PCPG

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April 12, 2011

Via USPS Express Mail

Ms. Pamela M. Bush, Esq., Commission Secretary
Delaware River Basin Commission
P.O. Box 7360
25 State Police Drive
West Trenton, NJ 08628

Re: Comments on Proposed Rulemaking
Draft Natural Gas Development Regulations
Article 7 of Part III – Basin Regulations

Dear Secretary Bush:

On behalf of the Pennsylvania Counsel of Professional Geologists (PCPG), I am providing comments on the Proposed Rulemaking for Natural Gas Development Regulations for consideration by the Commission. PGPG is a diverse group of over 450 licensed geologists and professional scientists who advocate the use of sound science in the: (a) responsible exploration and development of natural resources; (b) formulation of public policy; (c) protection of human health and the environment; (d) establishment and evaluation of regulatory programs; and (e) the dissemination of accurate information. PCPG considers responsible shale gas exploration and production to be a worthwhile and necessary endeavor that will have very significant and continuing positive effects on Pennsylvania's economy and the well being of its citizens.

Oil and gas exploration and development has a long history in Pennsylvania — it is a lawful and beneficial commercial enterprise. Ongoing and future shale gas production in Pennsylvania will promote economic vitality of the Commonwealth and surrounding states and long term energy independence for the United States. As an organization, PCPG believes that natural gas well drilling and production can and must be performed in an environmentally responsible and scientifically sound manner while minimizing the potential for adverse environmental impacts. We also believe that there are additional and significant benefits to be gained from the exploration and development of natural gas, for example improved air quality as natural gas is the cleanest burning fossil fuel. We believe that the presence of the gas resource in close proximity to the market will further stimulate local innovation and job creation, such as in development of natural gas powered fleets, buses, commuter cars and associated infrastructure. Existing business and industry will benefit and likely retool and refuel with a cleaner burning, locally available energy source.

We are mindful that in today's competitive economic climate, regulations that are duplicative and unduly burdensome can have a detrimental effect on business investment and development decisions. We recognize that there are substantial costs involved in the exploration and development of shale gas resources and that there is no guarantee that those costs will be recovered at any given well site. We further recognize that exploration and development of shale gas resources in the northeastern United States is in the early stages, and the geographical bounds of where the resource can be economically developed are not yet clearly defined. For example, the southern economically feasible extent of the Marcellus play in a section of Luzerne County was just recently determined by direct exploration near to the DRBC jurisdictional boundary. The costs for such unsuccessful explorations are real, substantial and continuing.

Our organization is also very cognizant of the subjective and selective presentation of shale gas exploration and development information that has been reported in print, broadcast media, and via the Internet. Often, such selective and subjective information conveys erroneous information to the public and to public officials, resulting in unnecessary confusion, exaggerated concerns, and public calls for restrictive regulation of an industry, based on little more than unsupported allegations, factual inaccuracies or popular opinion.

PCPG therefore appeals to the DRBC to base its regulations on best management practices (BMPs) and sound science. We respectfully ask that the DRBC be mindful of the existing role of state and local governments in the regulation of the oil and gas industry and in local land use planning and zoning matters, respectively. We understand that DRBC's key responsibility is in the protection of water resources in the Delaware basin, in permitting water withdrawals and inter-basin transfers, and the treatment and discharge of wastewater within the basin. The existing environmental agencies of the member states, including Commonwealth of Pennsylvania, have regulatory authority and experience in the regulation of oil and gas well exploration and production. Additionally, there are well-established rules, policies and procedures for local zoning and land use planning. Therefore, to the extent that DRBC's draft regulations create a duplication of local, regional and state requirements on oil and gas well planning, permitting and placement, PCPG respectfully suggests that such regulation overlay is unnecessary and burdensome.

PCPG urges the DRBC to strive for clear and efficient regulations based on sound science in protecting the water quality resources of the Delaware basin consistent with, and within the boundaries of, the DRBC Compact. The DRBC should rely upon the existing expertise and authority of state and local governments and regulatory agencies in areas outside of water withdrawals, discharges and wastewater treatment.

With respect to specific sections in the proposed rulemaking, PCPG provides the following comments:

<u>Section 7.2 – Definitions:</u>

- Artificial Penetration – PCPG recommends that the definition have clear and objective criteria to limit the term's scope to only those artificial penetrations that are material

and relevant to the evaluation. For example, while an artificial penetration may be relevant to the upper vertical portion of a well bore, they are typically irrelevant to the deeper, horizontal well bore. As currently defined, this term would include residential basements, swimming pools, water wells and ponds.

- Brine – PCPG recommends using an objective total dissolved solids (TDS) value (i.e., greater than 35,000 mg/L according to the U.S. Geological Survey's definition) rather than the subjective phrase "appreciable amounts" to define a brine.

- Centralized wastewater storage facility – PCPG recommends that this term be revised to read "Centralized Storage Facility" or "Centralized Impoundment."

- Practicable – PCPG recommends that the term include "at a commercially reasonable cost."

- Water body – PCPG recommends that the term be limited in scope for material purposes because, as written, it is overly broad. As currently drafted, it could include a farm fire pond, a residential pool, a backyard artificial landscape pond, or a drainage channel that is only infrequently flowing.

- Wetlands – PCPG recommends changing this definition so to be consistent with guidelines followed by the Army Corps of Engineers.

Section 7.3 – Administration

- Section 7.3(k) – We highly question the purpose of requiring separate and distinct financial assurances for plugging, abandonment and restoration of gas wells, well pad sites and associated equipment and structures, when New York and Pennsylvania oil and gas well regulations already require financial assurance. Additionally, with respect to the financial assurance for mitigation and remediation of any releases, we believe that the state environmental regulators, rather than the Executive Director, should be the proper authority for determining when a necessary remediation is required or complete.

- Section 7.3(l) – The project review fees are complicated and appear excessive. PCPG is concerned that the requirements of Section 7.5, the financial assurance requirements, the Natural Gas Development Plan Requirements and the review fees are cumulatively and sufficiently burdensome as to make natural gas exploration and production in the basin economically impracticable.

- Section 7.3(m)(2) – A report of investigation or mitigation plan should be prepared by a professional engineer and/or professional geologist licensed in the state in which the project is located. Where the member state has no such licensing program, we recommend that the engineer and/or geologist hold a current Professional Engineer's (P.E.) license or a current Professional Geologist's (P.G.) license issued by another

state, or, in the absence of a P.E. or P.G. license in the project state, a Baccalaureate or higher degree in engineering and/or geology and have equivalent of five years full-time relevant experience. In addition, the term "complaint" is too broad and should be rewritten as "a complaint of potential contamination."

Section 7.4 – Water Sources for Uses Related to Natural Gas Development

- Section 7.4(e)(2)(ii) – As currently drafted, the Commission is allowed to complete a separate natural diversity inventory assessment survey to their satisfaction and charge the operator without first notifying the operator. If a natural diversity inventory assessment supplied by the operator is found by DRBC to be in some way deficient, then the project sponsor should be afforded the opportunity to correct the deficiencies before DRBC conducts a separate assessment.

- Section 7.4(e)(4) – The Final Hydrogeologic Report should be prepared, signed and sealed by a P.G. licensed in the state in which the project is located, as should any investigation report or mitigation plan prepared in accordance with Section 7.4(e)(4)(ii). Where the member state has no such licensing program, we recommend that the engineer and/or geologist hold a current P.E. or P.G. license issued by another state, or, in the absence of a P.E. or P.G. license in the project state, a Baccalaureate or higher degree in engineering and/or geology and have equivalent of five years full-time relevant experience.

Section 7.5 – Well Pads for Natural Gas Activities

- Section 7.5(b)(3)(ii) – We question the basis for prohibiting well pads sited on slopes with a pre-alteration grade of 20% or greater. Does this prohibition apply to the entire well pad site or any portion of the well pad site? Other industrial and commercial facilities with the potential to impact surface waters in the basin are not subject to the same grade criteria. What is the basis for selectively applying this criterion to one particular industry? Rather than restricting development on slopes with a pre-alteration grade of 20% or greater, it is recommended that the Commission defer to the host municipality on this issue or allow a variance for development that employs BMP construction practices designed to minimize erosion and sedimentation. This is a matter of land development regulation, and the authority for such regulation is vested in the host (local) municipality, typically also involving County planning review and state NPDES approvals.

- Section 7.5(b)(3)(iii) – We question the basis for requiring well pad setbacks within 500 feet of any water body, wetland, or water supply reservoir, particularly as "water body" is very broadly defined in the regulations. We believe the setbacks should be deferred to the host state. The environmental regulators in each host state have experience, expertise and an existing body of regulations regarding well pad siting requirements and setback criteria. Additionally, no consideration is given with respect to the setbacks and whether or not there is a topographic divide between the well pad

site and the targeted setback. Arguably, there is a provision to request a variance, but there is also no guarantee that one will be granted. Lastly, many commercial and industrial facilities have the potential, and one could argue a higher potential, to adversely affect surface water and groundwater quality in the basin. We therefore question the basis for applying these criteria to well pads separately from other commercial/industrial projects.

- Section 7.5(c) – Natural Gas Development Plans (NGDP). The NGDP is required to be submitted within three months of filing for the first well pad application. The NGDP covers all of the entities' leaseholds in the basin, including 100% interests and partial interests in leaseholds. The NGDPs are extremely detailed and require considerable work in preparation and planning. PCPG questions the basis for requiring project sponsors to develop NGDPs on such a large scale. We are unaware of any other industry in which the DRBC requires a project sponsor to provide such detail with respect to all land in which the project sponsor holds an interest rather than treating each facility as a separate project. What is the basis of requiring such detailed planning on behalf of a project sponsor on such a large scale? PCPG recognizes that very little shale gas exploration and development has occurred in the basin to date, in large part, due to the DRBC's prohibitions. We suggest that the lack of permitted exploration to date seriously undermines the ability of project sponsors to adequately plan well pad sites and other ancillary features associated with oil and gas development at this early stage. PCPG acknowledges that the regulations provide for a phased approach, but there is no guarantee that the Executive Director will approve a request for a phased approach or that the phases approved by the Executive Director will be any more manageable or practicable for the project sponsor.

- Section 7.5(h) Well Pad Requirements, subsection (1)(vi)(C) of Mitigation, Remediation and Restoration – the report of investigation and/or mitigation plan should be prepared by a professional engineer and/or a professional geologist licensed to practice in the state in which the well site is located. Additionally, the Executive Director should defer to the host state environmental regulatory agency having jurisdiction over investigation and remediation of discharges from oil and gas wells with respect to the final determination regarding the validity of complaints, the scope or sufficiency of the investigation, and the extent of appropriate remediation measures, if required, as they are the agencies with the experience and expertise to make such determinations.

- Section 7.5(h)(2)(i)(A) – Pre-Alteration Report. PCPG notes that host state regulations address pre-alteration report and investigation requirements. We question the basis for the arbitrary search distances (1,000 feet or 2,000 feet) from the well pad and the goal of the pre-alteration report. Is the goal to define groundwater quality in the vicinity of the well pad and to periodically monitor quality surrounding the well pad site, or to establish pre-drilling baseline conditions? Assuming that a valid pre-alteration hydrogeological survey of groundwater quality in the vicinity of the well pad is the goal of this requirement, an arbitrary sampling of wells located within 1,000

or 2,000 feet of the well pad will most likely not accomplish the goal. Random well sampling over a large area without identifying the hydrologic factors which affect groundwater quality in an area will likely not provide meaningful data about whether a well pad site has potentially affected groundwater quality. If the goal is to evaluate groundwater quality in the vicinity of the well pad prior to drilling activities and then to monitor groundwater quality through time, then an appropriately designed monitoring well network should be developed and implemented by a Professional Geologist licensed in the state in which the well pad is located. Additionally, to the extent a report is required; the report should be prepared, signed and sealed by a professional geologist licensed in the state in which the well pad is located. Where the member state has no such licensing program, we recommend that the engineer and/or geologist hold a current Professional Engineer's (P.E.) license or a current Professional Geologist's (P.G.) license issued by another other state, or, in the absence of a P.E. or P.G. license, a Baccalaureate or higher degree in engineering and/or geology and have equivalent of five years full-time relevant experience.

- Section 7.5(h)(2)(i)(A)(2) – Some well pads may be located in areas having no upgradient water bodies and the proposed rules should be re-written to address these scenarios. In addition, sampling frequency, sample parameters, analytical methods, and required detection limits should be specified within the proposed regulations to allow for evaluation and comment.

- Section 7.5(h)(2)(ii)(F) – Sampling frequency, sample parameters, analytical methods, and required detection limits should be specified within the proposed regulations to allow for evaluation and comment.

PCPG respectfully submits the above comments for the DRBC's review and consideration. We recognize shale gas development as a lawful and beneficial commercial enterprise that contributes to the energy independence and economic vitality of the Commonwealth and to the United States as a whole. To that end, PCPG supports the exploration and utilization of our considerable shale gas resources through environmentally responsible development practices, meaningful regulation, and public policy that are founded upon scientifically sound principles applied for the greater good of society.

Sincerely,
Pennsylvania Council of Professional Geologists

Louis F. Vittorio, Jr., P.G.
President Elect, PCPG