H2S - 60

H_2S CONTINGENCY PLAN

Chavez, Carl J, EMNRD

From: Jennifer Knowlton <jenniferk@yatespetroleum.com>
Sent: Monday, November 05, 2012 10:21 AM
To: VonGonten, Glenn, EMNRD
Cc: Sanchez, Daniel J., EMNRD; Chavez, Carl J, EMNRD
Subject: RE:

The OCD should make their policy clear thru regulatory changes.

The revised plans have been mailed today. However, the plans have been altered with a foot note that the plans have not been approved by the OCD.

Jennifer Knowlton, PE
Environmental Manager
Agave Energy Company
505-238-3588 (cell)
575-748-4471 (office)
575-748-4275 (fax)

From: VonGonten, Glenn, EMNRD [mailto:Glenn.VonGonten@state.nm.us]
Sent: Thursday, November 01, 2012 5:05 PM
To: Jennifer Knowlton
Cc: Sanchez, Daniel J., EMNRD; Chavez, Carl J, EMNRD
Subject:

Jennifer,

OCD neither accepts nor reviews documents that are stamped or labeled "Draft". OCD will only review final documents. OCD may review draft documents or exhibits in technical meeting, but will not enter them as Administrative Records.

Agave must resubmit the contingency plans with the draft removed before OCD will accept and review them.

Glenn von Gonten
Senior Hydrologist
Environmental Bureau
Oil Conservation Division
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3488
Fax-476-3462
glenn.vongonten@state.nm.us
http://www.emnrd.state.nm.us/ocd/

AGAVE ENERGY COMPANY

105 South Fourth Street | Artesia, New Mexico 88210 | (575) 748-4555 | Fax (575) 748-4275

RECEIVED OCD

2012 OCT 31 P 12:35

October 30, 2012

Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Agave Energy Company
H2S Contingency Plan

To Whom It May Concern:

Per the notification from the OCD last year, Agave is submitting H2S Contingency Plans (NMAC 19.15.11) for three compressor stations that compress sour gas.

Agave considers these plans to be in final draft form and will implement the plan upon final approval from the OCD.

If you have any questions about these plans, please do not hesitate to email me at jknowlton@yatespetroleum.com.

Sincerely,

Jennifer Knowlton
Environmental Manager

H_2S Contingency Plan

Lisa Compressor Station

Agave Energy Company

105 South 4th Street
Artesia, NM 88210
(575-748-4555)

March 1, 2011

NOT APPROVED BY OCD

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Lisa Compressor Station

Level 1 Response

Station Interior H_2S Monitor Detected Greater than 10 ppm H_2S Intermittent audible alarm and flashing red light

Personal H_2S Monitor Detected Greater than 10 ppm H_2S Intermittent audible alarm and flashing red light

- Evacuate to Emergency Assembly Area
- Evacuate visitors from station to designated Muster Area
- Notify Agave Management
- Assign operators to suit up in SCBA
- Check SCADA for location of H_2S alarm
- Notify all entities in the 500 ppm ROE when perimeter monitors reach 10 ppm H_2S
- Wearing SCBA - attempt to locate and repair leak
- Rotate Operators in 15 minute shifts
- If H_2S levels exceed 10 ppm H_2S in emergency muster area relocate to alternate muster area

CALL 911 for death or Injury for emergency assistance

If Station Interior H_2S Monitor Detected H_2S levels exceed 20 ppm H_2S proceed to Level II response

OPERATOR QUICK REFERENCE GUIDE

Lisa Compressor Station

Level 2 Response

Station Interior H_2S Monitor Detected Greater than 20 ppm H_2S Intermittent Audible Alarm and flashing Red light

Repair efforts are unsuccessful, worst case scenario and/or catastrophic release have occurred

- **Set up road blocks on NM Highway 137 near the muster areas**
- **Confirm all personnel have evacuated the 500 ppm ROE**
- **Instruct all personnel in the 100 ppm ROE to evacuate to Muster Area as determined by the IC**
- **If vapors have ignited, continue to let burn unless fires endanger personnel**
- **Initiate a chronological record of events**
- **Within one hour of activation of the plan notify NMOCD and the NRC**
- **Establish a Media staging area in Muster Area 2 or other location as the situation permits**
- **Submit agency reports as required**

CALL 911 for death or Injury for emergency assistance

Location of Facilities

Lisa Compressor Station Location

Section 31, Township 22 S, Range 23 E, Lea County, NM

Go South of Artesia, NM on Highway 285 to Highway 137 (Queens Highway). Turn west for 12.5 miles, turn right to caliche road and follow approximately 300' to location site.

Emergency Trailer – Atoka Facility Location (See Map)

From Artesia, drive south on Highway 285 to County Road 39. Turn east and drive Approximately 2 miles. The facility is on the south side of the road in NW/NE Sec 14 18S 26 E. See F. 6. (Page 9) for a detailed list of Emergency Trailer contents. The trailer can serve as a Mobile resource center or Incident Command Center.

I. Introduction
[API RP-55 7.1]

The Lisa Compressor Station is a natural gas compressor station which handles sour field gas that contains hydrogen sulfide (H_2S). This H_2S contingency Plan was created to outline procedures that are to be followed in the event of an H_2S Release that could occur at the station.
This plan complies with the ***New Mexico Oil Conservation Division (OCD) Rule 11***. The plan and operation of the Lisa Compressor Station also conform to standards set forth in ***API RP-55 "Recommended Practices for Oil and Gas Producing and Gas Processing Station Operations Involving Hydrogen Sulfide"*** as well as ***API RP-49 "Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide."*** The Lisa Compressor Station does have storage tanks in which sour condensate is stored, and thus, API regulations and OCD regulations (specifically19.15.11.12.E NMAC) relative to those types of storage are applicable for this station. While there are no known residences or businesses within the 100 ppm radius of exposure (ROE) other than the Lisa Compressor Station, Agave has committed to provide notice to nearby property owners outside of the ROE if necessary as detailed in Section C. 4.(Page 6) and Appendix E in the case of an unintended release.

II. Scope
[API RP-55 7.2]

This contingency plan is specific to the Lisa Compressor Station. This plan contains procedures to provide an organized response to an unplanned release from the station. It outlines procedures that would be followed to alert and protect any members of the public, residents in surrounding areas and/or contractors working on or around the Station in the event of an unplanned release. All operations shall be performed with safety as the primary goal. Any part of the operation that might compromise the safety of personnel will cease until the operation can be re-evaluated and the proper engineering controls implemented.

III. Plan Availability
[API RP-55 7.3]

This contingency plan shall be available to all personnel responsible for implementing any portion of the plan. Copies of the plan will be distributed to the following agencies: New Mexico Oil Conservation Division (OCD), New Mexico Department of Public Safety, Local Emergency Planning Committee (LEPC), Artesia Fire Department and Eddy County Sheriff's Department. The Plan will be available at the following Agave Energy Company locations: Artesia Field Office, Emergency Response Trailer at Atoka (Map 1) and the Agave Main Office in Artesia.

IV. Emergency Procedures

[NMAC 19.15.11.9.B(2)(a)] [API RP-55 7.4 a] [29 CFR 1910.1200]

A. Responsibilities and Duties of Personnel during an Emergency

1. Mechanical Supervisor or designee will serve as the Incident Commander (IC); is responsible for training operators assigned to the station, contractors and visitors on the implementation of this plan; and will maintain communication with Agave management and residents within the radius of exposure (ROE).
2. Mechanical Supervisor or designee will serve as the Incident Commander (IC) in the absence of the Mechanical Supervisor; is responsible for training and supervising station operators on the implementation of this plan, will maintain accountability of all contractors and visitors; and will maintain communication with the Area Foreman and Agave management.

3. Field personal will perform operations in accordance with this safety plan; assist in the accountability and evacuation of visitors and contractors to designated muster areas; and keep the Area Foreman and manager informed on the repair progress.
4. Essential Agave Personnel will be familiar with the procedures in this plan and assist station operators in assisting with the implementation of this plan in a safe manner.
5. Visitors and contractors on site will be familiar with safety alarms; and adhere to instructions of Area Foreman and other Agave personnel in evacuation of the facilities.

B. Immediate Action Plan

1. The following outlines the immediate action plan that is illustrated by the response Flow diagram in Appendix B. This is to be used when responding to an H_2S release. The Response level is the same for a release at any point or concentration. Additional or long term response actions will be determined on a case-by-case basis, if needed, once the Incident Command Center (ICC) and System (ICS) are established following the immediate response.

Level	Alarms	Actions
I	Intermittent audible alarm sounded and/or flashing red lights activated for H_2S at 10 ppm or greater.	**1.** The audible signal for a Station emergency and evacuation is an intermittent alarm and red lights (repeating off/on) activated when levels of H_2S of 10 ppm or greater are detected. In addition, a employees personal H2S monitor will be activated at 10 ppm or greater of H_2S. The audible alarm and flashing red lights are redundant systems which function independently of one another so that should one system fail, the other would remain active. These systems incorporate back-up battery capabilities as recommended in API RP 55 which insure their operation in the event of a power failure. A computer Agave Main Office and at the Agave Field office establishes which H_2S monitor has activated the alarm and/or flashing red beacon. All personnel at the Station shall immediately evacuate site to the closest Emergency Assembly Area (see Appendix D, Map D-1). If H_2S concentrations are 10 ppm or greater, then personnel will evacuate to a designated Muster Area determined by the Incident Commander (IC) (see Appendix D, Map D-1). The operators, upon suit up with the self-contained breathing apparatus (SCBA), will first help any persons in distress evacuate to the Emergency Assembly Area. If deemed necessary by the Area Foreman, local emergency response service providers will be contacted by Agave personnel designated by the Area Foreman or Supervisor. **2.** All entities within the 500 ppm radius of impact (ROE) will be notified (by telephone) of a release if the perimeter alarms are activated at 20 ppm H_2S or greater. Notification will be done by personnel designated by the Station Manager or his designee. The nature of the release and status of containment will be conveyed. Businesses will be advised to report the incident to employees working near the Station and to alert any third party contractors or service companies working in the Station vicinity or imminently scheduled to work in the vicinity of the release. All should be instructed to leave the area and not to enter/re-enter area until further notice. **It should be noted that at the time of submission of this plan there are no known occupants, businesses or residences within the 100 ppm ROE; however, Agave personnel will make a visual inspection of the ROE area to insure that no individuals are seen inside the ROE, and if any are observed, they will be advised to immediately evacuate to the designated Muster Area, described above.** **3.** Wearing the self-contained breathing apparatus (SCBA), the operator(s) will attempt to fix the cause of the release. The H_2S levels at the Emergency Assembly Area will be monitored with a hand held or personal monitor and with the fixed monitor. **4.** The Incident Commander (IC) will set up secondary re-entry team(s) with 30

		minute self-contained breathing apparatus (SCBA) to re-enter and resolve the situation. Re-entry will occur in 15 minute shifts at the direction of the Incident Commander (IC) until the problem is resolved or the emergency shut down (ESD) is activated. If H_2S levels in the Emergency Assembly Areas exceed 10 ppm H_2S, evacuate to alternate Emergency Assembly Area and continue to monitor Emergency Assembly Area with personal or handheld H_2S monitors. If evacuation to Muster Area occurs, road blocks will be established near the Muster Areas on NM State Highway 137. If release is resolved and monitored levels in the Station are less than 10 ppm H_2S, personnel may re-enter the Station. The Oil Conservation Division (OCD) shall be notified within four hours of any release that activates the Plan. If the release is not resolved and H_2S levels continue to increase, Level II Response is indicated.
Levels	Alarms	**Actions**
II	Intermittent audible alarm sounded and/or flashing red lights activated for H2S greater than 20 ppm	**1.** If H_2S is at 20 ppm or greater and repair efforts at Level One have been unsuccessful, worst case scenario, and/or catastrophic release have occurred, then this response will be implemented. **2.** Road blocks will be set up near the Muster Areas on both lanes of Queens Highway NM 137 (see Appendix C, Map C-2). **3.** All personnel shall have evacuated to a designated Muster Areas. Evacuation of all entities within the 500 ppm radius of impact (ROE) will have been confirmed. Implement full H_2S Plan with all notifications and public agency involvement. Notifications to all entities within the 100 ppm radius of impact (ROE) will include the nature of the release and status of containment. Notifications will include but are not limited to the following: **a)** All businesses within the 100 ppm radius of impact (ROE) will be instructed to immediately alert all company personnel, third party contractors and/or services companies working in the area, and those imminently scheduled to work in the area, of the release and evacuation status of the Station. They will be instructed to immediately leave and/or not enter/reenter the area within the roadblocks until further instruction. **b)** All other entities (including private residents) within the 100 ppm radius of impact (ROE) will be instructed to immediately shelter in place, if appropriate based on the source of the release and the wind direction. Those entities will be instructed to close any windows and shut off any air conditioning/heating until further notice. In addition, they will be instructed to contact other employees/residents not currently present to not enter/reenter the area until further instruction. **c)** The Incident Commander (IC) will make the decision based on, but not limited to, H_2S concentration and wind direction, whether a safe evacuation can be implemented, and recommend an evacuation route. It should be noted that at the time of submission of this plan there are no known occupants, businesses or residences within the 100 ppm ROE; however, Agave personnel will make a visual inspection of the ROE area to insure that no individuals are seen inside the ROE, and if any are observed, they will be advised to immediately evacuate to the designated Muster Area, described above. **4.** If escaping vapors have ignited, the vapors should be allowed to continue to burn unless the fire endangers personnel, other property, or other equipment.

		5. When applicable, maintain communication with the Station Manager, or his designee, to keep him up-to-date of the situation and the action taken prior to his arrival at the location. **6.** Initiate and maintain a Chronological Record of Events log. **7.** Within one hour after the activation of the H_2S Plan, begin agency notifications by calling Oil Conservation Division (OCD) and National Response Center (NRC). **8.** Establish media staging area adjacent to Muster Area 2 and direct all media to it. **9.** Once resolved and monitored levels in the Station and at Muster Area are less than 10 ppm, roadblocks will be removed, and all entities within the 100 ppm radius of impact (ROE) will be allowed to return. All entities previously notified will be informed that the release has been resolved and advised of the current monitored H_2S levels. **10.** Monitoring will continue after problems are abated, at the direction of the Station Manager 11. Agency reports to be submitted as required. Those entities will be instructed to close any windows and shut off any air conditioning/heating until further notice. In addition, they will be instructed to contact other employees/residents not currently present and instruct them not to enter/reenter the area until further instruction. b) If a perimeter monitor is activated, the LEPC and law enforcement will be contacted by phone and notified of the release and status of containment. The Incident Commander (IC) will assign personnel notification responsibility. It should be noted that at the time of submission of this plan there are no known occupants, businesses or residences within the 100 ppm ROE; however, Agave personnel will make a visual inspection of the ROE area to insure that no individuals are seen inside the ROE, and if any are observed, they will be advised to immediately evacuate to the designated Muster Area, described above. 3. Operator(s) with 30 minute self-contained breathing apparatus (SCBA) will assess the release and attempt to resolve it. If after 45 minutes on scene there is no resolution, the operator(s) will notify the to determine if the emergency shut-down (ESD) should be activated. 4. If monitored H2S levels at Muster Area exceed 10 ppm, evacuate to an alternate Muster Area. If deemed necessary, local emergency response service providers will be contacted by the Incident Commander (IC). a) Re-entry will occur in full self-contained breathing apparatus (SCBA) and in 15 minute shifts at the direction of the IC until IC determines problem has been resolved or emergency shut downs (ESDs) are activated. b) If release is resolved and monitored levels of H2S in the Station are less than 10 ppm, personnel may return to Station. The Oil Conservation Division (OCD) shall be notified within four hours of any release that activates the Plan. All entities previously notified will be informed that the release has been resolved and advised of the current monitored H2S levels at the Station. c) Monitoring will continue after problems are abated, at the direction of the Station Manager. 5. Initiate and maintain a Chronological Record of Events log.

1. If H_2S is at 20 ppm or greater, worst case scenario, and/or catastrophic release have occurred, then the following response will be implemented.
2. Road blocks will be set up near the Muster Area on the intersection of the lease road and Highway 137 (see Appendix C, Map C-2).
3. All personnel shall have evacuated to a designated Muster Areas. Evacuation of all entities within the 500 ppm radius of impact (ROE) will have been confirmed. Implement full H2S Plan does not require public comment. Notifications to all entities within the 100 ppm radius of impact (ROE) will include the nature of the release and status of containment. Notifications will include but are not limited to the following:
a) All businesses within the 100 ppm radius of impact (ROE) will be instructed to immediately alert all company personnel, third party contractors and/or services companies working in the area, and those imminently scheduled to work in the area, of the release and evacuation status of the Station. They will be instructed to immediately leave and/or not enter/reenter the area within the roadblocks until further instruction.
b) All other entities (including private residents) within the 100 ppm radius of impact (ROE) will be instructed to immediately shelter in place, if appropriate based on the source of the release and the wind direction. Those entities will be instructed to close any windows and shut off any air conditioning/heating until further notice. In addition, they will be instructed to contact other employees/residents not currently present to not enter/reenter the area until further instruction.
c) The Incident Commander (IC) will make the decision based on, but not limited to, H2S concentration and wind direction, whether a safe evacuation can be implemented, and recommend an evacuation route.

It should be noted that at the time of submission of this plan there are no known occupants, businesses or residences within the 100 ppm ROE; however, Agave personnel will make a visual inspection of the ROE area to insure that no individuals are seen inside the ROE, and if any are observed, they will be advised to immediately evacuate to the designated Muster Area, described above.
4. If escaping vapors have ignited, the vapors should be allowed to continue to burn unless the fire endangers personnel, other property, or other equipment.
5. When applicable, maintain communication with the Area Foreman, or his designee, to keep him up-to-date of the situation and the action taken prior to his arrival at the location.
6. Initiate and maintain a Chronological Record of Events log.
7. Within one hour after the activation of the H2S Plan, begin agency notifications by calling Oil Conservation Division (OCD) and National Response Center (NRC) if necessary.
8. Establish media staging area adjacent to Muster Area and direct all media to it if necessary.
9. Once resolved and monitored levels in the Station and at Muster Area are less than 10 ppm, roadblocks will be removed, and all entities within the 100 ppm radius of impact (ROE) will be allowed to return. All entities previously notified will be informed that the release has been resolved and advised of the current monitored H2S levels.
10. Monitoring will continue after problems are abated, at the direction of the Area Foreman
11. Agency reports to be submitted as required.

C. Telephone Numbers and Communication Methods

1. Emergency Services

AGENCY	TELEPHONE #
Artesia Fire Department	(575) 946-5050
Eddy County Sheriff	(575) 887-7551
State Police (HMER)	
District 3 Roswell	(575) 827-9312
Sub District 3 Carlsbad	(575) 885-3138
Sub District 3 Hobbs	(575) 827-9320
Ambulance Services	
Artesia	(575) 746-5050
Carlsbad	(575) 885-2111
Hospitals	
Artesia General	(575) 748-3333
Carlsbad Medical Center	(575) 887-4100
Veterinarians	
Artesia Animal Clinic	(575) 748-2042
Livingston Animal Clinic	(575) 746-6167
Helicopter Services	
Lifeguard (Albuquerque)	1-800-633-5438
Southwest Medivac (Hobbs)	1-800-242-6199
AeroCare (Lubbock)	1-800-627-2376
Air Med (El Paso)	(915) 772-1449

2. Government Agencies

AGENCY	TELEPHONE #
Oil Conservation Division (OCD)	(505) 476-3440 (575) 748-1283
US BLM	(575) 887-6544
Local Emergency Planning Committee (LEPC)	(575) 887-9511
National Response Center (NRC)	1-800-424-8802

3. Operators and Contractors

COMPANY	TELEPHONE #
CVE	(575) 746-3571
PVT	(575) 748-1241
DCP Midstream	(800) 435-1679
Chevron/West Texas Pipeline Company	(800) 762-3404
Transwestern Pipeline	(281) 714-2265
Yates Petroleum Corporation	(575) 748-1471

4. Public (None)

5. Agave Internal Call List

NAME	TITLE	Office #	Cell #
J.B. Smith	President	(575) 748-4414	(575) 365-8517
Rusty Nasta	Operations Manager	(575) 748-4523	(575) 626-7971
Ivan Villa	Engineering Supervisor	(575) 748-4528	(575) 365-4888
Jennifer Knowlton	Environmental Engineer	(575) 748-4528	(505) 238-3588
Robert Moorhead	South Mechanical Supervisor	(575) 748-6815	(575) 365-4840
Martin Chavarria	Station Mechanic	(575) 748-4555	(575) 365-5053
Ruben Molina	Safety Engineer	(575) 748-4447	(575) 513-9448

Bill Johnson	South Measurement Supervisor	(575) 748-6816	(575) 365-4615
Jason Fuentes	South Pipeline Supervisor	(575) 748-4518	(575) 365-8939

6. Agave Energy Company will use 2-way radios and telephones to communicate internally. Telephone will be used for external communication. Land lines and high speed internet access are available at the station office.

D. Location of Nearby Residences, Roads, and Medical Facilities

1. The following residences are located within the ROE of the:
a) Station -- None
2. The following roads are located within the ROE:
a)None
3. There are no medical facilities located within the ROE.
4. It should be noted that at the time of submission of this plan there are no known occupants, businesses or residences within the 100 ppm ROE; however, Agave personnel will make a visual inspection of the ROE area to insure that no individuals are seen inside the ROE, and if any are observed, they will be advised to immediately evacuate to the designated Muster Area, described above.

E. Evacuation Routes, Emergency Assembly Area, Muster Areas, and Road Block Locations

1. Evacuation Routes, Emergency Assembly Area, and Muster Areas are depicted on Appendix Map C and Map C-2.
2. Pre-planned road block location is designated near the muster area on the lease road just off Rock Daisy Road depicted on Map D-1 in Appendix D. The location will have pre-positioned, portable road barriers with lights. The location will have flashing lights and warning signs. If the release is sufficient to require evacuation to muster areas, then roadblocks near the muster areas on the lease road of the facility, respectively, will be established. The
Incident Commander (IC) will designate a representative to staff the roadblock. If deemed necessary by the Incident Commander (IC), the State or Local
Police will be asked to assist with maintaining the roadblocks.
3. Emergency lights on the Muster Area signs will be activated by any perimeter alarm of 10 ppm or greater H_2S or Level III activation.

F. Monitoring Equipment, Alarm Systems, Safety Equipment, and Supplies Available

4. GAS DETECTION EQUIPMENT: Each individual is assigned a personal H_2S monitor. The handheld gas detection devices are Industrial Scientific ITX 3-gas detectors. The personal monitors are set to alarm (beep) at 10 ppm with the beeps becoming closer together as the H_2S concentration increases to 20 ppm. The Station is equipped with four interior H2S monitors one at each compressor unit, one at the station's tank battery and one at the storage unit near the station entrance. There are two eight foot road closure signs located on State Highway 137 visible from both east and west bound lanes. The road closure signs meet all New Mexico State Department of Transportation requirements for warning signs and are equipped with yellow flashing beacons and audible sirens.

5. FIRE FIGHTING EQUIPMENT: Agave personnel are trained only for insipient stage fire fighting. Fire extinguishers are located in the compressor buildings and company vehicles and are typically a

20# ABC dry chemical fire extinguisher. See Appendix A, Maps A-3 and A-6 for locations. The Station does not have a fire water system.

6. EMERGENCY RESPONSE TRAILER AND EQUIPMENT: Agave Energy Company has an Emergency Response Trailer located at the Atoka Facility (Map 1)
This is located outside all radii of exposure (ROE) from the facility. Driving Directions: From Artesia, drive south on Highway 285 to County Road 39. Turn east and drive approximately 2 miles. The facility is on the south side of the road in the NW/NE Sec 14 18S 26 E. See Map D-2 in Appendix D. The trailer can serve as a mobile resource center or Incident Command Center.

7. EMERGENCY RESPONSE TRAILER CONTENTS
- 2 wind socks / wind direction indicators w/poles & spares
- 1 – 110 volt generator, portable w/wheels
- 4 5-gas sensor ambient monitors (O_2, SO_2, LEL, CO, H_2S) with automatic air pumps (15 sec per foot) and data logging capability
- 1 calibration unit for monitors
- 5 intrinsically safe communication radios & chargers, 32 channel with capability to be programmed to fire service and police channels
- 4 20# stored pressure, ABC class Fire Extinguishers
- 4 4500 Grade D breathing air cylinders, regulator, low pressure alarm, and hose reel w/ 300 ft hose (total) and correct quick disconnects.
- 1 stretcher
- 1 20-person First Aid Kit with burn gel packets
- 4 30-minute SCBA's
- 4 work unit SCBA's
- 2 lights, mounted on each rear of trailer for night operations
- 2 hand cleaner for decontamination of petroleum products.
- 3 traffic Control Kits
- 1 emergency flare gun for lighting uncontrollable hazardous gases
- 2 full body harness and 150' X 2 lifelines
- 2 "Hazardous Area" "Do Not Enter" signs / barricades
- 2 burn gel blankets
- 1 set of maps and Emergency Response Plans
- 4 temporary use Nomex Fire retardant clothing (2-LG & 2-XLG)

8. TRAFFIC CONTROL KIT CONTENTS
- 3 electronic road flares
- 1 28" stop sign paddle
- 4 reflective traffic control vests
- 2 emergency signal wands
- 1 emergency Response Guidebook

9. FIRST AID EQUIPMENT LOCATIONS:
- All Field Offices are equipped with first aid kits and fire extinguishers
- All company vehicles are equipped with a first aid kit and fire extinguisher

PERSONAL H_2S MONITORS:
- All Agave field and associated personnel are issued personal H_2S monitors.

SIGNS and MARKERS:

The Station has warning signs indicating the presence of "H_2S/Poisonous Gas" and high pressure gas at the entrance. Emergency response phone numbers are also posted.

V. Characteristics of Hydrogen Sulfide (H_2S), Sulfur Dioxide (SO_2) and Carbon Dioxide (CO_2) [NMAC 19.15.11.9.B(2)(b)] [API RP-55 7.4 b.]

A. **Hydrogen Sulfide (H_2S):** Hydrogen Sulfide (H_2S): The proposed inlet gas streams into the Station will contain a maximum of 9,530 ppm (or 0.95 mole percent) of hydrogen sulfide based on data generated from the sampling of the inlet gas at least daily. Hydrogen sulfide is a colorless, toxic and flammable gas, and has the odor of rotten eggs. Hydrogen sulfide gas is heavier than air. Hydrogen sulfide presents a significant health hazard by paralyzing the respiratory system resulting in serious injury or death.

Appearance and state:	Colorless gas
Odor: Rotten Egg Odor.	The sense of smell is paralyzed at approximately 100ppm.
Odor Threshold:	0.05 ppm
Flash Point:	Flammable Gas
Auto Ignition:	260°C
Lower Explosive Limit (%):	4.3%
Upper Explosive Limit (%):	45.0%
Boiling Point:	-60.4°C
Melting Point:	-85.5°C
Vapor Pressure:	1875 kPa @ 20 °C
Vapor Density (Air = 1):	1.19
Specific Gravity:	Not available
Solubility (H_2O):	Soluble in water
Percent Volatiles:	Not available
pH	Not available
Evaporation Rate:	Variable
Octanol/Water Coefficient:	Not available

POTENTIAL HEALTH EFFECTS

Acute effects: At high concentrations (500 - 1000 ppm), hydrogen sulfide acts as a systemic poison, causing unconsciousness and death. In lower concentrations (50 – 500 ppm), hydrogen sulfide acts as a respiratory irritant, and may cause fluid in the lungs or bronchial pneumonia. The rotten egg odor of hydrogen sulfide is not a reliable indicator for warning of exposure, since olfactory fatigue (loss of smell) readily occurs, especially at concentrations above 50 ppm. If rapidly escaping gas comes in contact with skin this product may result in frostbite and dermatitis.

Chronic effects: Chronic exposure to hydrogen sulfide of 50 ppm or greater may include bronchitis and inflammation of the mucous membrane of the respiratory system.

At 250 ppm hydrogen sulfide, chronic effects may include bronchial pneumonia and pulmonary edema.

Sensitization: Not available.

Mutagenicity: Not mutagenic.

Reproductive effects: Not known to cause reproductive effects.

Carcinogenicity: Ingredients are not identified as carcinogens by IARC, NTP or ACGIH.

Target organs: Eyes, respiratory system, central nervous system (CNS).

B. Radii of Exposure (ROE) [NMAC 19.15.11.7.K]
The basis for worst case scenario calculations is as follows:
The hydrogen sulfide content of the inlet natural gas stream into the Lisa Compressor Station is variable, ranging upwards to parts per million (ppm) or 0.062 mole percent. In reality, the actual H_2S concentration that the station processes will be much less than this.
The inlet gas H_2S concentration of 0.062 mole percent was determined using a mass-balance approach.
The Station has a maximum daily (24 hour) processing volume of 7.0 MMSCF.
The worst case scenario radius of exposure (ROE) also assumes an uncontrolled instantaneous release from the area around any point along the pipeline connecting the compressors or referenced volume and concentration. Because the Station is a compressor facility, it is impossible that the entire 24 hour-throughput volume of the station could be released instantaneously as is assumed in the worst case scenario calculations of the ROE. However, to comply with NMAC 19.15.11, that assumption is the worst case scenario in the formulas/calculations provided here. It should further be noted that the reason this rate, used as worst case, could not be released over a 24 hour period because both the inlet pipeline or the wells feeding the station could be
The formulas for calculating the two radius of exposure (ROE) are as follows:

100 ppm Radius of Exposure Calculation (as per 19 NMAC 15.11.7.K.1):
$X=[(1.589)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$
500 ppm Radius of Exposure Calculation (as per 19 NMAC 15.11.7.K.2):
$X=[(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$
Where:
X = radius of exposure in feet
"hydrogen sulfide concentration" = the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture
Q = Escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psi absolute and 60 degrees Fahrenheit)

Lisa Compressor Station

500 ppm ROE	**489 feet**
100 ppm ROE	**1070 feet**

The ROE for the facility are shown on Map C-1 of Appendix C. This ROE pattern is designed to include the 100 and 500 ppm radii for a potential worst case failure at any point in the system from the facility.

VI. Facility Description, Maps, and Drawings
[NMAC 19.15.11.9.B(2)(c)] [API RP-55 7.4 c.]

Lisa Compressor Station Description of Operations
The Primary function of this facility is to enable the transportation process of natural gas from one location to another. The facility is also involved in some primary treatment of natural gas via a scrubber located at the inlet feed.

VII. Training and Drills
[NMAC 19.15.11.9.B(2)(d)] [API RP-55 7.4 d]

A. Responsibilities and Duties of Essential Personnel
1. Personnel responsible for implementing this plan shall be trained on their duties and responsibilities related to this plan annually

B. On-site or Classroom Drills
Agave Energy Company may use table top exercises as well as hands on emergency response training methods. Agave Energy Company shall conduct a table top exercise annually at a minimum.

C. Notification and Training of Others on Protective Measures in Emergency Situations
While at the time of submission of this plan there are no residences or businesses within the 100 ppm ROE, nearby residents who live outside of the ROE will be invited to participate in and/or observe annual drills, where they will be briefed on notification, evacuation, and shelter in place options such as closing windows and shutting off any air conditioning/heating until they are notified that it is safe.

D. Training and Attendance Documentation
All training and drills will be documented. Documentation shall include sign in sheets, synopsis of the training conducted, and an after action review of the training.

E. Briefing of Public Officials on Evacuation and Shelter in Place Plans
Local law enforcement, first responders, and fire personnel will also be invited to participate and/or observe annual drills, as well as being briefed on notification, evacuation, and shelter in place plans.

VIII. Coordination with State Emergency Plans
[NMAC 19.15.11.9.B(2)(e)]

A. Oil Conservation Division (OCD)
1. Oil Conservation Division (OCD) will be notified with an automatic email to the District II office advising of the activation of the H_2S Contingency Plan if any of the alarms are activated at 10 ppm H_2S or greater. In the event of a power failure, a phone call will be made within four hours. All subsequent paperwork will be filed in a timely fashion.

B. New Mexico State Police/ New Mexico Hazardous Materials Emergency Response Plan
1. The New Mexico State Police are responsible for overall scene management and coordination of all resources. A designated Emergency Response Officer (ERO) will establish the National Interagency Incident Management System (NIIMS) Incident Command System (ICS) as the Incident Commander (IC) and be responsible for management of all response resources on scene. Off-scene coordination of response resources will be handled through designated Headquarters Emergency Response Officers. Law enforcement-related activities will be coordinated by State Police.

IX. Plan Activation
[NMAC 19.15.11.9.C] [API RP-55 7.4 d]

A. Activation Level
Release; fire; explosion; or failed repair, or a continuous release of maximum volume for 24 hours; or NMAC 19.15.11: mandatory activation of indication of 100 ppm in any defined public area; 500 ppm at any public road; or 100 ppm at a distance greater than 1070 feet from the site or the release, Because the 100 ppm radius of impact (ROE) boundary is 1070 feet from the site of release. All the incidents above would be followed by an immediate station shut-in/shut down. Lisa Compressor Station can be shut-in/ shut down from outside the 100ppm ROE by isolation of the corresponding pipeline.

B. Events that Could Lead to a Release of H_2S
-Inlet and Station piping failure
-Flange/gasket leaks on inlet and station piping
-Flange/gasket leaks on the gas compressor
-Failure gas pipeline
-Valve packing
-Seal failure on gas compressor
-Failure of flare to ignite

X. Submission of H_2S Contingency Plans
[NMAC 19.15.11.9.D]
A. Submission
1. Agave Energy Company will submit the H_2S Contingency Plan to the Oil Conservation Division (OCD).

B. Retention
1. Agave Energy Company shall maintain a copy of the contingency plan in the Main Office at 105 South 4th Street in Artesia, NM. The plan shall be readily accessible for review by the Oil Conservation Division (OCD) upon request.

C. Inventory
1. Agave Energy Company will file an annual inventory of wells, facilities and operations for which plans are on file with the Oil Conservation Division (OCD), to the Local Emergency Planning Committee (LEPC) and the State Emergency Response Commission as per NMAC 19.15.11.
2. The inventory shall include the name, address, telephone number, and point of contact for all operations in which plans are on file.

MAPS AND FIGURES

MAP 1: Lisa Compressor station and emergency trailer Locations

MAP 2: General Diagram of Lisa Compressor Station

FIGURE 1: Photos of Station

MAP 1

MAP 2

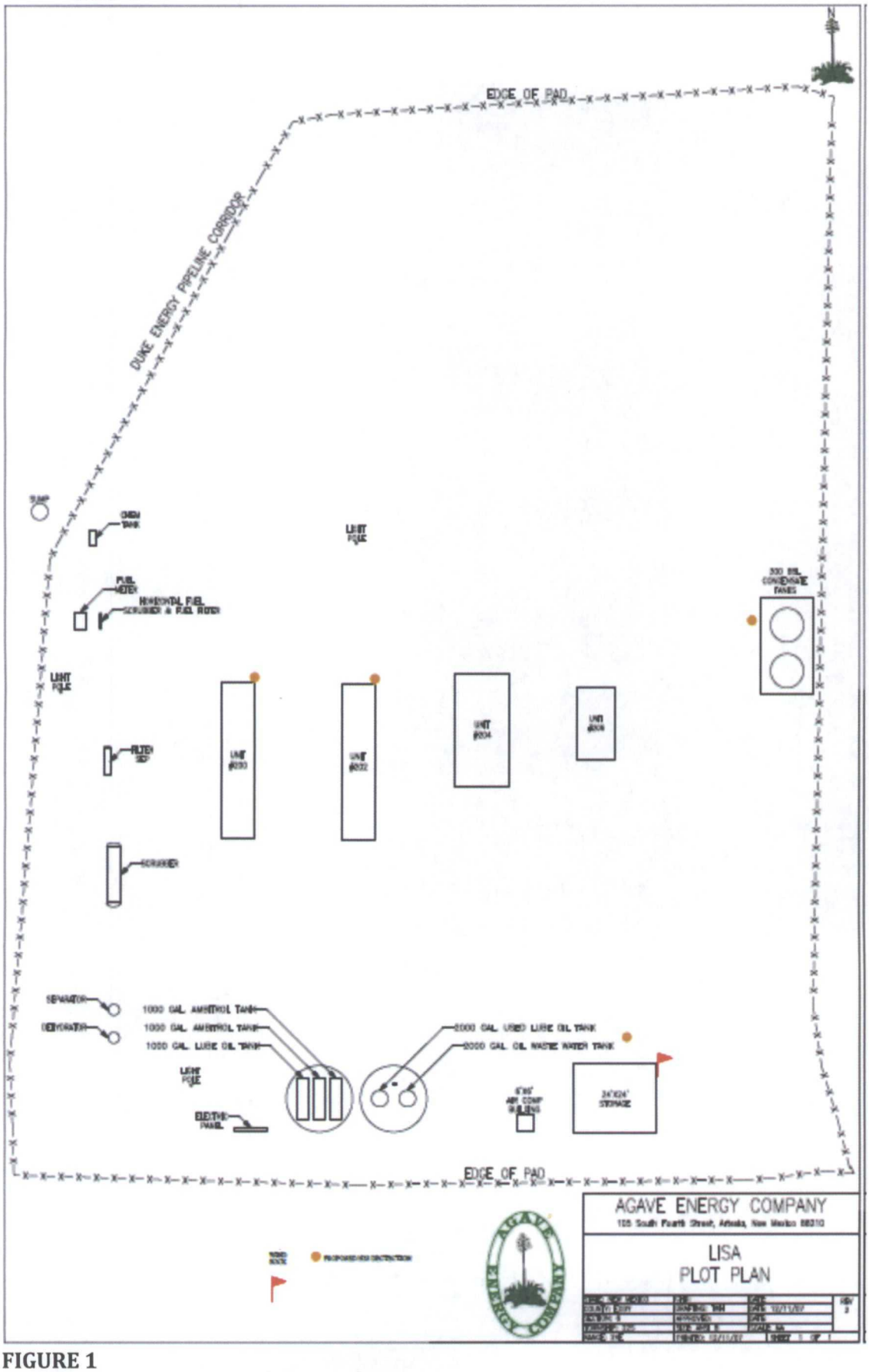


FIGURE 1

West end of the Station

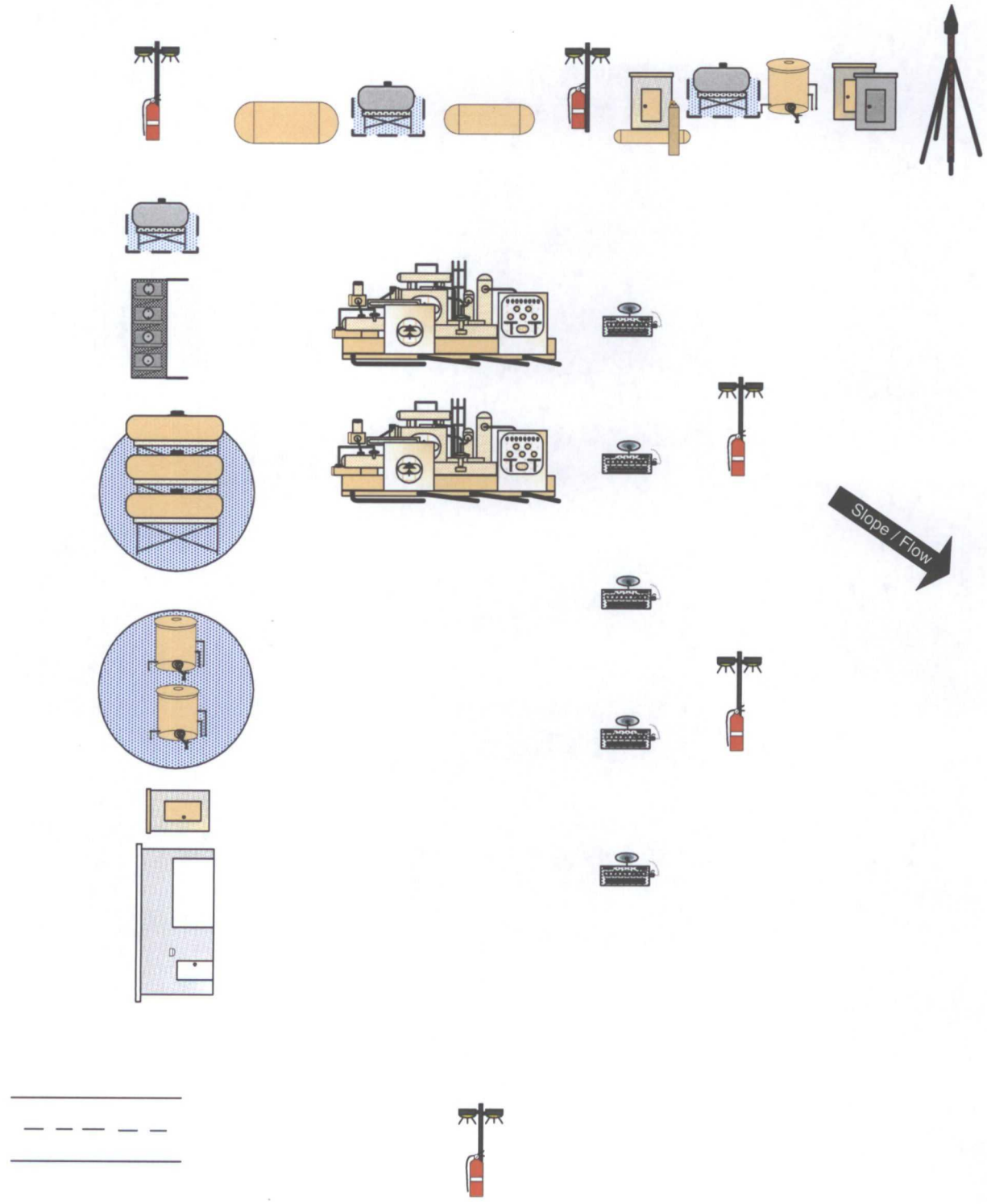
Tank Battery West end of the Station

APENDIX A- Facility Maps

MAP A-1: Facility Map and Fire Equipment

MAP A-2: Evacuation Route

MAP A-3: Alarms and Monitors


Slope / Flow

MAP A-2


137
Queens Hwy
500 ppm ROE
32.42646 -104.54405 Lisa Compressor Station
Source: USGS
Source: NASA, NGA, USGS
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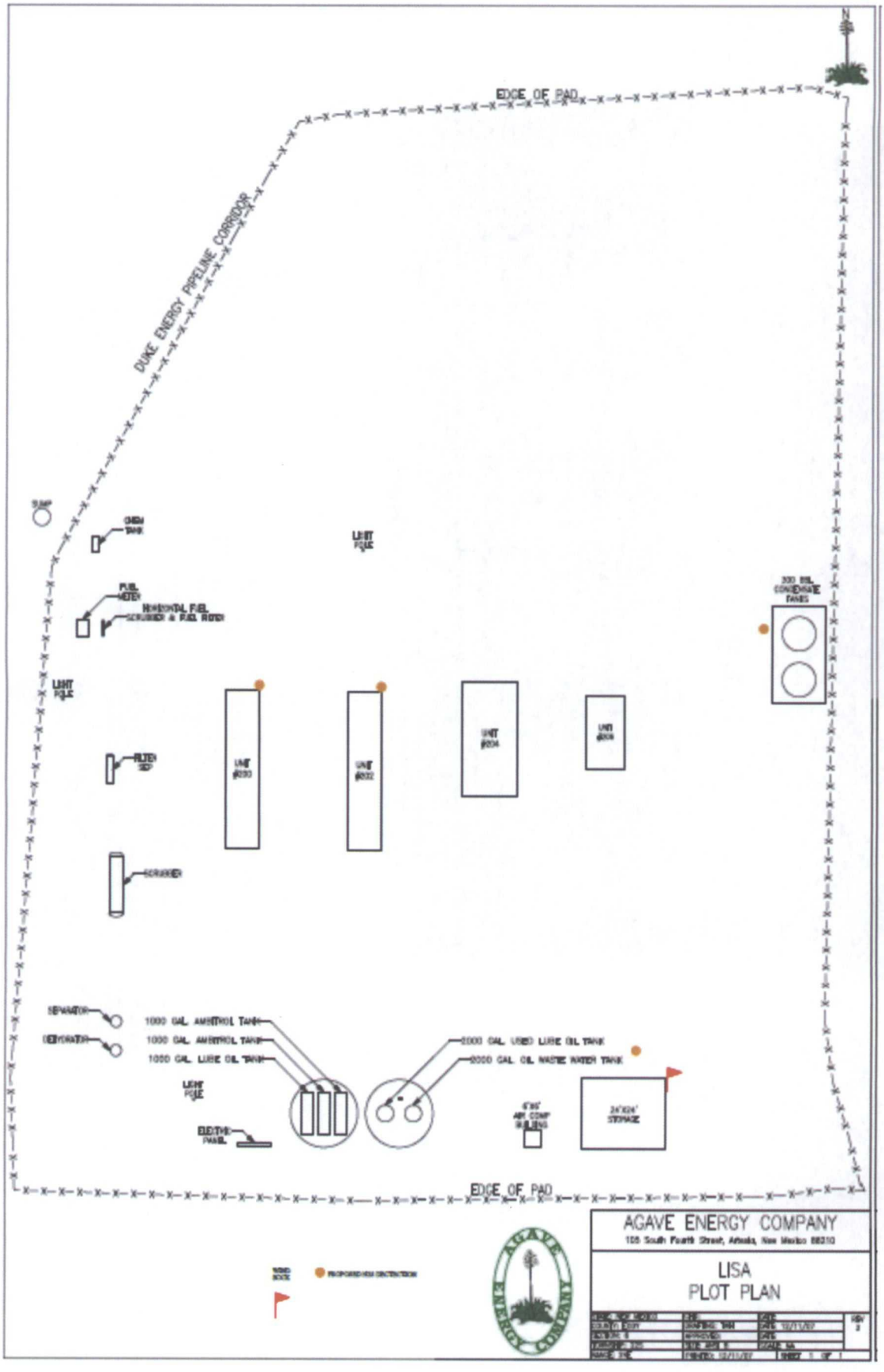
MAP A-3

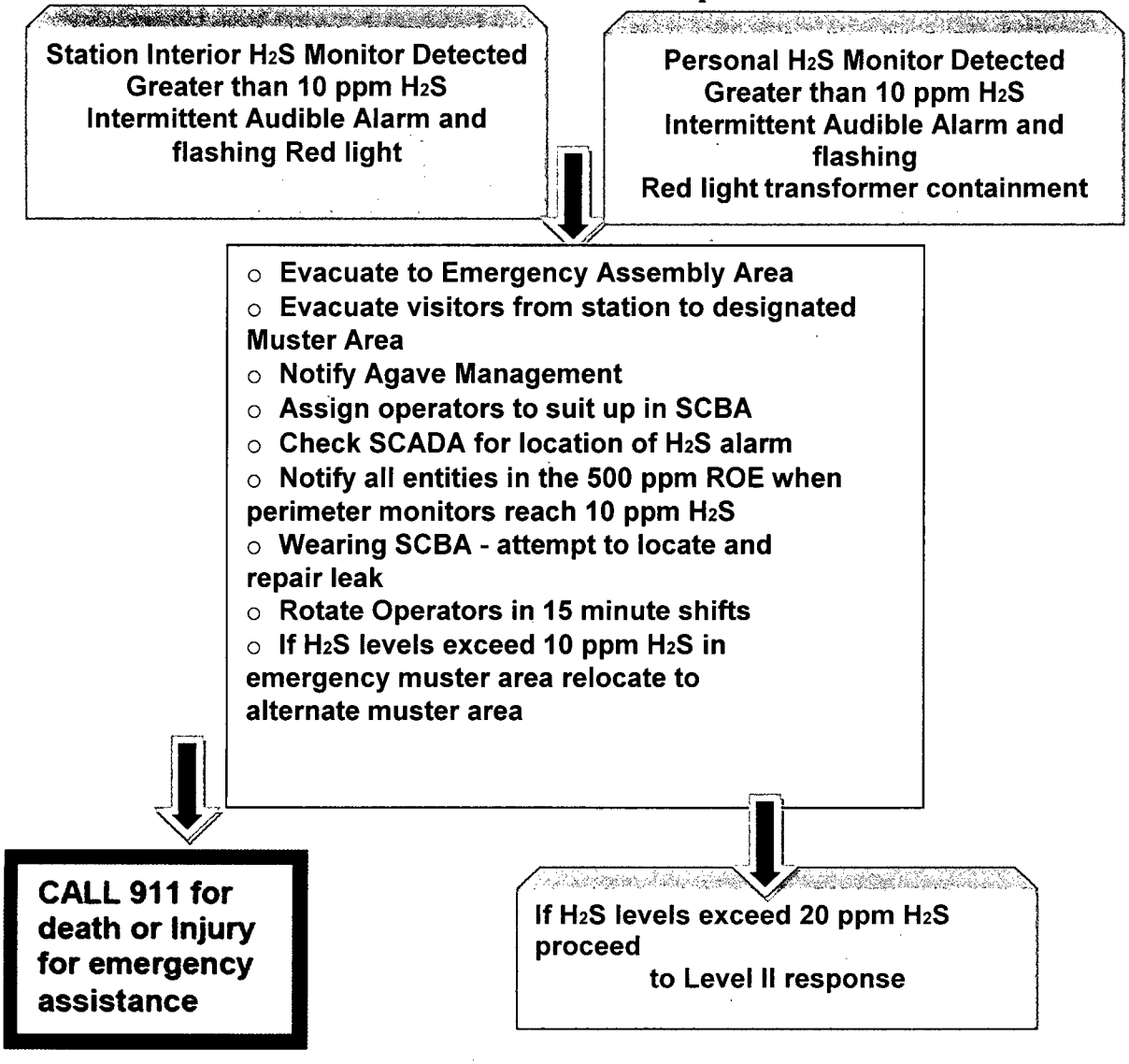

N
EDGE OF PAD
DUKE ENERGY PIPELINE CORRIDOR
SUMP
OWEN TANK
LIGHT POLE
FUEL METER
HORIZONTAL FUEL SCRUBBER & FUEL METER
LIGHT POLE
300 BBL CONDENSATE TANKS
FILTER SEP
UNIT #0030
UNIT #0032
UNIT #0034
UNIT #0036
SCRUBBER
SEPARATOR
DEHYDRATOR
1000 GAL AMINETHOL TANK
1000 GAL AMINETHOL TANK
1000 GAL LUBE OIL TANK
2000 GAL USED LUBE OIL TANK
2000 GAL OIL WASTE WATER TANK
LIGHT POLE
ELECTRIC PANEL
6'X5' AIR COMP BUILDING
24'X24' STORAGE
EDGE OF PAD
AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia, New Mexico 88210
LISA
PLOT PLAN

Appendix B – Response Flow Diagrams

OPERATOR QUICK REFERENCE GUIDE

Lisa Compressor Station

Level 1 Response



OPERATOR QUICK REFERENCE GUIDE

Lisa Compressor Station
Level 2 Response

Station Interior H_2S Monitor Detected Greater than 20 ppm H_2S Intermittent Audible Alarm and flashing Red light

Repair efforts are unsuccessful, worst case scenario and/or catastrophic release have occurred

- **Set up road blocks on NM Highway 137 near the muster areas**
- **Confirm all personnel have evacuated the 500 ppm ROE**
- **Instruct all personnel in the 100 ppm ROE to evacuate to Muster Area as determined by the IC**
- **If vapors have ignited, continue to let burn unless fires endanger personnel**
- **Initiate a chronological record of events**
- **Within one hour of activation of the plan notify NMOCD and the NRC**
- **Establish a Media staging area in Muster Area 2 or other location as the situation permits**
- **Submit agency reports as required**

CALL 911 for death or Injury for emergency assistance

Appendix C - Radius of Exposure Calculations

ROE Calculations

MAP C-1 Radius of Exposure

MAP C-2 Muster Area

Proposed Road Closure Signs

APPENDIX C-RADIUS OF EXPOSURE CALCULATIONS
The basis for worst case scenario calculations is as follows:

ROE Lisa Station
The escape rate (Q) is the maximum daily rate of the gaseous mixture produced or handled or the best estimate thereof. For releases inside the Lisa Compressor Station, the Company is using for contingency planning purposes an "escape rate" equal to the maximum inlet gas volume of 7000 MCFD. The (actual) inlet gas volume at the Station will be somewhat variable and is metered. The assumed 7000 MCFD inlet gas volume has been selected as the "escape rate" because it is the highest anticipated inlet volume that the Station would handle under its proposed operations and is considered worst case interpretation of the volume of gas.
It should be noted that the plan will remain effective as long as the processed volume and H_2S content equate to the same or smaller ROE.
Previous monitoring data indicated variable inlet concentrations of hydrogen sulfide, but concentration will not exceed 6,240 ppm or 0.062 mole percent. Therefore, 6,240 ppm or 0.062 mole percent has been used in the worst case scenario operations for contingency planning purposes.
Using:
Q = 7,000,000
H_2S conc = 6240 ppm or .062 mole%
500-ppm RADIUS OF EXPOSURE CALCULATION
$X = [(0.4546)*(H_2S \text{ concentration})*(\text{gas volume } (Q))]^{0.6258}$

$X = [(0.4546)*(9{,}240*.000001)*(2{,}000{,}000)]^{0.6258}$

X = 489 feet = 500-ppm ROE
100-ppm RADIUS OF EXPOSURE CALCULATION
$X = [(1.589)*(H_2S \text{ concentration})*(\text{gas volume})]^{0.6258}$

$X = [(1.589)*(9{,}240*.000001)*(2{,}000{,}000)]^{0.6258}$

X = 1070 feet = 100-ppm ROE

MAP C-1


100 ppm ROE
500 ppm ROE
137
Queens Hwy
Lisa Compressor Station
32.42646 -104.54405
Source: USGS
Source: NASA, NGA, USGS
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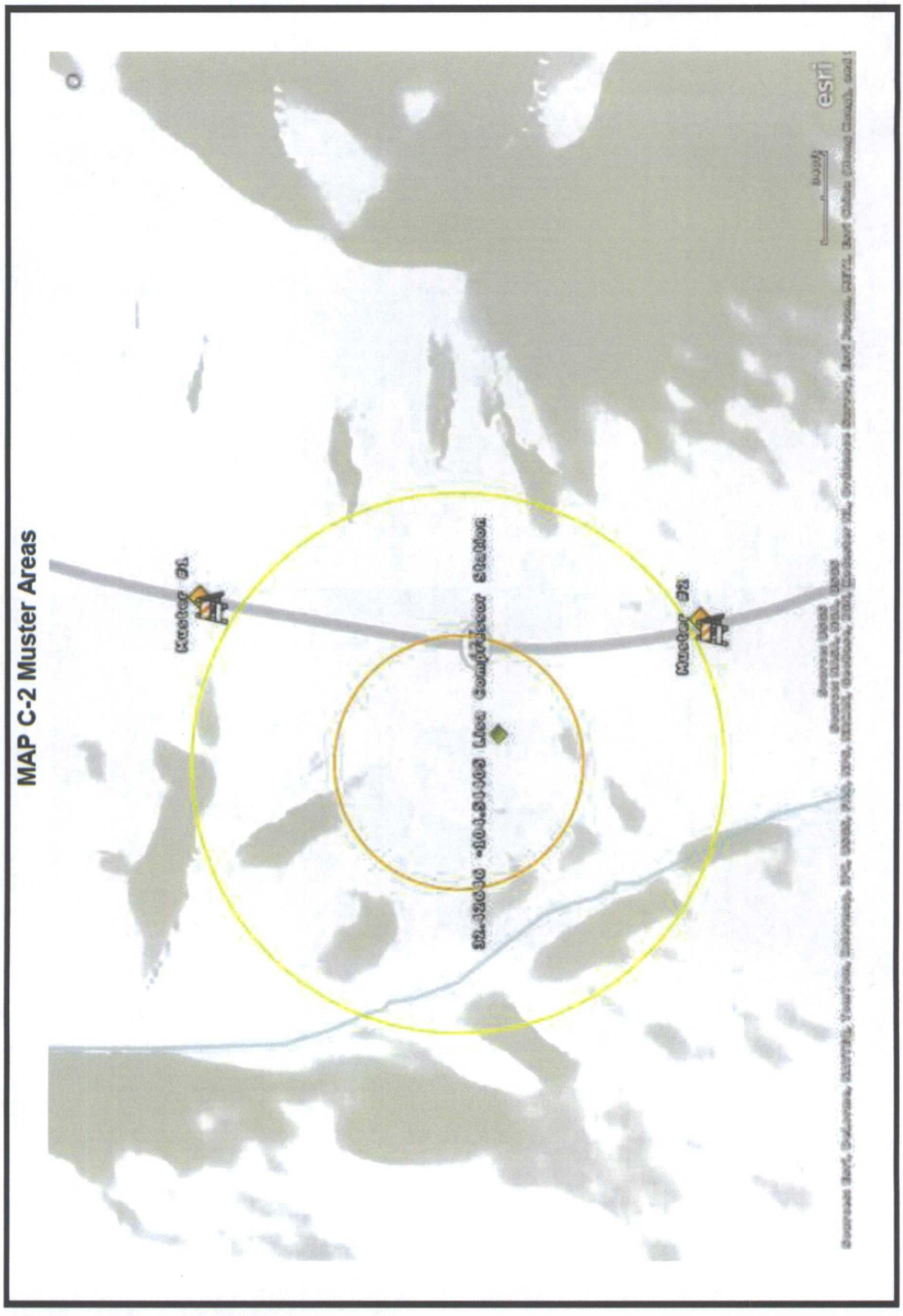
MAP C-2



Proposed Road Closure Signs