

The Office of Oil and Gas; Oil and Gas Wells West Virginia Department of Environmental Protection

Deep Well Policy Statement *and*

Natural Gas Horizontal Well Control Act
Chapter 22 Article 6A of the West Virginia Code

WELL SITE SAFETY PLANS *and* REQUIREMENTS

West Virginia

May 16th, 2013





Site Safety Plans

- Prevention measures
- Protection procedures
- Action protocols necessary

→ Policy Statement

Office of Oil and Gas *and* Oil and Gas Conservation Commission *October 22nd, 2012*

Site Safety Plans Required -

ALL - DEEP PERMITTED DEEP WELLS

- Site specific Safety Plan must be submitted with each deep well application
- Deep Well Drilling Procedures and Site Safety Plan Requirements

OIL AND GAS CONSERVATION COMMISSION AND OFFICE OF OIL AND GAS

Policy Statement

Deep Well Drilling Procedures And Site Safety Plan Requirements

The drilling of wells to new and untapped producing horizons has increased significantly in the past year. The recent trend involves the drilling of wells to depths of 10,000-14,000 feet with the potential for encountering very high pressures and volumes.

The Oil and Gas Conservation Commission and the Office of Oil and Gas have the required authority and believe that it is necessary to issue this Policy Statement to provide minimum requirements for the development and production of deep wells. The Site Safety Plan for deep wells shall be submitted and approved by the Commission. A deep well shall be any well which meets the definition as provided for in Chapter 22C, Article 9 of the West Virginia Code.

A site specific Safety Plan must be submitted with each deep well application. Approved Plans shall be maintained and available at the drilling rig at all times. The Plan shall, at a minimum, address the following items:

Site Requirements

1. The Plan shall provide a map indicating the location, access road, pit, flare line and nearby dwellings, and take into consideration the prevailing wind direction.
2. Topographic map of well location.

Site Safety Plan

1. A pre-spud meeting shall be held prior to beginning drilling operations and include personnel to be employed and involved in the drilling operations and including the district oil and gas inspector or



§22-6A Well Site Safety Plans

Site Safety Plans are a provision necessary

- Submit with each well permit application
- Applies to any natural gas well drilled using a horizontal drilling method
- Well site disturbance of three acres or more of surface
- Utilizes more than two hundred ten thousand gallons of water in any thirty day period
- Address measures to be employed by the operator
- Protection of persons on the site, as well as the general public and the environment.



§22-6A-7 Horizontal well permit required; well site safety plan

- Encompass all aspects of the operation including actual well work, completion activities, and production activities
- Provide emergency point of contact
- Provide copy to the *LEPC at least 7 days prior to well work or site construction

**WV HSEM information
1(304)558-5380*



Well Site Safety Plan Standards

Summary of Criteria Needs

- Siting: site descriptions, topographic view
- Safety meetings, contacts, evacuations
- MSDS availability and where
- Well bore program, casing/cementing
- Strata incl. abnormal expectations
- Well control & BOP equipment
- Testing measures and schedules, training
- Well flaring operations & kill procedures
- H2S operations and handling
- Notification method and protection zones

Site Safety Plan Checklist:

- * Is this an applicable horizontal well site that disturbs three acres or more of surface, excluding pipelines, gathering lines, and access roads or utilizes >210,000 gals water in 30 days? ***If Yes – Apply 22-6A requirements!**
- Detail description proposed well work during the drilling phase (schematic plan view).
- * Detail description proposed during the completion and production phases **including item listing of production process units on site** (schematic plan view on each phase).
***22-6A wells only!**



Site Safety Plan Checklist (cont.)

- Emergency point of contact for the well operator.
- * Statement detailing copy of plan provided to the local emergency planning committee or county emergency services office within at least 7 days from land disturbance or well work. *22-6A wells only!
- Plan view map of location, access road, pit(s), flare lines, nearby dwellings, note the north direction and the prevailing wind direction.



Site Safety Plan Checklist (cont.)

- * Topographic map of well location. *22-6A wells includes latitude and longitude coordinates at well site entrance and point the access road intersects the public road and identify route number and/or name!
- Evacuation plan for the removal of personnel from the drilling location and residents in the surrounding area should the need arise.
- Pre-spud meeting held prior to drilling operations and include personnel to be employed and involved in the drilling operations and include the district Oil and Gas representative.



Site Safety Plan Checklist (cont.)

- List of telephone numbers for operator, contractors, DEP, Oil/Gas Inspector, local emergency response units and local ER personnel.
- * List of names, addresses, and telephone numbers of all residents, businesses, churches, schools and emergency facilities within 1 mile radius that may be affected by specific events during the drilling process. Such events may include presence of hydrogen sulfide, and flaring, etc. *22-6A wells – List telephone numbers of all schools and public facilities within a one-mile radius of proposed well site only!



Site Safety Plan Checklist (cont.)

- * MSDS sheets are to be readily available at the well site and location indicated in the site safety plan. *22-6A wells only!
- Describe schedule for conducting regular well site safety meetings. Log all meetings of attendance and also initiate check in check out during drilling, completion*, and work-over* phases. *22-6A wells only!
- * List of anticipated freshwater, saltwater, oil and gas, hydrogen sulfide, thief zones and high pressure and volume zones & expected depths. *Deep Well Policy only!



Site Safety Plan Checklist (cont.)

- * Detailed casing and cementing program that employs a minimum of three strings of casing which are sufficient weight and quality for the anticipated conditions. ***Deep Well Policy only!**
- BOP equipment and casing heads with types, sizes, and ratings to be utilized and available during the drilling of the deeper portion of the well bore.
- Procedure and schedule for testing the BOP stack (**22-6A wells – both intermediate and bottom hole & lateral drilling phases - tests 70% annular and 80% Rams – test on initial, weekly, and bit trips**).



Site Safety Plan Checklist (cont.)

- Schematic and description of the wellhead assembly to be placed on the well upon completion.
- List of all personnel with well control training.
- * System maintaining detailed records of all significant drilling events i.e. lost circ, H₂S Gas, fluid entry, abnormal pressures etc. (Add as a protocol on notifications to the OOG Inspector and OOG representatives.
 - * H₂S encounters requires immediate contact - 22-6A Wells requires >10ppm H₂S Gasses!



Site Safety Plan Checklist (cont.)

- * Flaring activities: *Deep Well Policy only!
 - 1) Size, construction and length of flare line- anchor method and choke assembly description.
 - 2) Flare lighting system and back up igniters.
 - 3) Minimum clearing distance beyond end of flare.
 - 4) Notify local fire department (if possible) prior to igniting flares.on of flaring operations.



Flaring Operations

Please contact the
Division of Air Quality* WVDAQ
WVDEP

***New Source Review Permitting**
Phone: 304 926 0475 · Fax: 304 926 0479



Site Safety Plan Checklist (cont.)

- **Inventory of all materials on site for mixing of mud including numbers and type of mixing units – mixed mud amount and weight, amount of weighting material and volume of mixing water.**
- **Method and type of kill procedures.**
- **H2S detection, monitoring and warning equipment including location of the monitoring and detection equipment on site.**
- **Statement of H2S personnel training provided.**



Site Safety Plan Checklist (cont.)

- Method to notify the OOG of H₂S presence.
(22-6A wells – And all Residents and ER Personnel)
(Events may include Blow-outs, and Flaring)
- Establish and maintain Protection Zones.
Describe procedures proposed.
- * Protocol and established safeguards designed to prevent underground collisions during any drilling on multi-well pads.
*22-6A wells only!

David J. Belcher

Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304
304-926-0450

david.j.belcher@wv.gov
www.dep.wv.gov



west virginia department of environmental protection

Michael H. Dorsey

Chief, Homeland Security Emergency Response
Department of Environmental Protection

601 57th Street, SE
Charleston, WV 25304
304-926-0499 Ext. 1278

mike.h.dorsey@wv.gov

www.dep.wv.gov



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