

MODERNIZATION OF THE PENNSYLVANIA OIL & GAS CONSERVATION LAW

In long-standing Pennsylvania law, the “rule of capture” provides that ownership of a natural resource is determined by who “captures” the resource first. This legal paradigm resulted in the early, inefficient extraction of Pennsylvania’s oil reserves. Through over-drilling to capture the oil resource, well operators depressurized oil reservoirs, stranded numerous barrels of oil, and littered the landscape with wells. The Oil & Gas Conservation Law, which was originally adopted to satisfy Pennsylvania’s membership requirements for the Interstate Oil and Gas Compact Commission (IOGCC), was designed to more effectively and efficiently manage oil and gas reservoirs.

However, the Conservation Law has not been updated since 1961. It is the last portion of a three-part Pennsylvania oil and gas legal structure to be updated – both the Oil & Gas Act (Act 13) and the Coal & Gas Resource Coordination Act have been revised within the last several years. The 1961 Pennsylvania law uses outdated depth restrictions, which in turn generate distinct regulatory systems for the Utica, Marcellus, and other shale formations. IOGCC’s model conservation statute has not been updated since 2004, which predates the widespread use of horizontal drilling and hydraulic fracturing as well.³⁴

The Shale Gas Roundtable has developed a balanced proposal for modernizing the Conservation Law and ensuring a standardized regulatory structure through all unconventional formations. In addition to extensive research, benchmarking, and dialogue, the Roundtable framework also benefitted from a systems synthesis project on unitization that was conducted by students at Carnegie Mellon University’s Heinz College. This framework can be used to inform a comprehensive update of the Conservation Law, or, in the interim, components of the framework could be legislated separately (e.g., suggested improvements in the submission and accessibility of final unitization declarations).

Goals of a conservation law modernization include (regular font indicates that the text is from the Governor’s Marcellus Shale Advisory Commission summer 2011 report; *italicized font indicates the text was developed by the Shale Gas Roundtable*):

- Include the Marcellus Shale and other deep unconventional geologic formations currently excluded from existing conservation statutes. (*The Commonwealth should not have different conservation rules for different shale layers.*)
- Conform with the best practices for shale gas development in the great majority of states with said production.
- Ensure the protection of property rights for both surface and mineral rights owners. (*Land and mineral rights owners have complicated relationships with each other and with the natural gas resource. The state should approach any update with careful attention to the ability of all*

³⁴ IOGCC Model Oil and Gas Conservation Law: <http://iogcc.publishpath.com/Websites/iogcc/docs/ModelAct-Dec2004.pdf>

stakeholders to constructively participate in the unitization process. Protection of correlative rights is an important part of this discussion.)

- Account for the opportunities afforded by advances in technology of natural gas extraction practices, including horizontal and directional drilling and well stimulation. *(The 1961 act did not anticipate horizontal drilling, multi-well pads, or large volume hydraulic fracturing, and any update should take these advances into account.)*
- Ensure the minimization of surface impact through the proper placement and spacing of well pads. *(It is in the best interest of the Commonwealth to limit the density of well pad development. Fewer pads mean fewer acres of surface disturbance, less infrastructure build out including gathering pipelines, and likely fewer potential environmental impacts.)*
- Prevent the waste or stranding of natural gas so as to maximize job and revenue-generating opportunities for the Commonwealth and its citizens. *(Natural gas is an important economic asset of the state. With substantial extraction underway, the Commonwealth should make every effort to increase the efficiency of resource recovery and to prevent waste through stranded gas/acreage.)*

The 1961 Oil & Gas Conservation Law (Conservation Law) should be amended to reflect the goals above and integrated into a consolidated statute. Act 13 was an amendment process for the Oil & Gas Act, though substantial in its changes. The framework below aims to provide uniform conservation rules that account for modern oil and gas development approaches and that prevent unnecessary environmental impacts and wasted resources.

DEFINITION OF KEY CONCEPTS

- **Unconventional reservoir** – as defined by Act 13, “a geological shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore.”
- **Unit** – a consolidation of interests of persons actively engaged in the business of extracting oil or gas from land owned or leased by the persons within a defined geographic area, in order to facilitate the efficient extraction of resources from one or more unconventional reservoirs. Unitization is the act of joining multiple leases into one unit for the purposes of producing oil and gas and distributing the resulting royalties.
- **Oil & Gas Technical Advisory Board (TAB)** – per the Oil & Gas Act, a five-member board, appointed by the Governor, with whom the Department of Environmental Protection consults during the formation, drafting, and presentation stages of all regulations of a technical nature promulgated under that act. The TAB is given a reasonable opportunity to review and comment on all regulations of a technical nature prior to submission to the Environmental Quality Board.
- **Environmental Hearing Board (EHB)** – a five-member independent adjudicatory panel, appointed by the Governor and confirmed by the Senate, which functions as the statutorily established statewide trial court for appeals of DEP final actions.

- **Cross fracturing** – when hydraulic fracturing occurs on adjacent units such that the fractures from multiple laterals overlap, potentially resulting in a depressurizing of one or both well bores.
- **Integration** – a process by which an oil and gas developer can, under specific defined circumstances, compel other mineral rights owners or lessors to participate in a unit.
- **Dormant Oil & Gas Act (DOGA)** – this act allows for oil and gas development to occur when not all mineral rights owners of a property can be located. The Act provides for the creation and administration of trusts for the benefit of the absent rights owners where proceeds from the oil and gas development are deposited.
- **Stranded acreage** – land that cannot be developed for oil and gas production because of previously created units or regulatory restrictions.
- **Primary term** – the initial, typically five-year, period of an oil and gas lease in which an operator holds acreage in anticipation of producing natural gas. If the operator does not begin production within the primary term, the lease will typically expire.
- **Held by production** – if oil and/or gas are produced from leased acreage during the primary term, the lease then enters the secondary term. The operator can then hold the acreage included in the lease for as long as the acreage is producing in paying quantities.

APPLICABILITY OF THE CONSERVATION LAW

- Modernized provisions in the Conservation Law should apply to all unconventional reservoirs as defined by Act 13.
- Given that the original act will be amended instead of replaced, 1961 provisions that remain relevant to either conventional or unconventional gas development could be retained.

ADMINISTRATION OF THE CONSERVATION LAW³⁵

- DEP staff would carry out the functions outlined in these recommendations, including approving/disapproving proposed units and integration requests. The aim is not to create new bureaucracy but to enable the department to ably manage the additional Conservation Law responsibilities in strong alignment with existing environmental regulations.
- The expanded Technical Advisory Board would review and provide advice on regulations needed to implement this act. All regulations would go through the existing Pennsylvania regulatory approval process.
- DEP staff decisions could be appealed to the Environmental Hearing Board (EHB). EHB decisions could, in turn, be appealed to the Commonwealth Court.
- In order to pay for the additional qualified staff necessary to conduct unit and integration reviews, DEP would be enabled to charge fees for compulsory/lease integration requests and unit proposal filings. DEP would need to collaborate closely with the Pennsylvania Department of Conservation and Natural Resources and its geologists in implementation of this act.

³⁵ See [Appendix D](#) for a guide to DEP regulatory processes and roles.

RATIONALIZATION OF DRILLING UNITS

The Conservation Law should govern the logical organization of drilling units over a defined geologic formation in order to minimize surface disturbance and maximize the efficiency of extraction and transport of oil and natural gas.

- Definition of formations
 - DEP would proactively define unconventional formations within the state and then prepare unitization requirements for those formations. Rules should not typically vary across formations, unless there is an operational or geologic reason for different requirements.
- Unit size, drainage efficiency, and surface disturbance requirements
 - The state should not legislatively define minimum and maximum unit sizes or minimum and maximum number of pads or wells per unit. Instead, when defining rules for the formation, the state would develop a maximum ratio of surface disturbance to unit size and requirements that the unit be effectively drained. For example, if the legislation required exactly 400-acre units with one pad per unit, the operator would need three pads to drain 1,200 acres. What if, instead, the operator could design a 1,200-acre unit and drain it with two pads? Or, what if the operator could drain an 800-acre unit with one pad and drain the adjacent 400-acre unit from a pad on the 800 acres? A ratio tool and requirements for effective drainage would allow flexibility to the state and operators in effectively managing the gas reservoir, avoiding stranded gas, adapting to technological and best practice advances, rationalizing units, and limiting surface disturbance.
 - The state, through its regulatory process, would develop the ratio and drainage requirements with full stakeholder input. These parameters should be based on maximizing drainage while minimizing surface disturbance. They should be evaluated for revisions every three years to account for advancing technology and operational practices.
 - Roads, pipelines, and other items needed to service pads would not be required inclusions for the ratio calculation. However, in making its unit proposal, an operator could voluntarily include the minimization of service infrastructure to strengthen its case, including access roads and gathering pipelines.
 - The ratio calculation should include the acreage of non-consenting rights owners in the unit's geographic footprint. Requirements for effective drainage also will account for the presence of non-consenting rights owners, though avoiding the inclusion of such acreage to the maximum ability should be encouraged.

- Unit boundary setbacks
 - Based on fracture propagation data and area geology, operators should be required to propose setback distances between the unit boundary (boundary with those leases and land not included in that unit) and any well laterals. This approach prevents subsurface trespass and protects adjacent mineral rights owners. It also protects operators from “cross-fracturing” each other’s laterals. DEP should be required to review the proposed boundary setback distances.

INTEGRATION OF UNITS

- Compulsory integration
 - Company-on-company compulsory integration should be enabled in unconventional shale formations as defined above. The capability to request integration should be available to “persons” defined as operators. This will provide a remediation tool in the event that operators are effectively blocking the integration of efficient units.
 - In company-on-company integration, the integrated interest should have options for participation, including:
 - electing to participate as a working interest owner/operator under a Joint Operating Agreement
 - electing to participate as a non-consenting party with a risk penalty of 200 percent
 - In many oil and gas producing states, full compulsory integration that applies to all non-consenting rights owners is an important component of conservation law. In Pennsylvania, full compulsory integration is currently available below the Onondaga Limestone via the 1961 Conservation Law. Given the aim of minimizing surface impacts and avoiding waste, full compulsory integration would most efficiently and effectively serve these goals. If it becomes apparent that there is a lack of current political support for this or any other individual component, it should not prevent the implementation of other important aspects of these recommendations.
 - Seventy percent of the acreage in a proposed unit should be under the control of the operator before any integration request can be filed. The state can take operators’ environmental compliance history into account when reviewing integration requests.
 - If full compulsory integration is not included, the updated act should contain required notifications/declarations to non-consenting rights owners at the time of unit proposal – including notifications that once the unit is created and production begins, the unit cannot be altered and therefore the rights owner could not join that particular unit. This does not necessarily mean that the non-consenting owner is without options to pursue later development of his or her gas or prevent him or her from developing a contractual

relationship with the unit, but it does mean he or she forfeits full participation in and proceeds from that unit.

- Existing lease integration
 - If an operator has the right to develop multiple, contiguous, held-by-production leases separately, the operator should be able to request integration of those leases into a unit for the purposes of oil and gas development via horizontal drilling (unless expressly prohibited by an existing lease). At the time of proposed unit filing with DEP, the operator also would need to seek integration approval for the included leases.
 - In determining the royalty where separate, contiguous leases are integrated into a unit, in the absence of an agreement by all affected royalty owners, the production should be allocated to each lease in such proportion as the operator, in its unit/integration application to DEP, reasonably estimates to be attributable to each lease.
 - In the event that the current royalty owners cannot be located for an included lease, royalty payments for these rights owners would be made using the existing Dormant Oil and Gas Act (DOGA) system.
 - Several similar provisions are also found within Pennsylvania Senate Bill 259, sponsored by Senator Gene Yaw, which passed the Senate and the House of Representatives in June, 2013.
- The operator should, in any type of integration request, demonstrate and document its attempts at good faith negotiation before a request can be approved.
- A fee would be associated with filing any type of integration request. This serves to discourage such requests and to provide additional revenue to support DEP's unit review functions.

UNITIZATION REVIEW SYSTEM

- Operators are accustomed to state unit review and approval processes in many other oil and gas producing states.
- In Pennsylvania, DEP would develop unitization guidelines, including effective drainage requirements and maximum surface disturbance to acreage ratios. DEP would be charged with minimizing both waste and surface disturbance via its review process.
- Operators would submit proposed units to DEP for review and approval/disapproval. DEP would be required to design a unit filing process that enables operators to clearly demonstrate their fulfillment of the established requirements and facilitates timely decisions. Recently instituted state permit review and decision guarantees (assuming accurate and complete applications) would apply to DEP unit reviews.
- DEP would not have jurisdiction over which leases or acreage are included in a proposed unit, only over whether the operators are meeting surface disturbance and effective drainage requirements. These unit proposals also should be sent to involved and adjacent surface and mineral rights owners and municipalities for notification purposes. These parties could comment on proposed units.

- DEP would, to the highest degree possible, seek to avoid the creation of stranded acreage in units through requirements for effective drainage of included acreage.
- DEP would retain some flexibility in review to accommodate technological advances and special situations.
- DEP would review and approve/disapprove unit integration requests by operators.
- DEP would be required to review any changes to previously approved unit proposals.
- Operators would be allowed/encouraged to propose multiple units to the state in one filing. Such an approach would allow for more comprehensive conservation by allowing industry and the state to work toward development that limits surface impact and improves efficiency over multiple units covering a larger geography. Operators could be offered priority review and discounted unit filing fees for simultaneously proposing multiple units. Colorado has offered such a voluntary approach for several years that has not yet been used by industry. In addition to the priority review and lower fees, DEP could encourage multiple unit filings by working with stakeholders to develop a template for how the process would unfold and be used.

AVAILABILITY OF UNIT INFORMATION

- DEP should develop requirements for formatting and data inclusions in unit proposal and final unit filings (including Geographic Information System coordinates, surface tract boundaries, mineral interest boundaries, proposed location of well laterals, etc.). Transparency would help to level the playing field among all stakeholder groups.
- A statewide electronic filing system for unit proposals and declarations should be designed and implemented. Operators should be required to file proposed units and final unit declarations in the appropriate format, including GIS coordinates for unit boundaries. Final units should no longer differ from proposed units available in the Pennsylvania Internet Record Imaging System (PA*IRIS) as DEP would approve new units and changes to approved units. The resulting maps and data should be publicly accessible via an online portal.
- The current county-level paper filing system for final unit declarations should be retained to remain consistent with current Pennsylvania title practices.
- There would be a need to ensure that the new filing system integrates with other DEP, DCNR, Pennsylvania Natural Diversity Inventory (PNDI), and Pennsylvania Spatial Data Access (PASDA) data systems and GIS layers.
- Under Act 13, the filing system should be a permitted use of DEP's impact fee revenue.

OIL AND GAS LEASE RELEASE REQUIREMENT

- Upon expiration of an oil and gas lease, the lessee/operator should, within 30 days after request by the lessor, execute, acknowledge, and deliver or cause to be recorded, a quitclaim of all interest in and to the resources covered by the oil and gas lease. Such a request can only be filed and only requires a response if the lease is no longer in the primary term and the lease is not held by production.

- This requirement facilitates the cleaning of title upon lease expiration and improves the marketplace for acreage then available to be included in future units.

TEMPORARY REGULATIONS

- DEP should be allowed to issue temporary regulations to speed implementation until permanent regulations can be promulgated and approved. Temporary regulations should be in place a maximum of two years.