ConocoPhillips

**$H_2S$ Contingency Plan**
November 2016

$H_2S$ Contingency Plan Holders:

Attached is an $H_2S$ Contingency Plan for COPC Permian Drilling working in the West Texas and Southeastern New Mexico areas operated by ConocoPhillips Company.

If you have any question regarding this plan, please call Matt Oster (830) 583-1297, or Ryan Vacarella (985) 217-7594.

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ConocoPhillips

# HYDROGEN SULFIDE ($H_2S$) OPERATIONS

Contingency Plan
For
Permian Drilling Operations

ConocoPhillips Company
Mid-Continent Business Unit
Permian Asset Area

## I. PURPOSE

The purpose of this Contingency Plan is to provide an organized plan of action for alerting and protecting the public following the release of a potentially hazardous volume of hydrogen sulfide. This plan prescribes mandatory safety procedures to be followed in the event of a release of $H_2S$ into the atmosphere from exploration and production operations included in the scope of this plan. The extent of action taken will be determined by the supervisor and will depend on the severity and extent of $H_2S$ release. Release of $H_2S$ must be reported to the Drilling Superintendent and documented on the IADC and in Wellview.

## II. SCOPE

This Contingency plan shall cover the West Texas and Southeastern New Mexico areas, which contain H2S gas and could result in a release where the R.O.E. is greater than 100 ppm at 50' and less than 3000' and does not include a public area and 500 ppm R.O.E. does not include a public road. Radius of exposure is defined as the maximum distance from the source of release that a specified calculated average concentration of $H_2S$ could exist under specific weather conditions.

## III. PROCEDURES

First Employee on Scene

____ Assess the incident and ensure your own safety.

Note the following:

____ Location of the incident.
____ Nature of the incident.
____ Wind direction and weather conditions.
____ Other assistance that may be needed.

____ Call local supervisory personnel (refer to Section V: Emergency Call List) until personal contact is made with a person on the list.

____ Perform emergency assessment and response as needed. The response may include rescue and/or evacuation of personnel, shutting in a system and/or notification of nearby residents/public (refer to Section VII: Public Notification/Evacuation).

____ Secure the site.

____ Follow the direction of the On-scene Incident Commander (first ConocoPhillips supervisor arriving on-scene).

First Supervisor on Scene (ConocoPhillips On-scene Incident Commander)

____ Becomes ConocoPhillips' On-scene Incident Commander upon arrival to location.

____ Follow the principles of the **D.E.C.I.D.E.** process below to assess the incident. (Note wind direction and weather conditions and ensure everyone's safety).

**D**ETECT the problem
**E**STIMATE likely harm without intervention

**C**HOOSE response objectives
**I**DENTIFY action options
**D**O the best option
**E**VALUATE the progress

____ Complete the Preliminary Emergency Information Sheet (refer to Section VIII: Forms/Reports).

____ Call your supervisor (refer to Section V: Emergency Call List).

____ Perform emergency response as necessary. (This may include notification & evacuation of all personnel and/or nearby residents/public (refer to Section VII: Public Notification/Evacuation), requesting assistance from ConocoPhillips personnel or outside agencies (refer to Section V: Emergency Call List) and obtaining any safety equipment that may be required (refer to Section IV: Emergency Equipment and Maintenance).

____ Notify appropriate local emergency response agencies of the incident as needed. Also notify the appropriate regulatory agencies. (refer to Section V: Emergency Call List).

____ Ensure site security.

— Set barricades and /or warning signs at or beyond the calculated 100 ppm $H_2S$ radius of exposure (ROE). All manned barricades must be equipped with an $H_2S$ monitor and a 2-way radio.

— Set roadblocks and staging area as determined.

____ Establish the Incident Command Structure by designating appropriate on-scene response personnel as follows:

Recording Secretary _____
Public Information Officer _____
Safety/Medical Officer _____
Decontamination Officer _____

____ Have the "Recording Secretary" begin documenting the incident on the "Incident Log" (refer to Section VIII: Forms/Reports).

____ If needed, request radio silence on all channels that use your radio tower stating that, until further notice, the channels should be used for emergency communications only.

____ Perform a Site Characterization and designate the following:

| | | |
|---|---|---|
| Hot Zone | -- | Hazardous Area |
| Warm Zone | -- | Preparation & Decontamination Area |
| Cold Zone | -- | Safe Area |

AND

| | |
|---|---|
| On-Scene Incident Command Post | (Cold Zone) |
| Public Relations Briefing Area | (Cold Zone) |
| Staging Area | (Cold Zone) |
| Triage Area | (Cold Zone) |
| Decontamination Area | (Warm Zone) |

____ Refer all media personnel to ConocoPhillips' On-Scene Public Information Officer (refer to Section VI: Public Media Relations).

____ Coordinate the attempt to stop the release of $H_2S$. You should consider closing upstream and downstream valves to shut-off gas supply sources, and/or plugging or clamping leaks. Igniting escaping gas to reduce the toxicity hazard should be used **ONLY AS A LAST RESORT**. (It must first be determined if the gas can be safely ignited, taking into consideration if there is a possibility of a widespread flammable atmosphere.)

____ Once the emergency is over, return the situation to normal by:

Confirming the absence of $H_2S$ and combustible gas throughout the area,

Discontinuing the radio silence on all channels, stating that the emergency incident is over,

Removing all barricades and warning signs,

Allowing evacuees to return to the area, and

Advising all parties previously notified that the emergency has ended.

____ Ensure the proper regulatory authorities/agencies are notified of the incident (refer to Section V: Emergency Call List).

____ Clean up the site. (Be sure all contractor crews have had appropriate HAZWOPER training.)

____ Report completion of the cleanup to the Asset Environmentalist. (Environmentalist will report this to the proper State and/or Federal agencies.)

____ Fill out all required incident reports and send originals to the Safety Department. (Keep a copy for your records.)

- Company employee receiving occupational injury or illnesses.
- Company employee involved in a vehicle accident while driving a company vehicle.
- Company property that is damaged or lost.
- Accident involving the public or a contractor; includes personal injuries, vehicle accidents, and property damage. Also includes any situation, which could result in a claim against the Company.
- Hazardous Material Spill/Release Report Form
- Emergency Drill Report

____ Assist the Safety Department in the investigation of the incident. Review the factors that caused or allowed the incident to occur, and modify operating, maintenance, and/or surveillance procedures as needed. Make appropriate repairs and train or retrain employees in the use and operation of the system.

____ If this incident was simulated for practice in emergency response, complete the Emergency Drill Report found in Section VIII: Forms/Reports and submit a copy to the Drilling Manager. (Keep one copy in area files to document exercising of the plan.)

## Emergency Procedures
## Responsibility

In the event of a release of potentially hazardous amounts of H2S, all personnel will immediately proceed upwind/ crosswind to the nearest designated briefing area. The COPC Drilling Rep. will immediately, upon assessing the situation, set this into action by taking the proper procedures to contain the gas and notify appropriate people and agencies.

1. In an emergency situation, the Drilling Rep. on duty will have complete responsibility and will take whatever action is deemed necessary in an emergency situation to insure the personnel's safety, to protect the well and to prevent property damage.

2. The Toolpusher will assume all responsibilities of the Drilling Rep. in an emergency situation in the event the Drilling Rep. becomes incapacitated.

3. Advise each contractor, service company, and all others entering the site that H2S may be encountered and the potential hazards that may exist.

4. Authorize the evacuation of local residents if H2S threatens their safety.

5. Keep the number of persons on location to a minimum during hazardous operations.

6. Direct corrective actions to control the flow of gas.

7. Has full responsibility for igniting escaping gas to reduce the toxicity hazard.

   This should be used **ONLY AS A LAST RESORT**.

# IV. EMERGENCY EQUIPMENT and MAINTENANCE

## Emergency Equipment Suppliers

**DXP/ Safety International – Odessa, Tx.** 432.580.3770
$H_2S$ monitors
Breathing air includes cascade systems
First aid and medical supplies
Safety equipment
H2S Specialist

**Total Safety US Odessa, Tx/ Hobs, NM** 432.561.5049 Odessa
$H_2S$ monitors 575.392.2973 Hobbs
Breathing air includes cascade systems
First aid and medical supplies
Safety equipment

**DXP/ Indian Fire & Safety – Hobbs, NM** 575.393.3093
$H_2S$ monitors
Breathing air including cascade systems trailer mounted
30 minute air packs
Safety Equipment

**TC Safety – Odessa, Tx.**
$H_2S$ monitors 432.413.8240
Cascade systems trailer mounted
30 minute air packs
Safety Equipment
H2S Specialist

**Secorp Industries – Odessa, Tx.** 432.614.2565
H2S Monitor Systems
Cascade Systems
H2S Specialist

## Emergency Equipment and Maintenance (continued)

General Information

Materials used for repair should be suitable for use where $H_2S$ concentrations exceed 100 ppm. In general, carbon steels having low-yield strengths and a hardness below RC-22 are suitable. The engineering staff should be consulted if any doubt exists on material specifications.

Appropriate signs should be maintained in good condition at location entrance and other locations as specified in Texas Rule 36 and NMOCD Rule 118.

All notification lists should be kept current with changes in names, telephone numbers, etc.

All shutdown devices, alarms, monitors, breathing air systems, etc., should be maintained in accordance with applicable regulations.

All personnel working in $H_2S$ areas shall have received training on the hazards, characteristics, and properties of $H_2S$, and on procedures and safety equipment applicable for use in $H_2S$ areas.

## H2S Safety Equipment and Monitoring Systems

An H2S emergency response package will be maintained at locations requiring H2S monitoring. The package will contain at a minimum the following:

3 – Fixed H2S sensors located as follows:
- 1 – on the rig floor
- 1 – at the Bell Nipple
- 1 – at the Shale Shaker or Flowline

1 – Entrance Warning Sign located at the main entrance to the location, with warning signs and colored flags to determine the current status for entry into the location.

2 – Windsocks that are clearly visible.

1 – Audible warning system located on rig floor

2 – Visual warning systems (Beacon Lights)
- 1 – Located at the rig floor
- 1 – Located in the mud mixing room

**Note: All alarms (audible and visual) should be set to alarm at 10 ppm.**

2 - Briefing areas clearly marked
- 2 - SCBA's at each briefing area
- 1- SCBA located at the Drilling Reps office

**Note:**

**1. All SCBA's must be positive pressure type only!!!**

**2. All SCBA's must either be Scott or Drager brand.**

**3. All SCBA's face pieces should be size large, unless otherwise specified by the Drilling Supervisor.**

5 – Emergency Escape Paks located at Top Doghouse.
Note: Ensure provisions are included for any personnel working above rig floor in derrick.

1 – Tri or Quad gas monitor located at the Drilling Reps office. This will be used to determine if the work area if safe to re-enter prior to returning to work following any alarm.

## V. EMERGENCY CALL LIST:

The following is a priority list of personnel to contact in an emergency situation:

| Supervisory Personnel | Office No. | | Cellphone |
|---|---|---|---|
| Drilling Supt. (Unconventional)<br>**Scott Nicholson** | 432.688.9065 | | 432.230.8010 |
| Field Superintendents:<br>**Clint Case**. | 432.688.6878 | | 940.231.2839 |
| Safety Support:<br>**Matt Oster**<br>**Ryan Vaccarella** | 830.583.1245<br>985.217.7594 | | 601.540.6988<br>NA |
| Supt Operations-SEMN/Shale<br>Mike Neuschafer | 432.688.6834 | | 713.419.9919 |
| MCBU Safety Coordinator<br>**James Buzan** | 432.688.6860 | | 832.630.4320 |
| Manger GCBU/MCBU D & C<br>**Seth Crissman** | 832.486.6191 | | 832.513.9308 |

## EMERGENCY CALL LIST: State Officials

**Regulatory Agencies**

Office: 432.684.5581

**Texas Railroad Commission (District 8)**
Midland, Texas

**New Mexico Oil Conservation Commission** Office:575.393.6161
P. O. Box 1980
Hobbs, New Mexico 88240-1980

**Bureau of Land Mngt.**
Carlsbad Field Office Office: 575.234.5972
620 E. Greene St. Fax: 575.885.9264
Carlsbad, NM 88220

## EMERGENCY CALL LIST: Local Officials

**Refer to the Location Information Sheet**
**Note: The LIS should include any area residents (i.e. rancher's house, etc)**

## VI. Public Media Relations

The **Public Information Officer** becomes the ConocoPhillips on-scene contact (once designated by the Phillips On-Scene Incident Commander).

Confers with Houston Office's Human Relations Representative, who is responsible for assisting in the coordination of local public relations duties.

Answer media questions honestly and **only with facts,** do not speculate about the cause, amount of damage, or the potential impact of the incident of the community, company, employees, or environment. (This information will be formally determined in the incident investigation.)

If you are comfortable answering a question or if you are unsure of the answer, use terms such as the following:

- "I do not know. I will try to find out."
- I am not qualified to answer that question, but I will try to find someone who can."

- "It is under investigation."

**Note:**
**Do Not** Say "No Comment." (This implies a cover-up.)

**Do Not Disclose Names of Injured or Dead!** Confer with the Houston Office's Human Relations Representative, who is responsible for providing that information.

## VII. Public Notification/Evacuation

### Alert and/or Evacuate People within the Exposure Area

1. Public Notification – If the escape of gas could result in a hazard to area residents, the general public, or employees, the person **first** observing the leak should take **immediate** steps to cause notification of any nearby residents. The avoidance of injury or loss of life should be of prime consideration and given top priority in all cases. If the incident is of such magnitude, or at such location as to create a hazardous situation, local authorities will be requested to assist in the evacuation and roadblocks of the designated area until the situation can be returned to normal.

   Note: Bilingual employees may be needed to assist in notification of residents.

2. Evacuation Procedures – Evacuation will proceed upwind from the source of the release of $H_2S$. Extreme caution should be exercised in order to avoid any depressions or low-lying areas in the terrain. The public area within the radius of exposure should be evacuated in a southwesterly and southeasterly direction so as to avoid the prevailing southern wind direction.

   Roadblocks and the staging area should be established as necessary for current wind conditions.

**Note:** In all situations, consideration should be given to wind direction and weather conditions. $H_2S$ is heavier than air and can settle in low spots. Shifts in wind direction can also change the location of possible hazardous areas.

## VIII. FORMS & REPORTS

I. Incident Log

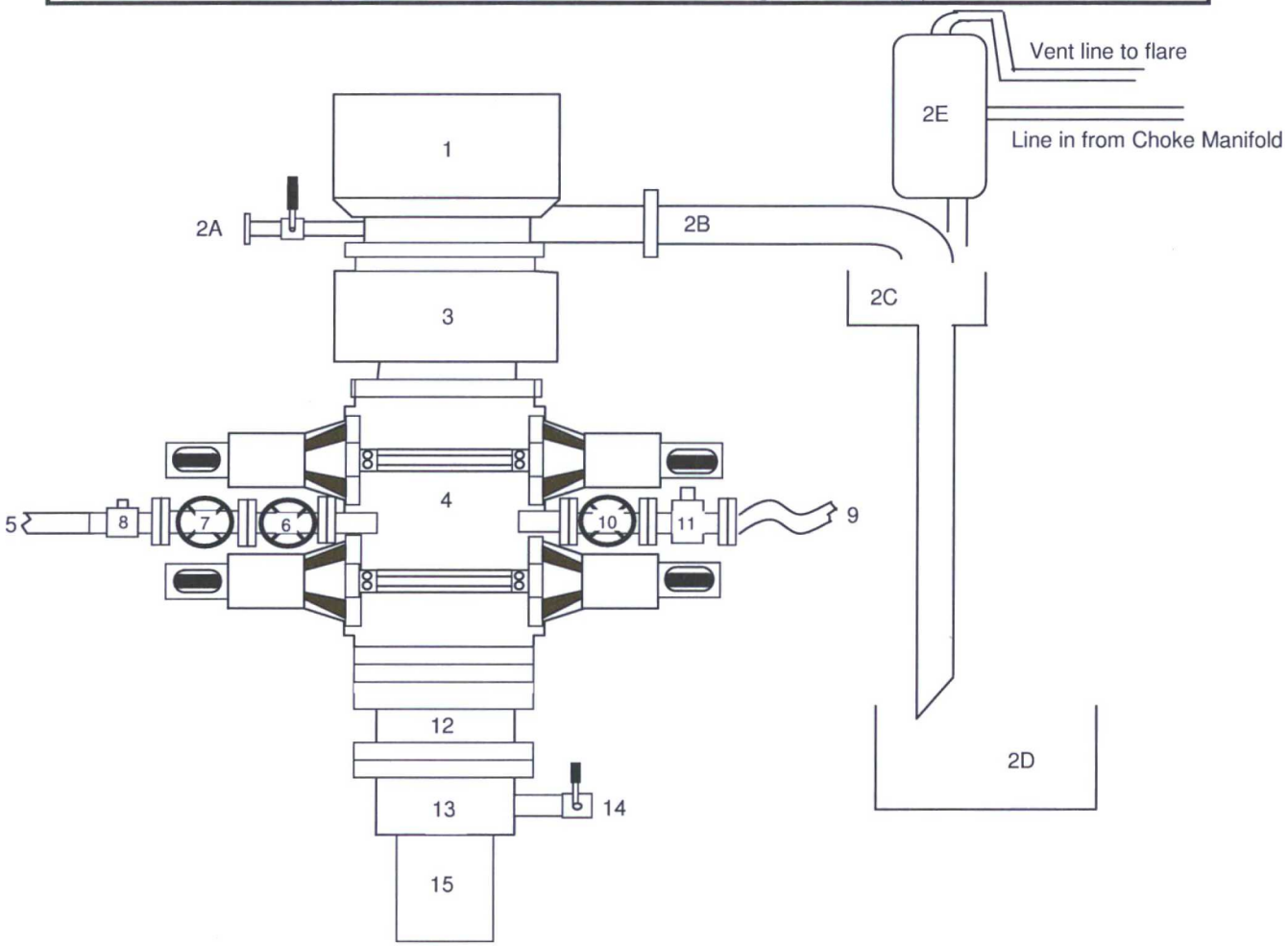
II. Preliminary Emergency Information Sheet

III. Emergency Drill Report

IV. Onshore Hazardous Material Spill/Release Report Form

V. Immediate Report of Occupational Injury or Illness
Report of Accident-Public Contractor
Report of Loss or Damage to Company Property
Report of Automotive Incident

## BLOWOUT PREVENTER ARRANGEMENT - 11" 5M BOPE
per Onshore Oil and Gas Order No. 2 utilizing 5M Rated Equipment




| Item | Description |
|---|---|
| 1 | Rotating Head, 11" |
| 2A | Fill up Line and Valve |
| 2B | Flow Line (10") |
| 2C | Shale Shakers and Solids Settling Tank |
| 2D | Cuttings Bins for Zero Discharge |
| 2E | Rental Mud Gas Separator with vent line to flare and return line to mud system |
| 3 | Annular BOP (11", 5M) |
| 4 | Double Ram (11", 5M, Blind Ram top x Pipe Ram bottom) |
| 5 | Kill Line Connection |
| 6 | Kill Line Valve, Inner (2-1/16", 5M) |
| 7 | Kill Line Valve, Outer (2-1/16", 5M) |
| 8 | Kill Line Check Valve (2-1/16", 5M) |
| 9 | Choke Line (3-1/8" 5M Coflex Line) |
| 10 | Choke Line Valve, Inner (3-1/8", 5M) |
| 11 | Choke Line Valve, Outer, (3-1/8", Hydraulically operated, 5M) |
| 12 | Spacer Spool (11", 5M) |
| 13 | Casing Head (11" 5M) |
| 14 | Casing Head Valve Outlet (2" 5M) |
| 15 | Surface Casing |

A variance is requested to permit the use of flexible hose. The testing certificate for the specific hose will be available on the rig prior to commencing drilling operations.