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30-015-28992

Nearburg Producing Company

3300 N A St., Bldg 2, Suite 120

Midland, TX 79705

**Hydrogen Sulfide (H₂S) Contingency
Plan**

For

Osage Boyd 15 Federal Com #8

SHL: 1980' FNL and 1980' FWL

Sec. 15, T19S, R25E

Eddy County, New Mexico

**PUBLIC PROTECTION PLAN
NEARBURG PRODUCING COMPANY**

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PUBLIC PROTECTION PLAN NEARBURG PRODUCING COMPANY

1. PURPOSE

This plan is intended to protect the health and safety of the public, contractors and Nearburg Producing Company (NPC) personnel should an unanticipated release of a potentially hazardous volume of Hydrogen Sulfide (H₂S) occur.

Further to:

- Comply with the Bureau of Land Management's (BLM) Onshore Oil and Gas Operations Onshore Oil and Gas Order No. 6, Hydrogen Sulfide Operations (43 CFR Part 3160).
- Comply with the State of New Mexico Oil Conservation Division's (NMOCD) rule 19 NMAC 15.C 118.
- Assure proper notification of the appropriate parties and agencies.

2. SCOPE

The provisions of this document are intended to address Hydrogen Sulfide (H₂S) releases and H₂S emergencies at Nearburg Producing Companies production batteries and all surrounding operated field locations in the McKittrick Hills Field. Facilities for which calculations indicate a potential hazardous volume of H₂S could occur have additional site specific response information and radius of exposure drawn on the attached plat map. The field is located approximately 20 miles west of Carlsbad, New Mexico (Eddy County).

This plan is intended to be used in conjunction with the Emergency Response plan that is available at the Artesia Field Office and applies to RMS Level 1 incidents.

3. DEFINITIONS

All Clear - Notification of effected personnel, by the response leader, that the incident has ended and the area is safe to re-enter.

A Potentially Hazardous Volume - a volume of Hydrogen Sulfide (H₂S) gas of such concentrate that:

- The 100-ppm ROE includes any public area.
- The 500-ppm ROE includes any public road.
- The 100-ppm ROE exceeds 3,000 feet.

Facility – Equipment involved in producing, processing, or transporting natural gas and/or crude oil, including the property to the edge of the pad or fence.

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Hydrogen Sulfide Gas (H₂S) – is extremely flammable, colorless, poisonous gas that may occur naturally as a component of production streams, such as crude oil, produced water and natural gas. At low concentrations it has a rotten egg odor, but at higher concentrations deadens the sense of smell. Its specific gravity is heavier than air giving it a tendency to collect in low-lying areas on still days. The permissible exposure limit is 10 ppm and the short term exposure limit is 15 ppm. It is considered to be immediately dangerous to life and health at 300 ppm. H₂S is readily dispersed in air and is water soluble.

ICS (Incident Command System) – A team based concept for emergency response in which roles and responsibilities are predetermined.

Incident Commander (IC) – Senior Nearburg Producing Company employee in charge of an emergency response.

Incipient Stage Fire – A fire in the beginning or very early stages of development, which can be effectively extinguished by one or more persons with portable fire fighting equipment.

Muster Site – A pre-defined staging or meeting area.

RMS Level I – an emergency that can be reasonably addressed by Artesia Area Office in which the incident occurs and that can be resolved in approximately two days or less.

ROE (Radius of Exposure) – The radius constructed with the point of escape (of gas) as its starting point and its length calculated using the Pasquill-Gifford derived equation or computer modeling where the H₂S concentration is greater than 10%.

PPM – Parts per Million

Public Area – Any building or structure that is not associated with the well, facility or operation for which the ROE is being calculated and that is used as a dwelling, office, place of business, church, school, hospital or government building, or any portion of a park, city, town, village, or designated school bus stop or other similar area where members of the public may reasonably be expected to be present.

Public Road – Any federal, state, municipal or county road or highway.

Serious Incident – An event which results or has the potential to result in severe personal injury and/or significant equipment damage.

Sulfur Dioxide (SO₂) – A heavy colorless toxic gas that is formed when hydrogen sulfide is burned. It has a pungent odor and is a respiratory irritant. The permissible exposure limit is 2 ppm, the short term exposure limit is 5 ppm. It is considered to be immediately dangerous to life and health at 100 ppm. SO₂ is readily dispersed in air and is water soluble.

Total Personnel Evacuation – An evacuation of all persons (contract employees, or visitors) from the emergency area to a muster area.

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4. THE PLAN

Training:

All personnel (company, contractors and sub-contractors) working in the field for NPC are required to complete hydrogen sulfide training before beginning work and annually thereafter.

Training on the contents of this plan shall be provided to all NPC and appropriate contract personnel working for NPC:

- whenever the employees' responsibilities or designated actions under the plan change,
- whenever the contents of the plan are changed/revised
- whenever a new employee begins employment, and
- periodically as needed for all employees.

Nearburg Producing Company supervision is responsible for this training.

Orientation:

All persons visiting or working at Indian Basin shall receive an orientation covering the following minimum items:

- ☐ What types of emergencies are possible,
- ☐ What the emergency evacuation alarm sounds like in the gas plant,
- ☐ How to report an incident/emergency,
- ☐ Who will be in charge during an emergency,
- ☐ How to safely evacuate the plant, and
- ☐ Where to assemble so that all persons can be accounted for.

The NPC representative responsible for the contractors or visitors shall conduct the orientations and shall document attendees and dates.

H2S Monitors:

All personnel working at the Indian Basin are required to wear personal H2S monitor at all times when working in the plant or field. Monitors should have a vibrating alarm if used in high noise areas.

Activation:

Phase I – activated when:

1. Sustained H2S concentration reaches 10 parts per million (ppm) in any work area and the source is not readily identified and/or controllable.
2. Continuous H2S levels are detected at 10 ppm (or greater) at any public road, near an occupied residence or bus stop, and the source is not readily identified and/or immediately controlled.

Phase II – activated when:

1. A potentially hazardous volume of H2S is detected.
2. When sustained H2S concentrations exceed 50 ppm at any facility boundary.

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Phase I:

Upon discovery on-site personnel should:

- ☐ Make others on-site aware of the presence of H₂S and leave the area upwind or crosswind to a safe location. (Pre-determine if a pre-job tailgate meeting was conducted).
- ☐ Prevent unauthorized persons from entering the area. Request assistance if needed.
- ☐ If a residence or other public area is in the vicinity, monitor for H₂S to ensure exposure is less than 10 ppm. Notify supervisor if higher exposures are noted or if any other questions arise about steps necessary to protect these sensitive areas.
- ☐ If considering re-entering the area to assess the H₂S source, ensure you have been properly trained to respond. Use an H₂S monitor with digital display (preferably a multi-gas monitor) and have a supplied air respirator (SAR) and back up person with SAR readily available. Consider notification of supervisor if appropriate.
- ☐ Proceed with caution. If H₂S concentration reaches 10 ppm in your breathing zone, back out and use SAR to re-enter. **If H₂S concentration reaches 50 ppm at the facility boundary, immediately notify supervision.**
- ☐ If source can be safely controlled, monitor area to ensure H₂S levels are below 10 ppm. End response here and sound all clear to allow others to re-enter the area. Report length of release and volume to supervisor.
- ☐ If the source of H₂S cannot be identified and/or controlled, or if you cannot do so without exposing yourself to danger, leave the area to a safe distance.
- ☐ Notify supervision.
- ☐ Continue to monitor for H₂S and maintain site security until instructed by supervision to do otherwise.

Supervision:

- ☐ Gather necessary information to determine the course of action and level of response.
- ☐ Mobilize any additional man power or equipment necessary.
- ☐ Ensure Phase II measures are implemented if appropriate.
- ☐ Continue to monitor situation until incident is over.
- ☐ Make notifications if required.
- ☐ Complete reports if required.
- ☐ Investigate as indicated.

Phase II

Upon discovery on-site personnel should:

- ☐ Make others on-site aware of the presence of H₂S and leave the area upwind or crosswind to a safe location. (Pre-determined if a pre-job tailgate meeting was conducted).
- ☐ Prevent authorized persons from entering the area.
- ☐ **Notify Supervisor.**

Supervision:

- ☐ Initiate the Incident Command System as deemed appropriate.
- ☐ Mobilize the resources necessary to maintain site security and provide for the protection of personnel and the public.
- ☐ Issue warnings to all NPC personnel by radio and/or phone (IB Contact List) to make them aware of the incident and its location. Have non-essential personnel leave the area. If deemed necessary, order a total personnel evacuation of the area.

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- ☐ Notify non-company personnel known to work or reside in the area (IB Contact List). If necessary to ensure their safety, dispatch NPC personnel with the appropriate monitor, supplied air respirators and means of communication to these locations. (*Appendix B*)
- ☐ Have NPC personnel set up road blocks to prevent unauthorized entry into impacted areas until relieved by law enforcement or other authorized personnel.
- ☐ Make all appropriate notifications to NPC, Federal, State and local authorities.
- ☐ When the release has been contained and monitoring indicates the area is safe to re-enter, terminate operations and sound the all clear.
- ☐ Complete records if required.
- ☐ Investigate as indicated.
- ☐ For spills, well blowouts, fires, natural disasters and terrorist or bomb threats

All other personnel not involved in the immediate response:

- ☐ If a total evacuation is ordered, report to the incident command center or nearest muster site to which you have safe access. (See Appendix A for muster site locations)
- ☐ Ensure all contract personnel working for you (or in your area) are accounted for and have them report to a safe muster site.
- ☐ Senior employee at each muster site should make a roster of all personnel reporting to that muster site and be prepared to make it available to the incident commander (IC).
- ☐ Maintain communication with the IC and be prepared to offer assistance as it is requested.

Ignition of H₂S:

While no uncontrollable release of H₂S is anticipated, should ignition of gas be necessary for the protection of personnel or the public, the determination would be made by the NPC Incident Commander. The method of ignition will maintain the safety of the person performing this task as the primary concern. The most likely method would be the use of a flare gun from a safe distance.

If this becomes necessary, monitoring will include sulfur dioxide (SO₂) in addition to H₂S.

**PUBLIC PROTECTION PLAN
NEARBURG PRODUCING COMPANY**

6. APPROVALS

Approved by:

Name:

[Signature]

Title: Drilling Manager

Date:

3/04

Name:

[Signature]

Title: Production Supervisor

Date:

3.1.04

**NEARBURG PRODUCING COMPANY
REGULATORY CONTACTS**

Agency	Contact Name		Division/Area	Main Phone #	Cell Phone	Home Phone #
	First	Last				
NMOCD	Emergency Number		District 2	505-746-4302		
NMOCD	Field Rep On-Call		District 2	505-939-8622		
NMOCD	Tim	Gum	District 2	505-748-1283	505-626-0824	505-324-1387
NMOCD	Mike	Stubblefield	District 2	505-748-1283	505-626-0831	505-746-6422
NMOCD	Gerry	Guye	District 2	505-748-1283	505-626-0843	505-887-3254
NMOCD	Phil	Hawkins	District 2	505-748-1283	505-626-0836	505-746-9272
NMOCD	Bryan	Arrant	District 2	505-748-1283	505-626-0830	505-748-2092
NMOCD	Lori	Wortenberhy	Santa Fe Division Ofc.	505-827-7131	505-476-3460	505-466-0134
NMOCD	Ed	Martin	Santa Fe Division Ofc.	505-827-7131	505-476-3492	505-685-4056
NMOCD	Roger	Anderson	Santa Fe Division Ofc.	505-827-7131	505-476-3490	505-471-2017
NM State Police			District 3, Roswell	505-827-9312		
NM State Police			Sub-District 3, Roswell	505-622-7200 (call this # for dispatch to our area)		
BLM			Carlsbad	505-887-6544		
US Coast Guard			National Response Center	800-424-8802		
NMED			Air Quality Bureau	505-827-1494		
	State Emergency Response Center			505-827-9126		
LEPC	Local Emerg. Planning Commission - Eddy County			505-885-2111		
NM OSHA	New Mexico OSHA Ofc.			505-827-2850		

EMERGENCY SERVICES

Service Provider	Description	Main Phone	
General Emergency	Police, Fire, Ambulance	911	
Carlsbad Police, Fire, Ambulance Service		505-885-2111	
Artesia General Hospital	Medical Services	505-748-3333	
Carlsbad Fire Dept.	Fire Control	505-885-3124	
Artesia Fire Dept.	Fire Control	505-746-2701	
Happy Valley Fire Dept.	Fire Control	505-885-1982	
NM State Police	Sub-District 3, Carlsbad		
NM State Police (Dispatcher)	District 3, Roswell	505-622-7200	
Eddy County Sheriff	Law Enforcement	505-887-7551	

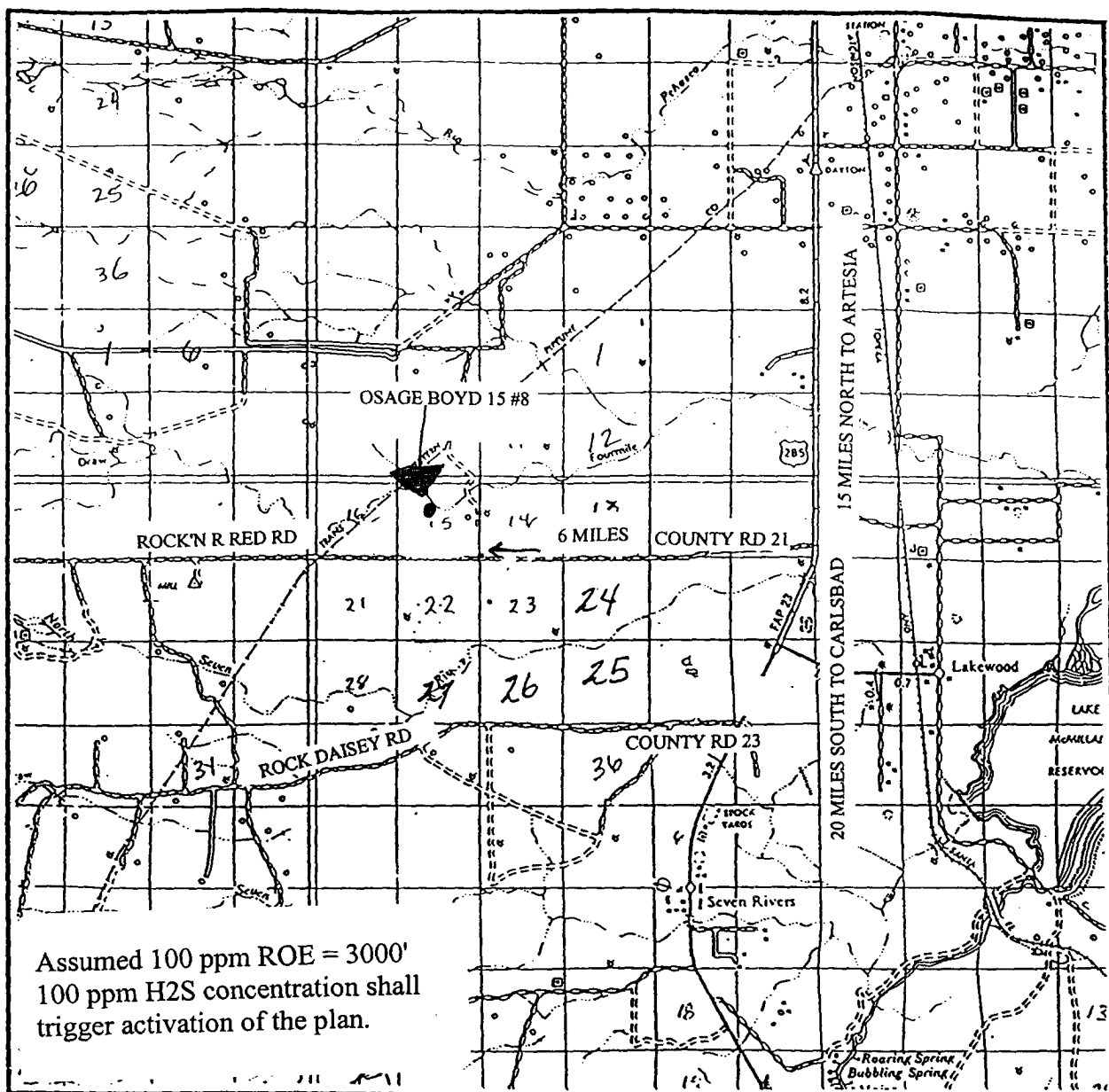
**NEARBURG PRODUCING COMPANY
EMERGENCY RESPONSE PLAN**

Position	Office Phone	Cell Phone #	Home Phone #
Drilling SuperIntendent			
Butch Willis	432-686-8235 (223)		
Production Superintendent			
Matt Lee	505-746-0422	505-365-6662	505-746-0932
Operations			
Roger King	505-746-0422	505-361-3605	505-885-3605
Rick Foutch	505-746-0422	505-361-4211	505-887-7844
Jerry Stark	505-746-0422	505-365-4672	505-746-3862
Planning Section			
Fred White	214-739-1778	469-644-1326	972-931-8845
Bob Shelton	432-686-8235 (214)	432-682-3100	432-528-6134
Public Affairs			
Bob Shelton	432-686-8235 (214)	432-682-3100	432-528-6134

AREA RESIDENTS AND OFFSET OPERATIONS

Location Description	Contact	Title	Address	City/ST/Zip	Phone 1	Call	Location Info.
Foster Ranch	Foster, John		P.O. Box 103	Artesia, NM 88211-0103	505-457-2165		
HH Ranch	Houchtaling, Harold		P.O. Box 234	Artesia, NM 88211-0234	505-457-2245		
Carl Ross	Carl Ross			Lakewood, NM	505/457-2248		
JT and Ruth Ross	JT and Ruth Ross			Lakewood, NM	505/457-2499		
Chevron Oil	Boles, Randy					505-390-7232	
Chevron Oil	Angel, Kenneth					505-390-1540	
Duke Energy	Main Office		Carlsbad		505-628-0282		
El Paso	Jacquez, David	Gas Measurement			505-857-2158		
Yates Petroleum (Agave)	Main Office				505-784-1471		
Yates Petroleum (Agave)	Johnson, Bill	Foreman			505-748-6816	505-365-4615	
Yates Petroleum (Agave)	Moorehead, Robert				505-748-6815	505-365-4840	

VICINITY MAP



SEC. 15 TWP. 19-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1980 FNL + 1980 FWL

ELEVATION NEARBURG

OPERATOR PRODUCING COMPANY

IF AS Osage Boyd

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117