Summary of Proposed Oil and Gas Regulations – COMAR 26.19.01

Chapter 480 of 2015 requires the Maryland Department of the Environment (the Department) to "adopt regulations to provide for the hydraulic fracturing of a well for the exploration or production of natural gas in the State." The draft regulations would fulfill the Department's obligation under Chapter 480 and ensure that any oil and gas exploration and development activities, including hydraulic fracturing, occur in a manner protective of public health, safety, the environment, natural resources, and surrounding communities. The following are the proposal's key provisions.

Protection of Drinking Water Sources

- **Protection of fresh water aquifers during drilling**. While drilling through potential sources of drinking water, the operator may only use drilling fluid that is air or fresh water-based, and may only use additives that are certified as safe for use as drinking water additives.

- **Well construction**. The proposal requires four concentric layers of steel casing and cement to isolate water- and gas-bearing zones. The depths of casings are set to protect ground water currently used as drinking water in nearby private wells, as well as deeper potential future underground sources of drinking water. Cementing standards ensure there is an adequate seal between the casing and the borehole to prevent underground migration of gas and other fluids.

- **Integrity and pressure testing**. An operator must conduct integrity and pressure testing at several points during the placement of casing and cement. After the well is fully cased, the operator must certify the well integrity and isolation of fluid-bearing formations before conducting any hydraulic fracturing. Ongoing integrity testing is also required throughout the life of the well.

- **Well pad and chemical storage**. In order to protect drinking water against the risk of surface spills, the proposal includes strong standards for the construction of the well pad and handling of chemicals. The well pad must be lined and capable of containing the volume of the 25-year, 24-hour storm event. Pollutants may not be discharged from the pad, nor may any storm water be discharged as long as fuel or chemicals are present on the pad. Liquid chemicals must be stored in watertight, closed tanks with secondary containment to capture any leaks.

- **Setbacks and location restrictions**. A well pad may not be located within 2,000 feet of a private drinking water well or within 1,000 feet of a wellhead protection area (for a public water supply well) or anywhere within the watersheds of Broadford Lake, Piney Reservoir, and Savage Reservoir. If oil and gas production ever occurs outside of Garrett or Allegany Counties, the Department may list additional reservoirs in this prohibition. A well pad may not be located within 2,000 feet parallel to and above the surface water intake of a public drinking water supply or the discharge of a spring used for drinking water.

- **Water monitoring**. An applicant must conduct 1 year of baseline monitoring of the surface and ground water in the vicinity of the well pad before beginning operations, including sampling of private drinking water wells within 2,500 feet of the proposed well pad. The Department will establish protocols for ongoing water monitoring throughout the life of the well.

- **Replacement of contaminated water supply.** If a water supply is contaminated within 2,500 feet of a gas well and within 1 year after drilling or hydraulic fracturing, the contamination is presumed to be caused by the permittee's drilling and operating activities unless the permittee can affirmatively show otherwise. The permittee must immediately replace the contaminated water supply.

Protection of Aquatic Habitat

- **Stormwater**. Stormwater discharges from the well pad are prohibited while chemicals or fuel are present on the well pad. During the production phase, the operator must follow an approved stormwater management plan.

- **Well pad and chemical storage**. In addition to protecting drinking water sources, the well pad design and construction requirements and the requirements for chemical handling on the well pad protect surrounding aquatic habitats from impacts to water quality from potential surface spills.
- **Water withdrawals**. If an operator seeks a water appropriation permit to withdraw water from a sensitive headwater stream or high quality water, the Department, in consultation with the Department of Natural Resources, may require additional studies to ensure the water withdrawal will not negatively impact aquatic life.
- **Setbacks and location restrictions**. A well pad may not be located within 300 feet from a stream or Wetland of Special State Concern, 100 feet from any other wetland, or within the watershed of Deep Creek Lake. An access road must be located at least 100 feet from streams and 25 feet from wetlands; if there is no feasible design to maintain these setbacks, the access road must be located to minimize impacts to aquatic habitats.

Protection of Air Quality

- **Use of best available technology (BAT) for control of air emissions.** The proposal requires the operator to use top-down BAT, as determined by the Department, including specific measures to reduce emissions from compressors, control devices, storage tanks, and pipelines, as well as a rigorous leak detection and repair program.
- **Leak detection and repair.** A permit applicant must submit a plan for leak detection and repair, including training, audits, monitoring, repair of leaking components, and electronic monitoring and storage of leak detection and repair data.
- **Methane offsets.** An operator must estimate the methane emissions from each well pad annually, and upon notification by the Department that allowances are available, must purchase allowances to offset methane emissions.
- **Air toxics.** The Department will amend its existing air toxics regulations to include equipment directly associated with hydraulic fracturing operations (e.g., drill rigs, glycol dehydrators, compressor stations and storage tanks). The air toxics regulations will require a company to estimate the emissions from those operations and to demonstrate that the ground-level concentrations, determined through modeling, are not harmful to neighboring residents.

Emergency Response and Public Safety

- **Emergency response plan**. Each permit applicant must submit a plan that provides procedures for preventing and responding to spills, releases, fires, or blowouts, including identifying specially trained and equipped personnel who will respond in the event of a well blowout, fire or other serious incident.
- **Notification and cleanup**. Any spill, release, fire, or blowout must be reported to the Department and the nearest downstream water supplier within 30 minutes of occurrence. The operator must immediately clean up any spill or release, properly dispose of waste, and report to the Department on the cleanup effort and the causes of the incident.
- **Site security**. The site must be secured from public access and have appropriate signage.
- **Blowout prevention**. Each well must be equipped with blowout prevention equipment that has at least two redundant mechanisms and is tested regularly. Blowout preventers are used to shut off the flow at the wellhead in the event of a sudden, uncontrolled flow of gas from the well.

Public Participation and Access to Information

- **Comprehensive Development Plan (CDP)**. A CDP is a plan for an operator's oil and gas development over a period of at least 5 years. The CDP is a useful tool that allows the operator to plan its development to

minimize overall surface impacts before beginning development in an area. An applicant must complete a CDP before applying for a permit for certain types of wells, including those using hydraulic fracturing or a multi-well pad. The public and State and local agencies will have the opportunity to review and comment on the draft CDP, including in person at a public meeting in the area covered by the CDP.

- **Permit review**. An applicant must notify owners of land within 2,640 feet of the boundary of the proposed drillable lease area before the applicant files a permit application. The Department will publish a notice of each permit application it receives and hold a public meeting on the application. Members of the public may comment orally at the meeting or in writing.

- **Disclosure of chemical information**. Operators must disclose to the Department, medical professionals, and public health professionals full chemical information, including names and concentrations of chemicals used in hydraulic fracturing. If a trade secret is claimed, the operator must create a second list that excludes only the concentrations and linkage to particular commercial products; this must be provided to the public and emergency response agencies.

Proper Management of Wastes and Radioactive Materials

- **Management of wastes and wastewater**. Flowback and produced water must be managed in a closed loop system of tanks and containers, and, unless demonstrated to not be practicable, 90 percent of wastewater must be recycled at the well pad. Flowback and produced water may not be land applied or used for de-icing, and may only be sent to a wastewater treatment facility if the discharge permit for the facility specifically allows acceptance of the wastewater. Detailed records on waste shipments must be kept, including through GPS tracking of trucks.

- **Prohibition on disposal in a Class II underground injection well.** The proposal prohibits disposal of flowback or produced water in a Class II underground injection well. Revisions to underground injection control regulations will also prohibit construction of a new Class II underground injection well in Maryland.

- **Prohibition on use of radioactive materials at oil and gas wells.** An operator may not use radioactive materials in its operations, such as radioactive charges for the perforation of casing and cement.

Well Plugging, Site Reclamation, and Financial Responsibility

- **Plugging, abandonment, and bonding**. The regulations contain detailed procedures for plugging wells and reclaiming the site, including deadlines, technical standards, and certification of proper plugging to the Department. A permittee must post a bond of at least $50,000 to cover the cost of plugging and site reclamation.

- **Financial responsibility**. A permittee must maintain insurance coverage for personal injury, property damage, and environmental pollution liability.

Department Oversight

- **Oversight of drilling and hydraulic fracturing phases**. The proposal requires Department approval of an operator's proposed date to begin drilling a new well. The Department will not approve drilling of a new well until that operator has completed the drilling and hydraulic fracturing of any other well it operates. This will allow the Department to maintain a consistent level of oversight over the drilling and hydraulic fracturing of wells.