**Section 245.835 Mechanical Integrity Monitoring**

a) *During high volume horizontal hydraulic fracturing operations, all* sealed *annulus pressures, the injection pressure, and the rate of injection shall be continuously monitored and recorded. The records of the monitoring shall be maintained by the* permittee in the well file *and shall be provided to the Department upon request at any time during the period up to and including 5 years after the well is permanently plugged or abandoned.* (Section 1-75(b)(4) of the Act)

b) *During high volume horizontal hydraulic fracturing operations:*

1) *The* pressure test values established for the internal mechanical integrities of the cemented casings pursuant to Section 245.540 and of the hydraulic fracturing string pursuant to Section 245.805 shall not be exceeded. If any of these *pressures decline more than 5% or if there are other indications of a leak,* including but not limited to an increase in pressure in the annulus, exceeding the minimum internal yield in the casing string, or a visible leak at the surface, *corrective action shall be taken before conducting further high volume horizontal hydraulic fracturing operations.* (Section 1-70(d)(16) of the Act)

2) *The pressure exerted on treating equipment, including valves* (includes hydraulic fracturing string relief valve; see Section 245.805(b) of this Part and Section 1-70(d)(17) of the Act)*, lines, manifolds, hydraulic fracturing head or tree, casing and hydraulic fracturing string, if used, and* any other wellhead component or connection, *must not exceed 95% of the working pressure rating of the weakest component* (Section 1-75(b)(2) and (b)(3) of the Act).

3) The relief valve installed pursuant to Section 245.560(o) should be set so that the pressure exerted on the casing does not exceed the mechanical integrity test pressure of the casing established pursuant to Section 245.240.

4) *The actual hydraulic fracturing treatment pressure* during HVHHF operations *must not*, at any time, *exceed the* mechanical integrity *test pressures* of the casings established pursuant to Section 245.540 (Section 1-70(d)(18) of the Act).

c) *High volume horizontal hydraulic fracturing operations must be immediately suspended if* the permittee or Department inspector determines that *any anomalous pressure or flow condition or any other anticipated pressure or flow condition is occurring in a way that indicates the mechanical integrity of the well has been compromised and continued operations pose a risk to* public health, public safety, property, wildlife, aquatic life or *the environment. Remedial action shall be* immediately *undertaken*. (Section 1-75(b)(5) of the Act)

d) *The permittee shall notify the Department* inspector and the Department's District Office by phone and electronic mail *within 1 hour* after *suspending operations for any matters relating to the mechanical integrity of the well or risk to the environment.* (Section 1-75(b)(5) of the Act)

e) Operations shall not resume until the appropriate pressure tests referenced in Sections 245.805 and 245.810 have been successfully repeated.