

Draft Horizontal Well Rule Revisions

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Office of Oil and Gas

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Draft changes overview

- Changes required by statute
- Changes to permitting requirements
- Changes to operational requirements
- Changes to reporting

Drilling in karst regions

- *Create additional permitting and operational requirements to safeguard groundwater in karst regions (§22-6A-3a);*
 - Identification of a "karst region"
 - Coordination with WVGES
 - Tax-district map in progress
 - Pre-application testing for surface or sub-surface features
 - Baseline water testing
 - Pre-drill suite
 - Prohibition on pits and impoundment construction
 - Drilling procedures in voids

Groundwater supply wells

- *Describe a water flow and quality testing procedure for landowners (within 1,500 ft of a groundwater supply well) who request to have their drinking water wells sampled (§22-6A-8);*
 - "Water flow" testing consists of a step-drawdown and recovery analysis to derive a "yield" of the well
 - "Quality testing" is the pre-drill analytical suite

Groundwater supply wells

- *Protect groundwater aquifers by establishing aquifer testing protocols that must be performed before potential water supply wells can be used to support hydraulic fracturing activities;*
 - Aquifer test performed by qualified groundwater specialist
 - Groundwater basin characterization
 - Step-drawdown
 - Constant rate drawdown at specified withdrawal rate
 - Recharge analysis
 - At least one groundwater monitoring station
 - Submitted with water management plan

Plugging of horizontal wells

- *Define procedures to be used when plugging the horizontal component of directionally drilled wells (§22-6A-13);*
 - Where the well does not penetrate workable coal:
 - Fill the lateral with water, cement or other non-porous material, or
 - Install a permanent bridge at the point at which the lateral intersects the producing formation
 - Set a cement plug at the top of the producing formation
 - Plug the vertical component

Well communication

- *Prescribe a process to identify potential pathways for well communication during hydraulic fracturing activities and respond to those situations should they arise;*
 - Area of review to identify potential conduits
 - 500' from surface location
 - 500' along lateral
 - Notify operators of active wells within AOR
 - Plug, re-plug or monitor abandoned wells during completion operations
 - Monitor pressures
 - Suspend operations, relieve pressure, notify DEP

Drilling standards

- *Establish a borehole accuracy requirement to be adhered to while drilling;*
 - Laterals shall be drilled within 50' (laterally) of the permitted borehole
 - Excluding the curve
 - Borehole shall not deviate (vertically) outside the target formation after intersection

Drilling standards

- *Ensure cement and formation integrity by allowing for integrity testing for all casing strings;*
 - Add FIT testing option to freshwater and coal protection strings
 - FIT testing option already exists on the intermediate string
- *Extend freshwater casing to address unstable borehole conditions*
 - e.g. Redrock

Construction standards - Pads

- *Establish requirements for compaction standards;*
 - 95% Standard Proctor density
- *Establish requirements for well pad berms as containment structures;*

Construction Standards - Pits

- *Formalize minimum construction standards for centralized waste pits;*
 - Siting
 - Compaction
 - Liners and leak detection
 - Groundwater monitoring
- *Establish minimum construction standards for associated waste pits*
 - See above

Reporting requirements

- *Expand the annual production reporting requirements to include produced water;*
- *Modify reporting requirements for fracturing additives in response to programmatic changes in FracFocus.org (systems approach);*
- *Clarify the definition of natural gas liquids to reduce confusion in annual reporting;*

Administrative changes

- *Allow for the transfer of well-work permits;*