



H₂S Contingency Plan

November 2016

H₂S Contingency Plan Holders:

Attached is an H₂S 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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HYDROGEN SULFIDE (H₂S) 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 H₂S 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 H₂S release. Release of H₂S 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 H₂S 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).

DETECT the problem

ESTIMATE likely harm without intervention

CHOOSE response objectives

IDENTIFY action options

DO the best option

EVALUATE 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 H₂S radius of exposure (ROE). All manned barricades must be equipped with an H₂S 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 H₂S. 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 H₂S 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.

H₂S monitors 432.580.3770
Breathing air includes cascade systems
First aid and medical supplies
Safety equipment
H₂S Specialist

Total Safety US Odessa, Tx/ Hobs, NM

H₂S monitors 432.561.5049 Odessa
575.392.2973 Hobbs
Breathing air includes cascade systems
First aid and medical supplies
Safety equipment

DXP/ Indian Fire & Safety – Hobbs, NM

H₂S monitors 575.393.3093
Breathing air including cascade systems trailer mounted
30 minute air packs
Safety Equipment

TC Safety – Odessa, Tx.

H₂S monitors 432.413.8240
Cascade systems trailer mounted
30 minute air packs
Safety Equipment
H₂S Specialist

Secorp Industries – Odessa, Tx.

H₂S Monitor Systems 432.614.2565
Cascade Systems
H₂S Specialist
H₂S, CPR, First Aid Training

Emergency Equipment and Maintenance (continued)

General Information

Materials used for repair should be suitable for use where H₂S 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 H₂S areas shall have received training on the hazards, characteristics, and properties of H₂S, and on procedures and safety equipment applicable for use in H₂S 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 is 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) Scott Nicholson	432.688.9065	432.230.8010
Field Superintendents: Clint Case.	432.688.6878	940.231.2839
Safety Support: Matt Oster Ryan Vaccarella	830.583.1245 985.217.7594	601.540.6988 NA
Supt Operations-SEMN/Shale Mike Neuschafer	432.688.6834	713.419.9919
MCBU Safety Supervisor James Buzan	432.688.6860	832.630.4320
Manager GCBU/MCBU D & C Seth Crissman	832.486.6191	832.513.9308

EMERGENCY CALL LIST: State Officials

Regulatory Agencies

Texas Railroad Commission (District 8)
Midland, Texas

Office: 432.684.5581

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240-1980

Office: 575.393.6161

Bureau of Land Mngt.
Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220

Office: 575.234.5972
Fax: 575.885.9264

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 H₂S. 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. H₂S 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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

☒ Original

Operator & OGRID No.: ConocoPhillips Company; OGRID No. 217817

☐ Amended

Date: December 2, 2016

Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: A C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule 19.15.18.12.A

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Ruby Federal 100H	30-025-43370	B-18-17S-32E	990'N&2260'E	550	Flared	Flaring is expected to be sporadic
Ruby Federal 101H	30-025-43371	B-18-17S-32E	330'N&1650'E	347	Flared	Flaring is expected to be sporadic

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Frontier Field Services and will be connected to Frontier Field Services low/high pressure gathering system located in Lea County, New Mexico. It will require 00000' of new pipeline to connect the facility to low/high pressure gathering system. ConocoPhillips Company provides (periodically) to Frontier Field Services a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, ConocoPhillips Company and Frontier Field Services have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Frontier Field Services Processing Plant located in Sec.21, TWN 17S, RNG 32E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Frontier Field Services system at that time. Based on current information, it is ConocoPhillips Company's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives potentially considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	ConocoPhillips Company
LEASE NO.:	NMLC-029405B
WELL NAME & NO.:	Ruby Federal 100H
SURFACE HOLE FOOTAGE:	0990' FNL & 2260' FEL
BOTTOM HOLE FOOTAGE	0821' FNL & 2315' FEL Sec. 17, T. 17 S., R 32 E.
LOCATION:	Section 18, T. 17 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

The original COAs still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.