is a term of art used in several parts of Chapter 78.

78.15 (Application Requirements)

Subsection (a) should provide how the Department will make available to the public an application submitted electronically to the Department, and whether public comment on the application will also be accepted electronically, such as through email or its web portal.

The Department has an obligation to make available to the public permit applications submitted to it for review and approval. If the applications are submitted electronically, how and when will these applications be available to the public? The Department should explain in its regulation how it will make electronic applications available to the public, and how the public can submit comments on the applications.

Subsection (c) should require the applicant to identify all corporate affiliates - not just parent and subsidiaries, and include a certification that no violations exist or are being contested.

The Department's preamble to this provision mistakenly indicates that the amendment is intended to address a permit applicant's "compliance history." Section 3211(e.1) does not authorize the Department to deny a permit based on compliance history; it instead addresses *continuing* violations of the law – a concept completely different than violation *history*. The authority to deny a permit for a *continuing* violation of law enables the agency to leverage the operator's need for a permit to obtain compliance with the law at other operations throughout the Commonwealth at a specific point in time; the authority to deny a permit based on violation *history* provides a continuing incentive for companies to comply with the law for fear that its cumulative history of violations will be deemed to demonstrate a lack of ability or intent to comply with the law, which thereby justifies a permit denial.

That said, PennFuture supports disclosure of parent and subsidiary relationships, and encourages the Department to extend that disclosure to affiliates with common financial or ownership interests. The reasoning that supports disclosure of parent and subsidiary relationships applies equally to affiliates – persons should not benefit financially from a company when a related company is violating the law. To maximize the Department's ability to ensure compliance with the law within the industry, the Department should extend the disclosure under this section to include affiliates that have a common financial or ownership interest.

Second, PennFuture urges the Department to add a requirement to this section that applicants submit a certification, under penalty of law pursuant to 18 Pa. Cons. Stat. §4904, that the companies, its parents and subsidiaries are in compliance with the law or have obtained a supersedeas in relation to an appeal of the alleged violation. Considering the limited time that the Department has to make permit decisions, such a certification would promote the efficient processing of permits by ensuring that companies self-police their own conduct prior to submitting a permit application. It would also promote self-reporting and self-correction of violations by applicants. Further, any company that knowingly fails to self-report or self-correct when submitting an application would risk serious penalties for submitting a false sworn statement to the Department.

Subsection (d) should clarify that it applies to any activities associated with well construction that may impact threatened or endangered species.

Subsection (d) requires consultation with PNHP for any threatened or endangered species where the proposed well site and access road are to be located. The term “well site” means the area where the equipment necessary for or incidental to drilling, production or plugging of the well. The investigation should encompass all activities authorized under the permit that may affect threatened or endangered species, including those that are not located on the specific area where equipment will be located for drilling, production or plugging. To ensure a properly scoped investigation, PennFuture suggests that the proposed language 78.15(d) read: “the well site, access road, *or other area that may be impacted by activities authorized by the permit.*”

Subsection (f)(1)(ii) should further define the term “corridor”, or used an alternate term that is further defined.

The concept of a river corridor is subject to varying interpretations. *See, e.g.*, Federal Emergency Management Agency, available at www.training.fema.gov/FEMIWeb/Fedu/docs/fmc/Chapter%2014%20-%20River%20Corridor%20and%20Watershed%20Mgmt.pdf&ei=HYf6UrLkK4Lf0gGFp4GYCA&usg=AFQjCNFVrQDAfRSip0OgTH1HZ0n8_DMrQ&sig2=u2q78vsVZ7jEFJi9YkKuuw (Last accessed February 11, 2014). Considering the protective nature of this regulation, we suggest that the term “corridor” be defined in the broadest possible terms to ensure that resource agencies are given sufficient notice of any oil and gas operations.

Subsection (f)(2) should extend the comment period for resource agencies, and require that the Department respond to those comments.

The proposed regulation allows only 15 days for a resource agency to recommend mitigation measures to protect public resources where there exists “probable harmful impacts” to the resource. This window for comment is far too narrow for a public resource agency to learn about potential development, assess what public resources and attributes of those resources that may be affected, and develop proposals to ensure mitigation of those impacts. PennFuture requests that the Department allow at least 30 days for the resource agency to assess impacts and develop mitigation recommendations to protect the attributes of the public resource that will be affected.

Subsection (f)(2) should not limit the resource agency’s response to the proposal to recommending mitigation measures. Subsection (f)(2) appears to limit the resource agency’s mitigation measures to locational comments – that is, comments on “where the well, wells site and access road is located.” The resource agency’s comments should not be limited in this manner. Depending on the aspect of the resource threatened, there may be other considerations that are more effective mitigation measures other than locational changes, such as limiting when operations occur during the year, altering hours the operation, erecting noise barriers, limiting light pollution, altering truck routes, etc. The resource agencies should, and one could argue must, be able to submit comments as necessary to propose mitigation of any impact to public trust resources under its jurisdiction.

In addition, as recognized by the National Environmental Policy Act, any legitimate consideration of options to prevent or mitigate harm to the environment and public health and welfare by a proposed government action (issuance of a permit) must entail consideration of a “no action” alternative. In the case of public resources held in trust by public agencies, there may be occasions where the attributes of the resource are so valuable that the responsible agency would be compelled to recommend a “no action” alternative to protect the resource, that is, permit denial. Subsection (f)(2) should recognize this potential by expressly providing, or at the very least not limiting, what comments the resource agency provides to the Department in order to minimize or avoid harm to the resource.

Subsection (f)(2) allows the permit applicant to respond to any mitigation measures recommended by the resource agency, but imposes no obligation on the agency responsible for making the decision that will allow the impact. Subsection (f)(2) should require, in this particular circumstance where public resources are at risk, that the Department document its response to the resource agency’s comments. Such a requirement will not only ensure that the Department has considered the resource agency’s comments, but will enhance transparency in the Department’s decision making by allowing the public to understand why the Department did not concur with the resource agency’s concerns.

Subsection (f)(3) should, in addition to the three items listed in the proposed regulation, require that the applicant certify that it has met with any affected public resource agency to discuss the scope of oil and gas operations at least ten days before the public resource agency’s deadline for submitting comments about proposed mitigation measure. Such a requirement would ensure that the public resource agency has had an opportunity to become informed about the scope of the proposed oil and gas operations with sufficient time to participate meaningfully in the comment process established by §78.15(f)(2). It will also ensure an opportunity for discussion between the applicant and resource agency, so that each can share their views on how the operation may affect the resource and what mitigation measures may be appropriate.

Subsection (f)(4) should not limit the information required under §78.15(f)(3) to the “discrete area of the public resource that may be affected by the well, well site and access road.” The regulation implies that the only area “affected” by the oil and gas operations is that area directly occupied by the well, well site, and access road. In fact, particularly with public resources, the resources that may be affected by the oil and gas operations could be much broader, especially in the case of public game lands and water wells. The effects of oil and gas operations on wildlife habitat and groundwater aquifers extend well beyond the immediate footprint of the well site and access road. As such, we request that the Department revise §78.15(f)(4) to make clear that the permit applicant must submit information about mitigation for all effects of oil and gas operations on public resources.

In subsection (g) and elsewhere throughout these regulations, the Department has developed what appears to be a new standard for when an applicant must propose mitigation measures: when the proposed action poses a “probable harmful impact.” In other contexts, applicants must propose to mitigate harm to public resources when the proposed action “may cause harm” to the resource. As the Department is aware, the difference between the two standards is material. In the first instance under the new standard, the Department and public would not be able to insist

on mitigation unless the harm was considered “probable” before the permit decisions has been made. In the second instance, the more cautionary term “may” would impose the burden on the applicant to minimize impacts of its action by incorporating mitigation measures into its planning process, and make it easier for the agency to impose conditions that will protect vulnerable public resources. PennFuture strongly urges the agency to cease what seems to be a constant effort to shift burdens off of the industry and onto the Department and public when it comes to conservation of our public resources. The applicant should be required to propose mitigation when its development “may pose a harmful impact” on public resources.

Further, subsection (g) should be revised to require that the Department consider the potential long-term impacts of oil and gas activities on public resources alongside the property rights of permit applicants. Although Act 13 requires the Department to consider the effects of any permit conditions on the applicant’s property rights, the Pennsylvania Constitution requires that the Commonwealth “conserve and maintain” Pennsylvania’s public natural resources. Pa. Const. Art. I, § 27. As written, the regulation creates the risk that the Department will place undue emphasis on the desires of permit applicants and insufficient weight on the constitutionally guaranteed environmental rights of Pennsylvania’s citizens, including those of “generations yet to come.” Pa. Const. Art. I, § 27. If the Department deems it necessary to repeat in its regulations what is already a legislative requirement by explicitly referencing private property interests, then the Department should also explicitly reference its constitutional obligations under Pa. Const. Art. I, §27 as trustee for Pennsylvania’s public resources.

§ 78.51 (Protection of Water Supplies)

Subsection (c) should not limit the presumption of liability in Section 3218 of Act 13.

Subsection (c) of the regulation states that “The presumption established by 58 Pa.C.S. § 3218(c) is not applicable to pollution resulting from well site construction.” PennFuture urges the Department to eliminate this narrow interpretation of a provision intended to favor protection of public resources.

The Department’s interpretation is not consistent with the statutory language in subsection (c), which does not expressly exclude activities related to well site construction. The presumption of liability in subsection (c) holds the well operator liable for pollution of private water supplies based on two and only two events: that the pollution occurred a set distance from an oil or gas well, and within a specified period of time from well drilling or alteration operations. The statutory provision does not also contain a requirement that the presumption only applies to a limited set of well-related activities.

PennFuture recognizes that Section 3218 as a whole contains some ambiguities. Subsection (a), for example, states the “general rule” that a well operator shall be liable for restoration or replacement of a water supply that has been “affected” by pollution or diminution. This provision does not contain any limits on what well-related activities for which the operator may be held liable. Presumably, a well operator or his contractors may engage in a wide range of well-related activities that could result in pollution and, thereby, would cause the operator to incur liability under subsection (a). In comparison, subsection (b), relating to the Department’s

obligation to investigate, makes reference to pollution resulting from “drilling, alteration or operation” of a well. While the language obligating the Department to investigate appears narrower than the language imposing liability on the operator, that same section goes on to provide two independent bases for Department to issue a corrective order: that the pollution was caused by drilling, alteration or operation of a well, *or* that the presumption under subsection (d) applies. Considering that the general rule on liability is more expansive than the events that necessarily trigger a Department investigation, it is reasonable for the Department to conclude that the presumption was not intended to be limited only to drilling, alteration or operation of a well, particularly when the plain language of subsection (d) does not so limit the presumption of liability.

As a matter of public policy, the Department should seek to interpret the provision broadly and not narrowly. The Department must recognize that individual property owners will always be at a disadvantage in these circumstances. They will rarely have the money to compete with the resources wielded by multi-national oil and gas companies. The General Assembly recognized that by enacting a provision intended to protect the public, and not the industry engaged in mineral development. As an agency obligated to protect the environment and public health and safety, the Department should strive to give effect to that protection and not narrow it by imposing through regulation a limit on the protection afforded drinking water supplies. PennFuture urges the Department to take the side of groundwater and the public by deleting its proposed language narrowly interpreting the presumption of liability in Section 3218 of Act 13.

PennFuture supports the water supply restoration standard in subsection (d)(2).

PennFuture supports the Department’s revision to §78.51(d)(2), which requires that water supplies be restored either to Pennsylvania Safe Drinking Water Act standards, or if applicable, to a higher quality if such higher quality existed prior to oil and gas operations. If oil and gas operations cause deterioration of an individual’s water quality, the responsible companies that profit from extraction of the resource that led to the pollution are properly responsible for ensuring that all residents who were harmed by the diminished water quality have water that meets government safety standards. Consequently, PennFuture supports the Department’s application of Safe Drinking Water Act standards to water supplies adversely affected by oil and gas operations. PennFuture also supports, as a matter of policy and fundamental fairness, the Department’s position that persons who had water quality that exceeded drinking water standards have a right to expect that water quality will be maintained and not adversely affected by oil and gas operations. Among other things, such a policy recognizes the economic value of a clean, drinkable water supply to persons who are fortunate enough to have such a water supply on their property.

We do suggest one small change in the wording of § 78.51(d)(2) to eliminate ambiguity. We suggest revising this section to read, “The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P. S. § § 721.1—721.17), or is comparable to the quality of the water supply before it was affected by the operator if the quality of that water supply exceeded Pennsylvania Safe Drinking Water Act standards.”

§ 78.52 (Predrilling or Prealteration Survey)

The Department should establish a minimum list of parameters that a well operator must test for when performing a predrilling or prealteration survey of water supplies to preserve defenses under 58 Pa.C.S. §§ 3218(d)(1)(i) and 3218(d)(2)(i).

Section 78.52 establishes conditions for an operator that conducts predrilling or prealteration surveys of drinking water supplies, including the use of state certified laboratories. The regulation does not address any minimum list of parameters for which the water samples must be analyzed. Establishing a minimum list of parameters has merit. First, and most importantly, it would assist the Department in making a causation determination by providing analysis of the same parameters that the Department uses after a complaint of pollution has been made. Second, it would provide a level of consistency across Pennsylvania, which is a principle generally supported by the industry. Third, it would allow the data to be used for other educational purposes such as compiling a picture of groundwater quality throughout Pennsylvania. Finally, it would eliminate uncertainty for drinking water supply owners. PennFuture recommends that the Department establish a minimum list of parameters that a well operator must test for when performing predrilling or prealteration surveys of water supplies similar to the parameters that the Department tests for when it investigates allegations that oil and gas operations have polluted a water supply.

§ 78.52a (Abandoned and Orphaned Well Identification)

Subsection (a) should be changed to require that the survey be conducted before site construction rather than hydraulic fracturing.

Subsection (a) ties the identification of abandoned and orphaned wells to hydraulic fracturing of the well. PennFuture suggests that it would be better to have any abandoned and orphaned wells identified before site construction so as to ensure that well operators have as much advance notice as possible to inform well placement, or prepare mitigation measures should placement appear that it will affect abandoned or orphaned wells.

In subsection (b)(2), the word “of” appears to be missing between “review” and “the”.

78.53 (erosion and sediment control)

Section 78.53 should explicitly reference the operators’ post-construction stormwater management obligations under 25 Pa. Code Chapter 102, require PCSM plans for all oil and gas activities that require erosion and sediment controls plans, and require operators to apply for NPDES permits under 25 Pa. Code Chapter 92a for stormwater discharges that cause or contribute to a violation of water quality standards. For purposes of clarity, section 78.53 should also be retitled “Earth disturbance activities.”

Currently, section 78.53 provides that during and after earth disturbance activities related to “drilling, completing, producing, servicing and plugging the well, constructing, utilizing and

restoring the access road and restoring the site,” operators “shall design, implement, and maintain best management practices in accordance with 25 Pa. Code Chapter 102 ... and an erosion and sediment control plan prepared under that chapter.”

Proposed 78.53 removes the language mandating best management practices (“BMPs”) and an erosion and sediment control plan (“E&S plan”), and replaces it with a requirement that “[a]ny person proposing or conducting earth disturbance activities associated with oil and gas activities shall comply with the requirements of 25 Pa. Code Chapter 102...”

As a preliminary matter, we note that while the term “oil and gas operations” is defined in proposed revised section 78.1, Chapter 78 contains no definition for the term “oil and gas activities.” Both terms are used repeatedly throughout proposed revised Chapter 78, and we assume that the Department understands them to have the same meaning. However, the Department should make this clear, either by revising section 78.1 (Definitions) or by using only the defined term “oil and gas operations.”

Regarding the Department’s proposal to require compliance with Chapter 102 generally, rather than specifically requiring the implementation of BMPs and E&S plans, we understand this as an acknowledgement that under Chapter 102, some oil and gas earth disturbance activities do not require E&S plans. Specifically, Chapter 102 does not require E&S plans for projects that disturb less than 5,000 square feet and do not have the potential to discharge to a special protection water body.¹ Chapter 102 also does not require post-construction stormwater management (“PCSM”) BMPs or plans for any oil and gas earth disturbance activities that disturb less than five acres of earth.²

PennFuture agrees that section 78.53 and Chapter 102 should be formally harmonized. However, we also believe that protection of the Commonwealth’s water resources demands that PCSM BMPs and plans be required for all activities that require E&S BMPs and plans, respectively. Currently, proposed revised section 78.53 does not mention post-construction stormwater management at all. We therefore recommend that the Department add to section 78.53 (1) a general reference to operators’ PCSM duties under Chapter 102, and (2) a requirement that any operator conducting earth disturbance activities requiring E&S BMPs and plans also prepare and implement PCSM BMPs and plans. We also recommend that section 78.53 require operators to obtain NPDES permits (rather than permits under Chapter 102) for stormwater discharges that cause or contribute to a violation of water quality standards.

Chapter 102 requires operators to control erosion and sedimentation during earth disturbance activities (25 Pa. Code § 102.4), and to manage stormwater after disturbance activities have ceased (25 Pa. Code § 102.8). Current section 78.53 notes only the section 102.4 requirements

¹ See 25 Pa. Code § 102.4(b)(1).

² Plans are not required because section 102.8 (“PCSM requirements”) applies only to activities that require permits – i.e., activities that disturb five or more acres of earth. 25 Pa. Code § 102.8(a), 25 Pa. Code § 102.5(c). And PCSM BMPs are not required where PCSM plans are not required. 25 Pa. Code § 102.11(a)(2).

² See Department of Environmental Protection, *Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Activities Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities*, Document No. 800-2100-008.

because current 78.53 was promulgated in 2001 – nine years before section 102.8 became law.³ Now that section 102.8 is law, section 78.53 should note that PCSM BMPs are listed in the Pennsylvania Stormwater Best Management Practices Manual Commonwealth of Pennsylvania.⁴

More critically, section 78.53 should require PCSM BMPs and/or plans for post-construction activities in all cases where E&S BMPs and/or plans are required during construction. The fact that Chapter 102 requires E&S BMPs and/or plans (but not PCSM BMPs and/or plans) for activities that disturb less than five acres appears to be a drafting error. In any case, it is irrational and directly contrary to the purpose of Chapter 102, which is “to minimize the potential for accelerated erosion and sedimentation *and to manage post construction stormwater.*”⁵ Oil and gas activities that disturb less than five acres of earth create impervious surfaces and post-construction stormwater just like larger activities. Consequently, PCSM BMPs should be required for all such activities, and PCSM plans should be required for all projects that require E&S plans – i.e., all projects that disturb between 5,000 square feet and five acres, and projects that disturbs less than 5,000 feet but have the potential to discharge stormwater to a surface water with a designated or existing use of High Quality or Exceptional Value.

Finally, section 78.53 should also note that operators must seek and obtain National Pollutant Discharge Elimination System (NPDES) permits under 25 Pa. Code Chapter 92a for stormwater discharges that cause or contribute to violations of water quality standards. While stormwater discharges from oil and gas activities are generally exempt from NPDES requirements under the federal Clean Water Act, *see* 2005 Energy Policy Act Pub. L. No. 109-58, § 323, 119 Stat. 694 (codified as amended at 33 U.S.C. § 1362(24)), this exemption does not apply to discharges that cause or contribute to a violation of a water quality standard – e.g., sediment-laden discharges into streams impaired for siltation. *See* 40 C.F.R. § 122.26(c)(1)(iii)(C).

For all of these reasons, we suggest that section 78.53 be revised to read as follows:

§ 78.53. Earth disturbance activities.

(a) General Requirements

Any person proposing or conducting earth disturbance activities associated with oil and gas operations shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control and post-construction stormwater management) and 25 Pa. Code Chapter 92a (relating to National Pollutant Discharge Elimination System). Best management practices for erosion and sediment control for oil and gas well activities operations are listed in Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134- 008, as amended and updated, and the Oil And Gas Operators

³ *See* 40 Pa.B. 4861 (November 19, 2010).

⁴ Department of Environmental Protection, Policy No. 363-0300-002.

⁵ 25 Pa. Code § 102.2 (emphasis added).

Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001, as amended and updated. Best management practices for post-construction stormwater management for oil and gas activities are listed in the *Pennsylvania Stormwater Best Management Practices Manual* Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-0300-002, as amended and updated.

(b) PCSM BMPs and Plans

- i. Notwithstanding any other provision of law, any earth disturbance activities covered under section (a) that require the implementation of E&S BMPs under 25 Pa. Code 102.4 shall also require the implementation of PCSM BMPs satisfying the requirements of 25 Pa. Code 102.8(b)-(n) and 25 Pa. Code 102.11.
- ii. Notwithstanding any other provision of law, any earth disturbance activities covered under section (a) that require the preparation and implementation of an E&S plan under 25 Pa. Code 102.4 shall also require the preparation and implementation of a PCSM plan that satisfies the requirements of 25 Pa. Code 102.8(b)-(n) and 25 Pa. Code 102.11.

(c) NPDES Permits

Any person proposing or operating a point-source discharge of stormwater that causes or contributes to a violation of water quality standards under 25 Pa. Code Chapter 93 shall obtain a NPDES permit under 25 Pa. Code Chapter 92a.

78.55 (Control and disposal planning; emergency response for unconventional well sites)

PDF files. Section 78.55 (b) should require site specific PPC and SPC plans to the Department in addition to the appropriate local and state emergency response coordinators in .pdf format to make the plans more easily transferable and accessible on mobile devices.

Compliance with Guidance. Section 78.55 (g) indicates that PPC plans developed in accord with the Department's Emergency Response Plan Guidelines will meet the regulatory requirement, but the regulation does not mandate that the PPC plan comply with the Guidelines. The regulation should eliminate this ambiguity and simply mandate that PPC plans comply with the Guidelines.

Catastrophic releases. Neither section 78.55 nor the Guidance addresses public health and safety concerns regarding dam failure and catastrophic releases that may result from freshwater and centralized impoundments. The PPC Plan should provide for such an event.

Spills from pipelines associated with the impoundments. Section 78.55 does not appear to require planning for spills from pipelines that carry freshwater and wastewater to centralized

impoundments. 78.55 should be amended to require the PPC Plan to address spills from pipelines associated with the impoundment.

78.56 (Temporary storage)

PennFuture opposes the use of earthen pits for temporary storage on wells sites because they pose unacceptable risks of pollution, and because there is a cost-effective alternative: storage tanks. The proposed regulations will increase security around storage tanks and, to the extent their use is allowed to continue, pits. PennFuture supports these enhancements because they will provide added protection against harm to the environment and public health and safety as well sites continue to proliferate across Pennsylvania.

Section 78.56 should no longer authorize the use of earthen pits for temporary storage.

Section 78.56 continues to allow earthen pits to be used for temporary storage of materials capable of polluting soil and groundwater. If the Department applied a best practices and best available technology standard, and compared the environmental protectiveness of available options, it would conclude that earthen pits should no longer be authorized for that purpose. Above ground tanks and containers are more dependable. Above ground tanks and containers can be located on liners and fitted with secondary containment. Spills and leaks are more readily spotted using above ground tanks and containers, so that actions to prevent environmental harm can be taken more promptly. In addition, because the Department lacks adequate personnel to fully inspect each temporary storage pit before construction, there is little or no assurance that liners are properly installed without leaks or tears. Because there is no requirement for groundwater monitoring at temporary storage pits, it is virtually impossible for the Department to determine that a pit has leaked. Further, aside from historical practice, there is no scientific basis for assuming that twenty inches of soil is protective of groundwater across Pennsylvania regardless of where the pit is located. For all of these reasons, PennFuture urges the Department to ban the practice of allowing earthen pits to continue to be used for temporary storage of regulated and waste materials.

Section 78.56(a)(2) should indicate that the Department will maintain the list of approved modular structures on its web site.

Section 78.56(a)(2) should require the applicant to estimate the amount of waste/wastewater generated and stored in the temporary facility. The regulation requires the design of the pit or tank to include two feet of freeboard, but without more specific information about the collection and disposal schedule of wastewater, the Department cannot know if the freeboard is attainable throughout the use of the pit or tank. The Department's approval should include a review of the facility design to ensure compliance with this requirement. To that end, the design of the temporary pit or tank should include the ability to contain rainfall from a 25-year, 24-hour storm event, and still maintain two feet of freeboard.

Liner thickness for any pits should be increased depending on depth and certifications should be required. Section 78.56(a)(9) provides that pits must be lined with 30 mil thick synthetic liner. Pits with anticipated liquid depths greater than 10 feet should have a liner material at least a 40 mils thick and certification from the manufacturer that pinhole frequency

for the plastic will not cause a coefficient of permeability greater than 1×10^{-10} cm/sec, or excessive leakage beyond the allowable leakage specified in the regulation.

Alternative systems should be certified by a licensed professional. Section 78.56(a)(9) authorizes an alternative liner system. The proposed alternative liner system should be certified by a licensed professional engineer with a narrative description of how the alternative system is equal to or greater than the performance standards in the regulations.

Site plans should be certified by a licensed professional. Under section 78.56 (a)(9), site specific design plans and specifications for each of the temporary storage structures should be submitted to the Department for approval and should be signed and sealed by a professional engineer with certification that the system meets the requirements of all applicable state and federal laws and is protective of public health and the environment.

Licensed professional engineers and not geologists should certify pit and liner compliance. Section 78.56 (a)(16) allows a geologist to certify pit design and compliance. A geologist does not have the experience or skills to certify pit and pit liner compliance for as built structures. As-built certification should be done by a licensed professional engineer that observed the construction of the pit and pit liner.

Notice to the Department. Section 78.56 (a)(16) should require that the Department receive notice prior to installation of the pit and pit liner, whether or not a certification is submitted after construction. In fact, post construction certification should be required for all pits and tanks with notations of any changes between proposed and as-built design plans and specifications.

Engineer On-site. A properly trained Department engineer should be onsite during construction of all centralized impoundments and during placement of liner and leachate collection systems.

Leakage Rate. The rule should include allowable leakage rates for temporary pit liners and indicate maximum mass loading in that leakage to prevent contamination of groundwater.

78.57 (Control, storage and disposal of production fluids)

PennFuture supports the prohibition on using pits to manage brine and production fluids.

Engineer's certification and submissions of plans. Section 78.57(d) should require that design plans for the tank system and secondary containment are certified and sealed by a licensed professional engineer. The design plans should be submitted to the Department as part of the permit application with a narrative explaining how the system is compatible with all stored production fluids, controls gas emissions, and otherwise complies with the regulations.

Existing pits. The original rule provided that compliance with section 78.57(c) constituted compliance with section 78.64a. The proposed changes to section 78.57 removes any discussion of pits as an option to control, store, or dispose of production fluids. The proposed changes to section 78.64a caused that section to only apply to unconventional well sites. It is not clear how

the Department plans to address operation, maintenance, and closure of existing production pits in the new regulations.

78.58 (Onsite Processing)

Section 78.58 (a) appears to formalize the current practice of using form OG-71 to approve the processing of residual waste on well-sites to promote reuse of production fluids. **Generally speaking, PennFuture supports the incorporation of this practice into regulations. However, the regulations should set out the process in greater detail and include the more detailed standards that must be met for approval.**

The Department should use this opportunity to establish by regulation what the applicant must demonstrate to obtain the Department's approval, beyond that there will no harm to the environment. The Department should be using some objective standard for determining what constitutes legitimate beneficial reuse. The Department may want to consider establishing by rule and plainly stating in the rule that reuse of certain fluids in a specific list of –on-site processes constitute beneficial reuse. Beyond that, the regulation should require the application address what processing will occur, what measures will be taken to ensure the processing does not result in environmental harm, how the wastewater will be transported, storage at the receiving site if transported, how any waste such as sludges from the treatment process will be managed, management of air emissions such as volatile hydrocarbons during aeration, and final disposition.

PennFuture offers similar comments regarding section 78.58(c). The Department should use this opportunity to establish the standards against which the application will be measured and approval will be granted. A requirement that a person request approval without an explanation of what standard will be used to grant or deny approval is no requirement at all.

Section 78.58(e) should be eliminated or make clear that any changes to how the fluid is processed or used must require a separate approval. PennFuture opposes the proposition that an approval need only be granted on one occasion, and can then that same process can be used by the same company throughout the Commonwealth at an unlimited number of sites. The Department's experience demonstrates that the geology encountered at well sites will differ, as will the chemical composition of production fluids. This will likely necessitate changes in processing prior to reuse, and this should trigger a requirement for a new approval. The proposed regulation provides that processing of fluids "in a manner approved" at one well site will be deemed to approved, if notification is made to the Department; however, it is unclear how the Department will determine how the bounds of any particular "manner" of processing. If a manner of processing uses the same equipment but different chemicals, or significantly different amounts of the same chemicals, is it the same "manner"? If the Department seeks to allow successive uses of a particular approval, then the regulation should specify that any changes to how the fluid is processed or used must require a separate approval.

78.59a (Impoundment embankments)

Springs. Section 78.59a(a)(2) impliedly allows impoundments and/or embankments to be constructed on top of springs. The regulation should prohibit construction of embankments over springs because it increases the potential for erosion and a spill.

Berm width. The Department should consider tying berm width to the height of impoundment built above grade – with wider widths for taller impoundments.

Wording. Section 78.59a(a)(6) should read “soils shall contain 20% or more material passing the #200 sieve.”

Report results to the Department. Soil test results should be reported to the Department rather than only having the results submitted ‘upon request’. The Department’s failure here and elsewhere to require the submission of information that must be generated by the operator prevents the public from obtaining access to the information.

Limits. The regulation should establish, but does not have, a height and total volume limit for minimum embankment construction standards.

Compaction standard. Section 78.59a(8) does not include field quality control/quality assurance requirements such as in-situ compaction density and optimum moisture tests to confirm that these larger impoundments are built with suitable structural integrity.

78.59b (Freshwater Impoundments)

Definitions. The Department does not define the term “freshwater.” If it does not intend to define the term, the Department should provide an explanation in the preamble to the final regulations on why a definition is not warranted.

Groundwater protection. The regulation does not provide any additional setback from seasonal high groundwater when storing ‘mine influenced water’. The Department should increase the setback from groundwater if the operator plans to store acid mine drainage or “mine influenced water” in the impoundment.

Precipitate. The regulation does not address how the precipitate, which will likely result from mixing acid mine water with other less polluted water, must be managed. At the very least, the operator should be required to prepare for such an event.

Liner requirements. Section 78.59b(c) requires a ‘synthetic impervious liner’ without providing maximum permeability or allowable seepage or a type of liner material. The regulations should establish parameters for the synthetic liner.

Restoration should address mine influenced waters. Section 78.59b(f) allows for ‘restoration’ of the impoundment by removing excess water, but it does not address how and where the water would be disposed and any additional precautions that must be taken if ‘mine influenced water’ was stored in the impoundment, or if precipitate and heavy metals deposit at the bottom of the impoundment.

Impoundment life. Section 78.59(f) allows an impoundment to stay open until the ‘last well serviced’ is drilled, without any other limit on how long water may be stored in the impoundment. That may be less of a concern with the storage of freshwater, but becomes more of a concern if large quantities of acid mine water being stored in the impoundment. The Department should establish a time limit on the storage of acid mine water in impoundments.

78.59c (Centralized Impoundments)

Proposed section 78.59c unlawfully assumes that centralized impoundments are located on well sites, and must be revised to provide that the Department will not consider centralized impoundment sites to be well sites even when a centralized impoundment is co-located with one or more oil or gas wells.

Proposed section 78.59c(n) provides that an impoundment must be restored within nine months of the date that the last well serviced by the impoundment is drilled, but also provides that “[a] two year restoration extension may be requested pursuant to section 3216(g) of the act.” This provision is contrary to law because section 3216 of Act 13 governs only the restoration of “well sites,” and centralized impoundment sites cannot reasonably be considered to be “well sites” within the meaning of section 3216(h).

Section 3216(h) provides that “[a]s used in this section, the term ‘well site’ means areas occupied by all equipment or facilities necessary for or incidental to drilling, production or plugging a well.” Centralized impoundments – i.e., impoundments that serve multiple well sites – cannot be well sites under this definition because they are neither “necessary for” nor “incidental to” drilling, production, or plugging activities. That centralized wastewater impoundments are not *necessary* for the drilling, production, or plugging activities goes without saying: many, if not most of the gas wells that have been drilled and hydraulically fractured in the Commonwealth have been developed without the use of centralized impoundments. Nor may centralized wastewater impoundments be considered “incidental to” drilling and fracturing operations, because “incidental” means “happening as a *minor* part or result of something else” or “being likely to ensue as a chance or *minor* consequence.”⁶ Not only are centralized impoundments too large to be considered “minor” in any sense;⁷ their function is by definition to serve many well sites and therefore to function independently of any particular well site. Consequently, a centralized wastewater impoundment cannot reasonably be considered to be a “part” of a well site requiring restoration under section 3216 of Act 13 – let alone a “minor part.”

There may be cases in which centralized wastewater impoundments are co-located with oil or gas wells. The Department should not consider the co-location of an oil or gas well to convert the

⁶ See *Merriam-Webster Online Dictionary* at <http://www.merriam-webster.com/dictionary/incidental>. The third dictionary definition of “incidental,” “occurring merely by chance or without intention or calculation” is obviously not applicable.

⁷ PennFuture has reviewed the Department’s files for impoundments with capacities ranging from 1.6 million gallons (centralized dam permit 95-16-65420-006) to 8.5 million gallons (centralized dam permit 95-16-65420-005). The impoundment whose file we most recently reviewed (centralized impoundment dam permit 95-29-65420-020) has a capacity of 4.2 million gallons.

centralized impoundment site into part of a well site, because the presence of the oil or gas well will change neither the size nor the functionality of the impoundment.

Because centralized wastewater impoundments may not be considered to be on “well sites,” the requirements for these impoundments in section 78.59c must be at least as stringent as the applicable requirements for wastewater impoundments in 25 Pa. Code Chapters 287-299.

As the Department has previously recognized, centralized impoundments are – by virtue of not being located on well sites – subject to regulation under the Department’s Solid Waste Management Act (SWMA) regulations set forth at 25 Pa. Code Chapters 287-299. Under section 287.2(g) of the Department’s SWMA regulations, pits and impoundments are regulated exclusively under Chapter 78 (and not also under Chapter 287) *only* when they are located on well sites. The Department recognized that centralized wastewater impoundments do not qualify for the section 287.2(g) exemption in a 1993 Fact Sheet titled “The Residual Waste Regulations for Off-Site Disposal of Wastes from Oil and Gas Wells,” which appears as Appendix E to a 1994 Department report titled “Characterization and Disposal Options for Oilfield Wastes in Pennsylvania.” PennFuture received this report from the Department in response to a Right to Know Law request.⁸ In the Fact Sheet, the Department stated: “Storage impoundments which are not located on the well site are subject to the ... requirements and standards of 25 Pa. Code 287.111, 287.112, and 299.141-299.145.” The Fact Sheet also notes that operators of centralized impoundments “must comply with the operating requirements of 25 Pa. Code 299.144 (operating requirements).”

Under 25 Pa. Code § 299.142, a person storing residual waste in a surface impoundment must hold a valid permit from the Department under the Clean Streams Law, and must comply with 25 Pa. Code Chapter 105. Application requirements for impoundment permits are set forth in section 299.143, and operating requirements, which largely track the operating requirements for disposal impoundments set forth at 25 Pa. Code Chapter 289, are set forth in section 299.144.

The Department must revise proposed section 78.59c to ensure that all of the requirements for centralized wastewater impoundments therein are at least as stringent as the applicable requirements in Chapters 299 and 289. One example of how proposed section 78.59c is currently *not* as stringent as these chapters is subsection 78.59c(n), which proposes restoration requirements for centralized wastewater impoundments.

Subsection 78.59c(n) states that an impoundment must be restored within nine months of the date that the last well serviced by the impoundment is drilled, and establishes four restoration criteria. First, “any impermeable membrane, concrete and earthen liner” must be removed “so that water movement to subsoils is achieved.” Second, the site “shall be restored to approximate original conditions including preconstruction contours.” Third, the site “shall support the original land uses to the extent practicable.” Fourth, [e]xcavated impoundments shall be backfilled above finished grade to allow for settlement and so the impoundment will no longer impound water.”

⁸ The DEP assigned Request Numbers 1400-13-139, 4400-13-121, 4500-13-096, and 4600-13-053 to this request, which was submitted on August 21, 2013 and timely answered by the Department.

Proposed section 78.59c(n)(1) also provides the extension of the nine-month restoration period: “A two year restoration extension may be requested pursuant to section 3216(g) of the act.”

There are two problems with these restoration criteria. First, as noted above, centralized wastewater impoundment cannot be considered to be located on “well sites”; consequently, the restoration extension provision of section 3216(g) is inapplicable. Second, the other restoration criteria are inconsistent with, and less stringent than, 25 Pa. Code § 299.144(a)(7) (“relating to closure”). This provision requires compliance with 25 Pa. Code § 289.312 (“Closure”), and section 289.312 in turn requires compliance with 25 Pa. Code § 289.172 (“Closure Plan”). Sections 289.312 and 289.172 together establish a comparatively thorough and protective planning and execution process for the closure and restoration of wastewater storage impoundments. These criteria are no less applicable to centralized wastewater impoundments used in oil and gas operations than they are to wastewater impoundments used in other industrial operations. Section 78.59c must either incorporate these criteria (and all applicable requirements under 25 Pa. Code Chapters 287-299), or establish criteria and requirements that comply with these criteria by being even more stringent.

Section 78.59c should specify that operators of centralized wastewater impoundments must post bonds in accordance with 25 Pa. Code Chapter 287.

Under the Department’s SWMA regulations, a person may not own or operate a “residual waste disposal or processing facility” unless the person has obtained a permit from the Department under Chapter 287,⁹ and the Department may not issue a permit “unless the applicant first submits to the Department a bond in accordance with this subchapter, and the bond is approved by the Department.”¹⁰ The term “residual waste disposal or processing facility” is defined as “[a] facility for disposing or processing of residual waste” and the term “processing” includes residual waste transfer facilities.¹¹ Bonds submitted under section 287.311 must “provide for continuous liability from the initiation of operations at the facility,”¹² and bond amounts must be calculated under section 25 Pa. Code § 287.331.

Centralized wastewater impoundments constitute residual waste disposal or processing facilities within the meaning of section 287.101 of the Department’s regulations because they are both “transfer facilities” and disposal facilities. An impoundment is a transfer facility because it “receives and processes or temporarily stores ... residual waste at a location other than the generation site, and ... facilitates the transportation or transfer of ... residual waste to a processing or disposal facility.”¹³ An impoundment is a disposal facility because invariably, some amount of the waste stored in centralized wastewater impoundment enters the environment – if not by leaks, then by the evaporation of pollutants dissolved in the wastewater.¹⁴

⁹ 25 Pa. Code § 287.101(a).

¹⁰ 25 Pa. Code § 287.311(a).

¹¹ 25 Pa. Code § 287.1.

¹² 25 Pa. Code § 287.311(b).

¹³ See 25 Pa. Code § 287.1.

¹⁴ The Department’s SWMA regulations define “disposal” expansively as “[t]he deposition, injection, dumping, spilling, leaking, incineration or placing of solid waste into or on the land or water in a manner that the solid waste or a constituent of the solid waste enters the environment, is emitted into the air or is discharged to the waters of this Commonwealth.” 25 Pa. Code § 287.1.

It follows that operators of centralized wastewater impoundments used for oil and gas operations must obtain bonds under Chapter 287. The bonding exception in section 3273.1 of Act 13 that applies to pits and impoundments on well sites does not apply because, again, centralized impoundments are by nature (if not currently by Department definition) not located on well sites.¹⁵ Proposed section 78.59c should be revised accordingly.

Additional Comments on 78.59c

In addition to complying fully with 25 Pa. Code Chapter 299, centralized wastewater impoundments should be allowed to be used only subject to the following considerations:

Standards for storing mine influenced water. Chapter 105 standards were designed for dams built to store freshwater, and not mine influenced water. The Department should assess whether the construction standards in Chapter 105 require any changes or modifications for the storage of mine influenced water.

Setbacks should be progressive. To protect public health and safety, the setback requirements to occupied dwellings and businesses should be commensurate with the size of the impoundment and volume the water retained, with larger impoundments having larger setbacks. In addition, the rule should provide for variable setbacks for downgradient structures, as compared to upgradient structures.

Setbacks to water supplies should not be capable of being waived. Section 78.59c(c)(6) allows property owners to waive setbacks. If the purpose of the setback is to protect water supplies and the aquifer for this and future generations, then the property owner should not be allowed to waive the setback requirement.

Groundwater samples for impoundments storing acid influenced water. Section 78.59c (i)(6) establishes minimum parameters for analyzing groundwater samples. This list should be expanded to a full suite of heavy metals if the operator proposes to store acid influenced water in the impoundment. Otherwise, the Department will not have an adequate baseline for determining whether the facility adversely affected groundwater. Additionally, because of the heavy equipment that will be used to construct these facilities, and the increased truck traffic often associated with centralized impoundments, the operator should analyze the groundwater samples for total petroleum hydrocarbons or total organic carbon, turbidity, odor, and color, as well as methane.

Elimination of municipal notification and other requirements. Currently a checklist is required to be completed and enclosed with the dam permit application for a centralized

¹⁵ Section 3273.1 of Act 13 provides that “[t]he obligation to obtain a permit and post a bond under ... the Solid Waste Management Act, and to provide public notice under ... The Administrative Code of 1929, for any pit, impoundment, method or facility employed for the disposal, processing or storage of residual wastes generated by the drilling of an oil or gas well or from the production of wells which is located on the well site, shall be considered to have been satisfied if the owner or operator of the well meets the following conditions...” The conditions noted are compliance with sections 3211, 3213 and 3225 of Act 13, and compliance with other laws administered by the Department. 58 P.S. § 3273.1(a).

impoundment dam that includes proof of municipal notification, cultural resource notice, natural heritage program notice, color photographs and maps, erosion and sediment control plan adequacy letter, proof of title/flowage easements, maps/plans/profiles/cross-sections, impacts from dam failure statement, construction information, groundwater protection requirements, monitoring plan, professional engineer's seal and certification, and applicant certification and signature. It appears that the vast majority of these requirements were not included in the language of section 78.59c. The Department should ensure these requirements are set forth in Chapter 78.

Chain of custody for water samples. Section 78.59c (i)(5) should require the operator to maintain and submit to the Department chain of custody forms for each sampling event.

Capacity of the leak detection system. Section 78.59(e)(3) should require that the leak detection system be designed for the anticipated allowable seepage rate for the liner, and shown in engineering plans and specifications to be capable of collecting and transporting that leakage volume to the sump pump. The plans and specifications should include calculations of daily leakage flow to the sump and the capability of the sump to store said leakage volume without spillage.

Capacity calculations. Section 78.59(e)(3)(viii)(B) should require the engineering design plans and specifications to include calculations that support the size of the sump and the pump capacity for the maximum allowable seepage rate.

Wastewater storage. Section 78.59(e) should require operators to state in their submissions whether they intend to store in the centralized impoundment any wastewater processed under WMGR123.

Monitoring frequency/reporting. Section 78.59(e)(3)(xiii) requires the operator to monitor the leak detection system weekly without regard to the expected volume of allowable seepage that could be collected during that week and the ability of the sump and pump to properly transfer that volume back into the impoundment. The leak volume collected and pumped should be documented and submitted to the department quarterly along with discussion of whether or not the leakage rate is exceeding the allowable seepage rate and if repairs to the liner or leak detection system are warranted.

Repairs and design. Section 78.59(e)(3)(x) implies that the centralized impoundment containing millions of gallons of wastewater could easily be drained for repairs. The rule does not provide guidance on how that wastewater will be held or disposed of during liner repair. The rule does not address the difficulty of putting the centralized impoundment off-line for repairs. One solution would be to require a minimum of two cells for centralized impoundments to allow for the repair of one cell liner system while still being able to collect and contain wastewater generated from active drilling sites. It should be noted that dividing up the total storage capacity of the centralized impoundment into smaller subsections or cells would reduce the catastrophic risk of berm failure.

Qualified geologist. Section 78.59(f) should require that the baseline hydrogeologic study be performed by a licensed professional geologist or certified hydrologist familiar with the local geology and aquifer formations. The study should be based on a sufficient number of soil borings that can be used to describe the subsurface materials located below the intended location of the centralized impoundment and to identify soil properties indicative of high seasonal groundwater.

Parameters for water tests. Section 78.59c(f)(3) establishes the parameters for water quality testing. The list in (i)(6) should include methane, total petroleum hydrocarbons, BTEX, and any pollutants associated with the expected hydraulic fracturing fluid recipe. The parameters should also include a water quality suite that includes all traditional cations and anions instead of just chlorides and sulfates.

Submission of results. Section 78.59c(f)(1) and (2) should require that the analytical results shall be submitted to the Department with all applicable chain of custody forms, a map that clearly shows the sampling locations, the depth of groundwater sampled, the distance from the water well tested and the location of the centralized impoundment, and the laboratory analytical reports.

Groundwater protection. As with disposal pits, the Department should increase the distance between the centralized impoundments and shallow groundwater. Twenty (20) inches is not sufficient distance to protect shallow groundwater from any seepage from the secondary liner (i.e., allowable seepage that leaves the liner system rather than flowing towards the sump pump). Generally such a small separation is intended to protect the liner from backpressure only. The separation distance should be analyzed by a licensed professional engineer to determine if 20 inches is sufficient to guarantee that backpressure from rising shallow groundwater will not damage the liner and that the removal of shallow groundwater can be documented with perimeter tile drainage system.

Depth of screened interval. Regarding section 78.59c (i)(3), the minimum depth of the screened interval should intercept the top of the shallow groundwater aquifer to ensure that changes in water table do not affect the ability to take a sample quarterly.

78.61 (Disposal of Drill Cuttings) and 78.62 (Disposal of Residual Waste – pits)

The Department should cease the practice of allowing companies to dispose of residual waste, including drill cuttings from below the casing seat, in on-site pits.

PennFuture supports the prohibition for on-site disposal of residual waste from hydraulic fracturing. However, the Department's proposed regulations continue to authorize the creation of mini residual waste landfills across the Commonwealth. The Department does not require companies to publicize the location of these landfills. There is no long-term groundwater monitoring associated with the landfills, and the Department requires no sampling that characterizes what waste before it is disposed at these landfills. These landfills are allowed to be located less than two feet above the seasonal high groundwater table for fresh groundwater on which Pennsylvanians depend for drinking water, even though the Department has evidence that

these landfills leak. The Department does not regularly inspect and sample these landfills to ensure there is no environmental harm being caused. The practice is archaic and makes little common sense. The Department should require that the oil and gas industry bear the full financial costs of protecting Pennsylvania's land and water resources by eliminating this practice and requiring that any residual waste generated at well sites be disposed at facilities with double liners, leak detection, long term groundwater monitoring, and bonding.

If, notwithstanding these considerations, the use of disposal pits were to be permitted, the following provisions would lessen risks – but not eliminate them sufficiently for PennFuture to support the use of disposal pits.

The Department should eliminate waiver provisions or establish standards for when waivers may be granted. Section 78.61 contains setback provisions for the location of disposal areas from streams and watercourses that may be waived by the Department, with no standard for when the Department may waive the setback requirement. The Department should remove the waiver provisions or establish standards for when setback requirements may be waived.

Geologist should certify groundwater level. Section 78.62(a)(9) only requires a soil scientist rather than a professional geologist to determine separation between pit bottom and seasonal high groundwater. Considering this is a rule for burying residual waste, the judgment should be made by a professional geologist.

Setback distances should be enlarged. The setback distance from a burial pits to buildings under section 78.62(a) and water wells under section 78.62(a)(8) (should be greater than 200 feet and should reflect the risk to public health associated with the use of the building.

Temporary pit requirements should not be stricter than disposal pits. 78.62(a)(11) replaces liner language (coefficient of permeability of 1×10^{-7} cm/sec and thickness of 30 mil) with the requirements in 78.56(a)(8-10). Unfortunately, those paragraphs do not provide specific permeability or liner thickness, just “structurally sound and impermeable”. The requirements for disposal pits should certainly be as strict as the requirements for temporary storage pits.

Landfills should not be located within 20 inches of a drinking water supply. It is somewhat ironic that Act 13 establishes setback requirements of hundreds of feet between a well that has multiple liners of steel and concrete between polluttional materials in the well and surface waters, and at the same time the Department allows residual waste to be disposed 20 inches above seasonal high groundwater on which Pennsylvanians depend for drinking water. The Department should end this practice, but if it does not, then it should either increase the distance protecting fresh drinking water or explain in the preamble to its regulations the scientific basis for assuming that twenty inches of soil will protect groundwater.

Pit specifications for drill cuttings from below the casing seat must be clarified. Section 78.61(c)(1) refers to the original requirements of section 78.62(a)(5) - (18), some parts of which have been changed or do not exist with respect to liner requirements. The rule does not provide direction to appropriate liner requirements in the remaining proposed language.

78.64a (Containment systems and practices at unconventional well sites)

Secondary containment. Section 78.64a (f) states that secondary containment must be based on the largest container in the secondary containment system, but it does not restrict the number of containers or total volume of chemicals stored per containment system. This assumes that the system may only be adequate to handle the failure of a single primary container. The Department should amend the language to ensure that the secondary containment system is designed with an adequate margin of safety to handle the failure of multiple primary containers

Well site liners as secondary containment. Section 78.64a (f) states “a well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.” This wording is confusing in its implications that a well site liner *would* be a secondary containment for a raw material or waste material that *is* in another containment system, such as a tank. If that is intended, then the regulation should provide standards for materials used to construct a ‘well site liner’ so that the liner would be appropriate for secondary containment, and possibly establish chemicals and wastes that would not be eligible for this type of large scale ‘well site liner’ method of secondary containment.

Stormwater. Section 78.64a (g)(2) requires a subsurface containment system to ‘be designed to allow for the management or removal of stormwater’. The regulation should require an above grade berm that prevents stormwater run on for shallow below grade containment systems, and a drainage system that collects stormwater that infiltrates and collects in subsurface buried liner systems.

Chemical compatibility. Section 78.64a(1) The required chemical compatibility documentation should be submitted to the Department with the application materials so that an evaluation can be made as to the liner’s suitability for each type of waste or bulk material stored onsite using a secondary storage system. The Department should not be requesting this information after-the-fact, or on an ad-hoc basis.

78.65 (site restoration)

Section 78.65 should require that well sites be restored to conditions in which the land can support uses that are the same as or ecologically equivalent to the uses supported before the start of oil and gas operations, should require operators to apply for restoration certificates, and should condition certification on a field assessment that demonstrates compliance with both general and site-specific restoration criteria.

Current section 78.65 was adopted in 1994 to implement section 601.206 of the 1984 Oil and Gas Act¹⁶ and establishes three basic requirements for the restoration of well sites. First, the

¹⁶ See 24 Pa.B. 6284. Section 601.206, titled “Well site restoration,” established a general requirement for operators to “restore the land surface within the area disturbed” during well operations, and established particular requirements concerning erosion and sediment control, restoration after drilling operations, restoration after plugging operations, compliance with the Clean Streams Law, and extensions of the restoration period.

operator must fill drill or bore holes with “cement, drill cuttings or other earthen material” before removing drilling equipment from a well site. Second, if a well site is constructed but no well is drilled on it, the operator must restore the site within 30 days after the well permit expires or obtain DEP approval for an extension.¹⁷ Third, within sixty days after restoring a well site, the operator must submit to the DEP a well site restoration report containing information about the disposal of top hole water; the reuse or disposal of “the free liquid fraction” of wastes and production fluids; the use of waste storage and disposal pits; the types and volumes of wastes produced on the well site; and the land-application and off-site disposal of wastes.

Proposed revised section 78.65 retains these requirements, with some modification, while adding new language. New subsection (a) restates the “general rule” of Act 13’s restoration statute¹⁸ that operators must “restore the land surface” within the area disturbed at a well site. (The statute does not define the term “restoration”). Subsection (b) retains the current requirement to fill bore holes, but provides that when drill cuttings are used for fill, they must be “uncontaminated.” New subsections (d) and (e) – the most significant additions to the rule – establish criteria that sites must meet to be considered “restored” after, respectively, the conclusion of drilling operations and the conclusion of plugging operations. Proposed subsection (f) adds two new requirements for restoration reports: that an operator who has buried residual waste in a pit explain its determination that the pit is 20 inches above the seasonal high groundwater table, and that operators of unconventional and horizontal wells provide “[t]he test results required by §§ 78.62 [Disposal of residual waste - pits] and 78.63 [Disposal of residual waste – land application].” Proposed subsection (g) requires that well site restoration reports be provided to landowners – but only if the operator has disposed of drill cuttings or other residual wastes at the site. PennFuture strongly supports including restoration standard and criteria in section 78.65 (currently there are none), as well as enhanced reporting and notice requirements. PennFuture also commends the Department for clarifying, (through the provisions of subsections (d) and (e)), that section 58 P.S. § 3216(g) allows extension of the post-drilling restoration period under section 3216(c), but not of the post-plugging restoration period under section 3216(d). However, at least with respect to unconventional well sites, the Department’s central proposed restoration standard – a return to “approximate original conditions, including preconstruction contours [in which the land] can support the original land uses to the extent practicable” – would fail to protect the Commonwealth’s natural resources, and the long-term productive capacity of its land.

On a site by site basis, unconventional oil and gas operations typically result in greater and more severe environmental impacts than conventional operations. Unconventional well sites disturb

¹⁷ Under section 601.206 of the 1984 Act, the restoration period could not be extended for more than six months, and then only for adverse weather conditions or lack of essential fuel, equipment, or labor.

¹⁸ See 58 P.S. § 3216. Also titled “Well site restoration,” section 3216 retains most of the substantive language of section 601.206 of the 1984 Oil and Gas Act while adding subsection headings. Section 3216 also revises subsection (g), “Extension,” and adds a new subsection (h), “Definition.” As revised, subsection (g) allows the Department to extend the restoration period for up to two years (the limit under the 1984 Act was six months) if the operator either shows a circumstantial need or shows that the extension will result in less earth disturbance, increased water reuse, or “more efficient development of the resources.” Subsection (h) defines “well site” as “areas occupied by all equipment or facilities necessary for or incidental to drilling, production or plugging a well.”

(and compact) far more earth than conventional sites,¹⁹ create larger impervious surfaces, encroach upon more streams and wetlands, and, along with the gas and water pipelines that service them, fragment more forest land and wildlife habitat.²⁰ Moreover, activities conducted on unconventional sites use far more chemicals and generate far more wastes than conventional activities do, and the management, storage, and transportation of these chemicals and wastes invariably lead to leaks, spills, and ruptures. While these leaks and spills are sometimes contained, in many cases they are not – and in these cases they introduce contaminants into soils, surface waters, wetlands, and groundwater, often in large quantities.²¹ Such impacts have already caused significant damage to Pennsylvania’s natural resources – and the absence of strong, objective, and enforceable restoration standards and criteria threaten to make these impacts a permanent part of the Commonwealth’s landscape. We therefore recommend the following changes to section 78.65.

Subsections (d) and (e) of section 78.65 should provide that a well site is restored when the land is returned to approximate original conditions, including preconstruction contours, soils, and vegetation, and can support uses that are the same as or equivalent to the uses supported before oil and gas operations commenced.

Proposed subsection 78.65(d), “Restoration after drilling,” contains three restoration criteria.²² First, all “permanent” post-construction stormwater management Best Management Practices identified in an operator’s PCSM plan must be in place. Second, remaining “impervious areas” (defined to include areas where the soil has been compacted, hardened, or underlain with a liner, as well as areas covered with pavement or gravel) must be minimized. Third, all areas of the well

¹⁹ See, e.g., *United States Geological Survey, Landscape Consequences of Natural Gas Extraction in Armstrong and Indiana Counties, Pennsylvania, 2004-2010*, available at <http://pubs.usgs.gov/of/2013/1263/pdf/of2013-1263.pdf> (finding that the average size of Marcellus well sites in Armstrong and Indiana Counties was almost three times larger than the average size of conventional well sites). A 2010 study cited in the USGS report noted that for Marcellus operations in Pennsylvania, well pads and associated infrastructure required nearly nine (9) acres per well pad and caused an additional 21 acres of indirect edge effects. *Id.* at 10, citing Johnson, Nels, 2010, *Pennsylvania energy impacts assessment, Report 1: Marcellus Shale Natural Gas and Wind*, The Nature Conservancy, Pennsylvania Chapter, and Pennsylvania Audubon. A survey by PennFuture of ESCGP approvals for thirteen well site, pipeline, road and compressor projects in one area of the Loyalsock State Forest showed areas of earth disturbance ranging from 12.6 acres (for a project to widen an existing road) to 94.4 acres (for an 8.3-mile pipeline project). The total permitted disturbance was 343 acres, an average of 26 acres per project. See DEP, permit approval numbers ESX11-081-0033, ESX11-081-0051, ESX11-081-0052, ESX11-081-0069, ESX11-081-0087, ESX11-081-0097, ESX11-081-0106, ESX12-081-0025, ESX12-081-0064, ESX12-081-0072, ESX12-081-0138, ESX12-081-0169, and ESX13-081-0008.

²⁰ See, e.g., The Nature Conservancy, *Shale Gas, Wind and Water: Assessing the Potential Cumulative Impacts of Energy Development on Ecosystem Services within the Marcellus Play, February, 2014* available at <http://www.plosone.org/article/abstract?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0089210&representation=PDF>

²¹ To cite just one example, in the winter of 2011-2012, EQT Production Company placed large volumes of flowback into a impoundment on the “Phoenix S” Pad in Duncan Township, Tioga County, which EQT had originally built as a fresh water impoundment. The impoundment liner was full of holes – EQT estimated 75-100, according to a DEP inspection report – and the impoundment leaked thousands of gallons of flowback into groundwater, potentially threatening both municipal water supplies and the long-term ecology of Rock Run, a High Quality stream. The site is currently being remediated. As far as PennFuture is aware, the Department is still investigating this incident, and has not yet assessed any penalties against EQT or entered into a Consent Agreement for Civil Penalties.

²² See proposed subsections 78.65(d)(1)(i)-(iii).

site not needed for operations must be “restored to approximate original conditions, including preconstruction contours, and [be able to] support the original land uses to the extent practicable.”²³

Proposed subsection 78.65(e), “Restoration after plugging,” contains just one restoration criterion: “Within nine months after plugging a well, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site to approximate original conditions, including preconstruction contours, and can [sic] support the original land uses to the extent practicable.”

The term “approximate original conditions,” used in both subsections (d) and (e), is defined in proposed section 78.1 as “reclamation of the land affected to preconstruction contours so that it closely resembles the general surface configuration of the land prior to construction activities and blends into and complements the drainage pattern of the surrounding terrain, and can support the land uses that existed prior to oil and gas activities to the extent practicable.”

Presumably as a result of a drafting error, the term “preconstruction contours” appears both alongside the term “approximate original conditions” in section 78.65 and within the definition of “approximate original conditions” in section 78.1.²⁴ This redundancy is confusing, and it begs the question of why a definition for “approximate original conditions” is necessary. We believe it would be simpler for both the Department and the regulated community to include *all* substantive restoration standards that will apply to well sites, including those currently incorporated into the definition of “approximate original conditions,” in section 78.65, and to strike the definition of “approximate original conditions” from section 78.1.

Assuming that the Department makes this or a similar revision, there will still be two significant problems with the Department’s central restoration criterion – i.e., the return to approximate original conditions, including the reestablishment of preconstruction contours, the capacity to complement the drainage pattern of the surrounding terrain, and the capacity to support the site’s original uses to the extent practicable.

First, while a return to approximate original conditions may have merit as an aesthetic criterion – and to some extent as a stormwater management criterion²⁵ – it is inadequate as an ecological performance criterion because it contains no language that would require restoration of a well site’s soils and vegetation. In a recent case involving a stormwater permit for a natural gas transmission pipeline, the Pennsylvania Environmental Hearing Board agreed with the Department that “from a stormwater perspective” restoration means “looking at the project as it would occur in natural conditions, looking at stormwater runoff and stormwater characteristics as it relates to the site conditions and natural conditions,” and agreed that “natural conditions are

²³ Areas that the Department considers necessary to safely operate the well are listed at 78.65(d)(1)(iii)(A)-(E).

²⁴ In addition, subsections (d) and (e) of section 78.65 use the phrase “can support the original land uses to the extent practicable” while the definition of “approximate original conditions” includes the slightly different phrase “can support the land uses that existed prior to oil and gas activities to the extent practicable.”

²⁵ Indeed, the criterion currently appears in the Department’s stormwater management policy for oil and gas operations See Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities, Document No. 800-2100-008, at 12, 14.

those that existed prior to the construction activities and restoration is being able to establish or mimic what existed at a particular site.”²⁶ But Act 13 is not concerned with restoration only from a stormwater perspective. It is concerned with restoration more generally.

Section 3216 of Act 13 requires operators to “restore the land surface within the area disturbed in siting, drilling, completing and producing the well.” According to the dictionary, to “restore” means (1) to “give back” or “return,” (2) to “put or bring (something) back into existence or use,” and (3) to “return (something) to an earlier or original condition by repairing it, cleaning it, etc.”²⁷ All well sites have certain types of soils and vegetation before oil and gas operations commence; consequently, the plain meaning of “restore” requires the Department to include soil and vegetation restoration as an objective criterion in section 78.65. From a *development* perspective (as opposed to a stormwater perspective), restoration is – as the appellants’ expert testified in *Delaware Riverkeeper Network* – “determined by looking at the natural landscape before any development activity.”²⁸

Second, the Department’s restoration approach is flawed for using, as a restoration criterion, the capacity to support original uses only “to the extent practicable,” because “practicability” is too subjective and makes the concept of restoration too dependent on economic forces.

In the context of oil and gas development operations (or any kind of industrial land development), the plain meaning of “restoration” requires the return of land to a condition in which it can support uses that are at least ecologically and functionally equivalent to the pre-operations uses, if not the same as those uses. Attaching the phrase “to the extent practicable” to the Department’s proposed restoration standard would frustrate these goals because Pennsylvania Courts have held that the term “practicable” is “not limited to physical feasibility but, rather, also includes financial feasibility.”²⁹

Allowing sites to be restored to original conditions only “to the extent practicable” would not only allow operators to plea that they lack funds to perform adequate restorations; it would be an incentive for operators to include insufficient funds for restoration in their budgets so as to give credence to such claims. This is especially problematic in light of the meager amounts of the bonds that operators are required to post under Act 13. In any case, “practicability” is a highly subjective standard that is not appropriate to a concept like restoration, which, by definition, requires a reference back to objective, pre-existing conditions. The Department’s restoration standard should put the regulated community on notice that any person who intends to drill an oil or gas well in Pennsylvania must plan for the restoration of well sites to conditions that are the “same as or equivalent to” pre-development uses, and must budget accordingly.

There is a significant conceptual difference between, on the one hand, supporting original uses to the extent practicable, and on the other, supporting the same or equivalent uses. For the reasons discussed above, the concept of “practicability” is highly malleable and subjective. The concept

²⁶ See *Delaware Riverkeeper Network et al. v. DEP and Tennessee Gas Pipeline Company*, Docket No. 2012-196-M, 2013 Pa. Environ. LEXIS 6, 32-34.

²⁷ See Merriam-Webster online dictionary, <http://www.merriam-webster.com/dictionary/restore>

²⁸ *Delaware Riverkeeper Network et al. v. DEP and Tennessee Gas Pipeline Company*, id., at 31.

²⁹ See *In Re: Estate of Ryerss*, 987 A.2d 1231, 1241, 2009 Pa. Commw. LEXIS 1684 (Commw. Ct. 2009), citing *In re: Erie Golf Course*, 963 A.2d 605 at 613-14.

of equivalency is less subjective because it requires a likeness in ecological function or effect, but assumes – and allows for – a lack of identity.³⁰ It is elastic enough to allow for differences between original conditions and post-restoration conditions based on the fact that unconventional oil and gas operations have significant impacts, and to allow the Department to define an acceptable range of deviation from original conditions. The Department may fairly take into account the extent of an operator’s efforts, an operator’s justifications for why a more complete restoration cannot be achieved (which may include reasons of cost), and opinions (or the lack of opinions) from professional ecologists, engineers, etc.

To ensure that the restoration standards in subsections (d) and (e) will be enforceable, the Department should establish a process whereby (1) operators must apply for restoration certificates, and (2) the Department may not certify a well site as restored until a field assessment shows the attainment of all applicable restoration criteria.

Like current section 78.65, proposed section 78.65 contains no requirement for the Department to assess operators’ restoration activities, let alone approve them as satisfactory or disapprove them as inadequate. Likewise, there is no requirement for an operator to apply to the Department for approval of its restoration activities. Rather, proposed section 78.65 would maintain the current system of requiring operators to file restoration reports within sixty days after a well site has been restored. According to report issued last year by the State Review of Oil and Natural Gas Environmental Regulations, or STRONGER, the Department performs desktop reviews of all restoration reports that are filed.³¹ The STRONGER report also suggests that these reports are field-verified, but the Department’s regulations do not even require inspections of well sites after restoration reports are filed. Rather, they establish a policy whereby well sites are to be inspected at least once during the post-drilling restoration period (or within three months after that period), and at least once during the post-plugging period (or within three months afterward).³² It is not clear how thorough the Department’s desktop reviews are, and given the repeated budget cuts that the Department has suffered, we wonder how often the Department can actually conduct field verifications.³³

However, regardless of how often field-verifications take place, the current restoration program is flawed because when an operator fails to restore a well site properly, the Department lacks the power to deny the operator an approval of its restoration activities. If approvals were required for post-plugging restoration, they could be made a condition of the well site’s being released from the operator’s bond.

³⁰ The dictionary defines “equivalent” as (among other things) “equal in force, amount, or value,” “like in signification or import,” and “corresponding or virtually identical especially in effect or function.” See <http://www.merriam-webster.com/dictionary/equivalent>

³¹ See *State Review of Oil and Natural Gas Environmental Regulations (STRONGER)*, Pennsylvania Follow-up State Review, September, 2013, at 23, available at <http://strongerinc.org/sites/all/themes/stronger02/downloads/Final%20Report%20of%20Pennsylvania%20State%20Review%20Approved%20for%20Publication.pdf>

³² 25 Pa. Code 78.903(4), 78.903(10).

³³ According to a powerpoint presented by the Department at an oil and gas industry training in 2012, “[i]n most cases, the Water Quality Specialist will review and field verify the accuracy of the OG-75 [the Department’s restoration report form] before signing off on the Well Site Restoration Report.” (Emphasis added). See http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/OilGasReports/2012/Training_Materials/SiteRestoration2012%282x2Version%29.pdf at 9.

Operators should be required by regulation to apply for certifications of restoration, which may be granted only by the Department after a field assessment of the well site, and the field assessment should verify that the contours, soils, vegetation, and post-construction stormwater Best Management Practices (if any) of the site satisfy the Department's restoration criteria. We recommend that section 78.65(f) be retitled "Application for Restoration Certificate," and be revised to require additional information that will enable the Department to determine whether the restoration criteria have been met – including but not limited to plans, drawings, and other documents (e.g., from the operator's erosion and sediment control permit authorization) showing the site's pre-construction contours and soil profile; similar documents showing the site's contours and soil profile, post-restoration; and a report from an ecologist, or other professional with appropriate expertise, describing how the site supports the same uses that it supported before oil and gas operations were commenced, or supports equivalent uses.

In addition to requiring applications for restoration certificates in lieu of restoration reports, Section 78.65(f) should require operators to provide copies of these applications to landowners in *all* cases, not just when the operator disposes of drill cuttings or residual waste at the well site, and should list all spills and releases of regulated substances required to be reported to the Department under 25 Pa. Code § 78.66.

Proposed section 78.65(f) provides that "[t]he well operator shall forward a copy of the well site restoration report to the surface landowner if the well operator disposes of drill cuttings or residual waste at the well site." As discussed above, PennFuture strongly believes that the Department should not merely require restoration reports; it should require operators to obtain restoration certificates for all well sites, and condition the issuance of certificates on the field assessments that verify restoration criteria. However, whether operators are required to submit reports or applications for certificates, they should also be required in all cases to provide copies of these documents to all landowners whose land has been affected by their operations, and to provide proof of notice with their submissions to the Department.

Notice to landowners only when drill cuttings or residual wastes are disposed of is insufficient, because the disposal of drill cuttings and residual wastes is not the only activity that can affect landowners' health and their water supplies and the productivity of their land. Spills and releases of chemicals and wastes may have such effects, too – and these effects may not manifest themselves until long after oil and gas operations have concluded. Consequently, operators should be required to list in their restoration applications or reports all spills and releases of regulated substances that are to be reported under section 78.66.

If, against better advice, the Department continues to allow residual wastes to be buried on well sites under sections 78.62 and 78.63, the Department should include mandatory testing requirements in those sections to make them consistent with section 78.65(f).

Section 78.65(f) would require restoration reports to include "[t]he test results required by §§ 78.62 [Disposal of residual waste - pits] and 78.63 [Disposal of residual waste – land application]." Unfortunately, neither of these two subsections appears to *require* test results.

Section 78.62, both in its current form and its proposed revised form, prohibits operators from disposing of residual waste in pits if the concentration of contaminants in the leachate exceed certain limitations.³⁴ Similarly, both current and proposed 78.63 prohibit the disposal of residual waste by land application if the concentration and contaminants in the leachate exceed certain limitations.³⁵ Under section 78.63(a)(19), the Department “may” require the well operator to conduct a chemical analysis to determine leachate characteristics – but unless the Department exercises this discretionary power, operators have no duty to do such an analysis. Subsection 78.65(f) is problematic, then, because it assumes the existence of testing requirements that do not exist. PennFuture strongly objects to the disposal of any residual wastes on well sites. However, assuming that the Department continues to allow such disposal, the Department should require testing of all residual wastes that are to be disposed of. In other words, sections 78.62 and 78.63 should be revised to be consistent with 78.65(f).

The Department should add to section 78.65 a new subsection providing that certificates of plugging will not be deemed to be filed within the meaning of section 3225 of Act 13 until the operator has obtained a restoration certificate from the Department.

Under Act 13, oil and gas well operators must post bonds that cover their wells and their well sites.³⁶ By law, these bonds are supposed to secure well sites’ restoration: “A bond filed with an application for a well permit shall be ... conditioned upon the operator’s faithful performance of all drilling, water supply replacement, *restoration* and plugging requirements of this chapter.”³⁷ Nonetheless, Act 13 also states that an operator’s liability under a bond continues only “until the well has been properly plugged in accordance with this chapter and for a period of one year after filing of the certificate of plugging with the department.” In other words, although Act 13 requires that bonds for wells and well sites secure various obligations that operators have under Act 13 (including restoration obligations), it releases operators from liability for particular well sites after the satisfaction of just one of those obligations: plugging (and the filing of a certificate of plugging). If a well site is restored within nine months of the plugging of the last well, as required by section 78.65(e), restoration will be accomplished before the well site is released from the bond. However, if the certificate of plugging is filed immediately after plugging occurs, and the well site is not restored within one year, release from the bond will occur *before* restoration.

To the extent that the Department should allow a well site to be released from an operator’s bond before restoration, the Department would be violating section 3325(a) of Act 13. To prevent this, the Department should promulgate a new subsection of section 78.65 providing that no certificate of plugging submitted by an operator³⁸ shall be accepted by the Department as filed within the meaning of section 3225 until the operator has obtained a restoration certificate from the Department.

³⁴ See 25 Pa. Code § 78.62(b).

³⁵ See 25 Pa. Code § 78.63(b).

³⁶ 58 P.S. § 3225(a).

³⁷ 58 P.S. §3225(a)(1) (emphasis added).

³⁸ Section 3220 of Act 13 provides for the preparation and filing of certificates of plugging after the completion of plugging activities. See 58 P.S. §§ 3220(c)-(d).

§ 78.66 Reporting and Remediating Releases

PennFuture supports the mandatory reporting requirements of Section 78.66.

Subsection (c)(1) should require that documentation of the cleanup be submitted to the Department.

In subsection (c)(1), PennFuture urges that the Department make documentation of the cleanup mandatory, and not discretionary. Subsection (c)(1) provides that documentation “should” be submitted to the Department. Replacing the word “should” with “shall” will eliminate any ambiguity in the regulation by making it clear that the documentation must be accomplished. Not only will this provide enhance transparency for the public and accountability, but it is likely something any responsible corporation would want to accomplish in any case, which is documentation that it has complied with the law.

Additionally, the word “of” should be deleted between “pollute” and “waters” in the first sentence of subsection (c)(1).

In subsection (c)(3), the word “of” appears to be missing between “pollution” and “waters” in the introductory clause of subsection (c)(3).

PennFuture requests the following changes to subsection (c)(3)(iv):

- The antecedent for “This report” referenced at the beginning of subsection (c)(3)(iv) should be specified. We assume that “this report” refers to the “site characterization report” discussed in subsection (c)(3)(iii), but the sentence could be clarified with a specific reference to the “site characterization report.”
- The second sentence of subsection (c)(3)(iv) refers to notice and review provisions of “these standards.” We assume that “these standards” the background and statewide health standard referred to in the preceding sentence, but the reference could be clearer if the background and statewide health standards were referenced explicitly.
- Subsection (c)(3)(iv) seems unclear when it references meeting “all of the requirements” of an Act 2 cleanup. Act 2 provides that a cleanup must be completed to the standards under that law if a person seeks a release of liability for conducting further cleanup activities. Although there is no express provision authorizing it, the Department has interpreted Act 2 as allowing persons that voluntarily cleanup sites to only address pollutants for which the person seeks a liability release (To the contrary, PennFuture believes that Act 2 can fairly be read as requiring a site remediation to comply with a cleanup standard or combination thereof, but that any such cleanup must address all known contaminants on the site for there to be a release of liability). The Department has further taken the position, at least with respect to voluntary cleanups, that the agency will not take an enforcement action to ensure a comprehensive cleanup of contaminants even where the agency is aware that the owner is not cleaning up all contaminants on a site. With that complicated background, it is unclear what the Department means when the

proposed regulation states that the cleanup must meet “all of the requirements” of an Act 2 cleanup – particularly where Act 2 has been touted as being a “voluntary” compliance statute containing no “requirements.” PennFuture supports a provision requiring that any cleanup of a spill or release demonstrate that each pollutant from that spill or release be remediated to an Act 2 standard.

- The second sentence of subsection (c)(3)(iv) seems to exempt the party responsible for a release from portions of Act 2’s notice and review provisions. Although some remedial actions may be exempt from certain of Act 2’s notice and review requirements if they are completed within 90 days of release (See Act 2, sections 302(e)(4) and 303(h)(4)), it does not appear that the exemption contained in subsection (c)(3)(iv) is so limited. Statutory requirements may not be limited or changed by regulation. We are not aware of any provision in Act 13 or any other statute that would allow for the waiver of Act 2’s notice and review requirements. Without such authority, the second sentence of subsection (c)(3)(iv) should be stricken.

Subsection (c)(3)(v) should mandate what must be included in a remediation plan.

Subsection (c)(3)(v), the last sentence, should replace the word “should” with the word “shall,” so that it would read, “Remedial plans shall contain the elements...” Replacing the word “should” with the word “shall” will eliminate any ambiguity in the regulation by making it clear that the remedial plans must include the required elements.

78.68b (temporary pipelines for oil and gas operations)

The Department should ensure that the requirements for temporary pipelines in section 78.68b are consistent with the requirements for “services lines” (a category which includes temporary oil and gas pipelines) in General Permit BWEW-GP-8.

The Department recently accepted comments on proposed revisions to Water Obstruction and Encroachment General Permit BWEW-GP-8. Currently, GP-8 is titled “Temporary Road Crossings” and it authorizes only temporary road crossings of streams and wetlands. The Department has proposed to retitle GP-8 “Temporary Crossings and Environmental Testing or Monitoring Activities,” and to expand its scope to cover, among other things, “service lines, including temporary pipelines for oil and gas operations that have an inside diameter of up to 24 inches.

We assume that the Department’s Bureau of Waterways Engineering and Wetlands and its Office of Oil and Gas Management have been in communication about possible conflicts between GP-8 and section 78.68b, and will continue to communicate. That said, it appears that the pipeline requirements in proposed GP-8 and proposed section 78.68b were developed independently of each other. For example, while proposed GP-8 opposes the terms “fresh water, which is devoid of any polluttional materials” and “fresh water which may contain polluttional materials,” proposed section 78.68b uses the phrase “fluids other than fresh ground water, surface water, water from water purveyors or approved sources,” which implies a category of

fluids consisting of “fresh ground water, surface water, and water from water purveyors or approved sources.” And while proposed section 78.68b(d) provides that “[t]he section of a temporary pipeline crossing over a watercourse or body of water, except wetlands, shall not have joints or couplings,” proposed GP-8 states that “[n]o valves, fittings or pipe joints shall be located within the floodway limits of the watercourse, including above the watercourse.” To the extent that wetlands are present in floodways, these provisions would allow a person to install a pipeline with a joint over the wetland, but require an individual Chapter 105 permit, rather than coverage under GP-8. The problem is that the differences in nomenclature and phrasing between the two provisions make this less than this obvious.

We understand that proposed section 78.68b and proposed GP-8 will regulate different universes of pipelines – 78.68b covering all temporary oil and gas pipelines, including those that cross no streams and wetlands, and proposed GP-8 covering a wide range of service lines that cross streams and wetlands, including but not limited to oil and gas pipelines – but the area of overlap is broad and important. We urge the Department’s Waterways Engineering and Oil and Gas personnel to work together closely to ensure consistency between section 78.68b and GP-8 (e.g., to prohibit joints and couplings over both floodways and wetlands in both contexts) and in all cases to resolve conflicts by choosing the option that will be more protective of waters of the Commonwealth. PennFuture incorporates by reference in these comments the comments on proposed GP-8 submitted by the Pennsylvania Campaign for Clean Water (to which PennFuture was a signatory), as well as comments submitted by Stephen P. Kunz.

Section 78.68b(a) should identify the regulated activities under Chapters 102 and 105 with which temporary pipelines must comply.

Subsection (a) currently provides: “Temporary pipelines shall meet applicable requirements in 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).” We recommend that to add clarity, the Department revise this subsection to add the words that follow in italics: “*The construction, installation, use, maintenance, repair, and removal of temporary pipelines shall meet applicable requirements in 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).*” It is not pipelines themselves that cause erosion and sedimentation, but their installation, removal, and maintenance. Similarly, Chapter 105 does not contain pipeline specifications; it regulates the placement of pipelines. Section 78.68b(a) should reflect these considerations.

Section 78.68b(a) should be revised to clarify the types of pipelines that must be installed aboveground except when crossing pathways, roads, or railways.

Currently, subsection (b) provides: “Temporary pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall be installed aboveground except when crossing pathways, roads or railways where the pipeline may be installed below ground surface.” We recommend striking the phrase “water from water purveyors or approved sources” because water obtained from purveyors may consist of acid mine drainage or other water that could cause pollution, if discharged into a water of the Commonwealth, and because the term “approved sources” is ambiguous. For clarity, we also

recommend replacing the phrase “fresh ground water, surface water” with the phrase “fresh ground water or fresh surface water.” We suggest the following language for revised section 78.68b(b): “Temporary pipelines that transport fluids other than fresh ground water or fresh surface water shall be installed aboveground except when crossing pathways, roads or railways, in which case the pipeline may be installed below ground surface.”

Section 78.68b(c) should provide that temporary pipelines may not be installed through *any* stream culverts, storm drain pipes, or under bridges without authorization from the Department.

Proposed subsection (c) states that temporary pipelines “cannot be installed through existing stream culverts, storm drain pipes or under bridges without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification of culverts and bridges).” To ensure consistency with 25 Pa. Code Chapter 105, the word “existing” should be struck. Also, “cannot” should be changed to “may not.”

Allowing temporary pipelines carrying wastewater to have joints and couplings over wetlands is unreasonable.

Proposed section 78.68b(d) provide that “[t]he section of a temporary pipeline crossing over a watercourse or body of water, *except wetlands*, shall not have joints or couplings. Temporary pipeline crossings over wetlands shall utilize a single section of pipe to the extent practicable. Shut off valves shall be installed on both sides of the temporary crossing.” (Emphasis added). Where pipelines that carry wastewater, chemicals, and other “regulated materials” are concerned, a rule that allows joints and couplings over wetlands as a general rule (rather than an exception) is arbitrary and unreasonable. Why should wetlands be afforded less protection than streams? They should not be. The phrase “except wetlands” should be struck in the first sentence of the proposed regulation, and the second sentence – in which the use of the phrase “to the extent practicable” makes the avoidance of joints a matter of financial feasibility – should likewise be deleted.

Subsection (e) should be revised to be at least as stringent as sections 12.G.8 and 12.G.9 in proposed GP-8.

Sections 12.G.8 and 12.G.9 of proposed GP-8 provide for periodic inspections of temporary pipelines that transport wastewater; for shut-off valves located outside of the floodway limits of waterways; for written procedures for stopping the flow of fluids when a leak, break, or rupture occurs, and for terminating service and collecting remaining fluids when operations cease; and for a written emergency response plan addressing actions to be taken if a discharge, leak, or spill should occur. Section 78.68b(e) contains provisions for shut-off valves, check valves, and “other method [sic] of segmenting the pipeline placed at designated intervals,” but only to the extent necessary to prevent the discharge of “no more than 1000 barrels of fluid.” Requiring shut-off valves and other devices that would do nothing to stop discharges of less than 1,000 barrels is barely better than not requiring shut-off valves at all, and would fail to protect the Commonwealth’s waters and soils from leaks and spills. The safety provisions in sections 12.G.8

and 12.G.9 of GP-8 are reasonable and far more protective. The Department should include all of them in proposed section 78.68b(e).

Subsection (g) should require pressure testing *each time* a temporary pipeline is placed in service.

Currently, subsection (g) provides that “[t]emporary pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved or altered....” For purposes of clarity, the phrase “and after the pipeline is moved or altered” should be replaced with the phrase “and each time the pipeline is subsequently placed into service after being moved or altered.”

Subsection (h) should clarify that any discharge of hydrostatic water requires a NPDES permit from the Department under 25 Pa. Code Chapter 92a.

As the Department notes in Notice of Intent instructions for its NPDES general permit PAG-10, “NPDES General Permit for Discharges from Hydrostatic Testing of Tanks and Pipelines,” “[a]ll persons identified in 40 CFR Part 122 who operate facilities or activities which discharge pollutants into surface waters of the Commonwealth (including intermittently flowing streams and drainage channels), including discharges to municipal separate storm sewers or non-municipal separate storm sewers, are required to have the discharges authorized by a NPDES permit.” The Department has developed PAG-10 for discharges of hydrostatic testing water that do not occur in special protection watersheds. (In special protection watersheds, individual NPDES permits are required). Section 78.68b(h) should make clear that operators seeking to discharge hydrostatic testing water to surface waters of the Commonwealth must obtain a NPDES permit.

Subsections (i) and (m) should require operators to retain records of temporary pipeline operations, inspections, and repairs for at least two (2) years after a pipeline has been removed from service.

Section 78.68b(i) requires operators to document their inspections and repairs of temporary pipelines, and section 78.68b(m) requires operators to document where and when they used pipelines, and what fluids they transported in them. PennFuture supports these provisions, but recommends additional provisions requiring operators to retain their inspection documents for at least two years after a pipeline has been removed from service. If this documentation is not retained, and so cannot be provided to the Department, it will be much difficult for the Department to determine whether an operator’s temporary pipeline operations were responsible for pollution later discovered in the vicinity of the pipeline operations.

78.69 (water management plans)

Subsection (a) should require WMPs for all *persons* that withdraw water for use in drilling and hydraulic fracturing operations – not just for all “unconventional well operators.”

Water for unconventional oil and gas operations is not withdrawn only by companies directly engaged in those operations; it is also withdrawn by third parties who sell water to those companies. Section 3211(m) of Act 13 requires persons in *both* categories to obtain DEP-

approved water management plans: “No person may withdraw or use water from water sources within this Commonwealth ... except in accordance with a water management plan approved by the department.” By contrast, proposed section 78.69 directs only “unconventional well operator[s]” to obtain DEP approval for their water management plans. If section 78.69(a) is to conform with Act 13, it must be revised accordingly, and should also clarify that WMPs are required for all withdrawals for water sources “within this Commonwealth.”³⁹ We suggest using the statutory language so that the regulation is coextensive with the statutory requirement: “No person shall withdraw or use water from any source of water within the Commonwealth for drilling or hydraulic fracturing an unconventional gas well without first obtaining the Department’s approval of a water management plan. This requirement applies to any withdrawals from a water of the Commonwealth or any other source of water located within the Commonwealth.” Accordingly, subsection (a) should be retitled “WMPs for unconventional well *operations*” (emphasis added).

Subsection (b) should establish statewide signage, monitoring and reporting requirements for water withdrawal projects, while exempting projects in areas under the jurisdiction of Pennsylvania’s river basin commissions.

As an initial matter, the structure and punctuation of subsection (b) does not seem to make sense, and may limit the effect of subsection (b). The intent appears to be that the Department seeks to apply the sign, monitoring, reporting and recordkeeping requirements of the SRBC to the Ohio River Basin. Because of the periods at the end of subsections (b)(1), (2) and (3) and the lack of an “and” after (b)(3), it is not apparent that the phrase “shall be implemented in the Ohio River Basin modifies each of the statements in (b)(1), (2) and (3). The structure and punctuation of subsection should be changed to ensure that the phrase “shall be implemented in the Ohio River Basin” modifies the posting, monitoring and reporting requirements, as well as the recordkeeping requirements in (b)(4).

Secondly, subsection (b) would apply the SRBC’s signage, monitoring, and reporting requirements for water withdrawals to Ohio River Basin withdrawals, but not to withdrawals in the Delaware, Potomac, or Genessee basins, and the Lake Erie watershed. While we agree that there should be regulatory signage, monitoring, and reporting requirements for water withdrawals in the Ohio River Basin, we believe the same rules should apply in the Potomac and Genessee basins, and in Lake Erie’s watershed.⁴⁰ Oil and gas development activities may not be common in these areas now, but that could change; meanwhile, ensuring application of the requirements of section 78.69 in those areas would do no harm.

Instead of trying to implement SRBC’s requirements as proposed, we recommend that the Department independently establish statewide signage, monitoring, and reporting requirements in section 78.69, but exempt from those requirements projects in any area where an interstate or federal-interstate commission has promulgated its own requirements. This approach would ensure equal protection for all waters of the Commonwealth, and also be less ambiguous than the

³⁹ 58 P.S. § 3211(m)(1)

⁴⁰ For the purpose of these comments, we assume that if the Delaware River Basin Commission approves new regulations for oil and gas development in the Delaware Basin, those regulations will contain signage, monitoring and reporting requirements.

Department's proposed approach of imposing "[t]he requirements imposed by the Susquehanna River Basin Commission" in other basins. Section 806.30 of the SRBC's regulations, 18 C.F.R. § 806.30, does contain monitoring and reporting requirements – but these sections require the submission of reports to the SRBC (not to the DEP) and do not mention the posting of signs at all. The SRBC does (in most, if not all cases) require the posting of signs in its water withdrawal approvals⁴¹ – but the fact that these requirements are imposed on an approval-by-approval basis means that the language of proposed section 78.69 would arguably not incorporate any sign requirement in the Ohio River Basin, contrary to the apparent intent of the regulation. If the Department chooses *not* to enact independent signage, monitoring, and reporting requirements, the Department should, at a minimum, provide a reference within each subpart of section 78.69(b) directing readers to the specific SRBC requirements being incorporated into this section.

Subsection (c) should require operators to submit their fluid reuse plans to the Department.

Proposed section 78.69(c) would require unconventional well operators seeking WMPs to develop a "reuse plan" for hydraulic fracturing fluids. PennFuture supports this requirement, but the Department should also require operators to *submit* their reuse plans to the Department, rather than requiring the plans to be submitted only upon request. If submission of these plans is not required, section 78.69(c) will be unenforceable by the Department, and the public will be denied the opportunity to obtain and review these important documents, and understand the industry's efforts to reduce the impact of its operations.

To the extent the Department revises 78.69(a) to apply to any person withdrawing water for unconventional gas development, then this section should be worded and structured to stand apart and alone from that section, by renumbering it and removing the phrase "submitting a WMP application" from the first sentence.

Presumably, the Department has not proposed a submission requirement because there is no such requirement for wastewater source reduction strategies (which can be used to comply with section 78.69) under 25 Pa. Code § 95.10(b). But under section 95.10(b), which discusses requirements for operations that generate wastewater, there is no requirement to submit *any* documents. By contrast, where WMPs are concerned, it is the Department's current practice to require applications, and section 78.69 would codify this practice. Requiring operators to submit source reduction strategies or reuse plans will impose no significant burden on operators (especially if reuse plans, once submitted, need be resubmitted only when they changed) and will provide valuable information to the public.

⁴¹ One common SRBC signage provision is: "At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate, docket expiration date, and contact information for the project sponsor and the Commission. The sign should be installed prior to any withdrawal of water and be maintained for the duration of the approval. The project sponsor should submit digital photographs as proof of sign installation prior to the initiation of the withdrawal."

Subsection (d) is confusing and unnecessary, and should be struck from the final rulemaking.

Proposed subsection (d) echoes section 3211(m)(3) of Act 13, which provides that the statutory criteria for WMPs set forth in subsection (2) are presumed to be achieved to the extent that a proposed water withdrawal has been approved by the Susquehanna River Basin Commission, the Delaware River Basin Commission, or the Great Lakes Commission. In theory, a regulatory presumption corresponding to the statutory exemption makes sense. Here, however, it seems unnecessary. Not only does the introductory phrase “when applicable” beg the question of when the regulatory presumption will apply; the presumption is misplaced where an operator has obtained a withdrawal approval from the SRBC because the SRBC does not require water reuse plans.⁴² Further, the statutory provision is self-executing and requires no further elaboration or explanation. For these reasons – and because the requirement for a reuse plan is the *only* substantive requirement in section 78.69 to which a presumption of regulatory compliance could apply, we recommend that proposed subsection (d) be struck from the final Chapter 78 rulemaking.

Subsection (e) should authorize the Department to limit the term of a WMP water source approval to less than five years.

In some circumstances, such as where the effects of a proposed withdrawal from a special protection stream are uncertain or where a withdrawal and other nearby projects may have cumulative impacts, it may be appropriate to limit the term of a withdrawal to less than five years. Subsection (e) should give the Department the power to do so. We suggest that subsection (e) be revised to provide: “An approval in a WMP to withdraw or use water from an individual water source shall be valid for 5 years unless the WMP provides for a shorter time period or the withdrawal or use of the source is suspended or revoked under subsection (g).”

Subsection (g) should authorize the Department to suspend or revoke WMPs in their entirety for compliance violations.

Failure by an operator to comply with its WMP, such as by withdrawing greater volumes of water than the WMP permits, or withdrawing any amount of water when a stream level falls below a pass-by flow level, could harm aquatic life or impair a water quality standard. To ensure that subsection (g) provides an effective deterrent to non-compliance, the Department should reserve the right to suspend or revoke an operator’s WMP in its entirety for deliberate, repeated, or egregious violations. In all likelihood, suspending withdrawal only for the water source that has been violated will have no deterrent effect because all unconventional well operators

⁴² Section 806.25 of the SRBC’s regulations, “Water Conservation Standards,” 18 C.F.R. § 806.25, requires industrial users of water to “evaluate and utilize applicable recirculation and reuse practices,” and the SRBC has adopted a resolution, 2012-01, stating that “as appropriate, the Commission will require project sponsors seeking higher quality waters in watersheds where [mine drainage] or other lesser quality water is available to first consider use and reuse of that lesser quality water.” But neither the regulation nor the policy requires the development of a reuse plan.

maintain large portfolios of sources and the loss of any one particular source will not prevent the operator from obtaining water to proceed with operations.⁴³

In its current form, subsection (i) is inconsistent with both section 3211(m) of Act 13 and the Department's antidegradation requirements, and must be revised to ensure consistency.

Section 3211(m) of Act 13 establishes four statutory criteria that withdrawals and uses of water must satisfy to be approved in a WMP. Withdrawals must not "adversely affect the quantity or quality of water available to other users of the same water sources," must "protect and maintain the designated and existing uses of water sources," must not "cause adverse impact to water quality in the watershed considered as a whole," and must "include a reuse plan for fluids that will be used to hydraulically fracture wells."

In its current form, proposed subsection (i) restates the first three of these criteria and provides that the Department "may" deny WMPs that do not satisfy the criteria.

There are two problems with the Department's approach.

First, to say that the Department "may" deny approval of a WMP that would fail to protect designated and existing uses is also to say that the Department may *approve* a WMP in these situations. Approval, however, would violate both the Department's designated use protection regulation set forth at 25 Pa. Code § 93.4 and its antidegradation policy set forth at 25 Pa. Code § 93.4a. Under section 93.4, the designated use of a surface water must be protected unless "it is demonstrated that the designated use is more restrictive than the existing use, the use cannot be attained by implementing effluent limits required under [the Federal Clean Water Act] or implementing cost-effective and reasonable BMPs for nonpoint source control," and a permit applicant shows that one of the factors set forth at subsection 93.4(b)(1)-(6) either prevents the attainment of a designated use or justifies its non-attainment.⁴⁴ And under section 93.4a, "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses *shall be* maintained and protected."⁴⁵ Moreover, the Department may not allow a withdrawal to degrade water quality in a special protection stream except, in some cases, for social and economic justification.⁴⁶

Given these regulations, the Department has no authority to approve a WMP that would fail to protect an existing use; the Department has limited authority to approve a WMP that would reduce water quality in a Special Protection stream; and the Department may not approve a WMP that would fail to protect a designated unless the operator satisfies the requirements of 25 Pa. Code § 93.4(b). Subsection (i) should be revised to reflect these limitations.

⁴³ See SRBC Approved Source List for Natural Gas Development, available at <http://www.srbc.net/wrp/ApprovedSourceList.aspx>.

⁴⁴ 25 Pa. Code § 93.4(b)

⁴⁵ 25 Pa. Code § 93.4a(b) (emphasis added).

⁴⁶ 40 C.F.R. § 131.12, 25 Pa. Code § 93.4a(c).

The second problem with the Department's approach is that no part of proposed section 78.69 (including subsection (i)) requires operators to submit information that the Department needs to determine whether, in fact, a WMP will protect uses or cause an adverse impact to water quantity and quality.

Currently, the Department requires a person seeking a WMP approval to submit Form 5500-PM-OG0087, "Water Management Plan for Marcellus Shale Gas Well Development." Section A of this form requests basic information about the proposed withdrawal: the name and HUC-8 code of the stream, the municipality and river basin in which it is located, and the proposed volume and rate of the withdrawal. Section B requests a water source and use monitoring plan unless the withdrawal is located in the Susquehanna River Basin or Delaware River Basin, in which case the form requests the approval number of an SRBC-approved water withdrawal and consumptive use metering and monitoring plan or a DRBC-approved water withdrawal and use monitoring plan. Section C applies to surface water withdrawals, and requests the stream's Chapter 93 designated and existing uses; a low flow analysis; an analysis of the proposed withdrawal's impacts on water quality, aquatic biota, threatened and endangered species, and wetlands; and the operator's plans for protecting designated and existing uses and avoiding or mitigating the withdrawal's various potential impacts. Section D requests similar information for proposed groundwater withdrawals, and Section E requests similar information for proposed uses of wastewater, cooling water, and mine water diversion sources.

We have used the term "request" rather than the term "require" with respect to Form OG0087's fields because the Department currently *treats* these fields as requests, at least when the applicant has obtained a water withdrawal approval from the SRBC. To cite one of many examples: on January 8, 2013, Anadarko E&P Company, LP submitted a form OG0087 application to add a new water withdrawal – a withdrawal from Lycoming Creek (CWF, EV) in the amount of 1,340,000 gallons per day for which Anadarko had previously obtained SRBC approval – to its approved WMP.⁴⁷ Anadarko completed Sections A, C.1 ("Source Identification and Notification"), and C.2 ("River Basin Commission Approvals") of the form, but left blank the sections requiring a low flow analysis, information on stream classification and uses, information on threatened and endangered plant and animal species, and an analysis of withdrawal impacts. In lieu of completing these sections, Anadarko simply appended to its application its SRBC approval.⁴⁸ On January 23, 2013, the Department approved Anadarko's WMP amendment, stating that "[u]pon review, the Department finds that the above-referenced Water Management Plan Amendment application demonstrates that [Anadarko's] proposed water withdrawal ... will satisfy the requirements under the 2012 Oil and Gas Act." No documents in the file suggested that the Department performed any analysis to support this conclusion or had enough information to support a meaningful analysis.

Because section 3211(m)(3) creates only a presumption that a withdrawal approved by the SRBC satisfies the criteria of section 3211(m)(2), the Department must, for all WMP applications, perform an independent assessment to determine impacts on designated and existing uses – and to do that, the Department must have all the information required by OG0087. For withdrawals from special protection streams, the Department must, in addition, determine whether a proposed

⁴⁷ See PADEP File No. WMP-251430-04, WUDS Primary Facility ID No. 59901

⁴⁸ See SRBC Docket No. 2012-031 (approval issued March 15, 2012)

withdrawal has the potential to degrade water quality. As the Department's Water Quality Antidegradation Implementation Guidance notes, "[w]ithdrawal of water from streams or lakes for various uses can have an adverse impact."⁴⁹ Consequently, "[w]ater withdrawals must be designed and operated in a manner that maintains existing uses and/or quality depending on the applicable water use designation,"⁵⁰ and the Department may approve WMPs only if an operator makes this demonstration.⁵¹ It follows that the Department must require operators to submit all the information that the Department needs to make these determinations.

For all of the reasons stated above, we recommend that section 78.69(i) be retitled "Review and Denial," and be revised to provide as follows:

- (i) "A WMP shall not be approved unless the Department determines, after review, that it satisfies all applicable requirements of Act 13, the Clean Streams Law, and the Department's antidegradation requirements set forth at 25 Pa. Code §§ 93.4a-93.4c. In addition, the Department may deny approval of a WMP for any of the following reasons:
- (1) The WMP application is administratively incomplete. The Department will determine an application to be administratively incomplete for reasons including, but not limited to, an applicant's failure to submit an analysis on the proposed withdrawal's impacts on designated and existing uses and, for water bodies with designated or existing uses under 25 Pa. Code Chapter 93 of High Quality and Exceptional Value, on water quality.
 - (2) The WMP will adversely affect the quantity or quality of water available to other users of the same water sources.
 - (3) The WMP will cause an adverse impact to water quality in the watershed as a whole."

78.70. (Road-spreading of brine for dust control and road stabilization) and 78.70a. (pre-wetting, anti-icing and de-icing)

⁴⁹ PADEP, Water Quality Antidegradation Implementation Guidance, Document No. 391-0300-002, at 9.

⁵⁰ *Id.*, at 44-45.

⁵¹ In theory, an operator could make this demonstration when it applies for the water obstruction and encroachment permit required under 25 Pa. Code Chapter 105 for its water intake device. Arguably, this would be the more appropriate place for impact analyses for two reasons. First, by the time an operator seeks a Chapter 105 permit, the amount of water it will be withdrawing is usually certain (so that impacts associated with the removal of water and the water obstruction and encroachment could be evaluated together). Second, 25 Pa. Code §105.14(b)(11) already requires that the Department perform an antidegradation analysis for water obstruction and encroachment permit applications. (In fact, water obstruction and encroachment files reviewed by PennFuture show that the Department is *not* performing antidegradation analyses for special protection water withdrawals under Chapter 105). That said, if the Department proceeds with its current proposal to approve WMPs under Chapter 78, independent of Chapter 105 applications, it must perform antidegradation analyses for those reviews, even if those reviews are limited to the water withdrawal (i.e., removal) *per se*.

Proposed sections 78.70 and 78.70a establish an unlawful permit-by-rule program for the beneficial use of oil and gas well production brine, and should be struck from the rulemaking.

Production brines from oil and gas wells constitute residual waste under the Pennsylvania Solid Waste Management Act (“SWMA”) 35 P. S. §§ 6018.101—6018.1003.⁵²

Generally, the Department regulates residual waste under the SWMA regulations set forth at 25 Pa. Code Chapters 287-299. These regulations apply to all residual wastes in the Commonwealth except for wastes generated by oil and gas activities when the wastes are located *on the well site*. Under 25 Pa. Code § 287.2, this narrow (if voluminous) category of wastes is regulated under Chapter 78 exclusively. Section 287.2 provides: “[a] pit, impoundment, method or facility employed for the disposal, storage or processing of residual waste which is generated by drilling or production of an oil or gas well, and is located on the well site as defined in section 603a of the Oil and Gas Act (58 P. S. § 601.603a), *shall be regulated under Chapter 78 (relating to oil and gas wells), instead of this article* [Article IX, Ch. 287-299], if the owner or operator of the well meets the conditions of section 603a of the Oil and Gas Act.”⁵³

Proposed sections 78.70 and 78.70a would establish a permit-by-rule program for the beneficial use of brines from conventional oil and gas wells at locations not just on, but also away from well sites. Specifically, section 78.70 establishes requirements for the use of brines for dust control and road stabilization, then provides that “[p]ersons conducting road-spreading of brine for dust control and road stabilization activities shall be deemed to have a residual waste permit by rule if those activities comply with the requirements of this section.”⁵⁴ Similarly, section 78.70a establishes requirements for the use of brines for the pre-wetting, anti-icing, and de-icing of roads, then provides that “[p]ersons using brine for pre-wetting, anti-icing and de-icing activities in accordance with this section shall be deemed to have a residual waste permit by rule.”⁵⁵ Section 78.70 would codify brine-spreading requirements used by the Department in its current brine-spreading program.⁵⁶ Section 78.70a would largely codify requirements that the Department proposed in 2011 under the auspices of Residual Waste General Permit WMGR064.⁵⁷

⁵² See 25 Pa. Code § 287.1, defining “residual waste” to include liquid materials from industrial operations, provided the materials are not hazardous. The production of oil and natural gas is an unambiguously industrial operation.

⁵³ 25 Pa. Code § 287.2(g) (emphasis added). Section 603a of the Oil and Gas Act of 1984, “Relationship to solid waste and surface mining,” has been recodified without substantive changes as section 3273.1 of Act 13. It exempts pits, impoundments, and methods or facilities for the disposal, processing and storage of residual waste generated by oil and gas well operations from the permit and bonding requirements of the Solid Waste Management Act and its regulations, provided that (1) the pit, impoundment, method, or facility is located on a well site, (2) the operator has satisfied the permit and bonding requirements of Act 13, and (3) the operator is in compliance with Act 13 and all applicable regulations of the Department.

⁵⁴ Proposed 25 Pa. Code § 78.70(o).

⁵⁵ Proposed 25 Pa. Code § 78.70a(u).

⁵⁶ See Department of Environmental Protection Fact Sheet 8000-FS-DEP1801 (rev. February, 2013). PennFuture believes that this program is unlawful because, like proposed sections 78.70 and 78.70a, it does not comply with the Department’s beneficial use regulations at 25 Pa. Code Chapter 287.

⁵⁷ The Department sought comments on proposed WMGR064 (a previous version of which expired on September 22, 2010) by public notice on September 17, 2011. On November 24, 2012, the Department issued a public notice

PennFuture does not object to the Department's regulating the beneficial use of production brines away from well sites under the auspices of Chapter 78. However, the Department is proposing to do much more than this: it is proposing to allow the beneficial use of brines under Chapter 78 in a manner that is contrary to law, namely the Department's beneficial use regulations set forth at 25 Pa. Code Chapter 287.

The SWMA authorizes the Department to "establish waste regulations to effectuate the beneficial use of municipal and residual waste, including regulations for the issuance of general permits for any category of beneficial use or processing of municipal waste or residual waste on a regional or Statewide basis *in accordance with the regulations adopted by the Environmental Quality Board.*"⁵⁸

The SWMA authorizes the Environmental Quality Board ("EQB") to "adopt the rules, regulations, criteria and standards of the department to accomplish the purposes and to carry out the provisions of this act, including but not limited to the establishment of rules and regulations relating to the protection of safety, health, welfare and property of the public and the air, water and other natural resources of the Commonwealth."⁵⁹

Again, the EQB's regulation at 25 Pa. Code § 287.2(g) provides: "A pit, impoundment, method or facility employed for the disposal, storage or processing of residual waste which is generated by drilling or production of an oil or gas well, and is located on the well site as defined in section 603a of the Oil and Gas Act (58 P. S. § 601.603a), shall be regulated under Chapter 78 (relating to oil and gas wells), instead of this article [Article IX, Ch. 287-299], if the owner or operator of the well meets the conditions of section 603a of the Oil and Gas Act."

The permit-by-rule program set forth in proposed 78.70 and 78.70a is at odds with the more stringent, detailed, and protective beneficial use approval program codified at 25 Pa. Code Chapter 287, Subchapter H.⁶⁰ Among other things, that program includes public notice and comment requirements.⁶¹ The Department's position appears to be that when the Department chooses to regulate off-well-site oil and gas wastes under Chapter 78, the requirements of Chapter 287 do not apply, notwithstanding the directive in section 104(18) of the SWMA that SWMA regulations established by the Department must be in accordance with the EQB's regulations. PennFuture disagrees with this position.

The language of Section 287.2(g) conflicts with the Department's position that it can regulate brine outside the scope of its beneficial use program. The use of the phrase "instead of" in subsection 287.2(g) shows clearly that when the EQB wants to exempt a waste from regulation under Chapter 287, so that it will be regulated exclusively under chapter 78, the EQB knows how to do so. To date, the EQB has exempted oil and gas wastes from Chapter 287's requirements

stating that it had "decided to withdraw the proposed renewal and modification of General Permit Number WMGR064. Permit WMGR064 remains expired and unavailable for use."

⁵⁸ 35 P.S. § 6018.104(18) (emphasis added).

⁵⁹ 35 P.S. § 6018.105.

⁶⁰ See, e.g., 25 Pa. Code § 287.621 and 25 Pa. Code § 287.631 (describing the application requirements and content requirements for beneficial use general permits under Chapter 287).

⁶¹ See 25 Pa. Code § 287.623.

only when the wastes are located on well sites. The EQB has not exempted oil and gas wastes from Chapter 287 when the wastes are *not* located on well sites.

While PADEP may have the authority to regulate oil and gas wastes not on well sites, under Chapter 78, it must ensure that those regulations are consistent with the regulations in Chapter 287.

Proposed sections 78.70 and 78.70a are not consistent with the regulations in Chapter 287 because they would establish an unlawful permit-by-rule program. Under Chapter 287, “permit-by-rule” is defined as “[a] permit which a person or municipality is deemed to have for the operation of a facility or an activity upon compliance with § 287.102 (relating to permit-by-rule).”⁶² Section 287.102 “sets forth classes of facilities that are subject to permit-by-rule.”⁶³ Chapter 287 permits-by-rule are available for the beneficial use of residual wastes only to the extent that the beneficial use was approved by before July 4, 1992: “The beneficial use of residual waste which the Department has approved, in writing, prior to July 4, 1992, shall be deemed to have a residual waste processing or disposal permit if the person or municipality uses the residual waste in accordance with the terms and conditions of the written approval and the Department has not revoked the approval. The expiration date for permits issued pursuant to this subsection is July 4, 2002, unless a specific permit term is written as a condition of the prior written approval.”⁶⁴ Chapter 287 does not authorize permits-by-rule for *new* beneficial uses. A person seeking authorization for a new beneficial use must obtain a general or individual permit under Chapter 287, Subchapter H, which generally “sets forth requirements for the processing and beneficial use of residual waste....”⁶⁵

In sum, the Department may not establish – and the EQB may not adopt – a Chapter 78 regulation that provides for a new permit-by-rule for the beneficial use of residual wastes because 287.102 does not allow for new beneficial use permits-by-rule. Any beneficial use of oil and gas residual wastes not located on a well site must be regulated in a manner consistent with 25 Pa. Code 287, Subchapter H.

§78.73. (General provision for well construction and operation).

Subsection (c) should be amended to provide better protection against fluid migration through orphaned or abandoned wells.

Subsection (c) requires that orphan or abandoned wells identified in preparation for hydraulic fracturing be visually monitored during stimulation. It seems that visual monitoring will only detect migration of frack fluids after migration beyond the intended area of influence, and will not detect migration to the freshwater zone in all cases. PennFuture recommends a series of more protective measures that would begin with an obligation on the operator to avoid fracturing an area intercepted by an orphaned or abandoned well. If it is not practicable to avoid the area, then

⁶² 25 Pa. Code § 287.1

⁶³ 25 Pa. Code § 287.102(a).

⁶⁴ 25 Pa. Code § 287.102(e).

⁶⁵ 25 Pa. Code § 287.601(a).

the operator should have an obligation to plug the well, or use instruments to monitor for migration of frac fluids in the orphaned or abandoned well.

78.75 (alternative methods)

The Department should append to subsection (a) language clarifying that an operator may not use an alternative method or material for the casing, plugging or equipping of a well until the Department has approved that alternative method or material.

Under current subsection 78.75, operators employ alternative casing, plugging and equipping methods or materials, then seek after-the-fact approval for these materials or methods.⁶⁶ This defeats the purpose of the regulation, which is to ensure that alternative methods be evaluated for safety *before* they are placed in use. Consequently, we recommend that Department add to subsection (a) the following language: “An operator shall not use an alternative method or material for the casing, plugging, or equipping of a well until the Department has approved that alternative method or material.”

Subsection (b) should require operators seeking approval for alternative methods to explain why they are seeking approval.

Currently, section 78.75(b) requires an operator seeking approval of an alternative casing, plugging or equipping method or material to describe the proposed alternative method “in reasonable detail,” if appropriate with a drawing, and to indicate how the method or material “will satisfy the goals of the act and this chapter.” We suggest that the Department also require operators to explain why they wish to use an alternative method or material, and to provide site-specific reasons in this explanation. Such a requirement would not only provide the Department with valuable information about industry innovations and trends; it would also enable the Department better to evaluate representations that proposed methods and materials will protect public health and safety and natural resources as well as the methods and materials codified by regulation.

Subsection (e) should be revised to provide that the Department will not approve an alternative method or material unless the operator demonstrates that the method or material provides equivalent or superior protection to public health and safety, waters of the Commonwealth, and natural resources, and the Department should develop written protocols for evaluating alternative methods and materials.

Although subsection (b) requires an operator seeking approval of an alternative method or material to indicate how it will satisfy the goals of Act 13 and Chapter 78, subsection (e) would apparently allow the Department to approve an alternative even if it does not satisfy that standard: “If no objections are filed within 15 days from receipt of the notice, and if none are raised by the Department, the Department will make a determination whether to allow the use of the proposed alternative method or material.” This approach is unreasonable. The casing, plugging and equipping standards in Chapter 78 embody the Department’s judgment that these

⁶⁶ See, e.g., Seneca request under well permit 37-081-21328 submitted January 9, 2014 and approved by the Department on January 21, 2014.

standards will protect public health and safety and natural resources. Subsection (e) should provide that the Department will not approve a deviation from these standards unless the operator shows that it will provide equivalent or superior protection to public health and safety and natural resources.

We also recommend that the Department develop written protocols to evaluate alternative methods for casing, plugging, and equipping wells. In 2013, PennFuture submitted a Right to Know Law request to the Department seeking, among other things, written protocols used by the Department to determine whether alternate practices that operators request for the disposal of residual waste on well sites provide “equivalent or superior protection” to the requirements of those sections.⁶⁷ The Department provided no documents in response; consequently, it seems clear that the Department approves evaluates for “alternate methods” under section 78.62 and 78.63 on an ad hoc basis, without written protocols, and we assume that the same is true concerning section 78.75. To ensure consistency in the Department’s operations and ensure consistent protection of the Commonwealth’s natural resources, the Department should establish written protocols for evaluating requests for alternate methods under section 78.75 (as well as sections 78.62 and 78.63).

78.122 (well record and completion report)

The language proposed for Section 78.122 conflicts with the requirements of Act 13 and should be deleted.

The Department proposes to change the obligation to submit a completion report within 30 days after completion and when the well is ready for production, to an obligation to “arrange for the submission” of a completion report. This provision makes the requirement unenforceable, as it is unclear what acts would constitute arranging for the submission of a completion report. More important, Section 3222 of Act 13 requires that a report containing information on the well be submitted to the Department within 30 days after drilling, and that a completion report be filed with and maintained by the Department within 30 days after completion and when the well is capable of production.

Section 78.122 should require analysis of the base fluid to account for chemicals not intentionally added to make up the frack fluid.

Subsection 6(iv) requires identification of chemical concentrations intentionally added for the frack water. Presumably the Department includes this qualifier to promote use and reuse of water or solutions that may have chemicals present when the operator prepares for fracking. PennFuture suggests that another way of getting more accurate information would be to add a requirement that the operator take a representative sample of the base fluid and include an

⁶⁷ Current section 78.62(c) provides that operators may “request to use solidifiers or other alternate practices for the disposal of residual waste, including contaminated drill cuttings, by submitting a request to the Department for approval.” Similarly, current section 78.63(c) provides that an operator “may request to dispose of residual waste, including contaminated drill cuttings, in an alternate manner from that required in subsection (a) by submitting a request to the Department for approval.” In both cases, operators are supposed to show that their requested alternate provide “equivalent or superior protection” to respective disposal requirements of sections 78.62 and 78.63..

analysis of that sample as part of the report, so that the Department has a record of not only chemicals intentionally added, but an analysis of what chemicals are already present in the base fluid.

78.123 (logs and additional data)

The Department should retain some discretion, but not unlimited discretion, under Section 78.123(d) to extend the deadline for submission of logs and other data from three to five years.

The language of section 78.123(d) should be amended to read that the Department *for good cause may extend* the deadline up to five years upon request.

78.402 (inspections by the gas storage operator)

Subsection (c) requires the gas storage operator to record evidence of leakage or other conditions that would pose a threat of harm to the environment or public health and welfare. The Department should use this opportunity to amend this subdivision by adding a requirement that operators report any potentially harmful condition to the Department within 24 hours of observation.

Thank you for your consideration of these comments.

Sincerely,

/s/ George Jugovic, Jr.

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/s/ Mark Szybist

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