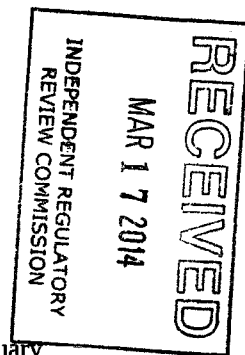


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Written Public Comments on 25 PA Code Chapter 78 Proposed Rulemaking on Oil & Gas
Environmental Quality Board
James E. Rosenberg
Fayette Marcellus Watch



Thank you for the opportunity to comment on proposed 25 PA Code Chapter 78 Oil & Gas Rules. On January 22, 2014, I testified on this matter before the Environmental Quality Board in Washington, PA. These comments include my oral comments, and contain several other concerns in addition.

1. I support the requirement for a survey of orphan and abandoned wells.

I would like to express my strong support for the new provisions requiring those constructing an unconventional gas well to do a survey for orphan and abandoned wells. This is long overdue and commendable. The Oil & Gas Industry's opposition to this provision is disgraceful.

2. The definition of 'Regulated Substance' in §78.1 is massively flawed and must be rewritten.

The term 'Regulated Substance' has been introduced throughout this rulemaking as a fundamental "strategic" concept. Accordingly, its definition in §78.1 must be subject to the closest scrutiny, as issues pertaining to this definition will, on adoption of this rulemaking, have a widespread effect throughout 25 PA Code Chapter 78. The issues pertaining to this definition are many and are profoundly serious. To put it bluntly: the loopholes in the current wording of the definition of Regulated Substance are so severe as to undermine the entire regulatory effect of 25 PA Code Chapter 78 as it concerns the entirety of toxic substance control, contamination, waste disposal, spill reporting and many other issues. While it is understandable that the Environmental Quality Board might see fit to reconcile 25 PA Code Chapter 78 with other parts of PA Code, e.g. those parts of the code implementing Act 2, a cynic could be forgiven for believing that the defects in the definition of Regulated Substance are an intentional effort at a wholesale weakening of Oil & Gas regulation. This must be corrected. Specifically:

- Which exact terms from 35 P.S. §6020.103 are incorporated?

The word 'regulated' **does not appear** in 35 P.S. §6020.103! Thus there is considerable doubt as to exactly what is meant by the phrase "Any substance defined as a regulated substance in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Act (Act 2) (35 P.S. §6020.103)". Which specific terms? 'Contaminant'? 'Hazardous substance'? 'Hazardous waste'? The rulemaking doesn't specify. Surely many of the definitions in 35 P.S. §6020.103 do not apply. Does the Environmental Quality Board intend for us to infer that under 25 PA Code §78.1, the concept "Responsible person" is to be interpreted as a "Regulated Substance"? Obviously not. For those offended by this little bit of sarcasm, let it be taken as an indication of just how non-definitive the current wording of the definition of Regulated Substance is.

- Does the "Halliburton Loophole" exemption for Oil & Gas from the Superfund Act now carry over to 25 PA Code §78.1?

There are numerous references in 35 P.S. §6020.103 to "the Federal Superfund Act". Unfortunately, Oil & Gas has been given an **exemption** from the Superfund Act — one of many regulatory exemptions contained in the Federal Energy Act of 2005 known colloquially as "the Halliburton Loophole". Because of this exemption it is impossible to know based on the current wording of §78.1 that *anything at all* is a Regulated Substance. This introduces into 25 PA Code Chapter 78 a loophole of such massive and serious proportions as to call into question the entire regulatory intent of 25 PA Code Chapter 78. The Environmental Quality Board must eliminate even the hint of an application of the Halliburton Loophole to 25 PA Code Chapter 78. Presence of

these references is completely unacceptable. They must be stricken. Regulated Substances must be fully specified.

- *What is the actual workaday operator of a well to know about just what substances are regulated?*

The word 'brine' is a simple word that everyone can understand. Its replacement by 'Regulated Substance' is unfortunate. If the definition of Regulated Substance is so opaque that it takes a team of lawyers a week to figure it out, how is an Oil & Gas operator supposed to train its personnel to know what substances are regulated? Not only is the definition of Regulated Substance completely indirect (relying entirely on an "external" specification in 35 P.S. §6020.103), 35 P.S. §6020.103 is itself indirect. This provides no actual guidance to working Oil & Gas industry personnel (or DEP inspectors, for that matter) as to what substances are and are not regulated. While it would be possible to remedy this problem by issuance of a Technical Guidance on this matter from DEP, the definition of Regulated Substance as currently worded is so vague that such a Technical Guidance would have the effect of carrying the entire force of PA Code. This is too important a matter to leave to Technical Guidance. The Environmental Quality Board **must provide clarity** as to which substances are regulated.

- *The definition of Regulated Substance must explicitly, unambiguously, and without indirection include produced water from unconventional gas wells.*

Produced water is likely to be hazardous, and can contain an unpredictable mix of chemicals from several sources, including toxic chemicals and biocides injected in the hydraulic fracturing process, radionuclides leached from the Marcellus Shale (which is known to be significantly radioactive), and chemicals resulting from underground reactions among these. This cluster of hazards is unique to Oil & Gas production. 25 PA Code Chapter 78 is unequivocally the correct place to define such material as a Regulated Substance. It should not be delegated to some other rulemaking body.

3. There is no definition of the term 'freshwater' in §78.1.

Although there is a definition of 'freshwater impoundment', there is no definition of freshwater. Is water reclaimed from acid mine drainage "fresh water"? §78.59b(g) states: "Prior to storing **mine influenced water in a freshwater impoundment**, the operator shall develop a mine influenced water storage plan and submit it to the Department for approval." [Emphasis added.] This implies directly that the Environmental Quality Board intends that we should allow the term freshwater to include "mine influenced water". This is certainly not what the public knows as the meaning of "freshwater". The common sense meaning of "freshwater" is: potable water. What is the standard to which "mine influenced water" must be treated to be considered "freshwater"? What about "mine influenced water" from a mine which has been subject to illegal dumping of produced water from an unconventional gas well? There are numerous anecdotes of such dumping, as well as scientifically based reports of signature chemicals associated with unconventional natural gas production but not associated with mine drainage (e.g. bromides) in "mine influenced water". Is it the intent of the Environmental Quality Board that we consider such waters "freshwater"?

4. There are various other terms requiring definition in §78.1.

There is no definition of unconventional formation. This is a recipe for trouble. There are numerous references to "casing seat" — including substantive differences in the regulation of drill cuttings from below vs. above the casing seat. But there is no definition of "casing seat". This should be included in §78.1.

5. §78.15(g): Requiring the Department to consider the impact of its permit on "optimal" development of the oil and gas resources is profoundly improper.

The requirement for optimality turns the Department into the agent of the applicant. How is the Department supposed to evaluate what is “optimal” for the applicant? What is the standard for “optimality”? Is the Department required by this provision of the rule to simply take the well operator’s word for what is “optimal”? The word ‘optimal’ must be stricken.

6. §78.51(c): Exclusion of “well site construction” from the rebuttable presumption of liability for contaminating a water supply is an outrageous loophole which must be stricken.

This is contrary to the intent of the statute, and the Environmental Quality Board is both exceeding its authority and making new (and profoundly unfortunate) law with this provision. Who determines whether “well site construction” or some other aspect of oil & gas operations was responsible for contaminating a water supply? What exactly is the boundary between “well site construction” and “well construction”? This provision is simply outrageous and must be stricken. A property owner whose water supply has been contaminated by oil & gas operations does not know or care what the precise boundary is between “well site construction”, “well construction”, “drilling”, “well completion”, or any other of the myriad activities that occur at a well site. There is no sensible reason for excluding any of these activities from a consideration of liability.

7. §78.55(d.2) The well operator’s PPC Plan must be submitted to local Emergency Management authorities.

The PPC plan contains important information which is crucial to planning by local authorities having responsibility for Emergency Management first response. It is simply inexcusable that 25 PA Code Chapter 78 does not convey to well operators the duty of providing this information by force of rule. Not only must this rulemaking require the well operator to provide the complete PPC plan to local Emergency Management personnel, existence of the plan must be communicated to counties and municipalities by means of Act 14 county/municipality notifications.

8. §78.56(9)(i) The language requiring “sufficient strength and thickness” must be restored.

The following wording has been deleted in the current rulemaking: “... and with sufficient strength and thickness to maintain the integrity of the liner.” Deletion of this wording is simply indefensible. Does the Environmental Quality Board seriously intend to relieve well operators of responsibility for maintaining integrity of a pit liner? That is certainly how this reads to a layperson. Imposing the duty on a well operator of maintaining the integrity of its infrastructure is exactly what 25 PA Code Chapter 78 is supposed to do.

9. 78.56(11) Determination of Seasonal High Groundwater Table (SHGT) should be done by an independent 3rd party.

A requirement that waste protection infrastructure should be located at a “safe distance” above SHGT is fitting and proper, though many have questioned whether 20 inches is sufficient distance to be “safe”. Just as important as the actual measure of distance is the issue of who determines what the SHGT actually is. It is quite simply **a conflict of interest** for a well operator to be the party that determines this. The Environmental Quality Board must require that SHGT be determined by an independent certified professional, similar to the requirement that pre-drilling water tests be done by an independent certified laboratory (§78.52).

10. §78.57(a): The insertion of pits into the wording is ill-advised and contradicts the prohibition of open top structures.

Prohibition of open top structures in this clause is welcome and commendable (see point 11 immediately below). A pit is an open top structure. Consequently, the insertion of pits into this clause is contradictory and must be removed. Moreover, deletion of “service and plugging” from the operations where brine and fluids must be

collected is ill advised; the “service and plugging” wording should be put back.

11. §78.57(a): The prohibition against using open top structures must be extended to transported fluids.

§78.57(a) states: “Open top structures shall not be used to store brine and other fluids produced during operation of the well.” This is commendable but “the well” should be replaced by “a well”. Produced water from some other well should not be stored in an open-top structure either. And this provision must make it clear that a pit is an open-top structure. Hydraulic fracturing chemicals should not be put into “open-top structures” either. Altogether, pits should only be used for actual fresh water.

12. §78.59b(g): Mine influenced water is not “fresh water” and should not be stored in a “freshwater impoundment”.

To a citizen, describing mine influenced water as “fresh water” is quite simply an Orwellian travesty. It stands the meaning of the word ‘fresh’ on its head. Does the Environmental Quality Board really intend for the word ‘fresh’ to mean “contaminated by prior industry” as opposed to “contaminated by current industry”?

13. §78.59(f)(4): Seasonal High Groundwater Table (SHGT) is not engineerable.

The whole concept that SHGT can be “engineered” is simply fallacious on its face. The clause “or if the seasonal high water table will be adjusted using engineering controls in order to accommodate the impoundment” must be stricken. The whole concept of SHGT is based on an understanding that “water will do what water wants to do” notwithstanding a well operator’s engineering. SHGT can no more be “engineered” than can floodplains. There is simply no environmental protection rationale for allowing a measurement of “engineered” SHGT under any circumstances. All such wording must be stricken.

14. §78.59(h)(6): Water samples must be tested at least to the standard of DEP Suite Code 944.

DEP conducted extensive tests of produced water, and created a water testing standard based on actual emissions from unconventional wells known as Suite Code 944. This research is already available to DEP. They should use it. There is no excuse for the testing standard for monitoring wells under this clause to be any less stringent than Suite Code 944. The Environmental Quality Board must require DEP to enumerate the parameters of Suite Code 944 and insert them into this clause.

15. §78.59(o): A request for alternate practice must be subject to Public Comment.

§78.59(o) as drafted provides a complete “escape hatch” from the rules of §78.59. It is unacceptable that such deviations can simply be approved by DEP on an ad hoc basis. Why do we even have a rulemaking if a well site operator can simply apply to use whatever rules the operator desires and DEP rubber stamps? This provision is simply unacceptable. If the Environmental Quality Board is unwilling to simply strike §78.59(o) in its entirety, it must amend this clause and allow deviations from the rules only after Public Comment and a hearing.

16. §78.61: On-site disposal of drill cuttings without the written permission of the surface landowner must be prohibited.

On-site disposal of waste materials of any kind can have serious financial, property, and health implications for the surface landowner. *The surface landowner must be afforded the opportunity to provide informed consent.* This section should include language such as the following:

Disposal of drill cuttings or residual waste at the well site without permission of the surface landowner is not permitted. The request for permission of the surface landowner for disposal, burial, or containment of drill

cuttings shall be by certified mail, and must contain the following notice:

NOTICE: Disposal of waste material on your property may have financial implications for your ability to obtain a mortgage or insurance. Waste materials may potentially have an effect upon human health. By consenting to this disposal, you are indicating that you have informed yourself regarding these risks and consider them acceptable.

17. §78.61: No disposal of drill cuttings containing any amount of radioactivity above background levels should be permitted.

It is well known that the Marcellus Shale is radioactive, and that hydraulic fracturing chemicals can leach radionuclides from the shale. Drill cuttings, produced water, and any other material from unconventional gas production which contain radioactivity should be treated as what they are: hazardous radioactive materials. These materials should only be disposed of in a facility designed to handle such material, and should only be transported in trucks properly labeled according to the actual (tested at the point of origin) radioactive content.

18. §78.62: On-site disposal of “residual waste” without the written permission of the surface landowner must be prohibited.

This case is functionally identical to point 16 above, and should contain the same language.

19. §78.62: No disposal of “residual waste” containing any amount of radioactivity above background levels should be permitted.

This case is functionally identical to point 17 above.

20. §78.62(9): Determination of Seasonal High Groundwater Table should be done by an independent 3rd party.

This case is functionally identical to point 9 above.

21. §78.62(16)(2),(3) (Current Rule): Allowing leachate at 50 times the safe drinking water standard is unacceptable.

How exactly is leaching at 50 times the safe drinking water standard to be abated? We are not talking here about disposal at a landfill or other central facility: *We are talking about someone’s property.* Why 50? Why should any amount of contamination of leachate at all be allowed? The number 50 should be changed to 1. (That is assuming that pits are accepted at all for storing anything but potable water.)

22. §78.64a(d): This section must simply be stricken. Pits and centralized impoundments should only be used to store potable water.

23. §78.65(3) A site restoration plan must include additional items.

The following items should be added to the list of required items in a site restoration plan:

- Soil replacement of any soil that may have come in contact with Regulated Substances.
- Testing to verify there is no radioactivity above background levels anywhere on the site.

24. §78.66(b): All spills must be reported to the surface landowner.

There is currently no requirement that a surface landowner be informed when there is a spill. Surface landowners are typically denied any more access to an unconventional well pad than a general passerby. If a spill occurs with no notice of violation, the surface landowner may not learn of this at all. Where there is a notice of violation the surface owner may only find out the same way any citizen finds out about any random violation. This is not acceptable. It is especially egregious in the case of a surface owner who is not the owner of oil or gas rights. Such a “split estate” surface owner may not be receiving any benefit from a well but may suffer adverse property effects from a spill. If a spill has occurred, the surface owner is entitled to know.

25. §78.66(b): The replacement of 5 gallons of brine by 5 gallons of “regulated substance” as the criterion for a reportable spill is very problematic.

Suppose a well operator spills 300 gallons of “material”, self-assesses that that material contains 1% “Regulated Substance”, and thus under the rules is really only a spill of 3 gallons of “Regulated Substance” and thus not reportable. Is this allowed? There is nothing in the draft 25 PA Code Chapter 78 rulemaking that precludes this interpretation. This is a major loophole, which completely *guts* spill reporting. The rulemaking generally is completely unclear at what concentration a “Regulated Substance” becomes a concern, who is to assess concentration, and how that is to be determined. The existing rule, via the definition of ‘Reportable release of brine’ in §78.1, contains a clear standard for concentration: 10,000 mg/l total dissolved solids. This is a well specified rule that is easily measured on well sites. The proposed rule deletes this clarity and provides no comparable standard to replace it.

26. §78.70: This section must simply be stricken. Brines from oil and gas wells should not be used for dust control, road stabilization, or de-icing.

27. §78.123(a): Logs must be submitted whether requested or not, and must include both pressure anomaly and microseismic data.

The phrase “If requested by the Department” should be stricken: logs should be submitted in any case, and should cover all phases of site construction, well construction, drilling, and completion, including hydraulic fracturing. Submitted logs should become public records and be part of the material that is available through File Review. The logs must include the full record of microseismic data. Such data may reveal unexpected potential pathways for contamination and unexpected faults. The logs must include all pressure anomaly data for well completion, including hydraulic fracturing. Such data may reveal unexpected potential pathways for contamination.

James E. Rosenberg
jr@amanue.com
555 Davidson Road
Grindstone, PA 15442
(724) 785-9398