# H2S - 65

# H2S CONTINGENCY PLAN PHASE I

# 2019

## Chavez, Carl J, EMNRD

**From:** Chavez, Carl J, EMNRD
**Sent:** Tuesday, November 26, 2019 4:17 PM
**To:** 'Matt Brunton'
**Cc:** Goetze, Phillip, EMNRD; Amanda Marcks; Griswold, Jim, EMNRD; Wade, Gabriel, EMNRD
**Subject:** RE: Salt Creek Midstream Gas Plant H2S Contingency Plan Submittal Process Agreement
**Attachments:** H2S Contingency Plan - SCM Ameredev Phase 1 Updated.pdf

Matt:

Re: H2S-065 Enercon Salt Creek Midstream- SCM, LLC Gas Plant & AGI Well Facility

The New Mexico Oil Conservation Division (OCD) is in receipt of the H2S Contingency Plan Phase I (Plan) Revised on September 19, 2019.

The OCD hereby accepts the Plan for record.

Please contact me if you have any questions.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
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**"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to:** http://www.emnrd.state.nm.us/OCD **and see "Publications")**

*Disclaimer: Please be advised that OCD acceptance of this plan does not relieve Salt Creek Midstream of responsibility should their operations fail to adequately detect, investigate, and/or undertake corrective actions to prevent or stop a hydrogen sulfide release(s) that may pose a threat to groundwater, surface water, human health, public safety or the environment. In addition, OCD acceptance does not relieve Salt Creek Midstream of responsibility for compliance with any other federal, state, or local laws and/or regulations.*

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**From:** Matt Brunton <mbrunton@enercon.com>
**Sent:** Tuesday, November 26, 2019 2:13 PM
**To:** Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
**Cc:** Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; Amanda Marcks <amarcks@enercon.com>
**Subject:** [EXT] RE: Salt Creek Midstream Gas Plant H2S Contingency Plan Submittal Process Agreement

Good afternoon Carl,

I write with cover to the attached Updated Phase 1 $H_2S$ Contingency Plan for Salt Creek Midscream's Ameredev South Systems.

This plan reflects the as-built system in place now, with reduced pressures, volumes and concentrations, and resulting significantly reduced ROE. This has allowed us to simplify the plan, while adhering to the NM OCD Review Checklist and all applicable regulations. The attached plan is the clean version of the redline you have already reviewed.

We would like to have the attached plan replace the original H2S Plan that was submitted and accepted by NM OCD in April of 2019.

As agreed ENERCON will work with SCM to submit updates to NM OCD in advance of construction. Currently we anticipate a Phase 2 and Phase 3, and there is potential for a Phase 4 before the system is fully complete. Phase 2 will include the North Systems and Valkyrie treating unit to be submitted to NM OCD early 2020. We anticipate Phase 3 to be submitted to NM OCD toward the end of Q1 2020, in advance of the construction of the AGI well. We will submit the Phase 2 plan and Phase 3 plan with a clean pdf copy, and a word redline containing a summary of changes.

Regards,

Matt Brunton

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Oklahoma City, OK. 73118
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**From:** Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
**Sent:** Monday, November 25, 2019 3:18 PM
**To:** Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
**Cc:** Matt Brunton <mbrunton@enercon.com>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Wade, Gabriel, EMNRD <Gabriel.Wade@state.nm.us>
**Subject:** Salt Creek Midstream Gas Plant H2S Contingency Plan Submittal Process Agreement

Phil:

OCD is working with Matt Brunton (ENERCON) on the above subject H2S Contingency Plan (CP) Process based on a phased approach to the Sour Gas Plant Operations and meeting ENERCON's Client Salt Creek Midscream's needs. I provide the history of communications up through today (see highlighted section below) where ENERCON and OCD agreed to the following H2S CP submittal process to keep the project moving forward while addressing OCD's 19.15.11 NMAC (Hydrogen Sulfide Gas) Regulations.

- **H2S-065 Enercon Salt Creek Midstream- SCM, LLC Gas Plant & AGI Well Facility:**
  - Carl on 11/12 - 14 is reviewing the red-line strike out version of the revised H2S CP submitted by Matt Brunton.
  - Carl on 11/15 participated in a communication call with Amanda and Jennifer with Enercon in Matt Brunton's absence regarding the revised H2S CP submitted ~10/28. Due to the number of construction phases, and the planned number of H2S CP submittals by ENERCON, we are now working on an addendum process based on certain construction phases at the gas plant up to the final AGI Well installation(s) if and when approved by OCD. We are opting for the most efficient process to address the various construction phases up to completion. OCD will handle the various phases by addendums to the current accepted H2S CP of April 2019 and OCD correspondences until the final AGI Well phase when a final revised H2S CP is submitted to OCD for a final review. OCD will work closely with ENERCON on the correspondences to ensure we are moving forward together on the project. The OCD correspondences will address approvable items with certain clarifications to keep Salt Creek Midstream moving forward.
  - Carl on 11/22 received a phone msg. from Matt Brunton who was not in the office on 11/15 for the communication call. He still wants to submit a formal H2S CP.
  - Carl on 11/22 received a msg. from Matt Brunton after the 11/15 communication phone msg. indicating he was wants to submit multiple H2S CP after each phase of the project up to the final installation of AGI Well(s).
  - Carl on 11/25 called Matt and indicated the revised H2S CP was only supposed to have revised ROEs, but the changes were much more extensive. Matt indicated there may be up to 4 phases involved in the project. Carl and Matt agreed to the following: 1) Matt will submit a Phase I H2S CP (Carl already has reviewed the redline strikeout version of it) with a cover e-mail indicating SCM or Enercon replaces the CP submitted and accepted for record in April 2019 by the OCD; 2) SCM will submit a new CPs in advance of construction as the project unfolds with redline-strikeout versions of each; 3) Matt and Carl agreed on the cover letter language SCM will use in the submittals; 4) OCD will accept for record and focus on review of the final phase CP submittal (AGI Well(s)); 5) SCM has the "OCD Review Checklist" and will ensure future phase CPs meet the checklist requirements; and 6) Matt will submit the Phase I H2S CP before Thanksgiving.

Please let Matt and I know if you disagree or wish to provide any comments, requirements, etc. with our process.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
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Energy Minerals and Natural Resources Department
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**"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to:** http://www.emnrd.state.nm.us/OCD **and see "Publications")**

# $H_2S$ CONTINGENCY PLAN

## FACILITY INFORMATION

Ameredev South Gas Processing Plant and Gathering Lines

## PROJECT INFORMATION

ENERCON Project Number: SCM00019

$H_2S$ Contingency Plan Effective Date: 04/19/2019

## CLIENT INFORMATION


**Salt Creek Midstream, LLC**
20329 St Hwy 249, Ste 450
Houston, TX 77070
Attention: Ms. Joan Harris
Director of Compliance and Operations Services
Phone: (281) 655-3845
Email: Joan.Harris@armenergy.com


## PREPARED BY


ENERCON
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**Enercon Services, Inc.**
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Attention: Stacy Burgess
***sburgess@enercon.com***

# Table of Contents

## List of Tables



## List of Figures

# 1. INTRODUCTION

## 1.1 LOCATION

The locations of the 4 processes covered within this plan are as follows and are depicted in Figure 1 below.

### 1.1.1 Gas Processing Plant Location

Salt Creek Midstream, LLC (SCM) has constructed a new gas processing plant in southeastern New Mexico. The Ameredev South Gas Processing Plant (Ameredev South Plant) is located on land owned by SCM. Driving Directions from Bennett, New Mexico to the Plant:

> Head south towards NM-205 N. Turn right at the 1st cross street on NM-205 S/Frying Pan Rd. Continue to follow Frying Pan Rd for 4.6 miles. Turn right onto Beckham Rd. In 0.6 miles, turn right. In 0.9 miles, turn right. The facility is on the left in 0.5 miles.

Coordinates for the Ameredev South Plant:

> Latitude: 32.0256°N
> Longitude: -103.2766°W

### 1.1.2 Gathering Lines Location

The gathering lines from the production wells to the Ameredev South Gas Processing Plant are covered under this Contingency Plan because they are operated by SCM. The gathering lines layout is depicted in Figure 1 and the details of the gathering line segment lengths are provided in Table 1. The Plant is located on land owned by a mix of entities and leased by SCM. A list of these entities are as follows: The State of New Mexico, BLM, EOG Resources Inc., and NGL South Ranch, Inc. A basic description of the gathering lines in the Ameredev system, such as ASTM material description, depth of burial, pipe diameter, etc., is included in Table 1 below:

| Segment Name | ASTM Material of Construction | Depth (feet) | Pipeline Diameter (inches) | Length (miles) |
|---|---|---|---|---|
| Nandina and Golden Bell Lateral | API 5L, FBE coated | 4 | 16” | 1.97 |
| Lateral B | API 5L PSL-2, FBE Coated | 4 | 16” | 1.02 |
| Lateral E | API 5L PSL-2, FBE coated | 4 | 16” | 0.66 |
| Bunker Hill | API 5L, FBE coated | 4 | 16” | 7.5 |
| Azalea Lateral | API 5L, FBE coated | 4 | 8.625” | 0.8 |
| Camelia Lateral | API 5L PSL-2, FBE Coated | 4 | 8.625” | 0.00436 |
| Gathering to Amen Corner CTB Lateral | API 5L PSL-2, FBE Coated | 4 | 16” | 1.34 |
| Gathering Lateral | API 5L PSL-2, FBE Coated | 4 | 16” | 0.0394 |
| Southern Lateral | API 5L PSL-2, FBE Coated | 4 | 16 | 0.939 |

*Table 1: Gathering line details in the Ameredev System*

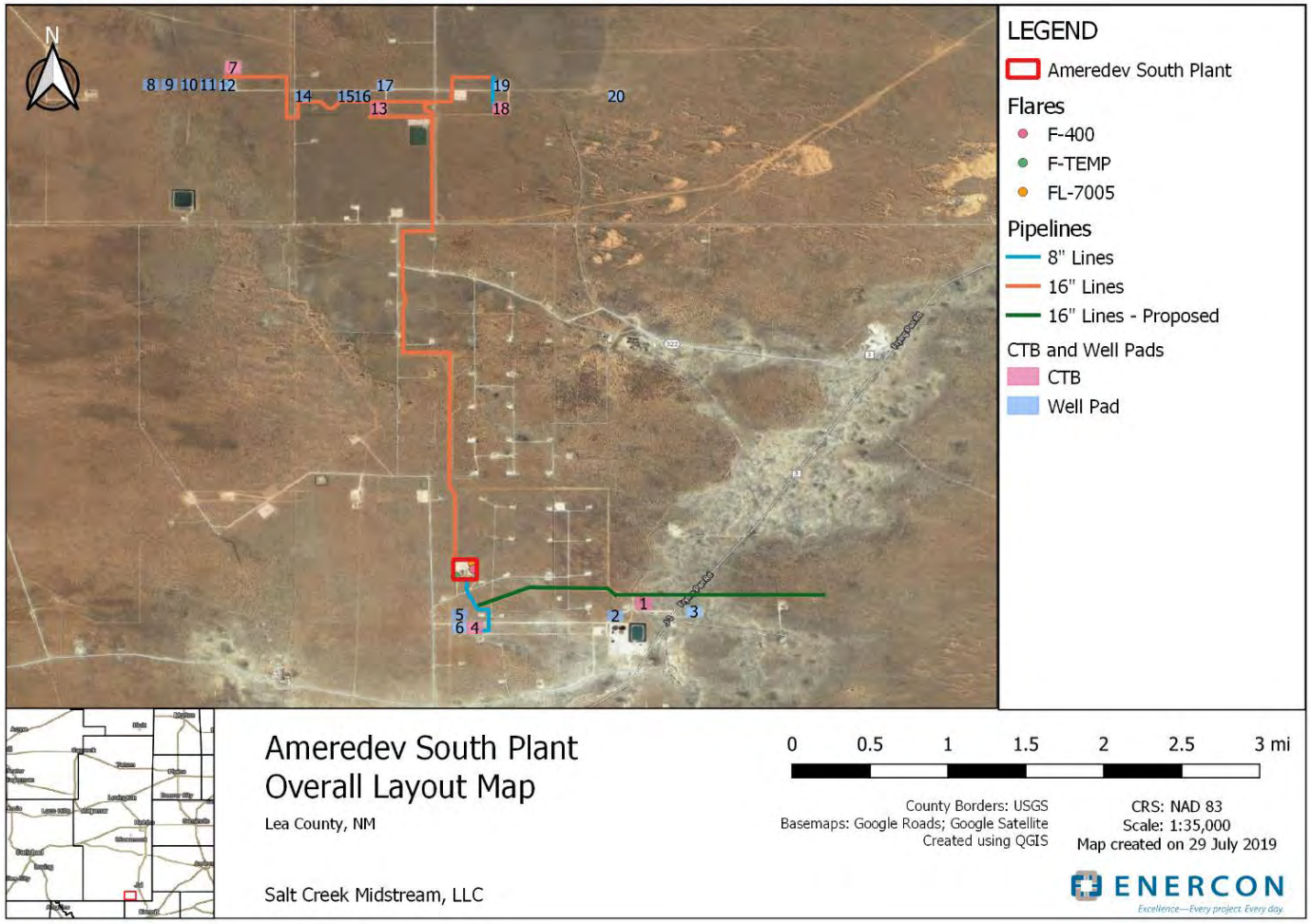



*Figure 1: Ameredev Overall Layout Map*

## 1.2 DESCRIPTION OF OPERATIONS

**[API RP-55 7.4 c.]**

The Plant is expected to be in operation 24-hours-a-day, 7-days-a week. Operators with remote monitoring capabilities will be stationed at the SCM Pecos Gas Processing Facility Control Room 24-hours-a-day, 7-days-a week. The Plant is manned for normal operations, approximately eight (8) hours-per-day, plus any additional maintenance hours required. However, operations and maintenance personnel are on-call 24-hours-per-day, 7-days-per-week to respond to an emergency immediately. The Plant operations include gas compression, treating and dehydration. The Plant gathers and processes produced natural gas from well sites located in Lea County in New Mexico, the numbered label IDs for these sites are shown in Figure 1. The names corresponding to each label ID are detailed in Appendix L. The production wells and Central Tank Batteries in Figure 1 feed into Ameredev South Plant. The production wells are not owned by SCM and are not covered in this Plan. The inlet gathering lines and pipelines that bring gas into the Plant are owned by SCM. Once gathered at the Plant, the produced natural gas is compressed, processed by amine units at the site and then dehydrated to remove the water content. The processed (sweet) natural gas is pipelined for further cryogenic processing at the Pecos Gas Processing Plant (Pecos Plant) in Texas.

Facilities covered by this plan will consist of two processes: sour gas gathering lines from the production wells to the Ameredev South Plant and the Ameredev South Gas Processing Plant,

The gathering lines sour gas composition is nominally 3.5 mol% $H_2S$ and 7 mol% $CO_2$. The maximum rate of Sour Gas entering the Ameredev South Plant will be 20 million standard cubic feet per day (MMscfd) at pressures ranging between 50 and 100 psig. The sour gas is compressed from the gathering lines and increases to a pressure of 1,250 psig inside the Plant. The Acid Gases ($H_2S$ and $CO_2$) will be removed from the compressed sour gas in an amine treating unit and then sent to an Acid Gas Treating Scrubber. The Acid Gas Scrubber is an H2S scavenging process and the spent solution is a non-hazardous waste, hauled off and injected into a salt water disposal (SWD) well.

## 1.3 PURPOSE

The purpose of this $H_2S$ Contingency Plan is to provide a systematic process for protecting the public, through awareness, alerting and response. The Plan has been prepared to take into account engineering and administrative controls to minimize the hazards resulting from an $H_2S$ release. The plan will be activated following a trigger limit release of a potentially hazardous volume of $H_2S$.

A confirmed $H_2S$ release that is above the plan activation concentrations will involve response from Ameredev South personnel and, depending upon the nature and severity of the release, may also involve a response from local Emergency Services. County, state, and federal agencies will be notified and may also respond. In any emergency event involving a $H_2S$ release, delegation of duties may be made to appropriate employees and groups according to the Incident Command System (ICS) structure.

## 1.4 SCOPE

This Plan is specific to the Ameredev South Gas Processing Plant and the associated gathering lines. It

considers the severity and extent of the anticipated atmospheric concentrations and the dispersion characteristics of $H_2S$. It contains procedures to provide an organized immediate response to a significant release of $H_2S$ from the Plant and the gathering lines. The procedures include the process to alert and protect any entities or residents within the radius of exposure[1] (ROE), operating personnel, and/or contractors and visitors working in or around the Plant.

## 1.5 RESPONSIBILITY FOR CONFORMANCE WITH THE $H_2S$ PLAN

This plan complies with **New Mexico Oil Conservation Division (OCD) Rule 11*(§ 19.15.11 NMAC)*** and **OSHA requirements in 29 CFR Part 1910.120 and 29 CFR Part 1910.38, respectively, for contingency response plans and relevant emergency procedures.** The plan and operation of the SCM Ameredev South Plant adopt the standards set forth in ***API RP-55 "Recommended Practice for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide;" and where relevant the standards set forth in API RP 49 "Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide" and API RP 68 " Oil and Gas Well Servicing and Workover Operations involving Hydrogen Sulfide", and applicable NACE standards for containment of sour gas corrosion.***

The Plant has two (2) slop oil storage tanks (TK-800 and TK-801) in which $H_2S$ in the gaseous mixture is 300 ppm or greater; and thus, API recommended practices, and OCD regulations (specifically NMAC 19.15.11.12.E) relative to those types of storage are applicable for this plant. SCM will chain each stair or ladder leading to the top of the listed slop oil storage tanks or mark it to restrict entry.

The terms used in this Plan are used as defined in NMAC 19.15.11.7, or API RP-55 Section 3, unless otherwise defined herein.

## 1.6 PLAN SUBMISSION

**[NMAC 19.15.11.9.D & 19.15.11.9.E]**

SCM has submitted this updated $H_2S$ Contingency Plan, for the Ameredev South Gas Processing Plant, to the OCD for review and approval. The Plan has been updated to Revision 1, which reflects current design and operating conditions. The H2S plan may be submitted in electronic format via electronic mail, through an Internet filing, or by delivering electronic media to the division, so long as the electronic submission is compatible with the division's systems.

## 1.7 REVISIONS AND UPDATES TO THE PLAN

**[NMAC 19.15.9.F] [API RP-55 7.9]**

The $H_2S$ Plan will be reviewed annually and revised at that time, as necessary, to address changes to the Plant facilities, operations, or training requirements, contact information and the public areas including roads, businesses, or residents potentially affected by the operations of the Plant and gathering lines, specifically those areas within the radii-of-exposure. The list of Emergency Telephone Contacts, included in Appendix A will be verified and updated annually by SCM to be

[1] Radius of Exposure (ROE) and Area of Exposure (AOE) are defined in NMAC 19.15.11.7 and are used interchangeably in regulation and in this plan.

sure any changes of occupancy, ownership or new commercial and/or residential buildings are reflected. Additionally, the plan will be reviewed any time a subject addressed in the plan is materially changed. This includes, but is not limited to, the Plan fails an emergency, the list of emergency equipment changes, or the facility changes in design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste, or changes the response necessary in an emergency. Amendments will be made as needed.

The plan shall be kept updated to ensure its current applicability.

## 1.8 RETENTION AND AVAILABILITY OF THE PLAN

**[NMAC 19.15.9.G] [API RP-55 7.3]**

SCM shall maintain a copy of the contingency plan at the Ameredev South local Control Room, at the SCM Pecos remote Control Room, the SCM office in Midland, Texas, and the SCM office in Houston, TX. The plan will be readily accessible at the facility in the event of a release or for review upon request. The plan will be available for inspection at the SCM Pecos operations Control Room, at the Ameredev South Control Room, and a copy will be kept in each SCM manager's truck. The SCM Ameredev local Control Room operator is the primary role responsible for activation of the plan. The SCM Pecos remote Control Room is the secondary location responsible for plan activation. The $H_2S$ Plan shall be available to all personnel responsible for implementation, regardless of their normal location assignment. See Appendix B for the $H_2S$ Plan Distribution List, which lists all the additional entities that will be provided a copy of the $H_2S$ Plan.

As stated above, this Plan will be maintained on file at all times during the life of the Plant. All records and documentation required by this Plan will be maintained for 5 years from the date the record was created, or for the life of the Plant.

## 1.9 INVENTORY

**[NMAC 19.15.11.9.H]**

On an annual basis, SCM will file with the appropriate Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC), as listed in Appendix A, an inventory of facilities and operations for which H2S Contingency Plans are on file with the OCD. The inventory shall include the name, address, and telephone number of a point of contact.

# 2. DESIGN CONSIDERATIONS

## 2.1 GAS CHARACTERISTICS

**[API RP-55 7.4.a.b]**

### 2.1.1 Hydrogen Sulfide ($H_2S$)

The current inlet gas streams from the production well to the gas processing plant pipeline contains a maximum of approximately 35,000 ppm (or 3.5 mole percent) of $H_2S$ based on data generated from sampling the production well gas stream. The current inlet gas streams into the Plant contain approximately 35,000 ppm (or 3.5 mole percent) of $H_2S$ based on data generated from the sampling of the combined inlet gas stream. $H_2S$ is a colorless, toxic and flammable gas; it is noxious at low concentrations and has the odor of rotten eggs. It is heavier than air and presents a significant health hazard by paralyzing the respiratory system resulting in serious injury or death. H2S is also known by names, such as: Sour Gas, Poison Gas, Rotten Egg Gas, Acid Gas, Sewer Gas, Sulfur Gas. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is between five-six times more toxic than Carbon Monoxide. The properties and characteristics of $H_2S$ are covered in Table 2 below:

| Hydrogen Sulfide Properties and Characteristics | |
|---|---|
| **CAS No.** | 7783-06-4 |
| **Molecular Formula** | $H_2S$ |
| **Molecular Weight** | 34.082 g/mol |
| **Ceiling Concentration** | 20 ppm (OSHA) |
| **Ceiling Peak** | 50 ppm (OSHA) |
| **Threshold Limit Value** | 15 ppm (ACGIH) |
| **Time Weighted Average** | 10 ppm (NIOSH) |
| **Short Term Exposure** | 15 ppm (ACGIH) |
| **Immediately Dangerous to** | 100 ppm |
| **Specific Gravity Relative to** | 1.189 |
| **Boiling Point** | -76° F |
| **Freezing Point** | -121.8° F |
| **Vapor Pressure** | 396 psia |
| **Auto-ignition Temperature** | 518F |
| **Lower Flammability Limit** | 4.3% |
| **Upper Flammability Limit** | 46.0% |
| **Stability** | Stable |
| **pH in water** | 3 |
| **Corrosivity** | Reacts with metals, plastics, tissues and nerves |

| Physical Effects of Hydrogen Sulfide | | |
|---|---|---|
| **Concentration** | | **Physical Effects/Exposure Limits** |
| **Ppm** | **%** | |
| **1** | 0.00010 | Can be smelled (rotten egg odor) |
| **10** | 0.0010 | Obvious & unpleasant odor; Permissible exposure level; safe for 8-hour exposure |
| **20** | 0.0020 | Acceptable ceiling concentration for an 8-hour exposure |
| **50** | 0.0050 | Loss of sense of smell in 15 minutes |
| **100** | 0.0100 | Immediately dangerous to life and health (IDLH); loss of sense of smell in 3-15 minutes; stinging in eyes & throat; Altered breathing |
| **200** | 0.0200 | Kills smell rapidly; stinging in eyes & throat |
| **250** | 0.0250 | Hazardous limit concentration that may cause death within an hour |
| **500** | 0.0500 | Dizziness; breathing ceases in a few minutes; unconscious after short exposure; Need prompt respiration |
| **600** | 0.0600 | Lethal concentration that will cause death with short-term exposure |
| **700** | 0.0700 | Unconscious quickly; death will result if not rescued promptly |
| **1000** | 0.1000 | Instant unconsciousness; followed by death within minutes |

*Table 2: Hydrogen Sulfide Properties and Characteristics*

### 2.1.2 Sulfur Dioxide (SO2)

$SO_2$ is produced as a by-product of $H_2S$ combustion. The waste gas stream consisting of $H_2S$ and $CO_2$ is routed to the Acid Gas Scrubbing system during normal operations. In the event of

abnormal operations, the plant configuration allows the routing of $H_2S$ to flare for combustion. $SO_2$ is colorless, transparent, and is non-flammable, with a pungent odor associated with burning sulfur. $SO_2$ is heavier than air but can be picked up by a breeze and carried downwind at elevated temperatures. It can be extremely irritating to the eyes and mucous membranes of the upper respiratory tract. The properties and characteristics of $SO_2$ are covered in Table 3 below:

| Sulfur Dioxide Properties & Characteristics | |
|---|---|
| **CAS No.** | 7446-09-5 |
| **Molecular** | $SO_2$ |
| **Molecular** | 64.07 g/mol |
| **Permissible** | 5 ppm(OSHA) |
| **Time Weighted** | 2 ppm(ACGIH) |
| **Short Term** | 5 ppm(ACGIH) |
| **Immediately** | 100 ppm |
| **Specific Gravity** | 2.26 |
| **Boiling Point** | 14° F |
| **Freezing Point** | -103.9° F |
| **Vapor Pressure** | 49.1 psia |
| **Auto-ignition** | N/A |
| **Lower** | N/A |
| **Upper** | N/A |
| **Stability** | Stable |
| **Corrosivity** | Could form an acid rain in aqueous solutions |
| **Physical Effects of Sulfur Dioxide** | |
| **Concentration** | **Effect/Exposure Limit** |
| **1 ppm** | Pungent odor, may cause respiratory changes |
| **2 ppm** | Permissible exposure limit; Safe for an 8-hour exposure |
| **3-5 ppm** | Pungent odor; normally a person can detect $SO_2$ in this range |
| **5 ppm** | Short Term Exposure Limit (STEL); Safe for 15 minutes of exposure |
| **12 ppm** | Throat irritation, coughing, chest constriction, eyes tear and burn |
| **100 ppm** | Immediately Dangerous to Life & Health (IDLH) |
| **150 ppm** | So irritating that it can only be endured for a few minutes |
| **500 ppm** | Causes a sense of suffocation, even with first breath |
| **1,000 ppm** | Death may result unless rescued promptly. |

*Table 3: Sulfur Dioxide Properties and Characteristics*

### 2.1.3 Carbon Dioxide (CO2)

The inlet gas stream from the production well to the gas processing pipeline contains approximately 7 mole % $CO_2$, or approximately 70,000 ppm. The projected inlet gas streams to the Plant contain approximately 7% $CO_2$. $CO_2$ is a colorless, odorless and non-flammable. It is heavier than air. The properties and characteristics of $CO_2$ are covered in Table 4 below:

| Carbon Dioxide Properties & Characteristics | |
|---|---|
| **CAS No.** | 124-38-9 |
| **Molecular Formula** | $CO_2$ |
| **Molecular Weight** | 44.010 g/mol |
| **Time Weighted Average (TWA)** | 5,000 ppm |
| **Short Term Exposure Level (STEL)** | 30,000 ppm |
| **Immediately Dangerous to Life and Health** | 40,000 ppm |
| **Specific Gravity Relative to Air (Air = 1.0)** | 1.5197 |
| **Boiling Point** | -109.12°F |
| **Freezing Point** | -69.81°F |
| **Vapor Pressure** | 830 psia |
| **Auto-ignition Temperature** | N/A |
| **Lower Flammability Limit** | N/A |
| **Upper Flammability Limit** | N/A |
| **Stability** | Stable |
| **pH in Saturated Solution** | 3.7 |
| **Corrosivity** | Dry gas is relatively inert & not corrosive; can be corrosive to mild steels in aqueous solutions |

| Physical Effects of Carbon Dioxide | |
|---|---|
| **Concentration** | **Effect** |
| **1.0 %** | Breathing rate increases slightly |
| **2.0 %** | Breathing rate increases to 50% above normal level. Prolonged exposure can cause headache, tiredness |
| **3.0 %** | Breathing rate increases to twice normal rate and becomes labored. Weak narcotic effect. Impaired hearing, headache, increased blood pressure and pulse rate |
| **4 – 5 %** | Breathing increases to approximately four times normal rate, symptoms of intoxication become evident, and slight choking may be felt |
| **5 – 10 %** | Characteristic sharp odor noticeable. Very labored breathing, headache, visual impairment, and ringing in the ears. Judgment may be impaired, followed within minutes by loss of consciousness |
| **10 – 100 %** | Unconsciousness occurs more rapidly above 10% level. Prolonged exposure to high concentrations may eventually result in death from asphyxiation |

*Table 4: Carbon Dioxide Properties and Characteristics*

## 2.2 RADII OF EXPOSURE (ROE)

### 2.2.1 Worst Case Scenario

**[NMAC 19.15.11.8.C.2]**

See Appendix C for actual ROE calculations. The basis for worst case scenario calculations are as follows:

There are a total of seven potential volume sources at Ameredev South Facilities. This includes , (1) mechanical piping failure located at the Ameredev South Plant (2) a failure of the flare located at the Ameredev South Plant and (3) failure located at slop tank(s), (4) 12" diameter amine still column acid gas discharge line failure, (5) 16" diameter gathering line failure, (6) 8" diameter gathering line failure, and (7) the NEW 16" diameter gathering line (with 10 MMscfd flow) failure. The details of the seven volume sources are listed in Table 5 below. Acid gas flow rates for each of the seven sources are on a 24-hour basis flowing through each source.

| Volume Source Name | Acid Gas Flow Rate (Mscfd) | Acid Gas $H_2S$ Conc. (mol%) | $H_2S$ (ppm) |
|---|---|---|---|
| **Ameredev South Plant, High pressure discharge header (before treatment) at 1,250 psi** | 20,000 | 3.5 | 35,000 |
| **Ameredev South Flares (flameout)** | 2,500 | 20 | 200,000 |
| **Slop Tanks, TK-800 and TK-801** | 0.56 | 3.5 | 35,000 |
| **Amine still column acid gas discharge (12" Pipe Diameter)** | 20,000 | 3.5 | 35,000 |
| **Gathering Lines (16" Pipe Diameter)** | 20,000 | 3.5 | 35,000 |
| **New Gathering Line (16" Pipe Diameter)** | 10,000 | 3.5 | 35,000 |
| **Gathering Lines (8" Pipe Diameter)** | 5,000 | 3.5 | 35,000 |

*Table 5: Volume Sources for Worst Case Scenario Releases*

The worst-case ROE for this plan was calculated using the maximum incoming gas flowrate (into the plant) shown above and highest $H_2S$ concentration anticipated in each of the seven volume sources. The worst-case scenario ROE assumes an uncontrolled instantaneous release of a 24-hour volume of gas at the Plant.

The Plant's ESD systems would be activated in the event of a catastrophic emergency and would prevent the flow of gas into the Plant. This would isolate any of the volume sources listed in Table 5.

For the gathering lines, the impact radius (for 500 ppm and 100 ppm $H_2S$ Concentration) are

calculated using the volume flowing in each section of the gathering line that vary by pipeline diameter, as noted in Table 5.

The ROE calculations also consider the dual failure scenario of acid gas being routed to the three (3) flares in combination with flare failure(s) (flameout). The "flameout" scenario would only occur when acid gas routed to the flare during emergency scenarios (i.e., malfunctioning of the acid gas scrubber system) combined with an unexpected flameout situation. This unlikely event could result in the acid gas being vented out of the flare without being combusted. Therefore, each flare is being treated as a potential volume source with a flowrate of 2,500 MSCFD and 20 mole percent.

The ROE calculations from a tank failure event (TK-800 or TK-801) would not lead to a release of $H_2S$ sufficient to create a concentration in excess to cause activation of this plan. Therefore, it is not included in Table 6 as a potential volume source for a worst-case scenario. Additionally, the amine still column acid gas discharge and the Ameredev South Plant high pressure discharge header have identical source parameters as the 16" Gathering Line and would produce an identical ROE; and so, are captured within Table 6 16" Gathering Line exposure distances.

For all operations subject to this section, the radius of exposure (ROE) shall be determined, except in the cases of storage tanks, by the following Pasquill-Gifford equations:

**100 ppm ROE Calculation [NMAC 19.15.11.7.K.1]:**

$$X=[(1.589)(\text{mol fraction } H_2S)(Q)]^{(0.6258)}$$

**500 ppm ROE Calculation [NMAC 19.15.11.7.K.2]:**

$$X=[(0.4546)(\text{mol fraction } H_2S)(Q)]^{(0.6258)}$$

Where:

X = radius of exposure in feet "mol fraction $H_2S$" = the mole fraction of hydrogen sulfide in the gaseous mixture available for escape
Q = maximum volume determined to be available for escape expressed in cubic feet per day (corrected for standard conditions of 14.65 psi absolute and 60 degrees Fahrenheit)

### 2.2.2 ROE for Ameredev South Plant Worst-Case Scenario

**[NMAC 19.15.11.8.C.2]**

The worst-case scenario ROE calculations (assuming an instantaneous release of the 24-hour processing) are shown in the Table 6 below. The ROE for the Ameredev South Plant and incoming gas from gathering lines, are shown in Figure 2. This ROE pattern is designed to include the 100 ppm and 500 ppm radii for a potential worst-case failure at any point in the system.

| Volume Source Name | Acid Gas Flow Rate (Mscfd) | Acid Gas $H_2S$ Conc. (mol%) | 100 ppm Radius (feet) | 500 ppm Radius (feet) | 100 ppm Radius (miles) | 500 ppm Radius (miles) |
|---|---|---|---|---|---|---|
| **Ameredev South Flare (F-400)** | 2,500 | 20 | 4,924 | 2,250 | 0.932 | 0.426 |
| **Ameredev South Flare (F-TEMP)** | 2,500 | 20 | 4,924 | 2,250 | 0.932 | 0.426 |
| **Ameredev South Flare (F-7005)** | 2,500 | 20 | 4,924 | 2,250 | 0.932 | 0.426 |
| **Gathering Lines (16" Pipe Diameter)** | 20,000 | 3.5 | 6,078 | 2,777 | 1.151 | 0.526 |
| **New Gathering Lines (16" Pipe Diameter)** | 10,000 | 3.5 | 3,939 | 1,800 | 0.746 | 0.341 |
| **Gathering Lines (8" Pipe Diameter)** | 5,000 | 3.5 | 2,552 | 1,166 | 0.483 | 0.221 |

*Table 6: Volume Sources and Worst Case Scenario Calculated ROE*

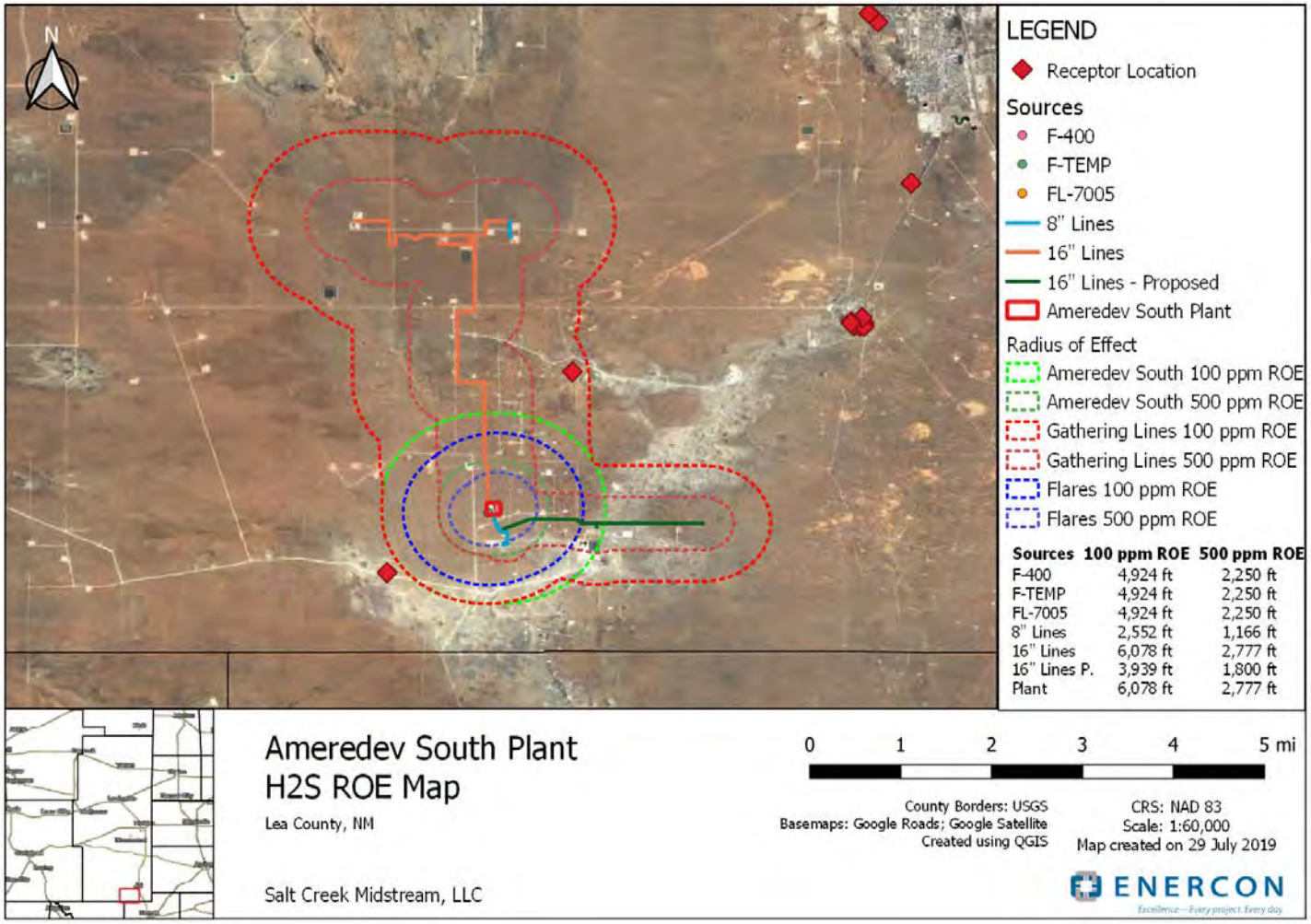



*Figure 2: Impact maps at the Ameredev South Facility.*

## 2.3 MATERIALS SELECTION

**[NMAC 19.15.11.14] [API RP-55 8.1.4 & 13.4]**

All new construction or modification of the Ameredev South systems included in this plan, metal components will be selected and manufactured so as to be resistant to hydrogen sulfide stress cracking under the operating conditions for which their use is intended. The Ameredev South facility supervisors will ensure the use of NACE Standard MR0175 and API RP-14E (latest editions) for selection of metallic equipment or, if applicable, use adequate protection by chemical inhibition or other methods that control or limit hydrogen sulfide's corrosive effects. The handlings 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. Other materials which are non-susceptible to sulfide stress cracking, such as fiberglass and plastic, may be used in $H_2S$ provided such materials have been manufactured and inspected in a manner which will satisfy the latest published applicable industry standard, specifications, or recommended practices listed above.

# 3. EMERGENCY ACTION PROCEDURES

## 3.1 ROLES AND RESPONSIBILITIES

**[NMAC 19.15.11.9.B(2)(a)] [API RP-55 7.5]**

It is the responsibility of all personnel on-site to follow the safety and emergency procedures outlined in this $H_2S$ Contingency Plan as well as the following documents:

- Salt Creek Midstream Emergency Response Plan (ERP);
- SCM Environmental Plans;
- SCM HSE Manual; and
- Ameredev South Operating/ESD Procedures.

The Plant uses the Incident Command System (ICS) for emergency response. The SCM and Ameredev South Incident Command Structure Diagram can be found in Appendix D. The ICS structure used is based on the National Incident Management System (NIMS) and is consistent with the National Contingency Plan (NCP). All operations and maintenance employees shall be prepared to respond to an $H_2S$ emergency at the gathering lines and the Plant. Refer to Section 6.1.1 for training requirements of Ameredev South personnel.

### 3.1.1 Incident Commander (IC)

In the event of an accidental release that results in the activation of the $H_2S$ Plan, the Operations Manager, or designee, will be the Incident Commander (IC). The IC will deploy to the nearest control room (the Incident Command Center), ensure the initial plan activation actions are taken, and oversee the emergency response; he/she will define incident goals and operational objectives, and delegate duties to employees, as needed. The IC will establish and maintain contact and coordinate with the On-Scene Commander (OSC), SCM's management, the control room, and local emergency responders.

The IC, shall coordinate with the OSC as necessary to ensure the following items are met, as needed:

- Emergency Shutdowns / Isolation of pipeline segments
- Notification and updates of emergency responders
- Making recommendations on road blocks, shelter in place, and evacuations
- Implementing notification and updates of appropriate governing agencies at plan activation
- Repairs, tests or restarts
- Initiating SCM internal reporting

### 3.1.2 On-Scene Commander

In the event of an accidental release that results in the activation of the $H_2S$ Plan, an operations or maintenance employee, will be the On-Scene Commander (OSC). The OSC will ensure the initial on-site plan activation actions are taken and oversee the emergency response; he/she will coordinate with the IC and responding operators. This role will also be tasked with overseeing and completing the facility head-count.

### 3.1.3 Local Control Room (Primary)

The local Control Room (CR) is the primary control room when manned. It is a positive pressure building located within the Amerdev facility boundary. Supervisory Control and Data Acquisition (SCADA) system will be used to monitor alarms and control the process. $H_2S$ concentrations will be monitored and communicated to the IC and responding operator(s).

### 3.1.4 Remote Control Room (Secondary)

The remote CR is the secondary control in the event that the primary control room is unmanned. The remote control room is located at the Pecos Gas Plant in Pecos, Texas. A remote SCADA system will be used to monitor alarms, and H2S concentrations that can be communicated to the IC and responding operator(s). This secondary control room can perform ESD of the Ameredev site, if required. Regardless of which control room is implemented as Command Center during plan activation, the Pecos Control Room will perform public notifications according to Section 3.2.6.1.

### 3.1.5 Designated Responding Operators

**[29 CFR 1910.38(c)(5)]**

The designated responding operators are operations or maintenance employees adequately trained to respond in emergency situations, as according to Section 6.1 of this Plan. They will don the proper PPE depending on the current concentration of $H_2S$ and specific instructions given by the IC prior to responding to the event. They are the first responders to alarms and are to investigate and verify alarm concentrations reported to the CR with hand-held monitors. During their investigation of the area, if the responding operators come upon personnel in distress, their immediate plan of action will be to assist said personnel and remove them from the affected area. They are to relocate the individual to a first aid station at the designated Emergency Assembly Area and perform First Aid/CPR until local emergency responders arrive on the scene. As required by the IC and/or OSC, the designated responding operators may need to perform repairs, test, restarts, or Emergency Shutdown Procedures in coordination with the CR, OSC, and IC.

**Responding operators will make a visual inspection of the area of exposure to ensure that no individuals are seen inside. If any are observed, they will be advised to evacuate immediately to the designated Emergency Evacuation Area.**

### 3.1.6 Security Coordinator/Team

Upon plan activation, the IC or OSC, or designee, will designate a security coordinator and/or a security team to be established. This Site Security team will monitor facility entry and exit points and restrict access to the job site. The only personnel who will be allowed entry after Plan activation will be SCM personnel and those SCM deems necessary. Personnel exiting the Plant shall report to the facility Emergency Assembly Area to complete a head-count. This role will also be tasked with overseeing and completing the facility head-count and ensuring appropriate roadblocks are activated/manned.

### 3.1.7 SCM Crisis Management Team

**[29 CFR 1910.38(c)(6)]**

The list of SCM Internal Contacts, as seen in the List of Emergency Contacts of Appendix A, comprises the SCM Crisis Management Team (CMT). This team will be initiated by the IC and will take over all external notifications and communications, so that the IC, CR, and responding operators can focus on emergency response activities within the facility. The CMT is typically comprised of senior management personnel that have the authority and resources to expedite the company's internal incident response. The main role of the team is to support the regional, site, and/or the associated emergency response teams.

The CMT, includes the Safety Officer, Information Officer, Senior Liaison, Senior Advisor and Legal Officer from the SCM ICS. The Safety Officer's function on the command staff is to develop and recommend measures for assuring personal safety, and to assist and/or anticipate hazardous and unsafe situations. The Safety Officer will also be the point of contact for employees who need more information or clarification of their duties under the plan. Only one Safety Officer will be assigned for each incident. The Information Officer is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to the public. Only one Information Officer will be assigned for each incident. The Liaison Officer is the point of contact for multijurisdictional agency representatives assigned to the incident and will perform regulatory agency notifications according to Section 3.6.1. The Senior Advisor is a subject matter expert and is to be available to assist the IC on an as-needed basis. Additionally, the Senior Advisor may supervise and coordinate necessary support roles. The Legal Officer provides advice and legal support to all CMT members with regards to liability, communications, and regulatory guidance.

### 3.1.8 Non-essential Personnel

Non-essential personnel are prohibited from remaining in or entering an area contaminated by $H_2S$ exceeding a concentration of 10 ppm.

## 3.2 EMERGENCY RESPONSE

### 3.2.1 Objective

The primary safety objective of SCM is to protect the general public, company employees, and contractors; the secondary objective is to minimize damaging effects of any safety incident to the environment and/or property. No individual should place the protection of the Plant property above his or her own personal safety.

### 3.2.2 Detection and Internal Reporting

**[29 CFR 1910.38(c)(1)]**

Facility operations and maintenance crew personnel must carry a personal $H_2S$ detection unit at all times. These units alert personnel if 10 ppm or greater of $H_2S$ gas is detected. If any facility personnel, while performing work at the Plant or gathering lines, discovers a leak or emission release, they are to notify the responding CR immediately and attempt to resolve the issue. The personal monitoring devices will give off an audible alarm at 10 ppm or greater $H_2S$

concentration. If their personal monitor alarms at any point during the corrective action, they are to don their SCBA and immediately update the Control Room.

Fixed monitors are located strategically throughout the Ameredev South Plant and along the fence line. Detection that will lead to the activation of this plan will be a HIGH HIGH Level alarm at H2S concentrations equal to or greater than 100 ppm along the fence line..

The facility will implement a method to detect leaks from the gathering lines through SCADA. The responding CR has the ability to monitor pressures at the inlet pressure valves. A HIGH Level alarm on the SCADA will signal there has been a shift in line pressure at a value significant enough to warrant an inspection of the line by SCM responding operators in SCBA's with handheld detectors. Upon confirmation of a leak, the facility will refer to the appropriate Ameredev South Operating/ESD Procedure for isolation and control of the gather lines.

Once the responding CR becomes aware of a HIGH HIGH $H_2S$ alarm, either by SCADA alarms or an internal report of a personal or handheld monitor, the CR will notify the Operations Manager and initiate Plan activation. The Operations Manager will take the role of IC and initiate and maintain a chronologic Record of Events Log, found in Appendix E, which records the time, date and summary of events. The IC will activate the Crisis Management Team and relay the following information:

- Name, telephone number, and location of person reporting the situation;
- Type and severity of the emergency;
- Location of the emergency and the distance to surrounding equipment and/or structures;
- The cause of the spill or leak, name and quantity of material released, and extent of the affected area including the degree of environmental hazard; and
- Description of injuries and report of damage to property and structures.

All non-essential persons shall be notified of the release and evacuated from the area.

The IC or his designee is to contact Plant emergency response personnel, notify them of the existing situation, and dispatch a response team. Local emergency response providers will also be contacted upon Plan activation as appropriate. The IC will coordinate with the responding CR to notify SCM internal contacts by initiating the SCM Crisis Management chain. The CR is to attempt contact with all members SCM Crisis Management Team until all ICS requested roles are filled. The intention of this process is to allow the IC to make one phone call and then be able to focus on the incident response.

The Senior Liaison/Safety Officer, designated from the SCM Crisis Management Team, will then make notifications, as required, to regulatory agencies according to Section 3.6.1 of this Plan. SCM operations personnel are to advise any contractor or visitor on-site, or attempting to enter the Plant, that the $H_2S$ Plan has been activated.

### 3.2.3 Plan Activation

**[NMAC 19.15.11.9.B.2.f] [API RP-55 7.4 d]**

The plan will be implemented as described in the Immediate Action Plan in Section 3.2.5 of this plan. **The Plan will be activated upon the detection of a release of a potentially hazardous volume of $H_2S$, as defined in Immediate Action Plan's activating conditions.**

#### *3.2.3.1 Condition(s) of Plan Activation*

SCM commits, that at a minimum, this Plan will be activated whenever a release may create a $H_2S$ concentration of more than 100 ppm in a public area, 500 ppm at a public road, or 100 ppm 3,000 feet from the site of the release. Responses to lower level $H_2S$ concentration alarms within the Plant are covered under SCM's Emergency Response Plan (ERP). The activating conditions and associated audible and visible alarms for this H2S Contingency Plan are as follows:

**Plan Activation** – A $H_2S$/LEL specific continuous siren (as opposed to fire or other audible alarms) is sounded and flashing beacons are activated for $H_2S$ concentrations greater than or equal to 100 ppm at the fence line; OR a catastrophic release, fire, or explosion occurs; OR $H_2S$ concentrations greater than 100 ppm in any defined public area, 500 ppm at any public road, or 100 ppm at a distance greater than 3000 feet from the site or the release.

As soon as the Plan has been activated, based on the criteria above, the Operations Manager, or his designee will be notified and assume the role of IC.

#### *3.2.3.2 Events that Could Lead to a Release*

**[NMAC 19.15.11.9.C]**

Sources that could lead to a release include the following:

- Inlet and plant piping failure;
- Amine still failure (This would be a leak in the amine process equipment, or amine still utilized to separate methane from $H_2S$ and CO2);
- Flange/gasket leaks on inlet and plant piping;
- Flange/gasket leak on the gas compressors;
- Valve packing failure;
- Failure of flare to ignite during Plant emergency blow down; or
- Vents from low-pressure tanks

#### *3.2.3.3 Controls to Reduce or Mitigate Release*

Engineering controls to reduce or mitigate a release include the following:

- High-reliability shutdown valves are provided to limit the volume of gas that can be released when a leak is detected.
- Compressor components, valves, and fittings shall be NACE MR0175 compliant to reduce the long-term risk of leakage due to material corrosion.
- Pressure relief valves to prevent equipment overpressure.
- Vent low-pressure tanks to flare.
- Flare is equipped with auto pilot ignition and detection.

Administrative controls to reduce or prevent a release include the following:

- Pressure testing with inert fluids prior to introduction of H2S-containing fluids.
- Operator checklists for valve car seal positions.

### 3.2.4 Evacuation Routes, Emergency Assembly Areas, Media Site, and Roadblocks

**[NMAC 19.15.11.9.B.2.a] [API RP-55 7.4.a.5] [29 CFR 1910.38(c)(2)]**

In the event of Plan activation, it may be necessary, according to the Immediate Action Plan covered in Section 3.2.5, for plant and ROE evacuations and the barricading of roads into the ROE.

#### *3.2.4.1 Evacuation Routes and Emergency Assembly Areas*

**[29 CFR 1910.38(c)(3)] [29 CFR 1910.38(c)(4)]**

Figure 3 below shows internal plant evacuation routes and designated muster points. Figure 4 below shows the locations of Primary and Alternate Emergency Assembly Area(s), recommended evacuation routes out of the area of exposure for non-essential personnel and visitors, and recommended road block locations.

Evacuation of non-essential visitors and contractors in the Plant begins upon the $H_2S$ Contingency Plan activation. All non-essential personnel in the Plant are to stop work, con proper PPE, check the prevailing wind direction (using visible windsocks) and immediately proceed along designated Plant evacuation routes to the pre-designated muster points shown in Figure 3. Personnel with a designated Role or Responsibility, see Section 3.1, are to muster at the local CR shown in Figure 3. A facility head-count shall be conducted at the muster point(s) to ensure all personnel (including contractors and visitors) are accounted for and have evacuated the plant safely. The sign-in sheet, as seen in Appendix I, will be used by the designated Security Coordinator/Team at the muster points to account for all personnel and visitors.

Upon completion of the head-count, all non-essential personnel are to check the prevailing wind direction (using visible windsocks) and immediately proceed along one of the pre-designated emergency evacuation routes, shown in Figure 4. Each Emergency Assembly area is pre-designated to ensure it is located outside the ROE.

A wind rose plot for 2017 is shown in Figure 5 using data from the nearest meteorological station at the Hobbs Lea County Airport in New Mexico. As shown in the Windrose plot, prevailing winds for the area are from the south blowing predominantly to the north. Personnel should evacuate along the primary designated route along Beckham Rd unless that route is directly downwind of the release (based on observance of the windsocks). If this is the case, all evacuees should proceed perpendicular to the release, and then upwind, to the designated upwind Emergency Assembly Area along Frying Pan rd.

Personnel with a designated Role or Responsibility, see Section 3.1, are to remain at the site and continue emergency response until objectives are met. At any time, the IC may excuse additional employees to evacuate to safety in the case the situation cannot be contained.

At each Emergency Assembly Area, the ambient air quality will be monitored by the Security Coordinator to ensure $H_2S$ concentrations in the area remains at less than 10 ppm. If the $H_2S$ concentration rises to 10 ppm or greater, the assembly area will be relocated, as detailed in the Immediate Action Plan.

#### *3.2.4.2 Media Site*

If necessary, the Media Site will be located at the Pecos Plant or the SCM Midland, TX Office. The IC will direct all questions to the Information Officer within the SCM Crisis Management Team.

Under no circumstances will media personnel be allowed in areas with $H_2S$ above 10 ppm. Media personnel shall not be allowed to enter SCM property without the approval of the SCM Asset Manager or his designee and shall be escorted by Ameredev South personnel at all times.

#### *3.2.4.3 Road Block Locations*

Pre-planned road block locations are shown in Figure 4. Each road block location is pre-designated to ensure it is located outside the ROE to prevent entry into the area. In the event of activation of this Plan, the IC will designate facility representatives to assemble each of the roadblocks. Temporary public and access road roadblocks will be assembled immediately upon plan activation. Roadblocks will be established at the designated locations regardless of wind direction, in anticipation that variations in wind conditions can occur. Any personnel manning barricade(s) must be equipped with a protective breathing apparatus, a handheld $H_2S$ measuring device, and a VHF two-way radio or cell phone. If deemed necessary by the IC, the State or Local Police will be asked to assist with maintaining the roadblocks.

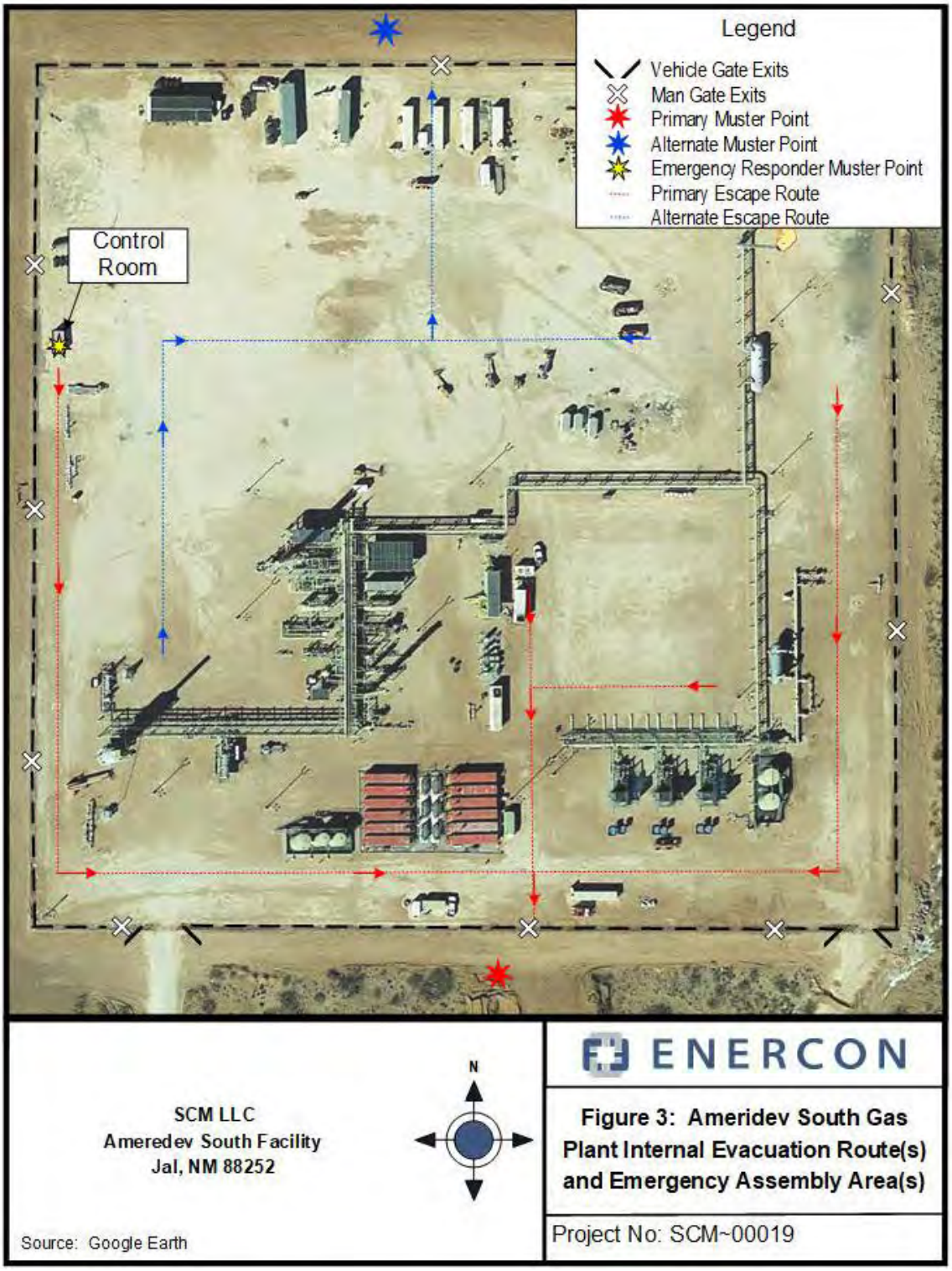



*Figure 3: Internal Plant Evacuation Routes and Muster Points*

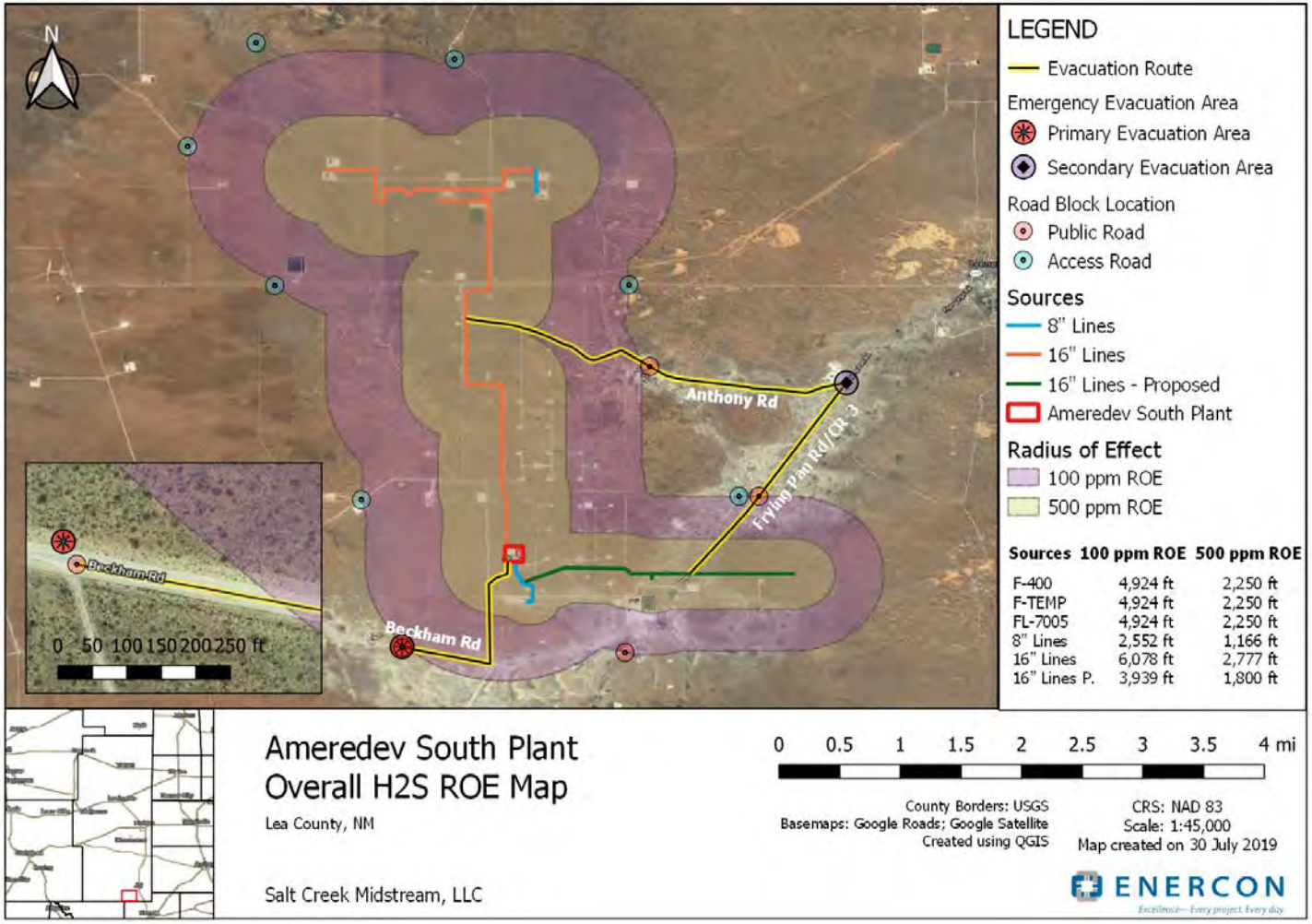



*Figure 4: Emergency Evacuation Areas, External Evacuation Routes and Road Block Locations*

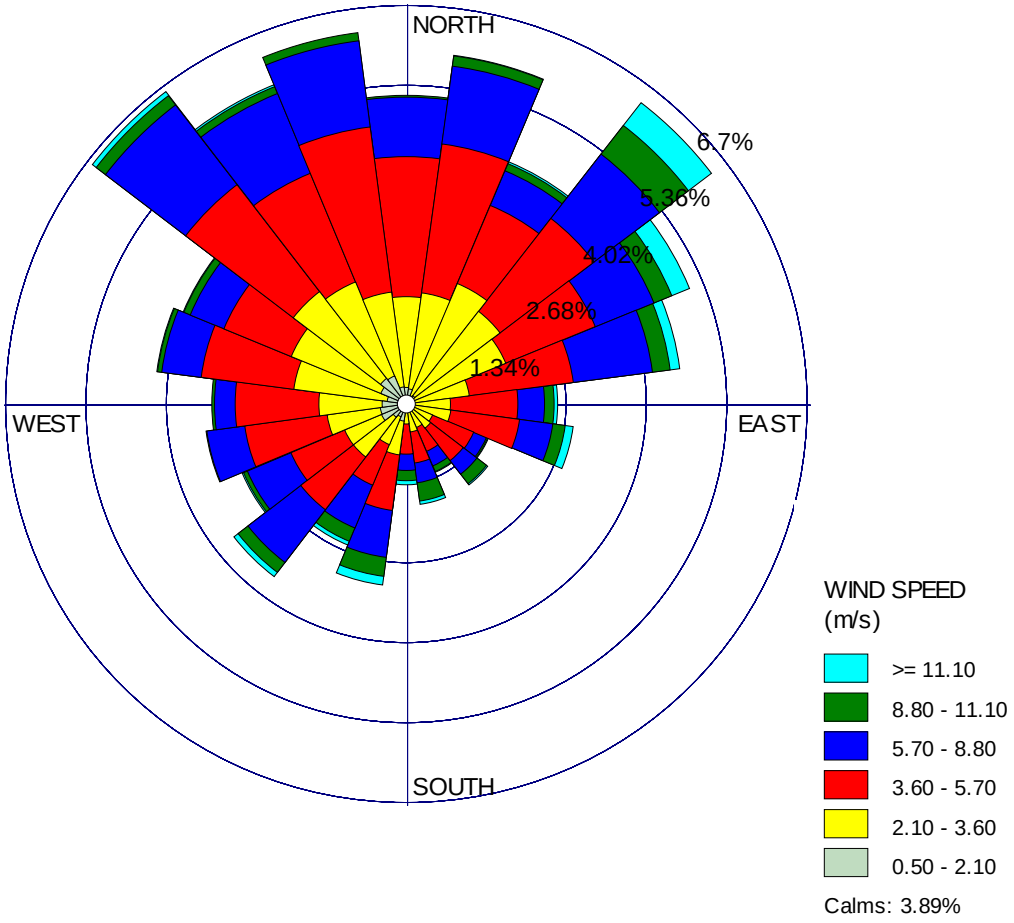



*Figure 5: Windrose Plot from Hobbs Lea County Airport, New Mexico*

### 3.2.5 Immediate Action Plan

**[NMAC 19.15.11.9.B.2.a] [API-55.7.6]**

This plan contains an 'Immediate Action Plan' to be followed by designated personnel any time an alarm of a potential plan activation concentrations of $H_2S$ is received. The Immediate Action Plan Checklist and Response Flow Diagrams are contained in Appendix F and Appendix G. These procedures and decision processes have been designed to ensure a coordinated, efficient and immediate action plan for alerting, accounting for, and protecting operating personnel, the general public; as well as, to take immediate action to minimize or abate the discharge. All on-site personnel are to don their personal respirators and PPE up activation of the plant $H_2S$ alarms and then proceed to their designated muster points for a head-count.

There are various conditions that could initiate Plan activation. The Plan is activated based on the conditions of the emergency or the concentration and duration of the $H_2S$ release. Plan Activation

is covered in Section 3.2.3 of this Plan.

### 3.2.6 Communication on Immediate Action Plan Implementation

#### *3.2.6.1 Alerting the Public of the Emergency*

**[NMAC 19.15.11.9.B.2.a] [API-55.7.6]**

The general public (residents and public areas), that may be subjected to an atmosphere exposure exceeding 30 ppm of H2S, shall be notified of the existence of an emergency according to Immediate Action Plan Checklist and Response Flow Diagram, contained in Appendix F and Appendix G. Figure 6 depicts the 30 ppm area of exposure map with the local of public receptors requiring notification[2]. If required to notify public areas and residents, it can either be done through direct telephone notification using the telephone lists in Appendix A, as described below. Notification of the public shall be made by the fastest possible means to ensure public safety. All entities contacted will be advised of the following:

- The nature and extent of the release/emergency at the Plant and recommendations for protective actions, such as evacuation or shelter-in-place;
- Any other event-specific information that is necessary to protect the public; and
- Updated status of the release and continued safety measures to be taken, including but not limited to when to evacuate and/or when it is safe to return to the area.

[2] The 30 ppm area of exposure was modeled using EPA's SCREEN3 dispersion modeling software which uses a Gaussian plume model that incorporates "worst case" meteorological factors using all stability classes and wind speeds to estimate a conservative pollutant concentration from continuous sources. The same sources listed in Section 2.2.2 for the 100 and 500 ppm ROE calculations were used as required in NMAC 19.15.11.7.K. SCREEN3 is only incorporated within this plan to estimate public areas which may be subjected to H2S atmospheric concentrations exceeding 30 ppm for the purpose of public notification according to API RP 55.

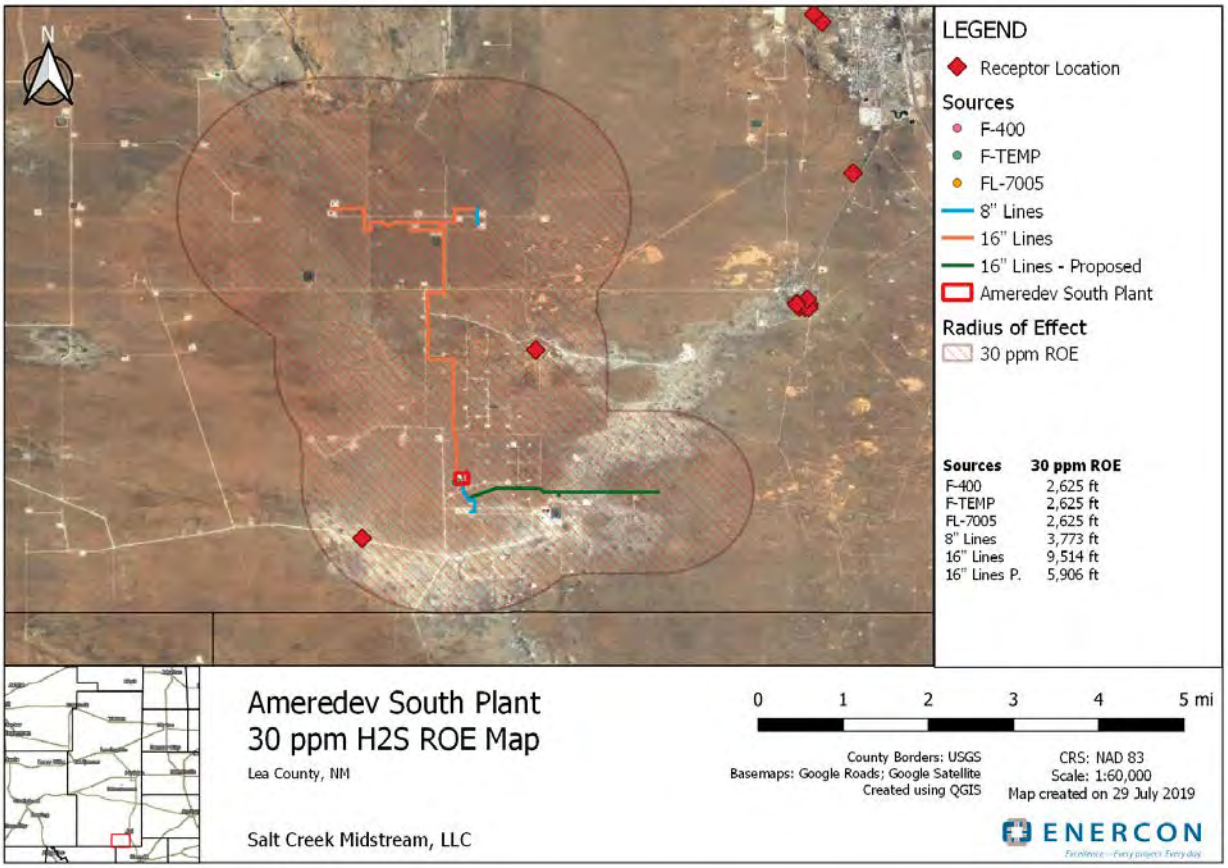



*Figure 6 : Ameredev South 30 ppm Area of Exposure for Public Notification*

### *3.2.6.2 Requesting Assistance and Follow-up for the General Public*

**[NMAC 19.15.11.9.B.2.a]**

Any member of the public who requires assistance to evacuate an area of exposure is to contact local emergency response dispatch by dialing 911. The member of the public should provide the following information to the dispatcher to allow emergency responders to locate and remove him/her as quickly as possible:

- Full name(s);
- Physical Address and/or business name;
- How many members of the public need rescue or evacuation;
- Whether they are currently in distress; and
- A phone number to call back on.

### *3.2.6.3 Communicating Evacuation and Shelter-In-Place Plans with the Public*

Safety precautions in the event of a release could include instructions for evacuation or

shelter-in-place. When the term "shelter-in-place" is used in this Plan, it means that individuals should go inside homes, businesses, etc., turn off heating and air conditioning systems, close windows and doors and wait for further instruction. In the unlikely event that facility control measures do not adequately control the $H_2S$ release, evacuations of the public within the area of exposure will be conducted. Evacuations will consist of emergency responders removing persons from residences or public areas, to a location outside of the area of exposure.

### 3.2.7 Post-Emergency Actions

When the release has been controlled and the ambient air $H_2S$ concentrations are less than 10 ppm at the fence line, the IC will make a determination as to whether the emergency event is no longer posing a hazard to the public. If the IC deems no conditions which pose any hazards to life, property, or the environment beyond the Ameredev South fence line, the IC will terminate $H_2S$ Plan activation. This will be communicated internally to the Plant and SCM contacts, to outside emergency responders, to the general public within the ROE (as applicable), and to outside regulatory agencies (as applicable). An "All-Clear" will be communicated according to the Ameredev South ERP.

Facility personnel will return to work, roadblocks will be removed and traffic restored (as applicable), and the IC will ensure all notifications are made according to Section 3.6.1 of this plan.

## 3.3 MONITORING, EMERGENCY, AND SAFETY EQUIPMENT

**[API RP-55 7.4.a.6]**

### 3.3.1 Emergency Shutdown Systems

**[NMAC 19.15.11.12.D(1)]**

SCM has installed an emergency shutdown (ESD) system at the Ameredev South Plant. The ESD automatic system is a fail-safe hardwired system that provides a programmable logic control (PLC) based safety shutdown system. Operators, in coordination with the responding CR, OSC, and IC, will determine if an $H_2S$ release situation warrants ESD of the Plant. When activated the ESD System is designed to isolate the Plant and safely depressurize equipment to flares. As described above, these ESD can either be automatic or manually activated. *Reference the Ameredev South Cause and Effect diagram for the list of ESD valves that will close upon activation of the ESD system*. Activation of the Ameredev South facility ESD will also de-energize all motors in affected process unit.

Block valves on incoming lines can be closed where they enter the Plant. To prevent further gas flow into the gathering lines, block valves furthest upstream can isolate the entire system from the well heads or central Tank Batteries (CTB), as requested from the producer. At the discretion of the IC, operations personnel may be designated to close manual valves at field locations on inlet gas pipelines or at equipment within the plant to isolate process segments which may be contributing to a release of $H_2S$ gas. Upon confirmation of a leak, the facility will refer to the appropriate Ameredev South Operating/ESD Procedure for isolation and control of the applicable equipment.

**The Plant ESD can be activated at any time by the Ameredev South Plant local control room or Pecos Plant remote control room and is to be activated if efforts to control the release have failed or if a catastrophic release has occurred.**

### 3.3.2 Alarms, Visible Beacons, and Wind Indicators

**[NMAC 19.15.11.12.C] [29 CFR 1910.38(d)] [29 CFR 1910.165(b)(3)] [API RP-55 6.7]**

Upon detection of hydrogen sulfide at 100 ppm or greater at detectors along the Ameredev South facility fence-line, visible beacons are activated, and a specific $H_2S$/LEL continuous siren is sounded. Wind direction indicators, which are visible from all principal working areas at all times, are installed throughout the Plant as shown in Figure 7. At least one wind direction indicator can be seen from any location within the Plant, as well as, from any point on the perimeter of the Plant whether it is night or day.

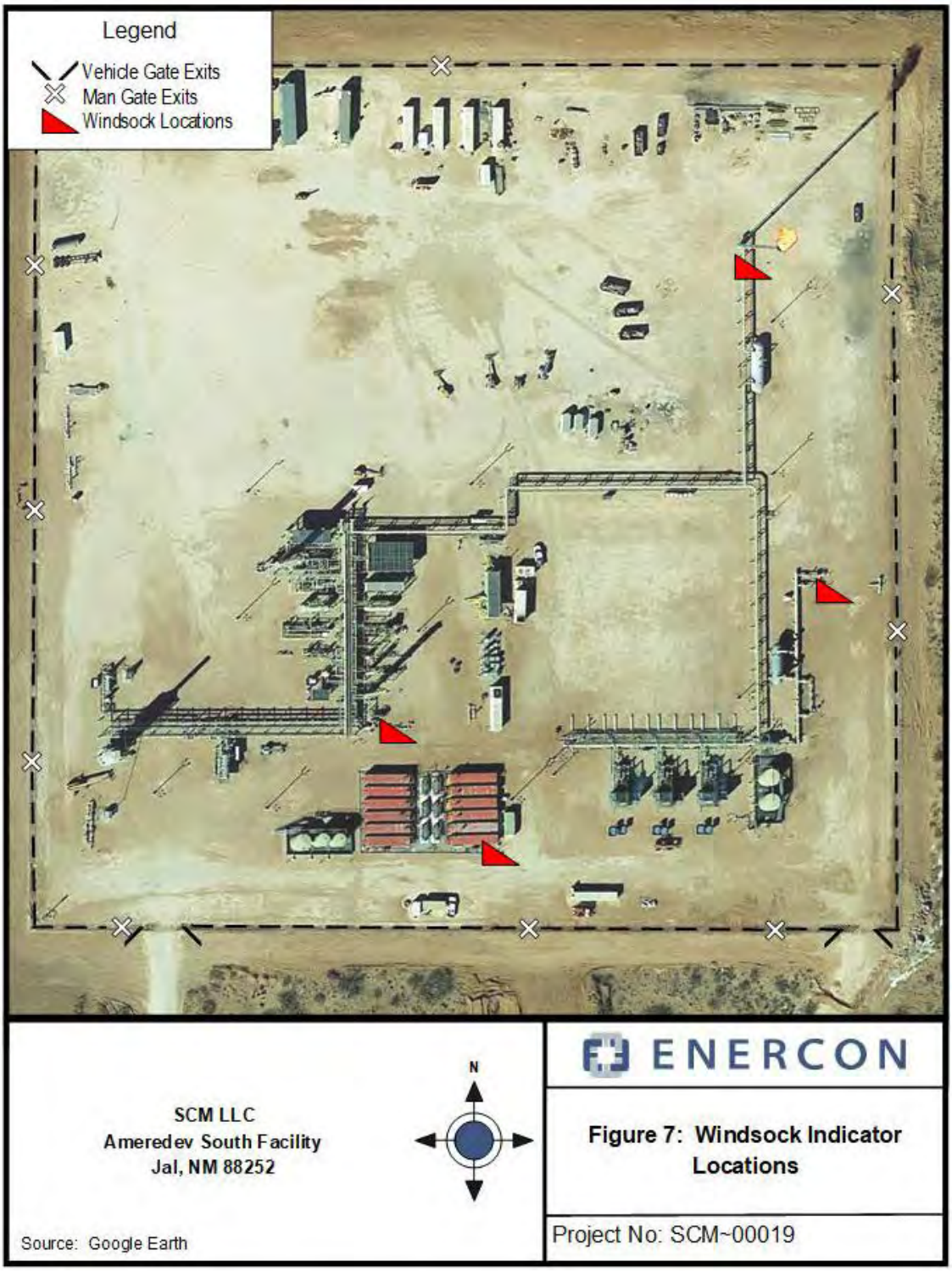



*Figure 7: Location of wind indicators*

### 3.3.3 Signs and Markers

**[NMAC 19.15.11.10] [API RP-55 6.8]**

The Plant has installed readily readable warning, caution and notice signs, which conform to the current ANSI standard Z535.1-2002 (Safety Color Code). These signs contain language warnings about the potential presence of $H_2S$/Poisonous Gas. The signs are of sufficient size to be readable at a distance of 50 feet and contain the words "Caution Poison Gas" and other information sufficient to warn the public that a potential danger exists. Signs warning of the potential presence of $H_2S$ have been installed where the 100 ppm ROEs of the Plant intersect a public road, an access road, or public streets which provide direct access to the Plant within the area of exposure; and at entrance points to the Plant. Signs posted along road crossings are co-located with roadblock locations where public roads intersect the 100 ppm ROE, as depicted in Figure 4.

The gathering line signs and markings must comply with DOT requirements; the signs contain the same language and conform to the ANSI standard referenced above. The signs and markings are installed at public road crossings and along the line in public areas or along public roads, in an interval frequent enough as to provide warning to avoid accidental rupture by excavation. The gathering line signs shall contain sufficient information to establish ownership and existence of the line

See Figure 8 below for an example of signage posted.


*Figure 8: Example of $H_2S$ Warning Sign*

### 3.3.4 Gas Detection Equipment

All $H_2S$ sensors and monitors are maintained in a "ready to use" state and have calibration checks performed in accordance with manufacturer's instructions.

#### *3.3.4.1 Fixed Monitors*

The Plant utilizes fixed-point monitors to detect the presence of $H_2S$ in ambient air. SCM has installed fixed ambient hydrogen sulfide detectors strategically throughout the Plant to detect possible leaks. The Plant maintains a fixed $H_2S$ Detection System consisting of additional sensors along the fence line of the facility according to the figure in Appendix K. The sensors are connected to the Control Room alarm panel's Programmable Logic Controllers (PLCs), and then to the Ameredev South SCADA.

The Plant operators are able to monitor the concentration (ppm) of $H_2S$ of all Plant sensors on the SCADA located at the local Ameredev South Plant and remote Pecos Plant control rooms. This plan will be activated upon any fence line sensor alarming at a concentration of 100 ppm or greater of H2S. The location of fence line fixed monitors is described in Section 3.3.5.5 below.

All sensor alarms require immediate action for any occurrence or malfunction and must be acknowledged (they will not clear themselves).

#### *3.3.4.2 Personal $H_2S$ Sensors*

Operations and maintenance personnel working at the Ameredev South Plant are to wear personal $H_2S$ monitors at all times. The personal monitors are to be set to alarm and vibrate at 10 ppm. This plan will be activated upon any personal $H_2S$ monitor alarming at 100 ppm along or outside of the Ameredev South Plant fence line.

#### *3.3.4.3 Handheld $H_2S$ Sensors*

Handheld gas detection monitors shall be co-located with the SCBAs so that Plant personnel can check specific areas and equipment for leak detection and control and use prior to initiating maintenance or work on the process or equipment. The handheld gas detectors have sensors for oxygen, LEL (explosive hydrocarbon atmospheres), $H_2S$ and carbon dioxide ($CO_2$).

### 3.3.5 Safety Equipment

**[NMAC19.15.11.9.B.2.a] [API RP-55 7.4.a.6]**

#### *3.3.5.1 First Aid Kits*

The first aid station is located near the front entrance man gate, as seen in Appendix K. First aid kits are also provided in Ameredev South Operations Manager vehicles.

#### *3.3.5.2 Personal Protective Equipment (PPE)*

**[API RP-55 6.6]**

Each SCM operations and maintenance crew personnel are provided a full-face positive-pressure, self-contained breathing apparatuses (SCBA). These are to be used during Plan activation emergency response. There are up to three (3) 30-minute SCBA respirators and air bottles strategically located throughout the Plant in PPE storage boxes, as seen in

Appendix K. Additionally, four (4) SCBAs and oxygen tanks are located in Ameredev operations vehicles, one in each vehicle. The system is equipped with a low-pressure alarm to allow workers to safely exit the hazardous area with plenty of reserve air capacity.

In addition, emergency escape respirators are strategically located throughout the Plant in PPE storage boxes, as seen in Appendix K. They are to be used only for evacuation purposes.

All Plant personnel are to be medically cleared, trained, and fit tested on the specific make and model of the respirator annually.

#### *3.3.5.3 Fire Extinguishers*

Plant personnel are trained only for incipient stage fire-fighting. Refer to SCM's ERP for firefighting requirements and capabilities.

#### *3.3.5.4 Eyewash/Shower Stations*

Due to the nature of facility operations, eyewash/shower stations are placed strategically near piping and equipment where there is a potential exposure to corrosive material. The eyewash/shower station locations can be found in Appendix K.

All Plant personnel are to be trained on how to use the eyewash stations and safety showers.

#### *3.3.5.5 Fixed $H_2S$ Monitors at Ameredev South Facility*

Appendix K depicts the locations of fixed $H_2S$ monitors placement at the Ameredev South Facility in relation to this Plan. Monitors will be placed along the facility fence line, one monitor inside first aid building, and one inside the control room. Fixed monitors along the facility boundary are to initiate plan activation when $H_2S$ concentrations reach 100 ppm or greater. Fixed monitors at the control room and the first aid station are to ensure the safety of emergency responders and personnel on-site during an event. All other fixed monitors are covered within the Ameredev South ERP.

## 3.4 LOCATION OF NEARBY PUBLIC AREAS, RESIDENCES, AND PUBLIC ROADS

**[NMAC 19.15.11.9.B(2)(c)] [API RP-55 7.4.a.4]**

SCM has compiled a list of residences, public areas (such as schools, business locations, churches, medical facilities), and public roads and mapped their location within the area of exposure. Figure 2 contains a detailed plot with the 500 and 100 ppm ROE from each volume sources at the Ameredev South system. These volume sources include the flares, Ameredev South Gas Plant sour gas equipment, and the gathering lines feeding into the Ameredev South facility. In Figure 9, the impact radius from each of these individual volume sources were merged to create two impact circles, with the 500 ppm and 100 ppm exposure areas. The map in Figure 9 includes the locations of each

residence, public area, and public roads (referred to as receptors) as discussed below.

### 3.4.1 Location Public Roads

There are two public roads located within the 500 ppm ROE: Anthony Rd and Frying Pan Road (CR 3). Both of these roads have sections within the 100 ppm ROE in addition to Beckham Rd. Figure 9 includes a map that depicts the area of exposure and public roads within the 500 and 100 ROE.

### 3.4.2 Location of Residents

There is one residence within the 100 ppm ROE around two miles north of the southern gathering lateral pipeline. It is co-located with the address for Dinwiddie Cattle Company LLC, as listed in Appendix A.

### 3.4.3 Location of Public Areas and Nearby Businesses

There are no public areas or businesses located within the ROE. Companies which own land within the ROE are: Dinwiddie Cattle Company LLC, Beckham Ranch Inc., EOG Resources, and Washing Crossing Field Services LLC. Dinwiddie Cattle company is the only business with a structure on site, as described in Section 3.4.2 above.

### 3.4.4 Medical Facilities

There are no medical facilities located within the ROE.

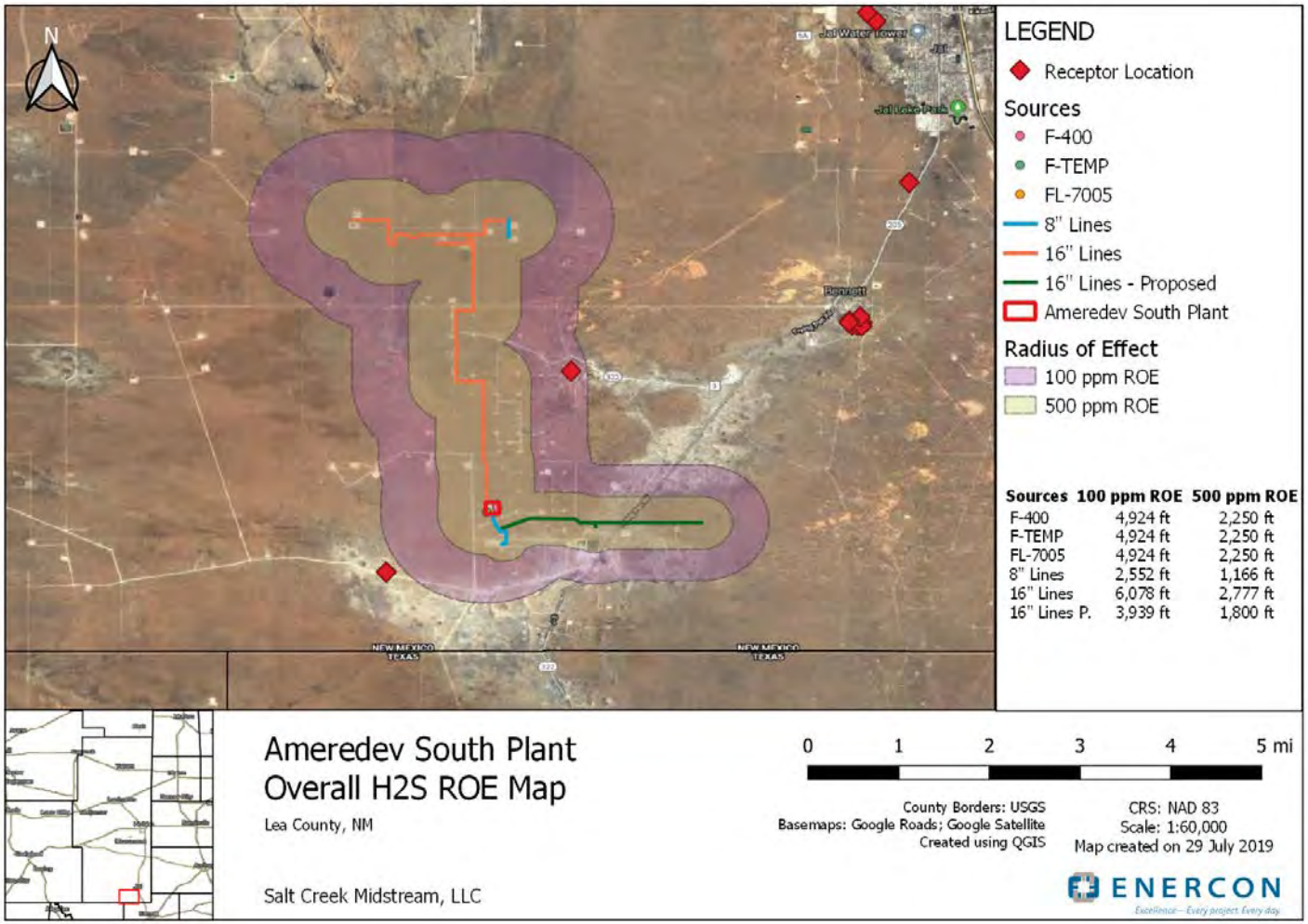



*Figure 9: 500 ppm and 100 ppm Radius of Impact (ROE)*

## 3.5 EMERGENCY TELEPHONE LISTS AND COMMUNICATION METHODS

**[NMAC 19.15.11.9.B.2.a] [API RP-55 7.7]**

In an emergency situation, all non-emergency telephone and radio traffic will cease immediately. Any delay in communicating with emergency site personnel could be critical. This communications restriction will continue until the emergency has ended and the facility has received the "All Clear".

In the event of activation of the Plan, emergency responders, public agencies, local government, BLM, SCM internal contacts, residents, and responsible parties for public areas may need to be contacted. Telephone contact information for those public areas and residents that may be subjected to an atmosphere exposure exceeding 30 ppm of H2S are included in Appendix A. Appendix A also contains a listing of all producers with wells within the 500 ppm and 100 ppm ROE who will be contacted in the event of activation of the $H_2S$ Plan. SCM will inform all state and local response organizations if the $H_2S$ Plan is activated; contact information for them is also contained in Appendix A.

The emergency responders, Control Room, and IC will communicate by VHF mobile two-way radios during the emergency. Channel 1 is the normal plant operations channel. However, during an emergency, all emergency response communications will be conducted on Channel 2. When the $H_2S$ Contingency Plan is activated, the Control Room will notify the facility, over Channel 1, activation of the Plan. All personnel with an emergency response role at the facility will then switch to Channel 2. When the IC has deemed the emergency as no longer posing any hazards to life, property, or the environment, the IC will give the "All Clear" over the radio on Channel 2.

## 3.6 NOTIFICATION AND REPORTS

### 3.6.1 Notifications

The Plant has various notification and reporting obligations, including state and federal spill reporting obligations. In addition, Plant personnel have internal and external notification and reporting obligations associated with the activation of this Plan. Reporting obligations are as follows:

#### *3.6.1.1 New Mexico Oil Conservation Division (OCD)*

**[NMAC 19.15.11.16]**

As soon as possible, but no later than four hours after Plan activation, the OCD will be notified by the Senior Liaison Officer via email or fax to the District Office of the activation of the $H_2S$ Contingency Plan. In the event of a power failure, a phone call will be made within four hours.

#### *3.6.1.2 Bureau of Land Management (BLM)*

The BLM will also be contacted in the event of activation of the plan since the associated Ameredev gathering lines are located on land leased from BLM by SCM.

#### *3.6.1.3 Reportable Quantity (RQ) Notifications*

**[40 CFR 355.43] [40 CFR 302.6]**

The reportable quantity (RQ) threshold for $H_2S$ is 100 lbs. If the $H_2S$ release is greater than or equal to the RQ, the Senior Liaison Officer must make the following notifications.

##### National Response Center (NRC)

According to the Comprehensive Emergency Response, Compensation, and liability Act (CERCLA), to the National Response Center (NRC) must be notified immediately by phone. In general, immediately means within 15 minutes that it is known, or should be known, that the RQ has been exceeded. Appendix A lists the phone number for the NRC.

##### Local Emergency Planning Committee (LEPC)

According to the Emergency Planning and Community Right-to-know Act (EPCRA), to the County Local Emergency Planning Committee (LEPC) must be notified immediately by phone. Appendix A lists the phone number for the LEPC. A written follow-up emergency notification must be provided, in writing, as soon as practical after the release. The EPA has no specific formatting for the follow-up notification and is dependent on the LEPC.

##### State Emergency Response Center (SERC)

According to the Emergency Planning and Community Right-to-know Act (EPCRA), to the State Emergency Response Center (SERC) must be notified immediately by phone. Appendix A lists the phone number for the SERC. A written follow-up emergency notification must be provided, in writing, as soon as practical after the release. The EPA has no specific formatting for the follow-up notification and is dependent on the SERC.

### 3.6.2 Reports

#### *3.6.2.1 Release and Incident Reporting*

**[NMAC 19.15.11.16]**

SCM will submit a full report utilizing OCD Form C-141 within fifteen (15) days following a release of $H_2S$ requiring activation of this plan (see Appendix H).

# 4. SITE SECURITY

**[NMAC 19.15.11.12.B]**

The Ameredev South Gas Plant is a fixed surface facility and may be unattended for periods of time. To protect from public access, these sites are provided fencing with locking gates. For the purpose of this section, any surface gathering lines shall not be considered a fixed surface facility, and therefore, do not require protection from public access.

In order to have an accurate listing of all personnel on-site in the event of an emergency, a daily sign-in log sheet shall be utilized, as seen in Appendix I. All personnel, including Ameredev South facility personnel, contractors, and visitors must sign-in and sign-out each time they enter or exit the Plant. In the event of plan activation, this daily sign-in log will be used in the facility wide head-count.

# 5. COORDINATION WITH STATE EMERGENCY PLANS

**[NMAC 19.15.11.9.B(2)(e)]**

Arrangements are to be made with local emergency response actions with the division, the State Police, local Police Departments, local fire departments, hospitals, contractors, the State Emergency Response Commission (SERC), and the Local Emergency Planning Commission (LEPC), as listed in Appendix A, to coordinate emergency services, pursuant to this Plan. A copy of this Plan has been distributed according Appendix B. If the Plan is amended, as necessary, the plan will be redistributed to the above emergency teams, and according to Appendix B.

# 6. TRAINING/DRILLS/EDUCATION

## 6.1 TRAINING

**[NMAC 19.15.11.9.B(2)(d)] [API RP-55 7.8]**

### 6.1.1 SCM Operations and Maintenance Personnel

Annual training for SCM and Ameredev South personnel shall include operations and maintenance (mechanics, instrument and electrical technicians, and measurement) support personnel. Control Room Operators will be responsible for initiating and implementing the Plan. An annual Plant Orientation will be required for all visitors and contractors prior to entering the site.

Initial and annual refresher awareness training on the $H_2S$ Contingency Plan will be provided to Plant personnel. The contents of this $H_2S$ awareness training will include:

- Hazards and characteristics of $H_2S$;
- Safety precautions;
- Operation of safety equipment and life support system(s), including the proper use of respirators. annual fit tests, and a medical clearance for respirator use.;
- PPE requirements during the activation of this plan, including at a minimum, a review of all the types and levels of personal protective equipment and how to select the correct equipment for the job;
- An overview of the Ameredev South Plant operations;
- A review of the roles and responsibilities, specific to their job description, in responding to this Contingency Plan;
- Detecting a release, activating and implementing this Contingency Plan, including notifying the control room and evacuating safely;
- Hazard Communication, including, at a minimum, the use of safety data sheets (SDS) for those materials that are present at the Plant;
- HAZWOPER for operations and maintenance personnel; Location of the Radii of Exposure and how to protect the public within the Radii of Exposure; and
- Potential roadblock locations, potential evacuation routes, and shelter-in-place implementation.

Designated emergency responders, as detailed in Section 3.1.3 of this Plan, will receive the above initial and annual awareness training, in addition to, initial and triennial refresher Hazardous Materials (HAZMAT) and First Aid/CPR certification training.

**Operations and Maintenance supervisory personnel** will be additionally trained in the following: effect of $H_2S$ on metal components in the system; corrective action and shutdown procedures and must have full knowledge of the requirements of this Plan.

The Roles and Responsibilities of SCM and Ameredev South personnel during an emergency are described in Section 3.1 of this plan, and in accordance with the SCM ICS structure included in Appendix D. These duties will be reviewed on an annual basis to ensure complete understanding

and facilitate a well-coordinated response by all personnel during the emergency event.

### 6.1.2 Visitors and Contractors

All visitors and contractors must complete a Plant overview orientation. A refresher course on this training is required annually of any visitors and contractors. Included as part of this orientation is how to respond and evacuate safely in the event of a $H_2S$ alarm or release. A record will be maintained of all visitor and contractor orientation in the local control room and will be referenced prior to granting access.

All contract personnel are required to have received annual refresher training on $H_2S$ and other hazards or OSHA programs relevant to their work on locations covered by this plan. Each contract employee is required to provide the Plant a copy of their certification card(s) prior to obtaining permission to enter the Plant.

### 6.1.3 Advanced Briefings of the Public and Public Officials

The training of residents and public officials will be conducted by providing advanced briefings on an annual basis. The training will be conducted by sending a brochure mailing to residents listed in Appendix A. SCM will also provide a one to two (1-2) hour session of training for residents, invitations to attend resident training sessions will be included with the mailed brochure. These public briefings will cover proper protective measures to be taken in the event of a release and will include:

- Hazards and characteristics of $H_2S$;
- The necessity for an emergency action plan;
- The possible sources of hydrogen sulfide within the area of exposure;
- Instructions for reporting a gas leak;
- The manner in which the public will be notified of an emergency;
- Evacuation and shelter-in-place plans; and
- Steps to be taken in case of an emergency.

## 6.2 EMERGENCY RESPONSE DRILLS

**[NMAC 19.15.11.9.B(2)(d)] [API RP-55 7.8]**

SCM will also conduct, at a minimum, one annual tabletop drill simulating a release, and involve the local Public Officials and Emergency Response Organizations. Multiple drills during the year may be scheduled at the discretion of the Operations Manager.

Annual drills will include making contact with the entities that are identified as being within the 500 ppm and 100 ppm ROE (see Appendix A) to ensure contact information for them is current. At a minimum, the drill or exercise should cover activation and implementation of the Ameredev South Plant $H_2S$ Contingency Plan.

## 6.3 TRAINING AND ATTENDANCE DOCUMENTATION

**[NMAC 19.15.11.9 G]**

Training and drills will be documented and maintained at the Plant for the lifetime of the facility. The Training Documentation log, as seen in Appendix J, is utilized to log the training schedules and attendee rosters. A complete record of required documentation shall include, at a minimum, the following:

- Training schedules and course outlines;
- Description or scope of the drill;
- Date, time, and attendees or participants in the drill or training;
- Summary of activities and responses; and
- Post-drill debriefing and reviews.

# APPENDIX A
# EMERGENCY TELEPHONE CONTACTS

# APPENDIX A
# Emergency Telephone Contacts

## SCM LLC INTERNAL NOTIFICATIONS

| Job Title | Last Name | First Name | CMT ROLE | OFFICE | CELL |
|---|---|---|---|---|---|
| HSE Manager | Poffinbarger | Michael | Safety Officer/Senior Liaison | NA | (832) 998-1113 |
| Director of Compliance and Operations Services | Harris | Joan | Senior Liaison/Advisor | (281) 655-3845 | (713) 515-6916 |
| Senior VP of Operations and Engineering | Perilloux | Brian | Senior Liaison/Advisor | (281) 655-3877 | (832) 477-0868 |
| HR Director | McGettigan | Lasen | Information Officer | (281) 655-3209 | (254) 366-9711 |
| General Counsel | Cooke | Dave | Legal Officer | (281) 655-3839 | (919) 452-1948 |
| Director of Operations | Liebelt | Mike | Incident Commander | (432) 247-3245 | (307) 231-6021 |
| Field Manager | Register | Reagan | Incident Commander | NA | (432) 250-5888 |
| PSM Coordinator | Lewis | Randy | Incident Commander | (432) 242-5524 | (832) 593-2563 |
| Technical Services Manager | Sarellano | Robert | Incident Commander | (432) 242-5523 | (832) 593-2580 |
| Lead Pipeline Operator | Lane | Perry | Operations Section | NA | (346) 265-1543 |
| Lead Pipeline Operator | Grable | Timothy | Operations Section | (832) 593-2346 | (832) 593-2346 |

| Job Title | Last Name | First Name | CMT ROLE | OFFICE | CELL |
|---|---|---|---|---|---|
| Lead Pipeline Operator | Robinson | Colvin | Operations Section | (832) 593-2508 | (318) 542-3256 |
| Lead Pipeline Operator | Windham | Lynn | Operations Section | (832) 593-2086 | (832) 593-2086 |
| Lead Pipeline Operator | Zamora | Porfirio | Operations Section | NA | (832) 998-1113 |

# BUSINESSES/PUBLIC RECEPTORS/RESIDENCES WITHIN THE 100 PPM ROE and 30 PPM EXPOSURE AREA

| RECEPTOR NAME | ADDRESS/LOCATION | PHONE NUMBER |
|---|---|---|
| **100 ppm ROE** | | |
| Dinwiddie Cattle Company LLC | 309 West Highway 28<br>Jal, NM 88252- Office address<br>Coordinates:<br>32°3'8.99" N<br>103°15'44.06" W | 575-354-2489 – Tommy Dinwiddie |
| **30 ppm Modeled Exposure Area** | | |
| Beckham Ranch, Inc. | 236 Beckham Rd<br>Jal, NM 88252 | 575-395-3230- Brad Beckham |
| EOG Resources | No physical address for land<br>Coordinates are:<br>32°3'18.98" N<br>103°16'50.30" W | 737-300-4700- Houston Office |
| Ameredev (Washington Crossing Field Services, LLC) | No physical address for land<br>Coordinates are:<br>32°1'5.25" N<br>103°15'27.23" W | 737-300-4775 – Zach Boyd<br>Zboyd@ameredev.com<br><br>Shane McNeely<br>Smcneely@ameredev.com |

# EMERGENCY RESPONDERS

| AGENCY | PHONE NUMBER |
|---|---|
| Emergency Dispatch | 911 |
| Jal Fire Department | (575) 395-2221 |
| Jal Police Department | (575) 395-2501 |
| Lea County Sheriff's Office | (575) 396-3611 |
| City of Jal Ambulance Service | (575) 441-2251 |
| New Mexico State Police (Hobbs) | (575) 885-3138 |
| Lea Regional Medical Center | (575) 492-5000 |
| New Mexico Poison Control | (800) 222-1222 |

# COUNTY, LOCAL, AND PUBLIC EMERGENCY AGENCIES

| AGENCY | PHONE NUMBER |
|---|---|
| Oil Conservation Division<br>Santa Fe Office<br>District 1 Office – Lea County | <br>(505) 476-3440<br>(575) 370-3186 |
| Local Emergency Planning Committee (LEPC)<br>Lea Emergency Planning Committee | <br>(575) 391-2983 |
| State Emergency Response Commission (SERC)<br>NM Department of Homeland Security & Emergency Management | <br>(505) 476-9600 |
| National Response Center (NRC) | (800) 424-8802 |
| NM Environmental Department (NMED) | (505) 827-9329 |
| NM Bureau of Land Management (BLM) (Hobbs Field Station) | (575) 234-5989 |

# APPENDIX B
# PLAN DISTRIBUTION LIST

# APPENDIX B

# $H_2S$ Plan Distribution List

| Intended Recipient | Address |
|---|---|
| SCM Amerdev Local Control Room | Longitude -103.23337 W<br>Latitude 32.02419 N<br>Jal, NM 88252 |
| SCM Pecos Operations Remote Control Room | 1369 I-20<br>Pecos, TX 79772 |
| Ameredev South Operations Manager vehicles | |
| SCM Midland Facility | 6 Desta Drive, Suite 6400<br>Midland, TX 79706 |
| Salt Creek Midstream, LLC Houston Office | 20329 St. Hwy. 249, Ste. 450<br>Houston, TX 77070 |
| Lea County LEPC/Emergency Manager | 1019 E. Bender Road<br>Hobbs, NM 88260 |
| NM SERC - Department of Homeland Security & Emergency Management (DHSEM) | PO Box 27111<br>Santa Fe, NM 87502 |
| NM OCD (Santa Fe Office) | 1220 South St. Francis Dr.<br>Santa Fe, NM 87505 |
| NM OCD (District 1) | 1625 N. French Drive<br>Hobbs, NM 88240 |

*Note: Lea County LEPC Emergency Manager will make and send copies of this plan to appropriate entities within his jurisdiction, including the local responding Police and Fire Departments.

# APPENDIX C
# ROE CALCULATIONS

# APPENDIX C

# ROE Calculations

**Gathering Lines Flowrate: Agreed Flowrate**

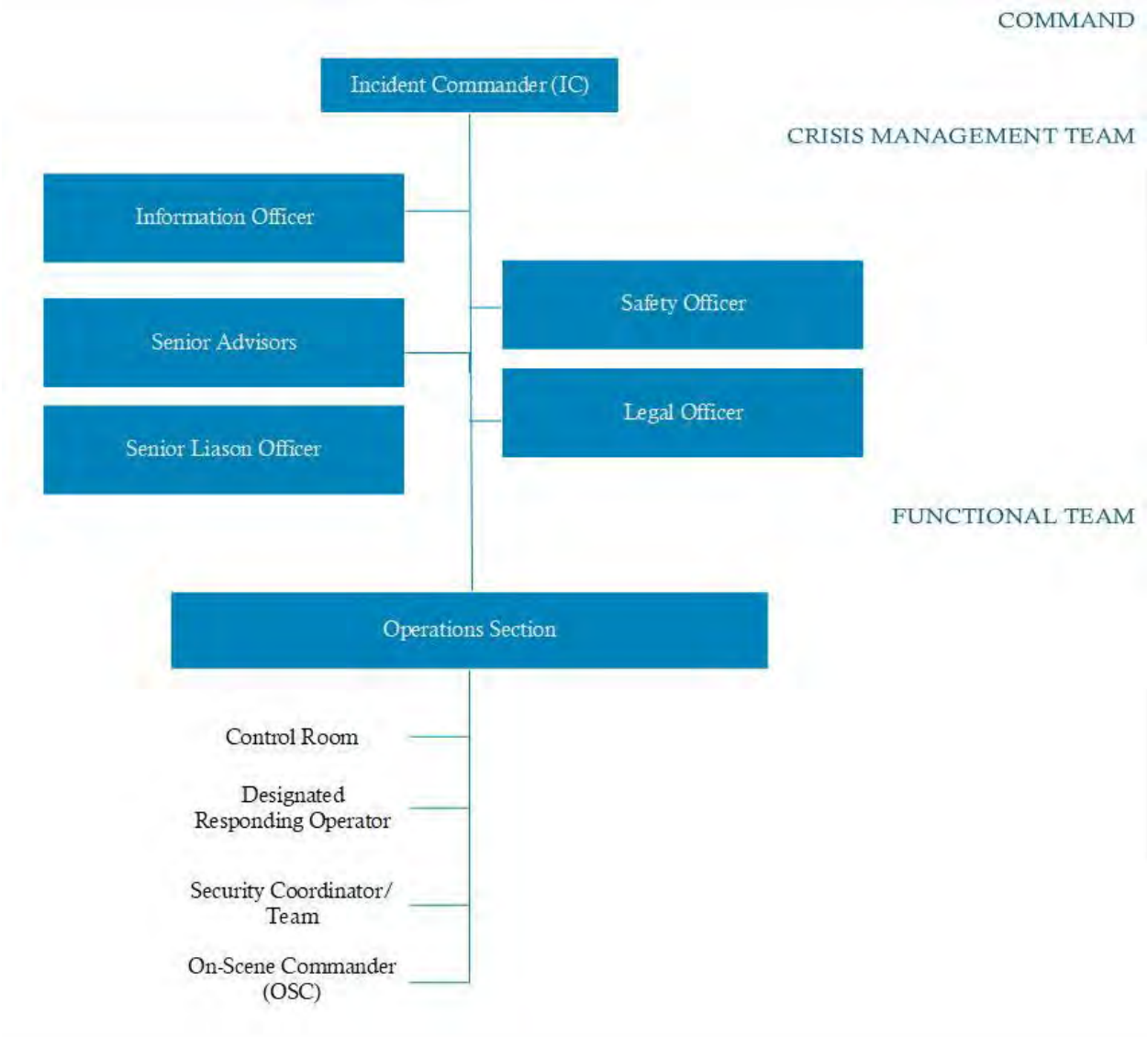
| Volume Source Name | Design Capacity (MMscfd) | Acid Gas Rate (Mscfd) | Acid Gas $H_2S$ Conc. (mol%) | H2S (ppm) | 100 ppm Radius (feet) | 500 ppm Radius (feet) | 100 ppm Radius (miles) | 500 ppm Radius (miles) |
|---|---|---|---|---|---|---|---|---|
| Ameredev South Flare (F-400) | 2.5 | 2,500 | 20 | 200,000 | 4,924 | 2,250 | 0.932 | 0.426 |
| Ameredev South Flare (F-TEMP) | 2.5 | 2,500 | 20 | 200,000 | 4,924 | 2,250 | 0.932 | 0.426 |
| Ameredev South Flare (F-7005) | 2.5 | 2,500 | 20 | 200,000 | 4,924 | 2,250 | 0.932 | 0.426 |
| New Gathering Lines - 16" | 10 | 10,000 | 3.5 | 35,000 | 3,939 | 1,800 | 0.746 | 0.341 |
| Gathering Lines - 8" | 5 | 5,000 | 3.5 | 35,000 | 2,552 | 1,166 | 0.483 | 0.221 |
| Gathering Lines - 16" | 20 | 20,000 | 3.5 | 35,000 | 6,078 | 2,777 | 1.151 | 0.526 |
| TK-800 | 0.00056 | 0.56 | 3.5 | 35,000 | 9 | 4 | 0.002 | 0.001 |
| TK-801 | 0.00056 | 0.56 | 3.5 | 35,000 | 9 | 4 | 0.002 | 0.001 |
| Amine Acid Gas Discharge - 12" | 20 | 20,000 | 3.5 | 35,000 | 6,078 | 2,777 | 1.151 | 0.526 |

Result: The 100 ppm ROEs that are greater than 3,000 feet are a CASE 3. The 100 ppm ROEs that are less than 50 feet are a CASE 1.

# APPENDIX D
# SCM ICS CHAIN OF COMMAND

# APPENDIX D

# SCM ICS Chain of Command



# APPENDIX E
# RECORD OF EVENTS LOG

# APPENDIX E

# Record of Events Log

| 1. Incident Name | 2. Operational Period (Date/Time)<br>From: To: | Incident Number: |
|---|---|---|
| 3. Individual Name | 4. Assignment/Location | Page _____ of _____ |

| Time | Major Events |
|---|---|
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# APPENDIX F
# IMMEDIATE ACTION PLAN CHECKLIST

# APPENDIX F

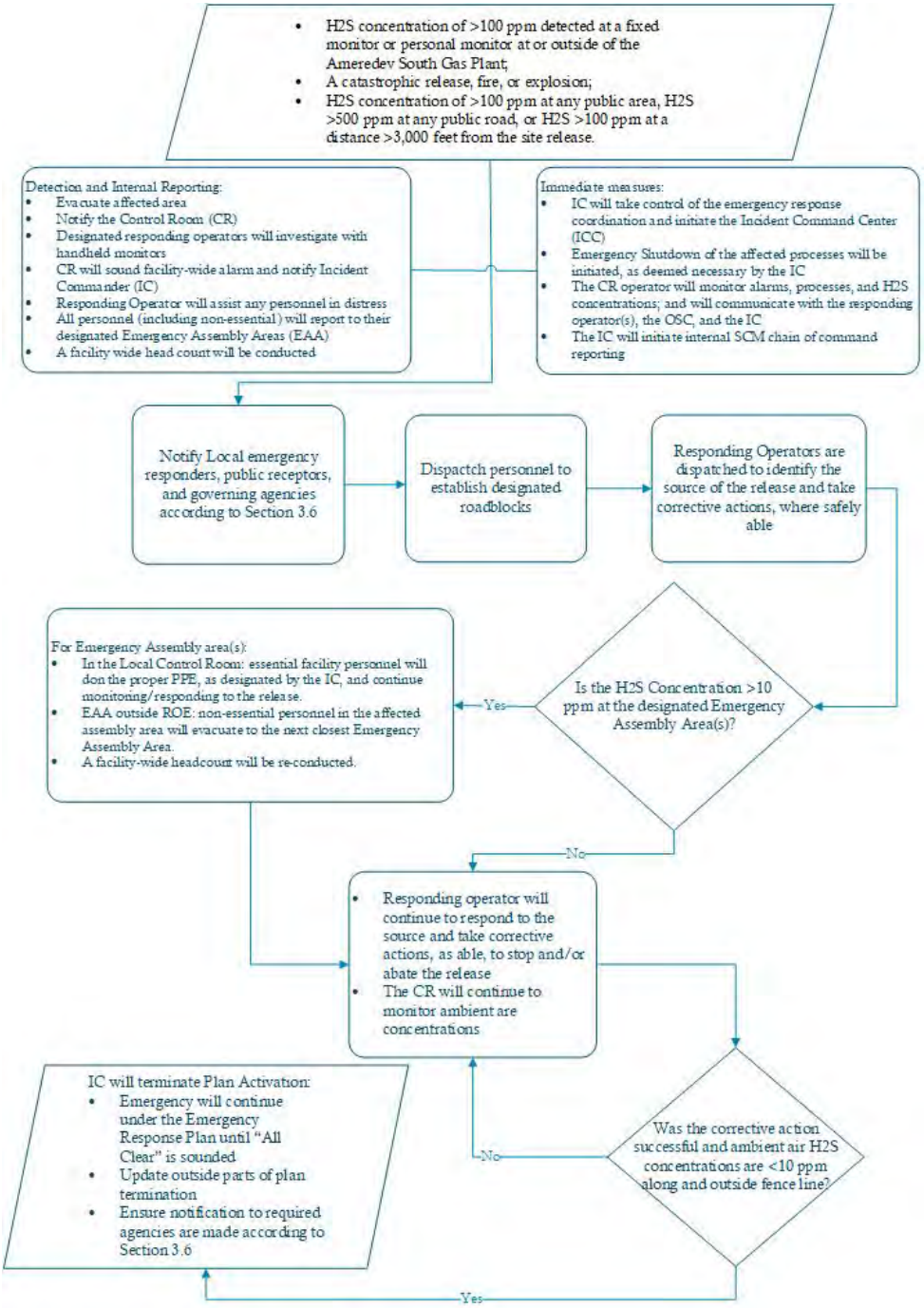
| Plan Activation Checklist | | |
|---|---|---|
| Source of Activating Condition: | | |
| ☐ | $H_2S$ Concentration of greater than or equal to 100 ppm detected along the Ameredev South Plant facility boundary (fence line) | |
| ☐ | $H_2S$ Concentration of greater than or equal to 100 ppm detected outside of the Ameredev South Plant facility fence line | |
| ☐ | A catastrophic release, fire, or explosion | |
| ☐ | $H_2S$ concentration greater than or equal to 100 ppm at any public area | |
| ☐ | $H_2S$ concentrations greater than or equal to 500 ppm at any public road | |
| ☐ | $H_2S$ concentrations at greater than or equal to 100 ppm at a distance greater than 3,000 feet from the site of release. | |
| Visible and Audible Alarms: | | |
| • Flashing beacons<br>• $H_2S$/LEL specific sirens | | |
| Activation Procedures: | | |
| Initial Plan Activation: | | |
| | 1. | Evacuate the affected area and notify the Control Room |
| | 2. | Designated responding operators will don a full-face SCBA and investigate the scene |
| | 3. | Upon $H_2S$ concentration verification, the Control Room will notify the IC who will initiate the Plan Activation |
| | 4. | IC or designee will take control of the Emergency Response coordination |
| | 5. | Confirm $H_2S$ alarms are activated if the release is from within the South Plant, and if not, manually activate alarms |
| | 6. | All facility personnel will report to their designated Muster Points and a facility-wide head-count will be conducted prior to commencing response activities |
| | 7. | IC will initiate internal chain of command reporting |
| | 8. | Emergency shutdown procedures will be initiated, as deemed necessary by the IC |
| | 9. | The Control Room operator will monitor alarms, affected processes, and $H_2S$ concentrations and communicate with responding operator(s), the OSC and the IC |
| Emergency Response Actions: | | |
| | 10. | Evacuate non-essential personnel to pre-designated Emergency Assembly Areas outside of the ROE |
| | 11. | IC will ensure proper notifications are made: |
| | | a. Notify local emergency responders, and make recommendations on assistance in public road blocks, evacuations, shelter-in-place, etc. |
| | | b. Notify all public receptors within the 30 ppm $H_2S$ modeled exposure area of release and advise instructions on evacuation, shelter-in-place, etc. |
| | | c. Notify appropriate governing agencies according to Section 3.6 in the plan |
| | 12. | Dispatch personnel to establish designated roadblocks |
| | 13. | Responding Operators will investigate the source of the release and take corrective action, as able, to stop and/or abate the release |
| | 14. | If any Emergency Assembly area alarms at 10 ppm or greater of $H_2S$: |
| | | a. The affected assembly area will evacuate to the next closest Emergency Assembly Area and re-conduct a head-count |
| | 15. | If ambient air $H_2S$ concentrations are below 10 ppm at facility fence line monitors, the corrective action was successful, and the following items are to be completed: |
| | | a. IC will "Terminate Activation of the $H_2S$ Contingency Plan" |
| | | b. Emergency Response within the Ameredev South Plant will continue until the "All Clear" is given under the ERP |
| | | c. Update outside parties of the plan termination |
| | | d. Ensure the OCD is notified within four (4) hours of plan activation and update OCD on plan termination |

If corrective actions are not successful, the facility will continue to work with emergency responders to control and/or abate the release until item 15 is reached.

# APPENDIX G
# IMMEDIATE ACTION PLAN FLOW DIAGRAM

# APPENDIX G

# Immediate Action Plan Flow Diagram



# APPENDIX H
# REPORTING/REGULATORY FORMS

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party | OGRID |
| Contact Name | Contact Telephone |
| Contact email | Incident # *(assigned by OCD)* |
| Contact mailing address | |

## Location of Release Source

Latitude _____ Longitude _____
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name | Site Type |
| Date Release Discovered | API# *(if applicable)* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| | | | | |

Surface Owner ☐ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

## Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |
| Cause of Release | | |

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br>☐ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release? |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? | |

## Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

☐ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**OCD Only**

Received by: _____ Date: _____

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

| | |
|---|---|
| What is the shallowest depth to groundwater beneath the area affected by the release? | _____ (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☐ No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | ☐ Yes ☐ No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | ☐ Yes ☐ No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | ☐ Yes ☐ No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | ☐ Yes ☐ No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | ☐ Yes ☐ No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | ☐ Yes ☐ No |
| Are the lateral extents of the release within 300 feet of a wetland? | ☐ Yes ☐ No |
| Are the lateral extents of the release overlying a subsurface mine? | ☐ Yes ☐ No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | ☐ Yes ☐ No |
| Are the lateral extents of the release within a 100-year floodplain? | ☐ Yes ☐ No |
| Did the release impact areas **not** on an exploration, development, production, or storage site? | ☐ Yes ☐ No |

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

**Characterization Report Checklist**: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**OCD Only**

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Remediation Plan

**Remediation Plan Checklist:** ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**OCD Only**

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**OCD Only**

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

# APPENDIX I
# SECURITY DAILY LOG-IN SHEET

# APPENDIX I

## Security Daily Log-In Sheet

| Date | Printed Name | Company | Reason for Visit | Time In | Time Out |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
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# APPENDIX J
# TRAINING DOCUMENTATION

# APPENDIX J

# H2S Training Schedule Documentation

| Scheduled Training Date | Scheduled Topics | Scheduled Employee Group |
|---|---|---|
| Initial and Annual thereafter | $H_2S$ Awareness | Operations and maintenance personnel, Operations Manager, and Control Room operators |
| Initial | $H_2S$ and Material Selection | Operations Manager |
| Initial and Annual thereafter | Corrective Actions | Operations Manager |
| Initial and Annual thereafter | Shutdown Procedures | Operations personnel, Operations Manager, and Control Room operators |
| Initial and Annual thereafter | Plant Overview Orientation | All visitors and contractors |
| Annual | Advanced Briefings of Public and Public Officials | Public Receptors within the 500 and 100 ppm ROE and Public Officials |
| Annual | Tabletop Drill | Public receptors and entities within the 500 and 100 ppm ROE and Local Emergency Responders |
| **Initial Annual thereafter** | **HAZWOPER** | **Designated Responding Operators** |

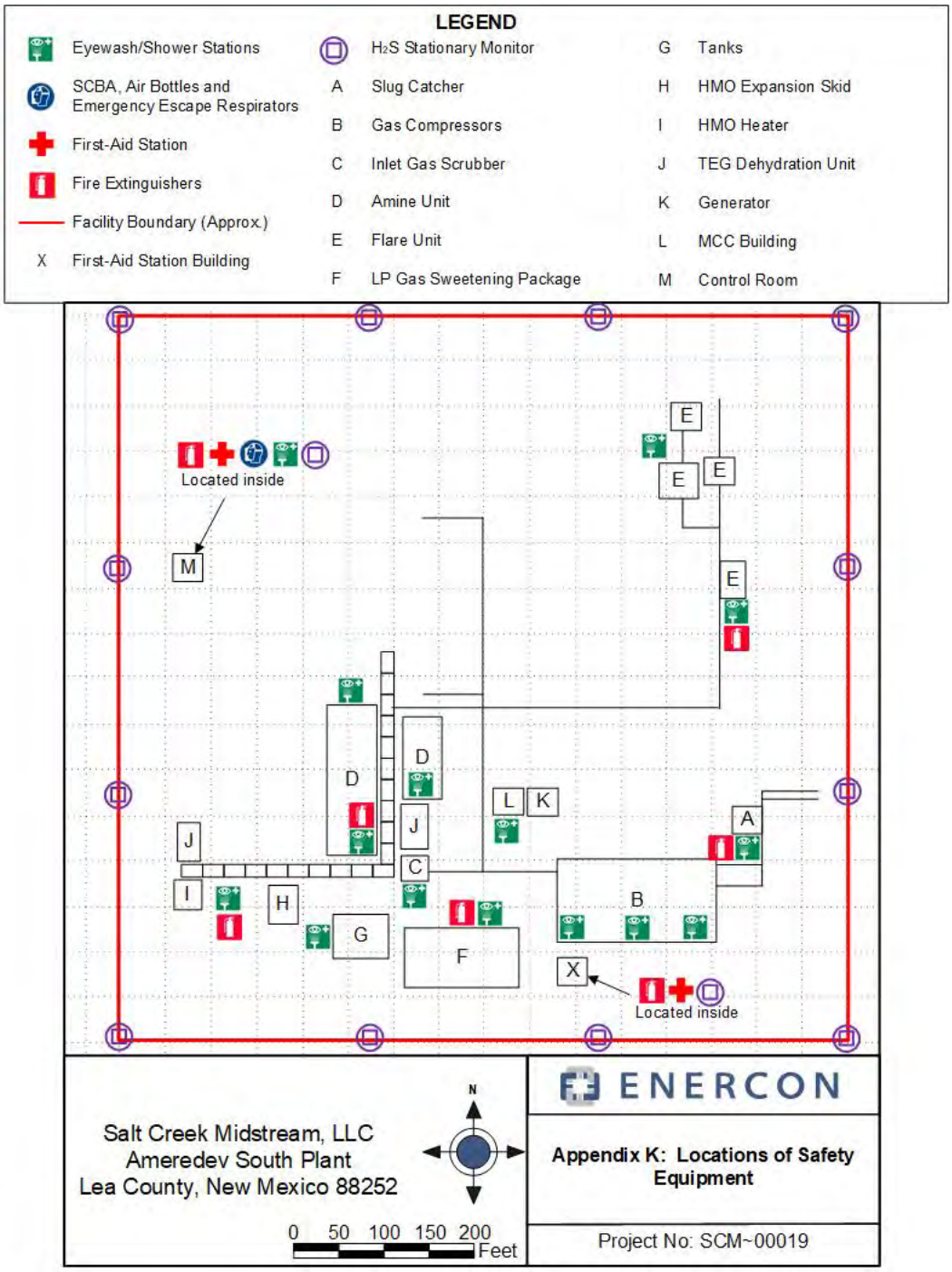

# APPENDIX J

# $H_2S$ Training Roster Documentation

| Print Name | Sign Name | Date |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Instructor Name & Title (Printed) | Signature | Subject Matter |

# APPENDIX K
# LOCATIONS OF SAFETY EQUIPMENT

# APPENDIX K
# Locations of Safety Equipment



# APPENDIX L
# NAME OF WELL PADS AND CENTRAL TANK BATTERY SITES

# APPENDIX L
# Name of Well Pads and Central Tank Battery Sites

| Central Tank Battery Sites and Well Pads Sites | | |
|---|---|---|
| **Label ID** | **Name** | **CTB or Well Pad** |
| **1** | **AMEN CORNER CTB** | JUNIPER VERT **CTB** |
| 2 | MAG/AC #1N | Well Pad |
| 3 | MAG/AC #4N | Well Pad |
| **4** | **AZALEA CTB** | **CTB** |
| 5 | AZE/CAM #1N | Well Pad |
| 6 | AZE/CAM #1S | Well Pad |
| **7** | **NANDINA CTB** | **CTB** |
| 8 | NAN/GB #1N | Well Pad |
| 9 | NAN/GB #2N | Well Pad |
| 10 | NAN/GB #3N | Well Pad |
| 11 | NAN/GB #5N | Well Pad |
| 12 | NAN/GB #6N | Well Pad |
| **13** | **RED BUD CTB** | **CTB** |
| 14 | RB/HOL #1S | Well Pad |
| 15 | RB/HOL #4S | Well Pad |
| 16 | RB/HOL #5S | Well Pad |
| 17 | RB/HOL #6N | Well Pad |
| **18** | **FIRETHORN CTB** | **CTB** |
| 19 | TO/FIR #4N | Well Pad |
| 20 | JUN/PIM #1S | Well Pad |

# APPENDIX M
# ACRONYMS

# APPENDIX M
# Acronyms

| Acronym | Acronym Expansion | Acronym | Acronym Expansion |
|---|---|---|---|
| ACGIH | *American Conference of Governmental Industrial Hygienists* | NIMS | *National Incident Management System* |
| AGI | acid gas injection (well) | NIOSH | *National Institute for Occupational Safety and Health* |
| ANSI | *American National Standards Institute* | NM | New Mexico |
| API | *American Petroleum Institute* | NM OCD | *New Mexico - Oil Conservation Division* |
| BLM | *Bureau of Land Management* | NMAC | *New Mexico Administrative Code* |
| CFR | *Code of Federal Regulations* | NMED | *New Mexico Environmental Department* |
| CO2 | carbon dioxide | NRC | *National Response Center* |
| CR | Control Room | OSHA | *Occupational Safety and Health Administration* |
| DCS | Distributed Control System | PLC | programmable logic controller |
| DHSEM | *Department of Homeland Security & Emergency Management* | PPE | personal protective equipment |
| EAA | emergency assembly areas | ppm | parts per million, molar basis |
| EPA | *Environmental Protection Agency* | PSM | Process Safety Manager |
| EPCRA | *Emergency Planning and Community Right-to-know Act* | ROE | radius/radii of exposure |
| ERP | emergency response protocol | RQ | reportable quantity (100 lbs of $H_2S$) |
| ESD | emergency shutdown devices | SCADA | Supervisory Control and Data Acquisition |
| H2S | hydrogen sulfide | SCBA | self-contained breathing apparatus |
| HAZWOPER | *Hazardous Waste Operations and Emergency Response* | SCM | *Salt Creek Midstream* |
| HSE | Health, Safety and Environment | SDS | safety data sheets |
| IC | Incident Commander | SERC | *State Emergency Response Center* |
| ICS | Incident Command System | SLB | *State Land Board* |
| LEPC | *Local Emergency Planning Committee* | SO2 | sulfur dioxide |
| MMscfd | million standard cubic feet per day | SSV | safety shutdown valve |
| Mscfd | thousand standard cubic feet per day | TAG | treated acid gas |
| NACE | *National Association of Corrosion Engineers* | VHF | very high frequency |

# APPENDIX N
# SCM H2S Safety Brochure

## Optional $H_2S$ Training

SCM can provide a one to two (1-2) hour session of training* to cover proper protective measures to be taken in the event of a release and will include:

- Hazards and characteristics of H2S
- The necessity for an emergency action plan
- Possible sources of $H_2S$ within the area of exposure
- Instructions for reporting a gas leak
- How the public will be notified of an emergency
- Evacuation and shelter-in-place plans
- Steps to be taken in case of an emergency

Please contact Joan Harris (details on the back of the brochure) for further details or to express interest. Include your name, address, phone number, and mention this $H_2S$ Safety Brochure with the $H_2S$ Plan ID H2S-65.

*Training will be scheduled based on public interest.


Salt Creek Midstream, LLC

**Primary Address:**
20329 St Hwy 249, Ste 450
Houston, TX 77070
**Plant Address:**
**Latitude/Longitude: 32.0256°N/-103.2766°W**

**Contacts:**
Joan Harris: 281-655-3845
E-mail: Joan.Harris@armenergy.com
Mike Liebelt: 307-231-6021


# Hydrogen Sulfide ($H_2S$) Safety Brochure

Ameredev South Plant, AGI Wells, and Pipelines
$H_2S$ Plan ID: H2S-65

SALT CREEK MIDSTREAM

*Safety is an integral part of our core values.*


## Our Project

This brochure is to advise you that Salt Creek Midstream, LLC (SCM) operates a gas processing plant approximately 7.60 miles southwest of Jal, NM, as well as pipelines that transport gas to the plant.

The gas produced in the area, and then transported to and processed in our facility, contains Hydrogen Sulfide. Hydrogen Sulfide is a naturally occurring organic compound that is regularly present in the environment. Normally, the levels are very low and non-detectable, however it is common to find more substantial concentrations associated with oil and gas related facilities.

Accidental releases, should they occur, are quickly addressed by our trained operating personnel along with professional incident responders, if necessary. In the event of a significant release, the Hydrogen Sulfide concentrations at or near the release point could pose a health risk.

The intent of this notice is to provide you information regarding Hydrogen Sulfide and to help you avoid potential hazards.

## Characteristics of $H_2S$ Gas

Hydrogen Sulfide ($H_2S$) is a colorless, toxic and flammable gas and has a distinct "rotten-egg" smell. $H_2S$ is also known by other names: sour gas, poison gas, rotten egg gas, acid gas, sewer gas, or sulfur gas.

It occurs naturally in crude petroleum, natural gas, and hot springs, and is also produced by bacterial breakdown of organic materials. Industrial activities that can release the gas include crude and natural gas drilling and refining and wastewater treatment.

Hydrogen Sulfide is heavier than air and may travel along the ground. In the event of a release it can collect in low-lying and enclosed areas such as basements, manholes, sewer lines, underground telephone vaults and manure pits. In certain concentrations it presents a health hazard that could result in serious injury or death. Please review the potential concentrations and corresponding physical effects below.

## Call Before You Dig

New Mexico 811 is a statewide one-call notification center formed to promote safe excavation and damage prevention.

Pipelines, gas distribution, telecommunications, water, sewer, electric companies and others have underground facilities throughout New Mexico. Striking any one of these lines can cause service interruptions, injury and, potentially death. So, before you begin a project that includes digging, you should know what's below.

Please call (811) if you are planning an excavation.

## Your Emergency Plan

In the event of an accidental or controlled release, residents and public areas within the area of **potential exposure will be notified to shelter-in-place or evacuate aided by** SCM or local emergency responders.

If asked to shelter-in-place, you should go inside homes, businesses, etc., turn off heating and AC systems, close windows and doors and wait for further instructions.

Evacuation may be required if the release is not adequately controlled. It is important to travel crosswind, away from the Ameredev system, and then upwind. Do not drive through a vapor cloud, as this could cause ignition or your vehicle could stall due to lack of oxygen.

If during the event of release you witness any of the physical effects of $H_2S$ exposure, including loss of smell, stinging in eyes or throat, dizziness, or labored breathing, seek shelter and call (911) immediately.

Roadblocks will be established and maintained by SCM and/or Emergency Responders. These roadblock locations have been predetermined to limit public exposure during an H2S Plan Activation event. If a roadblock is established, do not enter the area until a Plan Termination notification has been provided.

Once the event no longer poses any hazards to life, property, or the environment, you will be notified by phone of a Plan Termination notification.