STATE OF NEW MEXICO
DEAPRTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION OF DUKE ENERGY FIELD SERVICES, LP FOR APPROVAL OF AN ACID GAS INJECTION WELL LEA COUNTY, NEW MEXICO **CASE NO. 13589**

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REVISED PRE-HEARING STATEMENT

COMES NOW the Oil Conservation Division (hereinafter, "OCD"), by and through its attorneys of record, and submits its Revised Pre-Hearing Statement as required by OCD Rule 19.15.14.1211.

APPEARANCES

Attorney

Cheryl O'Connor
Assistant General Counsel
Oil Conservation Division
Energy, Minerals and Natural
Resources Department
1220 S. St. Francis Drive, Rm 346
Santa Fe, New Mexico 87505
(505) 476-3480

Party-Intervener

Oil Conservation Division,
Energy, Minerals and Natural
Resources Department

Applicant's Attorney

William F. Carr, Esq.
Holland & Hart, LLP
P.O. Box 2208
Santa Fe, New Mexico 87504
(505) 988-4421

Applicant

Duke Energy Field Services, LP

Opponent's Attorney

J. Scott Hall, Esq.

Opponents

Randall Smith, Dean "Beach" Snyder,

Miller Stratvert, P.A.
P.O. Box 1986
Santa Fe, New Mexico 87504-1986

and A.C. Ranch Partnership

STATEMENT OF CASE

Statement of the case: The applicant seeks a permit for an acid gas injection well to be located approximately 4.5 miles west of Hobbs, New Mexico.

PROPOSED EVIDENCE

1. Witnesses and Exhibits:

   a. William Jones: Mr. Jones holds a double B.S. degree in geological and civil engineering. He has been an OCD hearing examiner since 2002. Prior to 2002, he worked for twenty-two years as a petroleum engineer. The OCD may have Mr. Jones testify as an expert petroleum engineer, addressing OCD concerns and conditions in permitting an acid gas injection well. He will specifically address concerns laid out in his September 16, 2005 letter to Duke Energy Field Services, LP and Duke Energy's response to those concerns. Mr. Jones will use one exhibit.

   b. Wayne Price: Mr. Price received a B.S. in electrical engineering. For the past twenty-five years, he has worked in the environmental field, the last thirteen with the OCD, first in the field and then, for the last eight years, as an environmental engineer, having recently been named as OCD Environmental Bureau Chief. Mr. Price is an expert in the area of ground water remediation an the abatement process, environmental issues relating to oil refineries, gas plants, class 1 and 3 wells, and overall environmental compliance, and has testified as an expert on these issues at administrative hearings and in state and federal court. In this case, Mr. Price will testify as to OCD Rule 118 requirements, including a H2S contingency plan, and a permit. Mr. Price's exhibits will include (1) the March 9, 2004 approval of Duke Energy's Discharge Permit GW-015, with attachments; (2) Rule 19.15.3.118 NMAC; and (3) exhibits submitted by the Applicant and Opponent in this matter.

2. Time Required: The OCD estimates that its case will take 30 minutes.

3. There are no procedural matters to be resolved prior to hearing.

4. Statement of support / opposition: The OCD does not oppose the application. The OCD may call William Jones or David Catanach and Wayne Price to testify regarding permits issued by the OCD for acid gas injection wells, safety issues, and to make recommendations regarding conditions to be attached to any permit issued in this case. The OCD will ask the OCC to take administrative notice of: (a) administrative orders permitting acid gas injection wells,

including SWD-936; SWD-838, as amended; and SWD-416, as amended; Water Quality Control Commission Regulations; and OCD Rules.

Respectfully submitted,

Cheryl O'Connor
Assistant General Counsel
Oil Conservation Division
Energy, Minerals and Natural
Resources Department
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3480

Certificate of Service

I hereby certify that a true and correct copy of the foregoing was served by e-mail and facsimile to William F. Carr, Holland & Hart, LLP, attorney for Duke Energy Field Services, LP, at wcarr@hollandhart.com and to J. Scott Hall, Esq., Miller Stratvert P.A., attorney for Randall Smith and Dean "Beach" Snyder, at shall@mstlaw.com this 9th day of March 2006.

March 9, 2004

Ms. Karin Char Kimura
Duke Energy Field Services
370 17th Street, Suite 2500
Denver, Colorado 80202-9732

RE: Discharge Permit Renewal GW-015
Duke Energy Field Services
Linam Ranch Gas Plant
Lea County, New Mexico

Dear Ms. Kimura:

The ground water Discharge Permit GW-015 renewal for the Duke Energy Field Services Linam Ranch Gas Plant located in the NE/4 of Section 6, Township 19 South, Range 37 East, NMPM, Lea County, New Mexico, **is hereby approved** under the conditions contained in the enclosed attachment. The discharge plan consists of the original application dated March 16, 1982 approved April 25, 1984, the renewal application dated November 17, 2003 and the attached stipulations of approval. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 days of receipt of this letter.**

The Discharge Permit application was submitted pursuant to 20 NMAC 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to 20 NMAC 3109.A. Please note 20 NMAC 3109.E and 20 NMAC 3109.F, which provide for possible future amendments or modifications of the permit. Please be advised that approval of this permit does not relieve Duke Energy Field Services of liability should operations result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that 20 NMAC 3104 of the regulations provides: "When a permit has been approved, discharges must be consistent with the terms and conditions of the permit." Pursuant to 20 NMAC 3107.C., Duke Energy Field Services is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to 20 NMAC 3109.G.4., this permit is for a period of five years. This approval will expire on **April 25, 2009**, and Duke Energy Field Services should submit an application in ample time before this date. Note that under 20 NMAC 3106.F. of the regulations, if a discharger submits a Discharge Permit application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge permit facilities will be required to submit the results of an underground drainage testing program as a requirement for Discharge Permit.

The Discharge Permit application for the Duke Energy Field Services Linam Ranch Gas Plant is subject to WQCC Regulation 3114. Every billable facility submitting a discharge permit application will be assessed a fee equal to the filing fee of $100 plus a flat fee of $4,000.00 for gas processing plants. The OCD has received the filing fee.

Please make all checks payable to: Water Management Quality Management Fund
C/o: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505.

If you have any questions please contact Mr. W. Jack Ford at (505) 476-3489. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Roger C. Anderson
Chief, Environmental Bureau
Oil Conservation Division

RCA/wjf
Attachment

xc: OCD Hobbs Office

ATTACHMENT TO THE DISCHARGE PERMIT GW-015
DUKE ENERGY FIELD SERVICES
LINAM RANCH GAS PLANT
DISCHARGE PERMIT APPROVAL CONDITIONS
(March 9, 2004)

1. Payment of Discharge Permit Fees: The $100.00 filing fee has been received by the OCD. The $4,000.00 required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the permit, with the first payment due upon receipt of this approval.

2. Duke Energy Field Services Commitments: Duke Energy Field Services will abide by all commitments submitted in the Discharge Permit renewal application dated November 17, 2003.

3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste characterization per 40 CFR Part 261.

4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to Discharge Permit. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

11. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans that are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

12. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Hobbs District Office.

14. Transfer of Discharge Permit: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge permit. A written commitment to comply with the terms and conditions of the previously approved discharge permit must be submitted by the purchaser and approved by the OCD prior to transfer.

15. Storm Water Plan: Duke Energy Field Services shall maintain storm water runoff controls. As a result of Duke Energy Field Services' operations any water contaminant that exceeds the WQCC standards listed in 20 NMAC 6.2.3101 is discharged in any storm water runoff then Duke Energy Field Services shall notify the OCD within 24 hours, modify the plan within 15 days and submit for OCD approval. Duke Energy Field Services shall also take immediate corrective actions pursuant to Item 12 of these conditions.

16. Closure: The OCD will be notified when operations of the Linam Ranch Gas Plant are discontinued for a period in excess of six months. Prior to closure of the Linam Ranch Gas Plant a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

17. Certification: Duke Energy Field Services, by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Duke Energy Field Services further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

DUKE ENERGY FIELD SERVICES

by_____
Title

storing, disposing, injecting, transporting, servicing or processing of crude oil, natural gases, produced water, condensate or oil field waste including Regulated NORM, or other oil field related chemicals, contaminants or mixture thereof, in the State of New Mexico in accordance with the requirements of Section 116 of 19.15.3 NMAC.

(2) The division shall be notified in accordance with Section 116 of 19.15.3 NMAC with respect to any release from any facility of oil or other water contaminant, in such quantity as may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC.

B. Reporting Requirements. Notification of the above releases shall be made by the person operating or controlling either the release or the location of the release in accordance with the following requirements:

(1) A Major Release shall be reported by giving both immediate verbal notice and timely written notice pursuant to Subsection C, Paragraphs (1) and (2) of 19.15.3.116 NMAC. A Major Release is:

(a) an unauthorized release of a volume, excluding natural gases, in excess of 25 barrels;

(b) an unauthorized release of any volume which:

(i) results in a fire;

(ii) will reach a water course;

(iii) may with reasonable probability endanger public health; or

(iv) results in substantial damage to property or the environment;

(c) an unauthorized release of natural gases in excess of 500 mcf; or

(d) a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC.

(2) A Minor Release shall be reported by giving timely written notice pursuant to Subsection C, Paragraph (2) of 19.15.3.116 NMAC. A Minor Release is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels; or greater than 50 mcf but less than 500 mcf of natural gases.

C. Contents Of Notification

(1) Immediate verbal notification required pursuant to Subsection B of 19.15.3.116 NMAC shall be reported within twenty-four (24) hours of discovery to the division district office for the area within which the release takes place. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief. This notification shall provide the information required on division Form C-141.

(2) Timely written notification is required to be reported pursuant to Subsection B of 19.15.3.116 NMAC within fifteen (15) days to the division district office for the area within which the release takes place by completing and filing division Form C-141. In addition, timely written notification required pursuant to Subsection B, Paragraph (1), Subparagraph (d) of 19.15.3.116 NMAC shall also be reported to the division's Environmental Bureau Chief within fifteen (15) days after the release is discovered. The written notification shall verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification.

D. Corrective Action. The responsible person must complete division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with Section 19 of 19.15.1 NMAC.

[1-1-50...5-22-73...2-1-96; A, 3-15-97; 19.15.3.116 NMAC - Rn, 19 NMAC 15.C.116, 11-15-01]

19.15.3.117 WELL LOG, COMPLETION AND WORKOVER REPORTS: Within 20 days after the completion of a well drilled for oil or gas, or the recompletion of a well into a different common source of supply, a completion report shall be filed with the division on Form C-105. For the purpose of Section 117 of 19.15.3 NMAC, any hole drilled or cored below fresh water or which penetrates oil- or gas-bearing formations or which is drilled by an "owner" as defined herein shall be presumed to be a well drilled for oil or gas.

[1-1-50...2-1-96; 19.15.3.117 NMAC - Rn, 19 NMAC 15.C.117, 11-15-01]

19.15.3.118 HYDROGEN SULFIDE GAS (HYDROGEN SULFIDE):

A. Applicability. This section applies to any person, operator or facility subject to the jurisdiction of the division, including, but not limited to, any person, operator or facility engaged in drilling, stimulating, injecting into, completing, working over or producing any oil, natural gas or carbon dioxide well or any person, operator or facility engaged in gathering, transporting, storing, processing or refining of crude oil, natural gas or carbon dioxide (referred to herein as "person, operator or facility" or "well, facility or operation"). This section shall not act to

Exhibit B

exempt or otherwise excuse surface waste management facilities permitted by the division pursuant to 19.15.9.711 NMAC from more stringent conditions on the handling of hydrogen sulfide required of such facilities by 19.15.9.711 NMAC or more stringent conditions in permits issued thereunder, nor shall such facilities be exempt or otherwise excused from the requirements set forth in this section by virtue of permitting under 19.15.9.711 NMAC.

B. Definitions (specific to this section).

(1) ANSI. The acronym "ANSI" means the American national standards institute.

(2) API. The acronym "API" means the American petroleum institute.

(3) Area of Exposure. The phrase "area of exposure" means the area within a circle constructed with a point of escape at its center and the radius of exposure as its radius.

(4) ASTM. The acronym "ASTM" means the American society for testing and materials.

(5) Dispersion Technique. A "dispersion technique" is a mathematical representation of the physical and chemical transportation characteristics, dilution characteristics and transformation characteristics of hydrogen sulfide gas in the atmosphere.

(6) Escape Rate. The "escape rate" is the maximum volume (Q) that is used to designate the possible rate of escape of a gaseous mixture containing hydrogen sulfide, as set forth herein.

(a) For existing gas facilities or operations, the escape rate shall be calculated using the maximum daily rate of the gaseous mixture produced or handled or the best estimate thereof. For an existing gas well, the escape rate shall be calculated using the current daily absolute open flow rate against atmospheric pressure or the best estimate of that rate.

(b) For new gas operations or facilities, the escape rate shall be calculated as the maximum anticipated flow rate through the system. For a new gas well, the escape rate shall be calculated using the maximum open-flow rate of offset wells in the pool or reservoir, or the pool or reservoir average of maximum open-flow rates.

(c) For existing oil wells, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate or the best estimate thereof.

(d) For new oil wells, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate of offset wells in the pool or reservoir, or the pool or reservoir average of the producing gas/oil ratio multiplied by the maximum daily production rate.

(e) For facilities or operations not mentioned, the escape rate shall be calculated using the actual flow of the gaseous mixture through the system or the best estimate thereof.

(7) GPA. The acronym "GPA" means the gas processors association.

(8) LEPC. The acronym "LEPC" means the local emergency planning committee established pursuant to the emergency planning and community right-to-know act, 42 U.S.C. Section 11001.

(9) NACE. The acronym "NACE" refers to the national association of corrosion engineers.

(10) PPM. The acronym "ppm" means "parts per million" by volume.

(11) Potentially Hazardous Volume means the volume of hydrogen sulfide gas of such concentration that:

(a) the 100-ppm radius of exposure includes any public area;

(b) the 500-ppm radius of exposure includes any public road; or

(c) the 100-ppm radius of exposure exceeds 3,000 feet.

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

(13) Public Road. A "public road" is any federal, state, municipal or county road or highway.

(14) Radius of Exposure. The radius of exposure is that radius constructed with the point of escape as its starting point and its length calculated using the following Pasquill-Gifford derived equation, or by such other method as may be approved by the division:

(a) For determining the 100-ppm radius of exposure: $X= [(1.589)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$, where "X" is the radius of exposure in feet, the "hydrogen sulfide concentration" is the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture, and "Q" is the escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psia and 60 degrees F).

(b) For determining the 500-ppm radius of exposure: $X=[(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$, where "X" is the radius of exposure in feet, the "hydrogen sulfide concentration" is the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture, and "Q" is the escape

rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psia and 60 degrees F).

(c) For a well being drilled, completed, recompleted, worked over or serviced in an area where insufficient data exists to calculate a radius of exposure but where hydrogen sulfide could reasonably be expected to be present in concentrations in excess of 100 ppm in the gaseous mixture, a 100-ppm radius of exposure equal to 3,000 feet shall be assumed.

C. Regulatory Threshold.

(1) Determination of Hydrogen Sulfide Concentration.

(a) Each person, operator or facility shall determine the hydrogen sulfide concentration in the gaseous mixture within each of its wells, facilities or operations either by testing (using a sample from each well, facility or operation), testing a representative sample, or using process knowledge in lieu of testing. If a representative sample or process knowledge is used, the concentration derived from the representative sample or process knowledge must be reasonably representative of the hydrogen sulfide concentration within the well, facility or operation.

(b) The tests used to make the determination referred to in the previous subparagraph shall be conducted in accordance with applicable ASTM or GPA standards or by another method approved by the division.

(c) If a test was conducted prior to the effective date of this section that otherwise meets the requirements of the previous subparagraphs, new testing shall not be required.

(d) If any change or alteration may materially increase the concentration of hydrogen sulfide in a well, facility or operation, a new determination shall be required in accordance with this section.

(2) Concentrations Determined to be Below 100 ppm. If the concentration of hydrogen sulfide in a given well, facility or operation is less than 100 ppm, no further actions shall be required pursuant to this section.

(3) Concentrations Determined to be Above 100 ppm.

(a) If the concentration of hydrogen sulfide in a given well, facility or operation is determined to be 100 ppm or greater, then the person, operator or facility must calculate the radius of exposure and comply with applicable requirements of this section.

(b) If calculation of the radius of exposure reveals that a potentially hazardous volume is present, the results of the determination of the hydrogen sulfide concentration and the calculation of the radius of exposure shall be provided to the division. For a well, facility or operation existing on the effective date of this section, the determination, calculation and submission required herein shall be accomplished within 180 days of the effective date of this section; for any well, facility or operation that commences operations after the effective date of this section, the determination, calculation and submission required herein shall be accomplished before operations begin.

(4) Recalculation. The person, operator or facility shall calculate the radius of exposure if the hydrogen sulfide concentration in a well, facility or operation increases to 100 ppm or greater. The person, operator or facility shall also recalculate the radius of exposure if the actual volume fraction of hydrogen sulfide increases by a factor of twenty-five percent in a well, facility or operation that previously had a hydrogen sulfide concentration of 100 ppm or greater. If calculation or recalculation of the radius of exposure reveals that a potentially hazardous volume is present, the results shall be provided to the division within sixty (60) days.

D. Hydrogen Sulfide Contingency Plan.

(1) When Required. If a well, facility or operation involves a potentially hazardous volume of hydrogen sulfide, a hydrogen sulfide contingency plan that will be used to alert and protect the public must be developed in accordance with the following paragraphs.

(2) Plan Contents.

(a) API Guidelines. The hydrogen sulfide contingency plan shall be developed with due consideration of paragraph 7.6 of the guidelines published by the API in its publication entitled "Recommended Practices for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide," RP-55, most recent edition, or with due consideration to another standard approved by the division.

(b) Required Contents. The hydrogen sulfide contingency plan shall contain, but shall not be limited to, information on the following subjects, as appropriate to the well, facility or operation to which it applies:

(i) Emergency procedures. The hydrogen sulfide contingency plan shall contain information on emergency procedures to be followed in the event of a release and shall include, at a minimum, information concerning the responsibilities and duties of personnel during the emergency, an immediate action plan as described in the API document referenced in the previous subsubparagraph, and telephone numbers of emergency responders, public agencies, local government and other appropriate public authorities. The plan shall also include the locations of potentially affected public areas and public roads and shall describe proposed evacuation routes,

locations of any road blocks and procedures for notifying the public, either through direct telephone notification using telephone number lists or by means of mass notification and reaction plans. The plan shall include information on the availability and location of necessary safety equipment and supplies.

(ii) Characteristics of hydrogen sulfide and sulfur dioxide. The hydrogen sulfide contingency plan shall include a discussion of the characteristics of hydrogen sulfide and sulfur dioxide.

(iii) Maps and drawings. The hydrogen sulfide contingency plan shall include maps and drawings that depict the area of exposure and public areas and public roads within the area of exposure.

(iv) Training and Drills. The hydrogen sulfide contingency plan shall provide for training and drills, including training in the responsibilities and duties of essential personnel and periodic on-site or classroom drills or exercises that simulate a release, and shall describe how the training, drills and attendance will be documented. The hydrogen sulfide contingency plan shall also provide for training of residents as appropriate on the proper protective measures to be taken in the event of a release, and shall provide for briefing of public officials on issues such as evacuation or shelter-in-place plans.

(v) Coordination with State Emergency Plans. The hydrogen sulfide contingency plan shall describe how emergency response actions under the plan will be coordinated with the division and with the New Mexico state police consistent with the New Mexico hazardous materials emergency response plan (HMER).

(vi) Activation Levels. The hydrogen sulfide contingency plan shall include the activation level and a description of events that could lead to a release of hydrogen sulfide sufficient to create a concentration in excess of the activation level.

(3) Plan Activation. The hydrogen sulfide contingency plan shall be activated when a release creates a concentration of hydrogen sulfide greater than the activation level set forth in the hydrogen sulfide contingency plan. At a minimum, the plan must be activated whenever a release may create a concentration of hydrogen sulfide of more than 100 ppm in any public area, 500 ppm at any public road or 100 ppm 3,000 feet from the site of release.

(4) Submission.

(a) Where Submitted. The hydrogen sulfide contingency plan shall be submitted to the division.

(b) When Submitted. A hydrogen sulfide contingency plan for a well, facility or operation existing on the effective date of this section shall be submitted within one year of the effective date of this section. A hydrogen sulfide contingency plan for a new well, facility or operation shall be submitted before operations commence. The hydrogen sulfide contingency plan for a drilling, completion, workover or well servicing operation must be on file with the division before operations commence and may be submitted separately or along with the application for permit to drill (APD) or may be on file from a previous submission. A hydrogen sulfide contingency plan shall also be submitted within 180 days after the person, operator or facility becomes aware or should have become aware that a public area or public road is established that creates a potentially hazardous volume where none previously existed.

(c) Electronic Submission. Any filer who operates more than one hundred wells or who operates a crude oil pump station, compressor station, refinery or gas plant must submit each hydrogen sulfide contingency plan in electronic format. The hydrogen sulfide contingency plan may be submitted through 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.

(5) Failure to Submit Plan. Failure to submit a hydrogen sulfide contingency plan when required may result in denial of an application for permit to drill, cancellation of an allowable for the subject well or other enforcement action appropriate to the well, facility or operation.

(6) Review, Amendment. The person, operator or facility shall review the hydrogen sulfide contingency plan any time a subject addressed in the plan materially changes and make appropriate amendments. If the division determines that a hydrogen sulfide contingency plan is inadequate to protect public safety, the division may require the person, operator or facility to add provisions to the plan or amend the plan as necessary to protect public safety.

(7) Retention and Inspection. The hydrogen sulfide contingency plan shall be reasonably accessible in the event of a release, maintained on file at all times, and available for inspection by the division.

(8) Annual Inventory of Contingency Plans. On an annual basis, each person, operator or facility required to prepare one or more hydrogen sulfide contingency plans pursuant to this section shall file with the appropriate local emergency planning committee and the state emergency response commission an inventory of the wells, facilities and operations for which plans are on file with the division and the name, address and telephone number of a point of contact.

(9) Plans Required by Other Jurisdictions. A hydrogen sulfide contingency plan required by the Bureau of Land Management or other jurisdiction that meets the requirements of this subsection may be submitted to the division in satisfaction of this subsection.

E. Signage, Markers. For each well, facility or operation involving a concentration of hydrogen sulfide of 100 ppm or greater, signs and/or markers shall be installed and maintained. Each sign or marker shall conform with the current ANSI standard Z535.1-2002 ("Safety Color Code"), or some other standard approved by the division, shall be readily readable, and shall contain the words "poison gas" and other information sufficient to warn the public that a potential danger exists. Signs or markers shall be prominently posted at locations, including but not limited to entrance points and road crossings, sufficient to alert the public that a potential danger exists. Signs and/or markers that conform with this subsection shall be installed no later than one year from the effective date of this section.

F. Protection from Hydrogen Sulfide During Drilling, Completion, Workover, and Well Servicing Operations.

(1) API Standards. All drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall be conducted with due consideration to the guidelines published by the API entitled "Recommended Practice for Oil and Gas Well Servicing and Workover Operations Involving Hydrogen Sulfide," RP-68, and "Recommended Practices for Drilling and Well Servicing Operations Involving Wells Containing Hydrogen Sulfide," RP-49, most recent editions, or some other standard approved by the division.

(2) Detection and Monitoring Equipment. Drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall include hydrogen sulfide detection and monitoring equipment as follows:

(a) Each drilling and completion site shall have an accurate and precise hydrogen sulfide detection and monitoring system that will automatically activate visible and audible alarms when the ambient air concentration of hydrogen sulfide reaches a predetermined value set by the operator, not to exceed 20 ppm. There shall be a sensing point located at the shale shaker, rig floor and bell nipple for a drilling site and the cellar, rig floor and circulating tanks or shale shaker for a completion site.

(b) For workover and well servicing operations, one operational sensing point shall be located as close to the well bore as practical. Additional sensing points may be necessary for large or long-term operations.

(c) Hydrogen sulfide detection and monitoring equipment must be provided and must be made operational during drilling when drilling is within 500 feet of a zone anticipated to contain hydrogen sulfide and continuously thereafter through all subsequent drilling.

(3) Wind Indicators. All drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall include wind indicators. Equipment to indicate wind direction shall be present and visible at all times. At least two devices to indicate wind direction shall be installed at separate elevations and visible from all principal working areas at all times. When a sustained concentration of hydrogen sulfide is detected in excess of 20 ppm at any detection point, red flags shall be displayed.

(4) Flare System. For drilling and completion operations in an area where it is reasonably expected that a potentially hazardous volume of hydrogen sulfide will be encountered, the person, operator or facility shall install a flare system to safely gather and burn hydrogen-sulfide-bearing gas. Flare outlets shall be located at least 150 feet from the well bore. Flare lines shall be as straight as practical. The flare system shall be equipped with a suitable and safe means of ignition. Where noncombustible gas is to be flared, the system shall provide supplemental fuel to maintain ignition.

(5) Well Control Equipment. When the 100 ppm radius of exposure includes a public area, the following well control equipment shall be required:

(a) Drilling. A remote-controlled well control system shall be installed and operational at all times beginning when drilling is within 500 feet of the formation believed to contain hydrogen sulfide and continuously thereafter during drilling. The well control system must include, at a minimum, a pressure and hydrogen-sulfide-rated well control choke and kill system including manifold and blowout preventer that meets or exceeds the specifications API-16C and API-RP 53 or other specifications approved by the division. Mud-gas separators shall be used. These systems shall be tested and maintained pursuant to the specifications referenced, according to the requirements of this part, or otherwise as approved by the division.

(b) Completion, Workover and Well Servicing. A remote controlled pressure and hydrogen-sulfide-rated well control system that meets or exceeds API specifications or other specifications approved by the division shall be installed and shall be operational at all times during completion, workover and servicing of a well.

(6) Mud Program. All drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall use a hydrogen sulfide mud program capable of handling hydrogen sulfide conditions and well control, including de-gassing.

(7) Well Testing. Except with prior approval of the division, drill-stem testing of a zone that contains hydrogen sulfide in a concentration of 100 ppm or greater shall be conducted only during daylight hours and formation fluids shall not be permitted to flow to the surface.

(8) If Hydrogen Sulfide Encountered During Operations. If hydrogen sulfide was not anticipated at the time the division issued a permit to drill but is encountered during drilling in a concentration of 100 ppm or greater, the operator must satisfy the requirements of this section before continuing drilling operations. The operator shall notify the division of the event and the mitigating steps that have been or are being taken as soon as possible, but no later than 24 hours following discovery. The division may grant verbal approval to continue drilling operations pending preparation of any required hydrogen sulfide contingency plan.

G. Protection from Hydrogen Sulfide at Crude Oil Pump Stations, Producing Wells, Tank Batteries and Associated Production Facilities, Pipelines, Refineries, Gas Plants and Compressor Stations.

(1) API Standards. Operations at crude oil pump stations and producing wells, tank batteries and associated production facilities, refineries, gas plants and compressor stations involving a concentration of hydrogen sulfide of 100 ppm or greater shall be conducted with due consideration to the guidelines published by the API in its publication entitled "Recommended Practices for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide," RP-55, latest edition or some other standard approved by the division.

(2) Security. Well sites and other unattended, fixed surface facilities involving a concentration of hydrogen sulfide of 100 ppm or greater shall be protected from public access by fencing with locking gates when the location is within 1/4 mile of a public area. A surface pipeline shall not be considered a fixed surface facility for purposes of this paragraph.

(3) Wind Direction Indicators. All crude oil pump stations, producing wells, tank batteries and associated production facilities, pipelines, refineries, gas plants and compressor stations involving a concentration of hydrogen sulfide of 100 ppm or greater shall have equipment to indicate wind direction. The wind direction equipment shall be installed and visible from all principal working areas at all times.

(4) Control Equipment. When the 100 ppm radius of exposure includes a public area, the following additional measures are required:

(a) Safety devices, such as automatic shut-down devices, shall be installed and maintained in good operating condition to prevent the escape of hydrogen sulfide. Alternatively, safety procedures shall be established to achieve the same purpose.

(b) Any well shall possess a secondary means of immediate well control through the use of an appropriate christmas tree or downhole completion equipment. Such equipment shall allow downhole accessibility (reentry) under pressure for permanent well control.

(5) Tanks or vessels. Each stair or ladder leading to the top of any tank or vessel containing 300 ppm or more of hydrogen sulfide in the gaseous mixture shall be chained or marked to restrict entry.

(6) Compliance Schedule. Each existing crude oil pump station, producing well, tank battery and associated production facility, pipeline, refinery, gas plant and compressor station not currently meeting the requirements of this subsection shall be brought into compliance within one year of the effective date of this section.

H. Personnel Protection and Training. All persons responsible for the implementation of any hydrogen sulfide contingency plan shall be provided training in hydrogen sulfide hazards, detection, personal protection and contingency procedures.

I. Standards for Equipment That May Be Exposed to Hydrogen Sulfide. Whenever a well, facility or operation involves a potentially hazardous volume of hydrogen sulfide, equipment shall be selected with consideration for both the hydrogen sulfide working environment and anticipated stresses and NACE Standard MR0175 (latest edition) or some other standard approved by the division shall be used for selection of metallic equipment or, if applicable, adequate protection by chemical inhibition or other methods that control or limit the corrosive effects of hydrogen sulfide shall be used.

J. Exemptions. Any person, operator or facility may petition the director or the director's designee for an exemption to any requirement of this section. Any such petition shall provide specific information as to the circumstances that warrant approval of the exemption requested and how the public safety will be protected. The director or the director's designee, after considering all relevant factors, may approve an exemption if the circumstances warrant and so long as the public safety will be protected.

K. Notification of the Division. The person, operator or facility shall notify the division upon a

release of hydrogen sulfide requiring activation of the hydrogen sulfide contingency plan as soon as possible, but no more than four hours after plan activation, recognizing that a prompt response should supercede notification. The person, operator or facility shall submit a full report of the incident to the division on Form C-141 no later than fifteen (15) days following the release.
[5-22-73...1-1-87...2-1-96; A 3-15-97; 19.15.3.118 NMAC - Rn, 19 NMAC 15.C.118, 11-15-2001; A, 01-31-03]

History of 19.15.3 NMAC:
Pre-NMAC History:
Material in this part was derived from that previously filed with the commission of public records - state records center and archives as:
Rule 101, Plugging Bond, filed 06-04-86;
Rule 101, Plugging Bond, filed 01-06-88;
Rule 101, Plugging Bond, filed 02-05-91;
Rule 102, Notice of Intention to Drill, filed 01-08-82;
Rule 102, Notice of Intention to Drill, filed 11-25-85;
Rule 102, Notice of Intention to Drill, filed 02-05-91;
Rule 103, Sign on Wells, filed 01-08-82;
Rule 103, Sign on Wells, filed 02-05-91;
Rule 104, Well Spacing: Acreage Requirements for Drilling Tracts, filed 01-08-82;
Rule 104, Well Spacing: Acreage Requirements for Drilling Tracts, filed 02-05-91;
Rule 105, Pit for Clay, Shale, and Drill Cutting, filed 01-08-82;
Rule 105, Pit for Clay, Shale, and Drill Cutting, filed 08-17-89;
Rule 105, Pit for Clay, Shale, and Drill Cutting, filed 02-05-91;
Rule 106, Sealing Off Strata, filed 01-08-82;
Rule 106, Sealing Off Strata, filed 10-11-89;
Rule 106, Sealing Off Strata, filed 02-05-91;
Rule 107, Casing and Tubing Requirements, filed 01-08-82;
Rule 107, Casing and Tubing Requirements, filed 02-05-91;
Rule 108, Defective Casing or Cementing, filed 01-08-82;
Rule 108, Defective Casing or Cementing, filed 09-16-85;
Rule 108, Defective Casing or Cementing, filed 02-05-91;
Rule 109, Blowout Prevention, filed 01-27-82;
Rule 109, Blowout Prevention, filed 02-05-91;
Rule 110, Pulling Outside Strings of Casing, filed 01-27-82;
Rule 110, Pulling Outside Strings of Casing, filed 02-05-91;
Rule 111, Deviation Tests and Directional Drilling, filed 01-08-82;
Rule 111, Deviation Tests and Directional Drilling, filed 09-16-85;
Rule 111, Deviation Tests and Directional Drilling, filed 10-11-89;
Rule 111, Deviation Tests and Directional Drilling, filed 02-05-91;
Rule 111, Deviation Tests/Deviated Wells and Directional Drilling, filed 07-27-95;
Rule 112-A, Multiple Completions, filed 01-08-82;
Rule 112-A, Multiple Completions, filed 02-05-91;
Rule 112-B, Brandenhead Gas Wells, filed 01-08-82;
Rule 112-B, Brandenhead Gas Wells, filed 02-05-91;
Rule 113, Shooting and Chemical Treatment of Wells, filed 01-08-82;
Rule 113, Shooting and Chemical Treatment of Wells, filed 09-16-85.
Rule 113, Shooting and Chemical Treatment of Wells, filed 02-05-91.
Rule 114, Safety Regulations, filed 01-08-82;
Rule 114, Safety Regulations, filed 02-05-91.
Rule 115, Well and Lease Equipment, filed 01-08-82;
Rule 115, Well and Lease Equipment, filed 02-05-91.
Rule 116, Notification of Fire, Breaks, Leaks, Spills, and Blowouts, filed 01-08-82;
Rule 116, Notification of Fire, Breaks, Leaks, Spills, and Blowouts, filed 02-05-91;
Rule 117, Well Log, Completion and Workover Reports, filed 01-08-82;
Rule 117, Well Log, Completion and Workover Reports, filed 10-11-89;

Rule 117, Well Log, Completion and Workover Reports, filed 02-05-91;
Rule 118, Hydrogen Sulfide Gas - Public Safety, filed 12-30-86;
Rule 118, Hydrogen Sulfide Gas - Public Safety, filed 10-11-89;
Rule 118, Hydrogen Sulfide Gas - Public Safety, filed 02-05-91.

History of Repealed Material: [Reserved]

Other History:
Rule 101, filed 02-05-91; Rule 102, filed 02-05-91; Rule 103, filed 02-05-91; Rule 104, filed 02-05-91; Rule 105, filed 02-05-91; Rule 106, filed 02-05-91; Rule 107, filed 02-05-91; Rule 108, filed 02-05-91; Rule 109, filed 02-05-91; Rule 110, filed 02-05-91; Rule 111, filed 07-27-95; Rule 112-A, filed 02-05-91; Rule 112-B, filed 02-05-91; Rule 113, filed 02-05-91; Rule 114, filed 02-05-91; Rule 115, filed 02-05-91; Rule 116, filed 02-05-91; Rule 117, filed 02-05-91; Rule 118, filed 02-05-91; all renumbered, reformatted to and replaced by 19 NMAC 15.C, Drilling, filed 01-18-96.
19 NMAC 15.C, Drilling, filed 01-18-96; renumbered, reformatted and replaced by 19.15.3 NMAC, effective 11-15-01.

Division Engineering Bureau Recommendations to Consider while permitting the DEFS Linam AGI Well No. 1

While Drilling:

Have a mud logger crew on the well from above the Brushy Canyon.

Consider running a Drill Stem Test of the most likely Brushy Canyon injection interval (approximately 5,000 feet).

After the hole is drilled to Total Depth:

Run Resistivity Logs and Neutron/Density Porosity Logs.

Consider running a Dipole Sonic Log or a Formation MicroScanner Log (or equivalents) over the Bone Spring and Brushy Canyon areas of interest. The reason is to determine the dominant stress direction, the fracture orientations, and the magnitude of fracturing.

Design all cement programs to circulate cement – using DV tools as needed.

Bone Spring Completion:

Perforate the Bone Spring permitted injection interval. Install a work string with a pressure memory gauge on the bottom and swab test the interval. Catch water samples and analyze. Shut in the well for at least two days. Run an injection falloff test with water to determine reservoir parameters, injectivity, and to look for boundaries. Shut in the well at least three days and pull the gauges and analyze.

Run a Step Rate Test with water and bottom hole gauges prior to any acid gas injection. Submit the test data and results to the Division in Santa Fe. Administratively request a pressure increase if the need arises in the future using this data.

If the Bone Spring interval is considered adequate:

Run injection tubing with safety shutoff valves and diesel on the backside. On the surface install RTU and other equipment to continuously record tubing rates and tubing pressures and annulus pressure. (also gas detection sniffer in the annulus?). Begin acid gas injection.

Allowable Surface Injection Pressure:

Until Step Rate Test data is used to administratively grant a higher surface injection pressure, the operator should be limited to 0.2 psi per foot above the top perforation while injecting with water and 0.304 psi per foot while injecting with a fluid of SG = 0.8.

The formula to adjust the gradient should be:
Grad2 = grad1 + 0.433(SG1 – SG2).
Where: Grad1 = 0.2, SG1 = 1.04, and SG2 = 0.8 or other gradient as supplied by the plant operator.

Required Reports:

In addition to monthly submittals of pressure and volume already required. Submit an annual written report on the well's operation to the OCD in Hobbs. The report should include injection compositions, volumes, and pressures and comments on any work done to the well or the well's equipment and general comments on the well operation.

If the Bone Spring is not adequate during initial testing or at some time in the future:

Recommend the Commission have an ordering paragraph to enable the operator to administratively amend the permitted injection interval and amend the permitted injection pressure.

If the Brushy Canyon is needed as an injection interval, the operator should apply administratively to the Division to amend the permit. This new application should include a 1-mile Area of Review search, a swab test of the injection interval, and a step rate test with water prior to any acid gas injection.