

# Virginia

## Response One:

### Regulations for Oil and Gas Operations in H<sub>2</sub>S Areas

1. Are there any devices/alarms required of operators that have H<sub>2</sub>S on location, and if so, at what ppm H<sub>2</sub>S are they required to be set?

As per 4VAC25-150-350, in areas of unknown hydrogen sulfide conditions, wells to be drilled below the base of the Devonian shale, or in areas where the hydrocarbons contain gas with a concentration of 100 parts per million (ppm) or greater of hydrogen sulfide: operators are required to determine the hydrogen sulfide concentration by a test approved by the director, such as a test in accordance with ASTM Standard D-2385-66, or GPA Plant Operation Test Manual C-1, GPA Publication 2265-68. Automatic hydrogen sulfide detection and alarm equipment are required, that will warn of the presence of hydrogen sulfide gas shall be utilized at the site.

2. Are there any postings required of operators that have H<sub>2</sub>S on location, and if so, under what circumstances?

Operator will post warning signs and windsocks at the sites but Virginia does not have regulations or requirements specific to postings on H<sub>2</sub>S sites.

3. How are facilities at which H<sub>2</sub>S is present tracked?

In the event of any unplanned off-site disturbance, fire, blowout, pit failure, hydrogen sulfide release, unanticipated loss of drilling fluids, or other incident resulting in serious personal injury or an actual or potential imminent danger to a worker, the environment, or public safety, the permittee is required to submit an electronic report within seven days of the incident.

4. What level or levels of H<sub>2</sub>S are considered actionable and under what circumstances?

As per 4VAC25-150-350, in areas of unknown hydrogen sulfide conditions, wells to be drilled below the base of the devonian shale, or in areas where the hydrocarbons contain gas with a concentration of 100 parts per million (ppm) or greater of hydrogen sulfide: operators are required to determine the hydrogen sulfide concentration by a test approved by the director, such as a test in accordance with ASTM Standard D-2385-66, or GPA Plant Operation Test Manual C-1, GPA Publication 2265-68. Automatic hydrogen sulfide detection and alarm equipment are required, that will warn of the presence of hydrogen sulfide gas shall be utilized at the site.

5. Are any additional standards for rules implemented for H<sub>2</sub>S other than the following?
  - a. ANSI- American Nation Standards Institute.
  - b. API – American Petroleum Institute.
  - c. EPA – Environmental Protection Agency.

Permittees shall only use metal components, approved by the director, which have been selected and manufactured so as to be resistant to hydrogen sulfide stress cracking under the operating conditions for which their use is intended. This requirement may be met by use of components that satisfy the requirements of NACE Standard MR-01-75 and API RP-14E, §§ 1.7(c), 2.1(c) and 4.7. The handling and installation of materials and equipment used in hydrogen sulfide service are to be performed in such a manner so as not to induce susceptibility to sulfide stress cracking.

6. Does your state have any specific H<sub>2</sub>S safety regulations? If so, please list them below.

4VAC25-150-350. Gas, Oil or Geophysical Operations in Hydrogen Sulfide Areas.  
4 VAC25-150-380. Incidents, Spills and Unpermitted Discharges.

7. What are the purposes of the H<sub>2</sub>S regulations?
  - a. Public safety
  - b. Worker safety
  - c. Other: \_\_\_\_\_

### **Safety Procedures for Field Inspectors**

8. What type of training is required for Field Inspectors?

Virginia does not have regulations or requirements specific to H<sub>2</sub>S training for inspectors. However, inspectors have regularly participated in a bi-annual training session, to stay current on safety measures and precautions to be taken on site.

9. Are certifications required for Field Inspectors?

Virginia does not have regulations or requirements specific to H<sub>2</sub>S certification for inspectors.

10. Do you have an H<sub>2</sub>S safety specialist, and if so, what is the specialist's level of expertise?

Virginia does not have an H<sub>2</sub>S safety specialist.

11. Do state inspectors check H<sub>2</sub>S levels, or do they require operators to check?

In addition to requiring each permittee to determine the H<sub>2</sub>S concentrations via automatic hydrogen sulfide detection and alarm equipment, inspectors also carry 4-Gas detectors, which test for hydrogen sulfide (H<sub>2</sub>S), carbon monoxide (CO), oxygen (O<sub>2</sub>)

and combustible gases (LEL).

12. If state inspectors check H<sub>2</sub>S levels, what are the required procedures/protocols for checking to determine H<sub>2</sub>S levels?

Virginia does not have regulations or requirements specific to the procedures inspectors use to check for H<sub>2</sub>S. Inspectors follow the guidelines provided by the manufacturer of the gas detectors when operating the equipment on site.

13. How often are readings required to be made? By whom? How/who keeps up with those readings?

Virginia does not have regulations or requirements specific to how often readings are required to be made.

14. Where are Field Inspectors most likely to check for H<sub>2</sub>S?

- a. Top of stock tanks
- b. Wellheads
- c. Gas streams
- d. Other: \_\_\_\_\_
- e. Not applicable

15. How do Field Inspectors respond to an H<sub>2</sub>S complaint? (Please include in the response information on any requirements about when the Field Inspector must be accompanied by another person.)

Virginia does not have regulations or requirements specific to how field inspectors respond to H<sub>2</sub>S complaints. Inspectors would follow Virginia's internal policy which provides a comprehensive system for receiving, recording, filing and responding to complaints regarding gas and oil activities in Virginia.

16. Are inspectors required to wear H<sub>2</sub>S monitors? If so, what type of equipment?

Virginia does not have regulations or requirements specific to the necessity of the inspectors wearing H<sub>2</sub>S monitors. However, Virginia inspectors are provided with H<sub>2</sub>S monitors to wear on site, when needed.

## Response Two:

### Regulations for Oil and Gas Operations in H<sub>2</sub>S Areas

1. Are there any devices/alarms required of operators that have H<sub>2</sub>S on location, and if so, at what ppm H<sub>2</sub>S are they required to be set?

4VAC25-150-350 C requires the use of automatic detection and alarm equipment that will warn of the presence of hydrogen sulfide in areas where hydrocarbons contain gas with a concentration of 100 ppm H<sub>2</sub>S. There is no requirement for the settings of the devices.

2. Are there any postings required of operators that have H<sub>2</sub>S on location, and if so, under what circumstances?

No specific requirements in Virginia regulations.

3. How are facilities at which H<sub>2</sub>S is present tracked?

Permittees are required to report concentrations in any well or corehole where the concentration is equal to or exceeds 100 ppm in the drilling report or pugging affidavit.

4. What level or levels of H<sub>2</sub>S are considered actionable and under what circumstances?

No specific requirements in Virginia regulations.

5. Are any additional standards for rules implemented for H<sub>2</sub>S other than the following?
  - a. ANSI- American Nation Standards Institute.
  - b. API – American Petroleum Institute.
  - c. EPA – Environmental Protection Agency.

No

6. Does your state have any specific H<sub>2</sub>S safety regulations? If so, please list them below.

No

7. What are the purposes of the H<sub>2</sub>S regulations?
  - a. Public safety
  - b. Worker safety
  - c. Other: \_\_\_\_\_

N/A

## Safety Procedures for Field Inspectors

8. What type of training is required for Field Inspectors?

No requirement, but inspectors get periodic H<sub>2</sub>S awareness training.

9. Are certifications required for Field Inspectors?

No

10. Do you have an H<sub>2</sub>S safety specialist, and if so, what is the specialist's level of expertise?

No

11. Do state inspectors check H<sub>2</sub>S levels, or do they require operators to check?

Inspectors are provided Gas detectors that detect H<sub>2</sub>S

12. If state inspectors check H<sub>2</sub>S levels, what are the required procedures/protocols for checking to determine H<sub>2</sub>S levels?

N/A

13. How often are readings required to be made? By whom? How/who keeps up with those readings?

N/A

14. Where are Field Inspectors most likely to check for H<sub>2</sub>S?

- a. Top of stock tanks
- b. Wellheads
- c. Gas streams
- d. Other: \_\_\_\_\_
- e. Not applicable

15. How do Field Inspectors respond to an H<sub>2</sub>S complaint? (Please include in the response information on any requirements about when the Field Inspector must be accompanied by another person.)

There are no specific requirements for H<sub>2</sub>S complaints, but inspectors are instructed to be accompanied by another inspector when responding to complaints where there are safety concerns.

16. Are inspectors required to wear H<sub>2</sub>S monitors? If so, what type of equipment?

No requirement, but inspectors carry Gas Clip MGC Simple gas detectors.