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August 23, 2002

VIA HAND DELIVERY

Lori Wrotenbery, Director
Oil Conservation Division
New Mexico Energy, Minerals &
Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Case No. 12897: Application of the New Mexico Oil Conservation Division Through the Environmental Bureau Chief, for the Adoption of Amendments to Division Rule 118 (Hydrogen Sulfide Gas).

Dear Ms. Wrotenbery:

Controlled Recovery, Inc. ("CRI"), a party to the above matter, has recently become aware of recommendations submitted by the Division in response to comments received from two operators and the New Mexico Oil and Gas Association opposing the exclusion of surface waste management facilities from the Scope of the proposed H2S Rule. Even though CRI is a party to this case, it was never served with a copy of these latest Division recommendations and only learned about them after a review of the Division's website.

The relevant Division comments are highlighted and attached hereto. These comments represent the first time the Division has articulated any reason for excluding surface waste management facilities from the scope of the proposed Rule. While CRI appreciates the Division's study of the H2S issue and the development of a workable Rule for the industry, the Division's post-hearing decision to exclude surface waste management facilities from the Scope of this proposed Rule is procedurally defective, not supported by evidence, and without justification.

The Division contends that surface waste management facilities are regulated under Rule 711. However, with respect to H2S, Rule 711 simply

states that all applications for a new surface waste management facility (Form C-137) must be accompanied by a "Hydrogen Sulfide (H2S) Prevention and Contingency Plan to protect public health." That is the sum and substance of H2S regulation under Rule 711. The Division's suggestion that Rule 711 contains specific, uniform hydrogen sulfide requirements or "imposes fence line monitoring for the protection of public health" is simply not borne out by a review of Rule 711.

The Division states that it has "re-evaluated its original intent" expressed at the public hearing. The Division now suggests that the proposed H2S Rule is a "public safety rule based on short-term or acute consequences" and therefore surface waste management facilities should be excluded from its provisions because they present "long-term or chronic exposure consequences" that "cannot be pre-measured or calculated...". However, neither the Scope of the proposed H2S Rule nor its provisions suggest or support any such ad hoc re-evaluation. The Scope of the proposed Rule states:

> B. Scope. This Section provides for public safety in areas where hydrogen sulfide gas (H2S) *may exist in concentrations greater than 100 ppm or in a potentially hazardous volume.* This Section applies to *any person, operator or facility* subject to the jurisdiction of the Division including, but not limited to, any person...gathering, transporting, storing, processing or refining...

Thus the proposed H2S Rule was drafted to address public safety for <u>all</u> oil and gas operations, including long-term and chronic exposure consequences arising from operations associated with producing wells, storage facilities, processing facilities and refining facilities. Indeed, the express purpose of the proposed H2S Rule is to address all operations where concentrations of H2S <u>may exist</u> in excess of 100/ppm. The material presented by the Division at the public hearing further states that the proposed Rule was drafted "to ensure the rule adequately provides protection for the public" (Hearing Exhibit 2, slide 1) and was based on a model that assumed "a continuous source." *Id.* at slide 6. In sum, there is no justification for arbitrarily subjecting surface waste management facilities – which are located in remote areas of the state – to H2S requirements that are different from and more stringent than those extending to other oil and gas operations regulated by the Division.

As important, the Division presented no evidence at the public hearing to support the post-hearing change to the Scope of the proposed Rule, nor did the Division alert the public to its ad hoc "re-evaluation" of its purpose. Neither CRI nor members of the public have been afforded their due process right to understand, explore, and examine the basis for this disparate treatment. For example, what engineering data, models, or studies were used to develop the proposed H2S Rule and what is the basis for suggesting this material does not apply equally to surface waste management facilities? What data or study suggests that surface waste management facilities present H2S concerns that are different from well sites, refineries, processing plants or other continuous oil and gas operations regulated by the Division? What is the basis for adopting 100/ppm as a threshold for action by other persons, operations or facilities regulated by the Division, but adopting as little as 1/ppm for at least one surface waste management facility? *See* August 8, 2002, letter from Loco Hills Water Disposal Company to the Commissioners.

For these reasons, CRI opposes final action on this proposed Rule so long as it excludes surface waste management facilities from its Scope. To the extent that this exclusion remains, CRI respectfully requests that the Division set another public hearing to allow discovery on the basis and data supporting this post-hearing change, to allow CRI the opportunity to present witnesses and technical data relevant to this issue, and to allow CRI the opportunity to examine Division witnesses about this disparate treatment.

Sincerely,

Michael H. Feldewert

MHF/js
cc: Robert Lee, Ph.D., Commissioner
Jamie Bailey, Commissioner
Steve Ross, Attorney for the Commission
David Brooks, Attorney for the Division
Roger Anderson, Environmental Bureau Chief
Ken Marsh, President of Controlled Recovery, Inc.
New Mexico Oil & Gas Association

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Oil Conservation Division

APPLICATION FOR ADOPTION OF AMENDED RULE:
CASE NO. 12897 OCC HEARING HELD ON July 19, 2002
REPEAL CURRENT HYDROGEN SULFIDE RULE 118 AND ADOPT NEW H_2S RULE.

Comments received by OCD during the comment period are attached hereto for reference. OCD has evaluated these comments. Below each comment OCD has made recommendations for OCC consideration.

1. **Comments:** Two operators and one oil and gas industry association commented on surface waste management facilities covered under OCD Rule 711 and have expressed their concern to have these facilities covered under this proposed rule.

OCD Response: OCD's original draft rule covered all facilities regulated by the OCD. During the hearing on July 19, 2002 questions were raised by the commission concerning this intent. OCD has re-evaluated its original intent and has concluded that surface waste management facilities should continue to be regulated under the current Rule 711 that incorporates hydrogen sulfide requirements for the protection of public health.
The new rule is a public safety rule based on short term or acute consequences and on known engineering data in which safety measures may be measured and calculated in which contingency plans may be designed pursuant to those calculations.

Surface waste management facilities have the ability to generate H_2S in quantities that is harmful to public health or long term or chronic exposure consequences, but basically cannot be pre-measured or calculated and thus the radius of exposure is virtually unknown. Current Rule 711 imposes fence line monitoring for the protection of public health . ***OCD recommends no change in the wording of the draft rule.***

2. **Comments:** Two operators submitted comments concerning the following items:

E.3- Input of Emergency Response Authorities:

The rule reads: E3. Input of Emergency Response Authorities and the Division. The person, operator or facility shall seek input on the proposed H_2S contingency plan from the division, the New Mexico department of public safety (and as appropriate the New Mexico state police), the local emergency planning committee, the county sheriff, city or municipal police, and/or police and fire departments.

The main concern appeared to be with the phrase "shall seek input" because it did not define what the words meant and how it would be achieved, especially in remote locations.

In order for the rule to comply with the New Mexico Hazardous Materials Emergency Response Plan, governmental agencies and industry is required to coordinate these type of activities. Therefore OCD recommends the following changes.

OCD Recommends the following changes:

E3. Input of Emergency Response Authorities and the Division. The person, operator or facility shall ~~seek input or~~ coordinate the proposed H_2S contingency plan ~~from~~ with the division, the New Mexico department of public safety (~~and as appropriate~~i.e. the New Mexico state police), and as appropriate the local emergency planning committee, the county sheriff, city or municipal police, and/or police and fire departments. A statement in the contingency plan indicating which agencies have been notified shall suffice as proof of coordination.

3. E.9.- Activation Levels- Two operators requested that the definition of property line be stricken. OCD agrees and proposes " facility boundary" be inserted. The term "facility boundary" allows the operator some flexibility in determining the threshold for activation and at the same time provides them with a definite activation number to implement the contingency plan. OCD feels this provides the best protection for the public while allowing operators the flexibility needed to prevent nuisance activation of contingency plans.

OCD Recommends the following changes:

E.9. Activation Levels. The H_2S contingency plan shall be activated in the event of a release of a potentially hazardous volume of H_2S above the respective thresholds (i.e. 500 ppm radius at any public road, 100 ppm radius at any public area, etc.) or if a sustained concentration of H_2S exceeds 50 ppm at the facility boundary ~~property line~~ of any facility, well or operation.

K1. Activation of the H_2S Contingency Plan. The person, operator or facility shall activate the H_2S contingency plan immediately upon an H_2S release where the potential exists for exposure to a potentially hazardous volume of H_2S, or where a concentration of H_2S greater than 50 ppm exists at the facility boundary of any well, facility or operation.

4. F.2.a.- Before Commencing Operations-

The comment indicated the term "operations" was vague. OCD has reviewed the comments and feels that the current language is satisfactory when the "scope" of the Rule is considered. ***OCD recommends no change in the wording.***

5. F.2.c.i - Safety, Detection and Monitoring Equipment

Comments expressed concern that OCD was relaxing the current safety rules. It was the workgroup's intent that the proposed rule have some flexibility in the warning system to allow for nuisance tripping of alarms. The 20 ppm activation level is a minimum standard and operators may choose to set more stringent levels. ***OCD recommends no change in the wording.***

6. F.3.c.iii- Drilling Operations

Two operators commented on the requirement of BOP stack arrangements. The H_2S workgroup had the same concerns. OCD requires these BOP arrangements only if the location is in a 100 ppm PHV area. Also if BOPs are already designed with choke and kill lines it is the intent for OCD to approve these designs. ***OCD recommends no change in the wording.***

7. F.3.d. Mud Programs-

One commenter was concerned that the language did not address the need for "sufficient amount of weighting material on hand to prevent influxes". OCD believes this commenter is concerned about loss control and appreciates their concern. The current rule reads as "d. Mud Program. A mud program, including de-gassing and flaring, capable of handling H_2S conditions and well control shall be used." OCD believes the capability of "well control" addresses this issue. ***OCD recommends no change in the wording.***

Another comment requested that the weighting material requirement be limited to wells within municipal boundaries. OCD points out that the rule only covers operations where there is an anticipation of H_2S in excess of 100 ppm. OCD feels very strongly that wells that have the capability of discharging H_2S in quantities of greater than 100 ppm, a contingency to maintain additional mud on hand is warranted. ***OCD recommends no change in the wording.***

8. F.3.e- Well Testing- Two commenter had concerns about being able to notify the OCD 24 hours in advance of drill stem test and felt that closed systems were not warranted due to additional equipment expense and standby time. OCD recognizes the burden but needs to point out this portion of the rule only applies if an H_2S contingency plan is required. OCD feels that such well testing requires this additional precaution in order to provide the proper safety to the public. ***OCD recommends no change in the wording.***

9. G.2.a.ii- Signage- Two operators commented that there is no need to post danger signs at each flow line on the well pad since the site is already required to have signs.

OCD agrees and recommends the following changes.

ii. Signage. A danger sign or signs shall be posted within 50 feet of each facility to alert the public of the potential hydrogen sulfide danger. If fenced, a danger sign at the gates shall suffice. ~~Danger signs shall be posted at each flow line and gathering line on the well pad that contains hydrogen sulfide gas.~~ The signs shall read "DANGER - POISON GAS - HYDROGEN SULFIDE PRESENT", or, as appropriate "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The signs shall be legible and large enough to be read by all persons entering the well site. . A sign shall be placed at each point where a flow line or gathering line crosses a public road. Each sign shall be legible and shall contain the name of the owner or operator and an emergency telephone number.

10. G.2.a.iii- Fencing- One operator commented that "the need for a 5 foot chain link fence topped by two strands of barbed wire outside the municipal boundaries of a town should be at the discretion of the operator not the OCD. The H_2S workgroup had consensus on this issue and wanted to make a standard to assist operators, but acknowledged that there could be exceptions. ***OCD recommends no change in the wording.***

11. OCD received the following comments from an oil and gas association via conference call on August 14, 2002:

The association was concerned that thousands of wells would have to be tested in which they already have operating and process knowledge on a formation or pool basis. OCD agrees that the intent was not to have the operators test every single well or operation if previous knowledge is available.

OCD agrees and recommends the following changes.

D. Determination of Hydrogen Sulfide Risk.

1. Determination of Hydrogen Sulfide Concentration.

a. Each person, operator or facility to which this Section applies shall determine the hydrogen sulfide concentration within each of its operations or systems. A representative sample or previous process knowledge for each system or operation may be used for testing provided that the person, operator or facility can demonstrate that the concentration derived from a test or process knowledge ~~of the representative sample~~ is reasonably representative of the hydrogen sulfide concentration within the operation, pool or system.

b. The tests referred to in the previous Subparagraph shall be conducted in accordance with applicable ASTM or GPA standards or by other methods approved by the division.

c. If a representative sample from a system or operation was tested within one (1) year of the effective date of this Section, new testing shall not be required; provided, however, new testing shall not be required for a producing well that was tested at any time prior to the effective date of this Section.

Another concern was in the contingency plan area. The association felt that the contingency plans required in the rule could be interpreted to be very comprehensive with no flexibility for remote operations or in areas where there would be little impact on public safety. They would like to see a reaction plan be accepted in lieu of.

OCD agrees and recommends the following changes.

E.4.C. vii. ~~in lieu of the previous subparagraph~~, Where the operator can demonstrate that the risk to public safety is minimal such as in remote locations then a simplified ~~a~~ reaction-type plan may be prepared and submitted that provides for mass notification of a hydrogen sulfide leak and for an evacuation of affected areas;

New Mexico Oil & Gas Association

To: Commissioner Lori Wrotenbery, Chair
Commissioner Jami Bailey
Commissioner Robert Lee

From: Deborah Seligman
Director Governmental Affairs

Subject: Rule 118

Date: 16 August 2002

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Oil Conservation Division

NMOGA gave testimony in support of Rule 118 at your hearing in July, and we continue to support the proposed Rule 118.

With the adoption of the exemption for disposal facilities, I have had comments and a request that NMOGA support that the exclusion for commercial surface waste management facilities and oil treating plants be stricken from the rule.

Disposal facilities feel that all industry should be governed by the same standards. They felt that the exclusion language, added at the July hearing, did not have adequate public notice, nor were the disposal facilities offered the opportunity to be involved in the Rule making process.

c: Roger Anderson, Chief, Environmental Bureau

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August 16, 2002

Lori Wrotenberry, Director
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87105

Dear Lori,

It was good to see you at the IPANM Annual Meeting. We appreciate you allowing the industry additional time for comment on the proposed H2S Rule 118.

We are very pleased with the committee process and the opportunity for industry to make comments and participate in drafting a proposed rule.

IPANM, Mack Energy Corp., and Henry Petroleum were represented on the H2S Committee. After the first meeting Henry Petroleum made extensive and detailed comments in which Mack and IPANM joined. We still had serious concerns at the third meeting in Santa Fe and presented a complete rewrite of the proposed rule. This was a slightly modified version of Texas Rule 36. We still have some serious concerns and will detail those in this letter. All of these concerns have been expressed during the past meetings.

At the first meeting, we raised the question of need for a new rule. There have been no instances in New Mexico of the public being harmed by H2S releases. Obviously the current rule is working. The oil fields in New Mexico are over 80 years old. Rules in the early days were much less stringent than they are now and we have not had any problems. Employees are the first people to be involved with a release, yet there are one or two employee injuries from H2S a year. Most of these injuries are in enclosed spaces and not releases. The oil fields work 24 hours a day and seven days a week so statistically, there is at best a minute problem with employees and a zero problem with the public.

The Stronger report indicates there is no problem with H2S rules in New Mexico. It indicates the recommendations have been met.

In his testimony on July 19th, 2002 Wayne Price testified at page 31,line 21 that one problem with the current rule is that it is advisory only. Rule 118.B says an operator with concentrations of H2S of 100ppm or more "shall take reasonable measures..". Where a release is unavoidable the operator shall "burn or vent the gas stream.." At 118.D an operator must, after completion of a well or after discovering H2S in a gas stream, "shall submit, in writing to the Division's district office..". 118.E says a well or lease having

500ppm or more "shall have a warning sign..". 118.E1 says that a facility having storage tanks with more than 1000 ppm "shall have, in addition to the sign..". The current rule is on its face not advisory. It is a rule with specific requirements and is adequate.

Mr. Price goes on to say on page 31, beginning at line 23, that the other problem is that there are exemptions such as one for tanks up to 1000 ppm. He goes on to say at page 32, line 12 that the biggest fallicy is an exemption for facilities with less than 500 ppm. 118.A says the intent is to protect the public where H2S in concentrations of over 100 ppm may be encountered. Clearly, wherever H2S is encountered over 100 ppm the rule takes effect. Rule 118.B covers production operations where H2S is present is concentrations of over 100 ppm and requires operators to do certain things. Rule 118.C covers drilling operations in H2S areas with concentrations of over 100ppm or where there is substantial probability of encountering H2S. Rule 118.D requires reporting of testing for H2S in new wells in known H2S areas and reporting of tests of wells in which H2S is discovered in the gas stream. 118.E levies requirements of wells or facilities where concentrations of H2S is found in excess of 500ppm and at (1) there are additional requirements if H2S at 1000ppm is found in storage tanks. There are no exemptions, only action requirements at different levels.

On page 34 beginning at line 4, Mr. Price is asked if a tank battery that contains 1000ppm, under the present rule has to have a sign. Mr. Price answers that a sign is not required. Rule 118.E says any well or facility "handling H2S gas with concentrations of 500 ppm(0.05%) or more shall have a warning sign at the entrance."

Commissioner Lee on page 41 at line 21if a company was required to report on H2S in a gas well stream to the Commission and Mr. Price answered no. Rule 118.D requires, after the completion of the first well on a lease or after discovering H2S in a gas stream, a report to the Commission.

At the IPANM meeting there was a discussion that most of the rule contains may and not shall. We note below that it seems the Division may do many things, but the operators shall do things.

19.15.2.52A In General, contains some gratuitous comments that should not be in a Rule. At least take out all after "petroleum and natural gas". We suggest the following wording.

A. The intent of this Rule is to provide for the public safety in areas where hydrogen sulfide gas, H2S, in concentrations greater than those listed below are present.

19.15.2.52B Scope, remove the word "may" in the first sentence. Either H2S exists or it does not. "May" can be interpreted to mean anything a District employee decides it means. The entire oil field "may" have H2S and this Rule would then apply to the entire oil field. Replace the word "may" with the word "does".

19.15.2.52C Definitions Remove definitions 1, 2, 3, 6,7, and 8. All references to standards or guidelines such as these should be removed. On the API web page they make it clear that they have guidelines that are not to be used as regulations. These books

must be purchased along with additional technical supplements. Independents do not have all these documents and they are not needed since all oil fields have standard practices common to the area. When BLM proposed using API standards, the industry opposed that and even the major companies found they did not have these books in the field. The API standards are guilt edged; high dollar guidelines.

19.15.2.52C 11 Substitute the following definition- Public area—An occupied dwelling, occupied place of business, church, school, hospital, school bus stop, occupied government building, a public road, all or any portion of a park, or other similar populated area but does not include facilities directly involved in oil and gas production such as producing or and gas wells pipelines, tank batteries, production equipment, gas plants, refineries.

19.15.2.52C12 Substitute the following definition- Public road—A public road is any road or highway that is under the jurisdiction of a federal, state, county or municipal government for maintenance or public use. A public road is not a private road, two track, ranch, or oil and gas lease road.

19.15.2.52C10a- add the words- "in excess of 50 feet" after "exposure" and "except a public road" after "herein".

19.15.2.52C10b- add the words- "is greater than 50 feet" after "exposure".

19.15.2.52C13c Delete This discussion of multiple sources is too broad and open to many interpretations. There is really only one source, the well. H2S may appear in flow lines, treatment equipment or water tanks, but in a diluted quantity as it is disbursed throughout what is really a single source.

19.15.2.52C13d Delete This is too broad and open to interpretation. H2S might be reasonably expected by someone to be anywhere in the oil field. It allows decisions to be made without objectivity or science. In the past, regulatory employees have ask the H2S rental equipment people where H2S exists and for the rental people, it is everywhere. Regulatory employees never ask the people who know, operators in the field. If not deleted, at lease add the following from Rule 36 "A lesser-assumed radius will be considered upon written request setting out the justification for same."

19.15.2.52D1a Determination of H2S risk- Delete the work "facility". This word broadens the scope of the rule to everything in the oil field. Facility is not defined anywhere in this proposed rule. This is the same problem we have with C13c above. This section is mandatory through the use of the word "shall".
Add in at "system or operation or field(pool)" It also assumes the measurement of "systems" are necessary. The words systems and facilities are not defined and could mean an entire field or Township at the discretion of the local OCD employee. The first person to be exposed to H2S is the independent operator himself or an employee so they want to know if H2S is present.

19.15.2.52D1d Delete This gives local employees authority to disapprove any test without objective parameters. Operators could be required to test many times because an OCD employee did not think the test was appropriate. It does not allow for new technology.
The Division "may" disapprove a test.

19.15.2.52D2 Delete the words "or system" for reasons described above.

19.15.2.52D3a Delete the words "or facility" for reasons described above. The operator "must" test.

19.15.2.52E Contingency Plan. Delete this entire section. This section places an extreme burden on independent operators for little or no gain in safety of the public. This plan "must" be developed.

More extensive planning may be necessary inside the defined limits, not extraterritorial zones, of cities and towns.

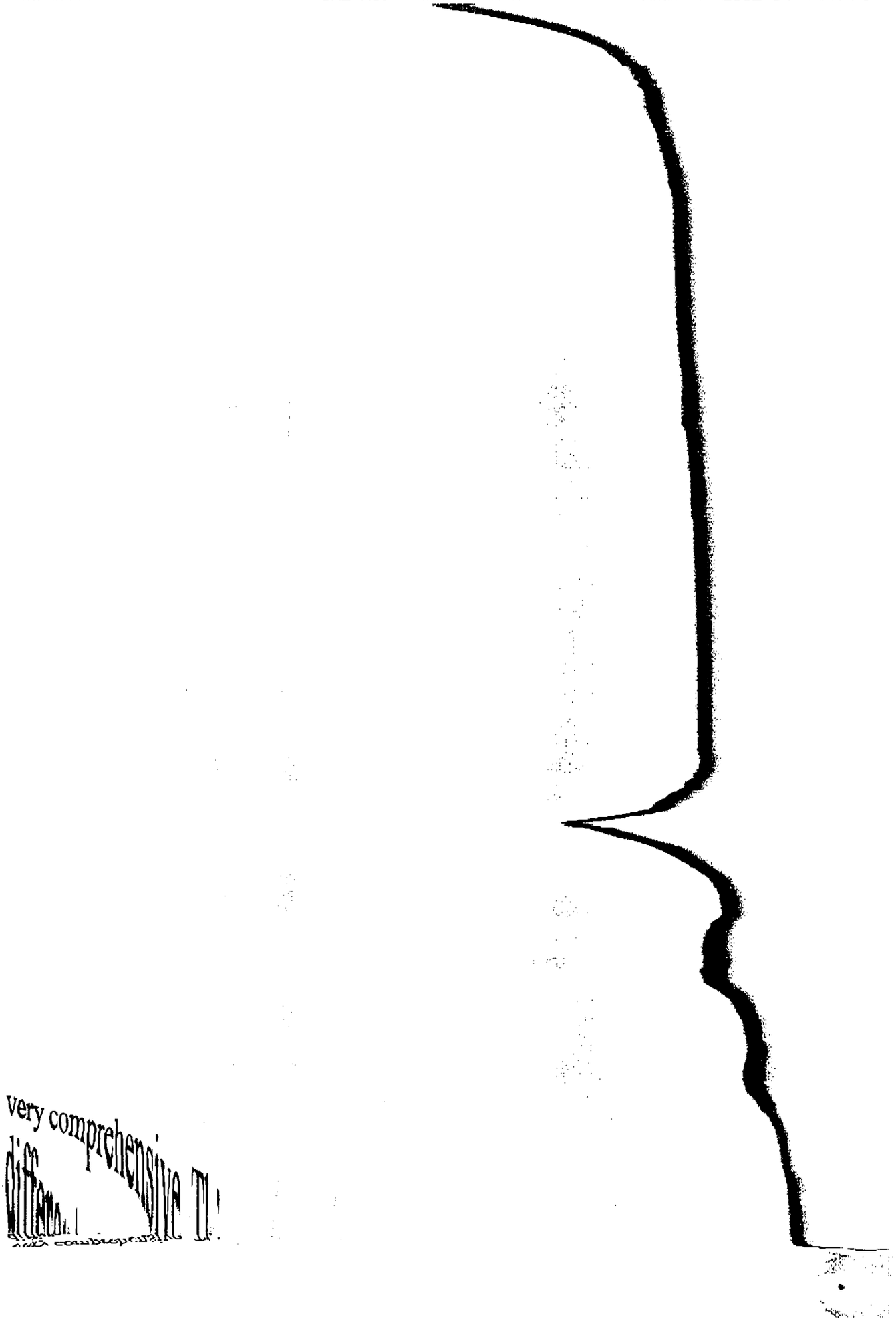
We have 80 years experience dealing with H2S in the oil field. All companies have held yearly certification classes in H2S for nearly 20 years. People working in the oil field know about H2S and how to deal with it. Writing a plan will not improve on that. The public will not be any safer. The only people who will be better off from the planning requirements will be the consultants who are paid for writing plans.

OCD has not answered whether they will require a plan on federal leases. BLM OnShore Order 6 requires a plan that is less detailed than the proposed changes to Rule 118. Only one plan should be required and the testimony of OCD leads us to believe they will require the plan described in this rule and industry will write two plans for the same well. In fact Mr. Price says both plans will be required, page 91, line 1. OnShore Order 6 does not require a traffic plan, a release plan, a basic plan, and a contingency plan.

The details of this section are duplicative of existing NMDPS plans. DPS is the emergency response agency and they have plans written. Yet the proposed rule requires an operator to decide which roads to close and to redirect traffic. We do not have the authority to close roads or highways. Most of the telephone numbers in the various call lists will require constant changes and are unnecessary.

There is an extensive list of people and agencies who must have input on the plan. It will be years before a plan is complete and the cost of all this coordination and rewriting will be enormous.

Mr. Price testifies on page 68 beginning at line 18 that the rule will require several plans. He mentions a contingency plan, a release plan, a basic plan and a traffic plan. Only the State Police or the Highway Department can close a highway. Then on page 70 at line 18 he talks about an immediate action plan. On page 71 he describes a public plan that is


very comprehensive

very comprehensive. This testimony indicates that operators will have to write several different plans with different contents depending upon the volume of H2S.
All these plans must be reviewed and updated every year.
If the planning requirements are left in, then there are extensive modifications that must be made.

We suggest the wording in the current Rule 118.E be used

19.15.2.52F, G, H, and I Delete OCD does not have the authority to regulate employee safety and that is what these sections do. OCD employees have agreed OCD has no authority in the employee safety area, yet we note that the majority of the testimony given during the hearing on July 19th, 2002 by Randy Bayliss was relating to employee safety. This proposed plan is duplicative of requirements of OSHA and BLM and would have industry meeting OSHA regulations and provisions of Rule 118. These three pages of new rules have many provisions that must come out if the sections are left in.

We suggest that the current language in Rule 118 on drilling and production is adequate.

For example it is not clear if the plan required for drilling is the same plan required earlier in the rule.

There are provisions that allow the Division to impose additional requirements for special circumstances. This is entirely too broad and there is no requirement that OCD employees show objective, scientific need for suddenly requiring additional equipment. The demands for extra equipment are physically impossible to put under the sub-structure of 90% of the rigs used in New Mexico.

There are requirements to keep current names and telephone numbers of persons living within certain radii of exposure. These same people must be given briefings by industry personnel. Apparently industry must keep track of people living in these areas and know if they move and when a new person moves in.

Another paragraph requires the activation of a contingency plan if a sustained concentration of 50 ppm occurs at the property line of a facility, well or operation. The term "sustained" is not defined. Is it five minutes, ten minutes or 12 hours. Where is the property line? Is it the mineral estate or the surface estate? We have the same problem with "facility" that has been described above.

These paragraphs are duplicative of federal and other state agency rules and are without the jurisdiction of OCD because they regulate employee safety. If that were no so, there are too many unresolved problems with the wording so the paragraphs must be removed.

On page 88, at line 7, Mr. Price adds a new requirement that at certain times operators will be required to provide a compliance schedule to bring current equipment up to date. We do no see that requirement in the proposed rule.

We also note that all plans and reports must be submitted electronically. While most independent operators are computer literate, there are some who are not and the requirement to submit electronically must be deleted.

19.15.2.52K1 Delete. It refers to activation of a contingency plan.

The oil and gas industry in New Mexico has worked safely and without any harm to the public for 80 years. There have been very few employee accidents due to H2S exposure. Testimony at the hearing indicated that if employees were safe, then the public was safe. Independents have a very personal interest in H2S safety, since they are usually in the field and live in towns surrounded by oil and gas operations. We do not see where the proposed rule will increase public safety, but it will dramatically increase costs to New Mexico small businesses. This with no concomitant benefit to anyone else.

We appreciate the opportunity to make additional comments and look forward to some changes in the proposed rule.

Sincerely

Dan Girand
IPANM Regulatory Committee

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August 16, 2002

Lori Wrotenbery, Director
NM Oil Conservation Division
1220 S. St, Francis Drive
Santa Fe, NM 87105

Re: Case No. 12897
H2S Rule Revision

Dear Lori:

Attached are the comments that I have participated in preparing for IPANM. The comments are compiled from the comments previously given by various entities during the committee review process. The areas of concern that I have are:

1. Public Area and Public Road definitions in C.11. and C.12. are to broad. Please see the revised definitions in the IPANM comments.

2. Testing requirements in D.1.a. These should be expanded to allow testing for a field (pool) because it is common knowledge that there are many "sweet" production pools that should not be required to be individually tested.

3. The Contingency Plan, E. It appears to require multiple plans; notification plan, road closure and diversion plan, and action plan that would be unnecessary in most cases and extremely onerous on an operator to prepare and submit. I was told by Wayne and Roger that E.4.c.vii. could eliminate the need for all these requirements but I don't read it that way. Further, the requirement to seek input from multiple entities is not necessary and would present a tremendous burden on the operators. The contingency plan requirements need to be reduced and revised significantly or returned to the present requirements in Rule 118 E. (2).

4. Drilling, completion, workover and servicing operation in F. The section appears to apply to ALL drilling, completion, workover and servicing operations regardless of the presence or potential presence of H2S (see F.1 and F.2. Minimum Standards). As it appears to be written, all of the requirements and standards must be met on each and every well drilled, completed, worked over or serviced (see F.2. Minimum Standards sentence). Furthermore, well sites are occupied by oilfield employees and workers, not the public. Most of the requirements and standards indicated appear to be directed toward oilfield personnel, not the public. These requirements are not necessary for a large number of the operations in areas that do not have H2S concentrations. Some of the requirements are physically impossible on most rigs that operate in NM, not to mention extremely costly (see F.3.c.iii.) Precautions are currently taken if there is, or potentially could be, H2S in dangerous levels present by the oilfield contractors and operators. I believe the current wording in Rule 118 C. is sufficient.

5. Paragraphs G. H. and I. The concerns addressed in these paragraphs are already sufficiently addressed in Rule 118 E. The additional requirements above and beyond Rule 118 E. are, in most cases, onerous, expensive and unnecessary.

6. Exemptions J. While I do appreciate the provision for exemptions, I sincerely hope that the rule revision requirements will be such that it will not demand many exemptions.

7. Release K. This paragraph should be revised to reflect the changes noted above that will hopefully be incorporated.

Thank you for the opportunity to comment on the revision to the H2S rule. I sincerely hope that the areas of concern and suggestions noted above will be give carefully consideration and incorporated into the final rule.

Sincerely

Harvard Petroleum Corporation

Jeff Harvard
President

Enclosures

P.01

TRANSACTION REPORT

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ATT Wayne Price

505-476-3462

FROM Dick MALONEY

LOCO HILLS WATER DISPOSAL CO.
P. O. Box 68
Loco Hills, NM 88255

August 08, 2002

Commissioners
State of New Mexico
Energy, Minerals and Natural Resources Dept.
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Re: Rule 19.15.2.52 Hydrogen Sulfide Gas Case No. 12897

Gentlemen,

Loco Hills Water Disposal Company is taking this opportunity to strongly express disapproval of the above referenced Rule whereas surface waste management facilities are exempt pursuant to 19 NMAC 15.I.711.

Attached is a copy of the May 26, 2000 Rule 711 Permit for Loco Hills Water Disposal, No. NM-01-0004. Refer to H2S Prevention & Contingency Plan 1-a, b, c, and d. This requirement is extremely different from what you are applying to the rest of the Industry.

Loco Hills Water Disposal Company is part of the Oil and Gas Industry and should be included in all rulings that pertain to this industry. We, as part of this industry and subject to the jurisdiction of the Oil Conservation Division, should not be governed differently with Rule 711. Therefore, Loco Hills Water Disposal Company strongly urges you to re-consider. Treat the Industry as a whole and do not have separate rulings.

Sincerely,
Loco Hills Water Disposal Company

James R. Maloney
Vice-President

JRM:jb
Attachment

H_2S PREVENTION & CONTINGENCY PLAN

1. Tests of ambient H_2S levels must be conducted on a weekly basis. Test results must be recorded and retained. The tests must be conducted at four (4) locations at the top of the berm around each of the evaporation ponds and the skim pits. The wind speed and direction must be recorded in conjunction with each test.

   a. If an H_2S reading of 1.0 ppm or greater is obtained:

      i. a second reading must be taken on the downwind berm within one hour;

      ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and

      iii. tests for H_2S levels must be made at the fence line down wind from the problem pond.

   b. If two (2) consecutive H_2S readings of 1.0 ppm or greater are obtained:

      i. the operator must notify the Artesia office of the OCD immediately;

      ii. the operator must commence hourly monitoring on a 24-hour basis; and

      iii. the operator must obtain daily analyses of dissolved sulfides in the pond.

   c. If an H_2S reading of 10.0 ppm or greater at the facility fence line is obtained:

      i. the operator must immediately notify the Artesia office of the OCD and the following public safety agencies:

         New Mexico State Police
         Eddie County Sheriff
         Eddie County Fire Marshall
         Loco Hills Fire Department; and

      ii. the operator must notify of all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.

   d. At least 1000 gallons of an H_2S treatment chemical or an equivalent amount of chemical in concentrate form to produce 1000 gallons of H_2S treatment chemical must be stored on-site at all times. H_2S treatment chemicals must not be retained for a period in excess of the manufacturer's stated shelf life. Expired H_2S treatment chemicals may be disposed of in the evaporation ponds.

August 16, 2002

Lori Wrotenberry, Director
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87105

Dear Director Wrotenberry,

I enjoyed our conversations at the IPANM Annual Meeting. These are my comments on the proposed H2S Rule 118. My comments are in line with the comments of IPANM, which were submitted earlier. As raised at the IPANM meeting, there is a question whether there is a need for a new rule. There have been no instances in New Mexico of the public being harmed by H2S releases. Most H2S problems are encountered by industry personnel and their injuries occur in enclosed spaces and not do not involve releases. The Stronger report indicates there is no problem with H2S rules in New Mexico.

19.15.2.52A should be reworded as follows:

A. The intent of this Rule is to provide for the public safety in areas where hydrogen sulfide gas, H2S, in concentrations greater than those listed below are present.

19.15.2.52B Scope. Substitute the word "does" for the word "may" in the first sentence. Either H2S exists or it does not exist.

19.15.2.52C Definitions. Remove definitions 1, 2, 3, 6,7, and 8. All references to standards or guidelines such as these should be removed. On the API web page they make it clear that they have guidelines that are not to be used as regulations.

19.15.2.52C 11. Delete the definition and substitute the following for- Public area—An occupied dwelling, occupied place of business, church, school, hospital, school bus stop, occupied government building, a public road, all or any portion of a park, or other similar populated area but does not include facilities directly involved in oil and gas production such as producing or and gas wells pipelines, tank batteries, production equipment, gas plants, refineries.

19.15.2.52C 12. Delete the definition and substitute the following definition- Public road—A public road is any road or highway that is under the jurisdiction of a federal, state, county or municipal government for maintenance or public use. A public road is not a private road, two track, ranch, or oil and gas lease road.

19.15.2.52C10a- add the words- "in excess of 50 feet" after "exposure" and "except a public road" after "herein".

19.15.2.52C10b- add the words- "is greater than 50 feet" after "exposure".

19.15.2.52C13c Delete this section. There is really only one source, the well. H2S may appear in flow lines, treatment equipment or water tanks, but is really from a single source.

19.15.2.52C13d Delete this section. If not deleted, at lease add the following from Rule 36 "A lesser-assumed radius will be considered upon written request setting out the justification for same."

19.15.2.52D1a Determination of H2S Risk. Delete the word "facility" as it is too broad. The words systems and facilities are not defined.

19.15.2.52D1d Delete this section because it allows a disapproval without objective parameters.

19.15.2.52D2 Delete the words "or system" for reasons described above.

19.15.2.52D3a Delete the words "or facility" for reasons described above.

19.15.2.52E Contingency Plan. Delete this entire section. It places an extreme burden on independent operators for little or no gain in safety of the public. This plan "must" be developed.

BLM OnShore Order 6 requires a plan that is less detailed than the proposed changes to Rule 118. Only one plan should be required and the testimony of OCD leads us to believe they will require the plan described in this rule and industry will write two plans for the same well. If the planning requirements are left in, then there are extensive modifications that must be made.

The wording in the current Rule 118.E should be used

19.15.2.52F, G, H, and I Delete these sections. Does OCD desire to become OSHA and regulate employee safety? This proposed plan is duplicative of requirements of OSHA and BLM and would have industry meeting OSHA regulations and provisions of Rule 118.

The current language in Rule 118 on drilling and production is adequate and should not be changed.

Requiring all plans and reports to be submitted electronically may not be physically possible for some independent operators. It should be an option, but not a requirement.

19.15.2.52K1 Delete this section. It refers to activation of a contingency plan.

I appreciate the opportunity to make these comments. I hope that you will substantially change the proposed rule if you are intent on revising the old rule which has been successfully protecting the public health and safety for many years.

Very truly yours,

Greg Nibert

Greg Nibert

P.01

TRANSACTION REPORT

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Michael H. Feldewert

mfeldewert@hollandhart.com
44440.0006

August 15, 2002

VIA HAND DELIVERY

RECEIVED

AUG 15 2002

Oil Conservation Division

Lori Wrotenbery, Director
Oil Conservation Division
New Mexico Energy, Minerals &
Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Case No. 12897: Application of the New Mexico Oil Conservation Division Through the Environmental Bureau Chief, for the Adoption of Amendments to Division Rule 118 (Hydrogen Sulfide Gas).

Dear Ms. Wrotenbery:

Controlled Recovery, Inc. ("CRI"), a party to the above matter, respectfully requests that the Division strike the following language from Section 19.15.2.52(B) ("Scope") of the proposed rule:

> "Exempt from this rule are surface waste management facilities permitted pursuant to 19 NMAC 15.I.711."

This exclusionary language was added after the July 19, 2002, public hearing. The Division's post-hearing comments provide no rationale or justification for this sudden change in the scope of the proposed rule, and no evidence was presented at the hearing to support this exclusion.

The timing of this revision to the Scope of the proposed rule has deprived surface waste management facilities of their due process right to meaningfully participate in the enactment of a rule that – as presently drafted – treats them differently from other persons, operations or facilities subject to the jurisdiction of the Division. As it presently stands, while other persons, operations or facilities are not required to take action if testing reveals concentrations of H2S below 100 ppm, it appears that at least one surface waste

management facility will be required to take action if an H2S reading as diminutive as 1.0 ppm is detected. *See* August 8, 2002, letter from Loco Hills Water Disposal Company to the Commissioners. There is no rationale, justification, or evidence in the record to support this disparate treatment.

For these reasons, CRI requests that the Commission strike the language excluding surface waste management facilities from the Scope of the proposed rule, or that the Division set another public hearing to allow surface waste management facilities an opportunity to be notified of, and comment on, the rationale, justification and evidence – if any – for this disparate treatment.

Sincerely,

Michael H. Feldewert

MHF/js
cc: Robert Lee, Ph.D., Commissioner
Jamie Bailey, Commissioner
Steve Ross, Attorney for the Commission
David Brooks, Attorney for the Division
Roger Anderson, Environmental Bureau Chief
Ken Marsh, President of CRI

PIERCE PRODUCTION COMPANY

P. O. Box 2079
Midland, Texas 79702-2079
915 570-6009

August 13, 2002

Attention: Ms. Lori Wrotenbery
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: NMOCD Rule 118 Hydrogen Sulfide Gas – Public Safety

Dear Ms. Wrotenbery,

Pierce Production Company has reviewed with interest the proposed rule changes to NMOCD Rule 118. We wish to offer these substantive comments for your consideration.

E. 3. – Input of Emergency Response Authority – The proposed rule would require operators to seek input from certain state and municipal law enforcement agencies, fire departments and the local emergency planning committee. We do not believe that operators should be required to seek input from these agencies in the formulation of a contingency plan for any facility, well or operation located outside any municipal boundaries of a town due to that fact their knowledge of the oil industry is extremely limited and their input would only lead to mass confusion and confrontation over issues they have absolutely no knowledge of. Only within incorporated city limits should these agencies have any level of input and this input should only be in an advisory capacity and the level of input by these agencies be clearly specified. Many LEPC's consist of county commissioners that seldom have a single spokesman which in reality could lead to several different opinions being put forth none of which address the questions at hand. The proposal offers no guidance as to the documentation that may be required after consultation with an emergency response authority. We believe a simple letter from the operator stating that contact had been made with the required agencies for activities within the municipal boundaries of a town is adequate. No letter should be needed for any activities outside municipal boundaries of a town.

E. 9. – Activation Levels – While we support the activation of the contingency plan in the event of a release of a potentially hazardous volume of H2S above the respective thresholds (500 ppm radius at any public road, 100 ppm radius at any public area, etc.) it is unclear about the definition of a property line of a facility, well or operation. A property line could be construed to be the physical edge of a facility, drilling location or a proration unit or lease. We would suggest that the reference to property line be stricken and that operators be bound to the procedures identified in 4. a. - Elements Required for each Plan.

F. 2. a. - Before Commencing Operations – We support the preparation of the contingency plan, the application of the necessary safety and detection equipment and training of all essential personnel where warranted. However, the language in this section is vague as to the variety of operations that it would affect. No contingency plan should be needed for any activities outside municipal boundaries of a town. We would propose that the rule be more specific to require a contingency plan, training and necessary equipment operational prior to commencement of completions, workovers and, for drilling operations, 500 feet above the zone anticipated to contain hydrogen sulfide.

F. 2. c. i. – Safety, Detection and Monitoring Equipment – This requires that detection and safety equipment activates visible and audible alarms at 20 ppm. The time-weighted average for the permissible exposure limit for 10 ppm is eight (8) hours and an increase to 20 ppm would be tolerated by industry because it does not expose the public or individual workers to any additional risk.

F. 3. c. iii. – Drilling Operations – This section requires that the BOP stack consist of a separate spool for the choke and kill lines, two pipe rams, one blind ram, an annular preventer and a rotating head. Most rigs operating in the Permian Basin simply do not have the space for this type of stack arrangement under the rotary table beams. Many BOP's have choke and kill line inlets and outlets as an integral part of the preventer without requiring an additional spool. An additional blind ram could cause further burden on the accumulator for sufficient closing pressure. Due to the extremely good safety record of our industry regarding all phases of drilling, completion and production, we would request that the division permit the existing dual ram, annular and rotating head arrangement unless the division desires additional equipment for good cause shown. The proposal would cause the division to be inundated with requests for variances to the standard safe practices utilized by contractors and operators today.

F. 3. d. Mud Program – While this section adequately addresses the surface equipment required to manage mud while drilling in an H2S environment, it does not address the need for having a sufficient amount of weighting material on hand to raise the mud weight to a level that would exert enough hydrostatic pressure on the formation to prevent influxes. We feel it should only be necessary to keep the required amount of weighting material on location for operations conducted within municipal boundaries of a town.

F. 3. e. – Well Testing – This requires closed chamber drill stem testing, which is much more expensive and in almost **all** instances, not necessary. It also requires that we notify the division 24 hours in advance of any drill stem tests which is impractical when an operator has little ability to predict when a formation may have the potential to be tested. This requirement would cause operators additional expense in testing and stand-by time and should be deleted. Conventional drill stem testing can be accomplished in a safe manner when utilizing the proper gas separation and flaring equipment at the surface.

G. 2. a. ii – Signage – We would disagree with the need for posting danger signs at each flowline and gathering line on the well pad that contains H2S. The rule already provides for signage within 50 feet of a facility to alert the public of the potential H2S danger. We believe that it is prudent to mark the pipelines as they cross public roads but it seems redundant and therefore unnecessary to require signage for flowlines on the well pads.

G. 2. a. iii – Fencing – We disagree with the need for a 5 foot chain link fence topped by two strands of barbed wire outside the municipal boundaries of a town. It should be the discretion of the operator, not the OCD, if any fencing is required and its' type and design, outside the municipal boundaries of a town.

Pierce Production Company appreciates the opportunity to provide comments on the proposed rule changes and we support the repeal of the existing rule 118 and the adoption of the proposed rule after consideration and inclusion of the substantive comments by industry.

Should you have any questions regarding Pierce Production Company's comments, please do not hesitate to contact me at (915) 570-6009.

Yours truly,

Bill Pierce
Vice President – Engineering

Southern U.S. Business Unit
Domestic Production

Marathon Oil Company

P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

August 13, 2002

New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504
Attention: Ms. Lori Wrotenbery

RE: NMOCD Rule 118 Hydrogen Sulfide Gas – Public Safety

Dear Ms. Wrotenbery,

Marathon Oil Company has reviewed with interest the proposed rule changes to NMOCD Rule 118. We wish to offer these substantive comments for your consideration.

E. 3. – Input of Emergency Response Authority – The proposed rule would require operators to seek input from certain state and municipal law enforcement agencies, fire departments and the local emergency planning committee. Should operators be required to seek input from these agencies in the formulation of a contingency plan the level of input must be clearly specified. Many LEPC's consist of a county commissioners that seldom have a single spokesman. The proposal offers no guidance as to the documentation that may be required after consultation with an emergency response authority. If this consultation is required for activities within the municipal boundaries of a town, it should be more clearly stated.

E. 9. – Activation Levels – While we support the activation of the contingency plan in the event of a release of a potentially hazardous volume of H2S above the respective thresholds (500 ppm radius at any public road, 100 ppm radius at any public area, etc.) it is unclear about the definition of a property line of a facility, well or operation. A property line could be construed to be the physical edge of a facility, drilling location or a proration unit or lease. We would suggest that the reference to property line be stricken and that operators be bound to the procedures identified in 4. a. - Elements Required for each Plan.

F. 2. a. - Before Commencing Operations – We support the preparation of the contingency plan, the application of the necessary safety and detection equipment and training of all essential personnel where warranted. However, the language in this section is vague as to the variety of operations that it would affect. We would propose that the rule be more specific to require a contingency plan, training and necessary equipment operational prior to commencement of completions, workovers and, for drilling operations, 500 feet above the zone anticipated to contain hydrogen sulfide.

F. 2. c. i. – Safety, Detection and Monitoring Equipment – This requires that detection and safety equipment activates visible and audible alarms at 20 ppm. The time-weighted average for the permissible exposure limit for 10 ppm is eight (8) hours and an increase to 20 ppm would be tolerated by industry but this appears to relax the requirement for a potentially dangerous situation.

F. 3. c. iii. – Drilling Operations – This section requires that the BOP stack consist of a separate spool for the choke and kill lines, two pipe rams, one blind ram, an annular preventer and a rotating head. Most rigs operating in the Permian Basin simply do not have the space for this type of stack arrangement under the rotary table beams. Many BOP's have choke and kill line inlets and outlets as an integral part of the preventer without requiring an additional spool. An additional blind ram could cause further burden on the accumulator for sufficient closing pressure. While this section allows for deviations of the BOP stack to be granted by the division, we would request that the division permit the existing dual ram, annular and rotating head arrangement unless the division desires additional equipment for good cause shown. The proposal would cause the division to be inundated with requests for variances to the standard safe practices utilized by contractors and operators today.

F. 3. d. Mud Program – While this section adequately addresses the surface equipment required to manage mud while drilling in an H2S environment, it does not address the need for having a sufficient amount of weighting material on hand to raise the mud weight to a level that would exert enough hydrostatic pressure on the formation to prevent influxes.

F. 3. e. – Well Testing – This requires closed chamber drill stem testing, which is more expensive and not always necessary. It also requires that we notify the division 24 hours in advance of any drill stem tests which is impractical when an operator has little ability to predict when a formation may have the potential to be tested. This requirement would cause operators additional expense in testing and stand-by time and should be deleted. Conventional drill stem testing can be accomplished in a safe manner when utilizing the proper gas separation and flaring equipment at the surface.

G. 2. a. ii – Signage – We would disagree with the need for posting danger signs at each flowline and gathering line on the well pad that contains H2S. The rule already provides for signage within 50 feet of a facility to alert the public of the potential H2S danger. We believe that it is prudent to mark the pipelines as they cross public roads but it seems redundant to require signage for flowlines on the well pads.

Marathon Oil Company appreciates the opportunity to provide comments on the proposed rule changes and we support the repeal of the existing rule 118 and the adoption of the proposed rule after consideration of the substantive comments by industry.

Should you have any questions regarding Marathon's comments, please contact me at (800) 351-1417.

Yours truly,

Walter Dueease

marbob
energy corporation

RECEIVED
AUG 16 2002
Oil Conservation Division

August 13, 2002

New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Attention: Ms. Lori Wrotenberry

Re: Comments on Rule 118 (Hydrogen Sulfide)

Dear Ms. Wrotenberry:

Marbob Energy Corporation has reviewed the amended H_2S rule and has the following comments:

1. **A. In General.** Recommend striking sulfurated hydrogen or hydro sulfuric acid because these terms are not used in industry jargon.

2. **C.5. Escape Rate.** We object to "the escape rate shall be calculated by using the current daily absolute open flow rate against atmospheric pressure." The only time in the life of a well that the absolute open flow rate can be calculated is the day that a deliverability test is performed. The original reservoir pressure (Pe) and performance coefficient (C) decrease with time, resulting in a change in the original deliverability equation. The original deliverability equation doesn't represent the current well deliverability. Also, accurate deliverability tests are hard to achieve in wells with low permeability. Most gas wells in New Mexico fall into this category. We think this sentence should be removed from the amended rule.

3. **C. 13. d.** .....a 100 ppm radius of exposure equal to 3000 feet shall be assumed. We think this assumption is too conservative and that it represents a scenario unlikely to happen in New Mexico. Shown below is a table comparing H_2S concentration versus the gas escape rate necessary to result in a 3000 foot, 100 ppm ROE.

P.O. Box 227 • Artesia, New Mexico 88211-0227 • (505) 748-3303 • Fax (505) 746-2523

H_2S Concentration (ppm)	H_2S Mole Fraction	Escape Rate (3000', 100 ppm ROE) (MMCFD)	
100	0.0001	2266	(2.3 BCF/D)
500	0.0005	453	
1000	0.001	227	
5000	0.005	45	
10,000	0.01	23	
50,000	0.05	4.5	
100,000	0.10	2.3	

We believe that the Wolfcamp, Atoka, and Morrow account for most of the serious well control events in southeastern New Mexico. These zones, including the Wolfcamp where it is gassy, are sweet or have very low H_2S concentrations. The chances of a 100 ppm, 3000 foot ROE from these zones is slim to none. The Upper Penn in the Indian Basin area has H_2S in the 5,000 to 10,000 ppm range, but it is unlikely that a well could flow in the 23 to 45 MMCFD range because of reservoir depletion and water production. We think it more reasonable to assume a 100 ppm ROE in the 1500 foot range.

4. **D. 4. Recalculation.** The PHV threshold is 100 ppm H_2S. If the volume fraction of H_2S increases 25% or more, but is still less than 100 ppm, we do not see why it is necessary to recalculate the 100 ppm ROE. There is no 100 ppm ROE if the concentration of H_2S is less than 100 ppm.

5. **E. 3. Input of Emergency Response Authorities and the Division.** The various entities referred to in this section are going to be overwhelmed if the industry seeks their input on every H_2S contingency plan that is prepared. This seems redundant and unnecessary. This will also be a terrible burden on the operator if all the referenced agencies must be consulted on every H_2S contingency plan. It appears to us that E.4. Elements covers this adequately.

6. **E. 4. a. i.** .....published by the API in its publication entitled "Recommended Practices.....Hydrogen Sulfide," RP-55.....
This publication is a recommended practice, not a set of specifications, rules or statutes. We think that the OCD is making RP-55 into a statute by referencing it in this H_2S rule. We also believe that if the OCD references API or other publications in their rules, they should attach a copy of the referenced publication to the rule.

7. **E. 4. c. iii.** ....., consistent with the New Mexico hazardous materials emergency response plan (HMER); .....
We believe a copy of the HMER should be attached to this rule proposal.

8. **E. 5. Submission.** It is possible that some areas do not have a formal, defined local emergency planning committee.

9. **E. 9. Activation Levels.** We question the need to activate the H_2S contingency plan if sustained H_2S concentrations fall in the 51 ppm to 99 ppm range at the property line of any facility, well, or operation. We do not know what the definition of "sustained" is for this rule. We're not sure how "property line" is defined either. We believe this clause should be removed and that the H_2S contingency plan should only be activated in the event of PHV above the two thresholds defined in C.10.

10. **F. 1. API Standards**. The RP-49 and RP-68 are recommended practices, not standards. We object to these recommended practices being classified as rules or standards because they are referenced in this H_2S rule.

11. **F. 2. Minimum Standards.** We object to these recommended practices being declared standards in this rule.

12. **F. 2. d. ii.** We believe that the Table 1 ANSI standard Z53.1-1967 and applicable regulations of the federal OSHA should be attached to this rule since they are referenced in the rule.

13. **F. 3. b. Flare System**. Flare outlets 150' or more from the well may not be feasible on small drilling pads (shallow wells, topographical constraints). We recommend language that says 150' away from well if feasible; otherwise, as far from the well bore as feasible.

14. **F. 3. c. i. Remote Controlled Choke.** The use of a remote controlled choke during completion and workover operations is almost unheard of. We are opposed to this requirement because it is unnecessary, adds complication to well operations and is expensive. The blowout preventer, not the choke, is the primary means of well control at the surface. The use of a remote choke should be left to the operator's discretion. Reference to drilling operations is redundant since it is included in part iii.

15. **F. 3. c. ii. Remote Controlled Choke**. For completion and workover operations, a blowout preventer is not a suitable alternative to a remote choke. The blowout preventer is the most important piece of equipment for blowout prevention. It does not replace a choke in the hierarchy of

important well control equipment. Parts i and ii need to be combined and rewritten. We think this part of the rule should specify the use of a blowout preventer with remote accumulator while leaving the use of a choke manifold and remote choke to the operator's discretion (maybe tie use of choke manifold to expected maximum surface pressure?).

16. **F. 3. c. iii Remote Controlled Choke**. API RP-53 is a recommended practice, not a specification. We believe that a copy of RP-53 and API-16C should be attached to this rule since they are referred to in the rule. The blowout preventer described in this section will not fit under the substructure of many smaller drilling rigs. We do not believe that two pipe rams are necessary for most wells. Most gas wells in SE New Mexico are drilled with one pipe ram, one blind ram, one annular and a rotating head. If one size of drill pipe is used, one pipe ram is sufficient.

    We believe that mud-gas separators are only needed on deeper, higher pressure wells. Maybe the rule should specify the depth and/or pressure at which a mud-gas separator is required.

17. **F. 3. e. Well Testing.** The industry routinely runs conventional DST's in H_2S bearing formations, day or night, and has not had safety problems doing so. Closed chamber, daylight only testing is too restrictive and is an attempt to solve a problem that doesn't exist. The requirement for 24 hour advance notification is onerous and expensive for an operator. Circulating and waiting 24 hours at $10,000 to $20,000 per day doesn't make sense. The decision to run a DST is usually made within an hour of drilling the zone of interest. The test is usually under way within 12 hours of the decision to test. We believe that the requirement for daylight only, closed chamber tests with 24 hours notice is impractical and unnecessary and should be deleted from the rule.

18. **G. 1. API Standards.** Again, RP-55 is a recommended practice, not a standard or specification. We object to a recommended practice being made into a statute/rule by reference in this proposed H2S rule. We believe the OCD should attach RP-55 to this rule since it is referenced by the rule.

19. **G. 2. Minimum Standards**. Recommended practices are not standards and shouldn't be declared as such in this rule.

20. **G. 2. a. ii Signage.** See preceding comment on No. 12.

21. **G. 2. a. v. Secondary Well Control.** The requirements of this rule can't be achieved if a well is being produced by rod pumping or progressive

cavity pumping due to the presence of a rod string inside the tubing string. This rule is impractical as written and should be eliminated or rewritten in such a way to make operational sense. If not eliminated, it should be more specific and detailed as to what the OCD really wants.

22. **G. 2. b. ii. Signage.** See preceding comment No. 12.

23. **I. Standards for Equipment.** We believe that NACE Standard MR0175 should be attached to this rule since it is referenced in the rule.

24. **K. 1. Activation of H_2S Contingency Plan.** See preceding comment No. 9 concerning H_2S concentrations greater than 50 ppm.

25. **General Comment.** Consider defining the length of time a release of H_2S occurs before a contingency plan is put into effect. Short releases might not release enough gas volume to actually meet PHV criteria, even though the calculation formula indicates the PHV criteria is met.

Marbob Energy objects to many parts of the proposed amended H_2S rule. We believe the rule is too complicated and ambiguous as currently written. We think the NMOCD is trying to fix a non-existent problem because public H_2S incidents have never been a problem in the past. We strongly recommend that the NMOCD simplify and clarify the rule as written, and would be happy to work with the OCD to improve the rule.

Sincerely,

Brian Collins
Petroleum Engineer

cc: New Mexico Oil & Gas Association
Deborah Seligman

EXHIBIT A-amended after 7-19-02 hearing
to Application to Amend Rule 118 (Hydrogen Sulfide)

RULE: 19.15.2.52 Hydrogen Sulfide Gas (Hydrogen Sulfide)

OUTLINE:

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K. Release.
    1. Activation of the H_2S Contingency Plan.
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L. Corrective Actions.

19.15.2.52 Hydrogen Sulfide Gas (Hydrogen Sulfide)

A. In General. Hydrogen sulfide gas (known by its chemical abbreviation " H_2S" or as "sulfurated hydrogen" or "hydrosulfuric acid") is a flammable, poisonous gas that may occur naturally as a component of crude petroleum and natural gas. The gas has a distinct and characteristic odor of rotten eggs but due to olfactory fatigue may not be sensed by the human sense of smell.

B. Scope. This Section provides for public safety in areas where hydrogen sulfide gas (H_2S) may exist in concentrations greater than 100 ppm or in a potentially hazardous volume. 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. Exempt from this rule are surface waste management facilities permitted pursuant to 19 NMAC 15.I.711.

C. 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. ASTM. The acronym "ASTM" means the american society for testing and materials.
4. Dispersion Technique. A "dispersion technique" is a mathematical representation of the physical and chemical transportation characteristics, dilution characteristics and transformation characteristics of H_2S gas in the atmosphere.
5. 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 H_2S. The escape rate is calculated using the maximum daily rate of the gaseous mixture produced or the best estimate thereof. For a natural gas well, the escape rate shall be calculated by using the current daily absolute open flow rate against atmospheric pressure. For an oil well, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate or best estimate thereof. For an oil or natural gas well drilled in ~~an~~ undeveloped area ~~(wildcat well)~~ the escape rate may be determined by using offset wells completed in the interval in question, or using some other reasonable means to calculate the escape rate. For wildcat wells subparagraph C.13.d shall apply. For facilities or operations not mentioned, the escape rate shall be calculated using the actual flow of gaseous mixture through the facility or operation.
6. GPA. The acronym "GPA" means the gas processors association.
7. 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. § 11001.
8. NACE. The acronym "NACE" refers to the national association of corrosion engineers.
9. PPM. The acronym "ppm" means "parts per million" by volume.
10. Potentially Hazardous Volume (hereinafter referred to as a "potentially hazardous volume" or by the acronym "PHV") means the volume of hydrogen sulfide gas of such concentration that:
    a. the 100 ppm radius of exposure includes any public area as defined herein;
    b. the 500 ppm radius of exposure includes any public road as defined herein; or
    c. the 100 ppm radius of exposure is in excess of 3,000 feet.
11. Public Area. A "public area" is any dwelling, office, place of business, church, school, hospital, school bus stop, government building, or any portion of a park, city, town, village or other similar area where members of the public may reasonably be expected to be present.
12. Public Road. A "public road" is any federal, state, municipal or county road or highway or postal route.
13. Radius of Exposure. The radius of exposure (hereinafter referred to as "radius of exposure" or "ROE") is an imaginary circle constructed around a point of escape the radius of which is

$X = [15.9\ [illegible]\ (Q]^{.6258}$

$X = 3000'$

Mole Fraction	Q	[illegible]
.0001	2.3\[illegible\] SFD	.00
.0005	4\[illegible\] MMFD	[illegible]
.001	227 MMCFD	[illegible]
.005	45 MMCFD	[illegible]
.01	23 MMFD	10 [illegible]
.05	4 MMCFD	50 [illegible]
.10	2.\[illegible\] MMCFD	[illegible]

$X^{1/.6258} = 1.587\ MF\ (Q) = X^{1.598}$

$Q = X^{1.598} / .587\ MF =$

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: $X= [(1.589)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$, or

b. For determining the 500-ppm radius of exposure: $X=[(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$

Where: X= radius of exposure in feet: hydrogen sulfide concentration = decimal equivalent of the mole or volume fractions of hydrogen sulfide in the gaseous mixture; Q= maximum volume of gas determined to be available for escape in cubic feet per day (corrected for standard conditions of 14.73 psia and 60°F).

c. Where multiple sources of hydrogen sulfide are present (e.g. wells, treatment equipment, flow lines, etc.), the radius of exposure may encompass a larger area than would otherwise be calculated using a radius of exposure computation for each component part.

d. For a well being drilled in an area where insufficient data exits 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.

D. Determination of Hydrogen Sulfide Risk.

1. Determination of Hydrogen Sulfide Concentration.

a. Each person, operator or facility to which this Section applies shall determine the hydrogen sulfide concentration within each of its operations or systems. A representative sample for each system or operation may be used for testing provided that the person, operator or facility can demonstrate that the concentration derived from a test of the representative sample is reasonably representative of the hydrogen sulfide concentration within the operation or system.

b. The tests referred to in the previous Subparagraph shall be conducted in accordance with applicable ASTM or GPA standards or by other methods approved by the division.

c. If a representative sample from a system or operation was tested within one (1) year of the effective date of this Section, new testing shall not be required; provided, however, new testing shall not be required for a producing well that was tested at any time prior to the effective date of this Section.

d. The Division may disapprove the test methodology and require additional testing if the testing methodology did not conform to the requirements of this Section.

2. Tested Concentrations Below 100 ppm. If the testing described in the previous Paragraph determines that the hydrogen sulfide concentration in a given operation or system is less than 100 ppm, no further actions are required pursuant to this Section.

3. Tested Concentrations Above 100 ppm; Calculation of the Radius of Exposure.

a. If the testing described in Paragraph 1 of this Subsection determines that the concentration of hydrogen sulfide in a gaseous mixture is 100 ppm or greater, then the person, operator or facility must calculate the radius of exposure pursuant to this Section.

b. If calculation of the radius of exposure reveals that a potentially hazardous volume may be present, the person, operator or facility shall provide the results of the testing and the resulting radius of exposure determinations to the division electronically in a generally accepted electronic format that is compatible with the division's systems~~,~~ ~~within 180 days of~~ before commencing operations or, for existing facilities, within 180 days of the effective date of this Section. ~~An~~ Operators may petition the Division for an extension of the submission date, or for an exception to the electronic submission requirement ~~180-day reporting period~~ pursuant to subsection J of this Section.

4. Recalculation. If operations~~al~~ change or production alterations are made ~~that~~, then recalculations may be made through application of generally accepted engineering principles and generally accepted operating practices;. If recalculations indicate that a H_2S concentration has become greater than 100 ppm or a 25% or greater increase in the actual volume fraction of hydrogen sulfide ~~may~~ has occured in a given operation or facility, the person, operator or facility shall recalculate the radius of

exposure and, if the ROE reveals that a PHV may be present, submit the results to the division electronically in a generally accepted electronic format that is compatible with the division's systems.

E. H_2S Contingency Plan.

1. In General. An H_2S contingency plan is a written document that provides a plan of action that will be used to alert and protect persons at risk in the event of a potentially significant release of hydrogen sulfide gas. The Plan must be developed in accordance with the following paragraphs.

2. When Required. An H_2S contingency plan must be prepared whenever a potentially hazardous volume of hydrogen sulfide may be present.

3. Input of Emergency Response Authorities and the Division. The person, operator or facility shall seek input on the proposed H_2S contingency plan from the division, the New Mexico department of public safety (and as appropriate the New Mexico state police), the local emergency planning committee, the county sheriff, city or municipal police, and/or police and fire departments.

4. Elements.

a. Elements Required for Each Plan:

i. A detailed description of each action to be taken in the event of a release of a potentially hazardous volume of hydrogen sulfide, including an immediate action plan that substantially conforms to paragraph 7.6 of 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;

ii. A call list including the following as applicable:

aa. local supervisory personnel;
bb. county sheriff;
cc. the department of public safety and state police;
dd. city or municipal police;
ee. the appropriate division district office; and
ff. other public agencies as appropriate.

iii. A plat or map detailing the area within the radius of exposure of a potentially hazardous volume; and

iv. A list of the names and telephone numbers of all personnel to be contacted when a release is reported or suspected.

b. Where the 500-ppm radius of exposure encompasses any public road, the person, operator or facility shall include the following additional elements in the H_2S contingency plan:

i. Instructions and procedures for alerting and coordinating with emergency response authorities in the event of a release of a potentially hazardous volume of hydrogen sulfide at any public road;

ii. A plat or map detailing the area of exposure, including the locations of public roads within the radius of exposure of a potentially hazardous volume;

iii. A plan to divert traffic and safely get existing traffic off the road and out of danger.

c. Where the 100-ppm radius of exposure encompasses any public area, the following additional elements shall be included in the H_2S contingency plan:

i. detailed plans of action to alert and protect persons in the event of a release of a potentially hazardous volume of hydrogen sulfide, including instructions and procedures for alerting persons at risk and emergency response authorities in the event of a release of a potentially hazardous volume of hydrogen sulfide;

ii. a call list including all the persons set forth in Sub subparagraph E(4)(a)(ii), above, and the following:

aa. ambulance services;
bb. hospitals;
cc. county and city fire departments;
dd. doctors;
ee. contractors for supplemental or emergency equipment; and

ff. other public agencies as appropriate.

iii. a statement describing how emergency response actions will be coordinated with the division and the New Mexico state police, consistent with the New Mexico hazardous materials emergency response plan (HMER);

iv. a plat or map detailing the area of exposure, including the locations of private dwellings or residences, public facilities such as schools, businesses, public roads or other similar areas where the public may be reasonably expected to be present within the radius of exposure;

v. the names and telephone numbers of all persons living within the radius of exposure of 100 ppm hydrogen sulfide and contact persons for each public area, such as churches, schools and businesses;

vi. provisions for advance briefing of affected and responsible persons within the radius of exposure. Such advance briefing shall include the hazards and characteristics of hydrogen sulfide, the necessity for an H_2S contingency plan, the possible sources of hydrogen sulfide within the radius of exposure, instructions for reporting a gas leak, the manner in which persons will be notified in the event of an emergency and steps to be taken in an emergency; and

vii. in lieu of the previous subparagraph, a reaction-type plan may be prepared and submitted that provides for mass notification of a hydrogen sulfide leak and for an evacuation of affected areas;

viii. additional support information, if applicable, such as the location of emergency evacuation routes, the location of safety and life support equipment, the location of hydrogen sulfide containing facilities, the location of nearby telephones or other means of communication and special instructions for conditions at a particular installation such as local terrain and the effect of various weather conditions.

d. Additional Requirements. The division may impose additional requirements or modify requirements based on site-specific conditions, population density or special circumstances.

5. Submission. For existing subsection G facilities ~~T~~the H_2S contingency plan shall be submitted to the division electronically in a form that is compatible with the division's systems and to the local emergency planning committee no later than 180 days following submission of the radius of exposure required in Subsection D of this Section. For subsection F operations ~~T~~the H_2S contingency plan may be submitted separately or along with the application for permit to drill (APD) and ~~may~~ shall be submitted to the division electronically in a generally accepted electronic format that is compatible with the division's systems. before commencement of operations.

6. Failure to Submit Plan. Failure to submit an H_2S contingency plan when required may result in denial of an application for permit to drill that well, cancellation of an allowable or other appropriate enforcement action.

7. Annual Review, Amendment. The person, operator or facility shall review the H_2S contingency plan on an annual basis, if activation of a plan reveals a deficiency or, if changes to processes, concentrations of hydrogen sulfide or other circumstances occur. The person, operator or facility shall submit any amendments to the division electronically in a form that is compatible with the division's systems and to the local emergency planning committee. Reasonable efforts shall be taken to update on an annual basis the names and telephone numbers of persons designated in E.4.c.v.within the 100 ppm radius of exposure.

8. Retention and ~~On-Site~~ Inspection. An H_2S contingency plan shall be reasonably accessible in the event of a release and maintained on file at all times and shall be available for inspection by the Division.

9. Activation Levels. The H_2S contingency plan shall be activated in the event of a release of a potentially hazardous volume of H_2S above the respective thresholds (i.e. 500 ppm radius at any public road, 100 ppm radius at any public area, etc.) or if a sustained concentration of H_2S exceeds 50 ppm at the property line of any facility, well or operation.

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

1. API Standards. All drilling, completion, workover and well servicing operations 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 Safe Drilling of Wells Containing Hydrogen Sulfide," RP-49, most recent edition.

2. Minimum Standards. At a minimum, and possibly in addition to the foregoing API standards, each drilling, completion, workover and well servicing operation shall also be conducted in accordance with the following:

a. Before Commencing Operations. The person, operator or facility shall complete an H_2S contingency plan, where required, before commencement of operations. In addition, hydrogen sulfide training shall be completed and all related safety equipment and warning systems shall be operational before commencement of operations. Detection and monitoring equipment is not required for drilling from the surface to within 500 feet of the zone anticipated to contain hydrogen sulfide.

b. Egress Routes. The person, operator or facility shall maintain passable egress routes at all times during operations.

c. Safety, Detection and Monitoring Equipment. The person, operator or facility shall provide hydrogen sulfide detection and monitoring equipment as follows:

i. Each drilling and completion site shall have a hydrogen sulfide detection and monitoring system that automatically activates visible and audible alarms when the ambient air concentration of hydrogen sulfide reaches 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.

ii. The detection system shall be calibrated, tested and the results recorded monthly. Each test of the hydrogen sulfide monitoring system shall be recorded on the driller's log or its equivalent.

iii. 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.

iv. Hydrogen sulfide detection, safety and monitoring equipment must be provided and the prescribed safety equipment must be made operational during drilling when drilling is within 500 feet of the zone anticipated to contain hydrogen sulfide and continuously thereafter through all subsequent drilling.

d. Wind Indicators and Signs.

i. 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.

ii. Danger or caution signs shall be displayed along all accesses to the site. The signs shall read "DANGER - POISON GAS, HYDROGEN SULFIDE PRESENT" or, as appropriate, "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division, and in smaller lettering: "Do Not Approach If Red Flag is Flying" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The signs shall be legible and large enough to be read by all persons entering the well site and shall be placed a minimum of 200 feet but no more than 500 feet from the well site and at a location which allows vehicles to turn around at a safe distance prior to reaching the site.

iii. When a sustained concentration of hydrogen sulfide is detected in excess of 20 ppm at any detection point, red flags shall be displayed.

e. If Hydrogen Sulfide Encountered During Operations. If hydrogen sulfide was not anticipated at the time the division approved the APD but is encountered during drilling in excess of 100 ppm in the gaseous mixture, the operator shall immediately ensure control of the well, suspend drilling operations unless detrimental to well control, and obtain materials and safety equipment to bring the operations into compliance with this Section. The operator shall notify the division of the event and the mitigating steps that have or are being taken as soon as possible, but no later than 24 hours following discovery.

3. Operating Practices In Hydrogen Sulfide Concentrations of 100 ppm or Greater. Operating practices in areas known to contain a concentration of hydrogen sulfide gas of 100 ppm or greater in the gaseous mixture shall be subject to the following requirements:

a. If Hydrogen Sulfide Is Encountered During Use of Air, Gas, Mist or Other Non-Mud Circulating Media. If hydrogen sulfide gas in excess of 100 ppm is encountered while drilling with air, gas, mist or other non-mud circulating mediums for aerated mud, the well shall be killed with a water- or oil-based mud, and mud shall be used thereafter as the circulating medium for continued drilling. An alternate drilling method may be used after encountering hydrogen sulfide in excess of 100 ppm, but only if the alternative method is specifically approved by the Division.

b. Flare System. For drilling and completion operations, the person, operator or facility shall install a flare system to safely gather and burn hydrogen sulfide-bearing gas, unless exempted pursuant to Subsection J. Flare outlets shall be located as far from the well bore as feasible but not less than 150 feet from the well. 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 be provided supplemental fuel to maintain ignition.

c. Remote Controlled Choke. When a potentially hazardous volume of H_2S may be present in any public area, the following measures shall be taken:

i. The person, operator or facility shall install a remote controlled choke during drilling and during completion and well servicing operations when the 100-ppm H_2S radius of exposure includes a public area, unless exempted pursuant to Subsection J;

ii. For completion or workover operations, the person, operator or facility may install a suitable alternative to a remote choke (i.e. a remote controlled valve, blow out preventer with remote accumulator, etc. may be used); and

iii. For drilling operations, the person, operator or facility shall install a remote controlled choke or remote controlled valve that includes, at a minimum, a pressure and hydrogen sulfide-rated well control choke and kill system including manifold and blowout preventer pursuant to specifications API-16C and API-RP 53. The blowout preventer stack shall have at least one spool for the kill and choke lines, two pipe rams, one blind ram, one annular device and a rotating head. Mud-gas separators shall also be used. These systems shall be tested and maintained pursuant to the specifications referenced or other division rules, if more stringent. Variations to blowout preventer stack arrangements may be granted by the division for good cause shown.

d. Mud Program. A mud program, including de-gassing and flaring, capable of handling H_2S conditions and well control shall be used.

e. Well Testing. Except with prior approval by the division, the drill-stem testing shall be conducted only during daylight hours and formation fluids shall not be permitted to flow to the surface (closed chamber only). An operator shall notify the division 24 hours in advance of a drill-stem test if an H_2S contingency plan is required pursuant to this Section.

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

1. API Standards. Operations at crude oil pump stations and producing wells, tank batteries and associated production facilities shall be conducted according 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.

2. Minimum Standards. At a minimum, production from crude oil pump stations and producing wells, tank batteries and associated production facilities shall also be conducted in accordance with the following Subparagraphs and Sub subparagraphs. Where API standards referred to in the previous paragraph are less stringent than the following, the more stringent standards shall apply.

a. Gaseous Mixtures Containing 100 ppm or more. Producing wells containing 100 ppm or more of hydrogen sulfide in the gaseous mixture, crude oil pump stations, tank batteries and associated production facilities, refineries, gas plants and compressor stations, shall be subject to the following:

i. H_2S Contingency Plan. If a potentially hazardous volume of H_2S exists, an H_2S contingency plan shall be required.

ii. Signage. A danger sign or signs shall be posted within 50 feet of each facility to alert the public of the potential hydrogen sulfide danger. If fenced, a danger sign at the gates shall suffice. Danger signs shall be posted at each flow line and gathering line on the well pad that contains hydrogen sulfide gas. The signs shall read "DANGER - POISON GAS - HYDROGEN SULFIDE PRESENT", or, as appropriate "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The signs shall be legible and large enough to be read by all persons entering the well site. . A sign shall be placed at each point where a flow line or gathering line crosses a public road. Each sign shall be legible and shall contain the name of the owner or operator and an emergency telephone number.

iii. Fencing. Fencing and gates shall be required when crude oil pump stations and producing wells, tank batteries and associated production facilities are located in a public area or within a 1/4-mile of a residence, school, church, park, playground, school bus stop or place of business. The fence shall consist of a 5-foot chain link topped by two stands of barbed wire or other designs approved by the division. Gates shall be locked when unattended.

iv. Wind Direction Indicators. Wind direction indicators shall be required at every crude oil pump station, producing well, tank battery and associated production facility where the H_2S concentration in a gaseous state exceeds 100 PPM.

v. Secondary Well Control. Wells where the 100-ppm H_2S radius of exposure incorporates a public area shall possess a secondary means of immediate well control through the use of appropriate christmas tree or downhole completion equipment. Such equipment shall allow downhole accessibility (reentry) under pressure for permanent well control operations.

vi. Automatic Safety Valve or Shutdown. If the 100-ppm radius of exposure involves a public area, the person, operator or facility shall install an automatic safety valve or shutdown at the facility or wellhead or shall install other appropriate shut-in control. The automatic safety valve shall be set to activate upon a release of a potentially hazardous volume of hydrogen sulfide.

b. Tanks or vessels containing 300 ppm or more of hydrogen sulfide in the gaseous mixture shall be subject to the following additional requirements:

i. Each stair or ladder leading to the top of any storage tank shall be chained or marked to restrict entry. For any tank battery that requires fencing pursuant to this Section, a danger sign posted at the gates may be substituted for chaining and signs.

ii. The person, operator or facility shall post a danger sign on or within 50 feet of any storage tank to alert persons of the potential hydrogen sulfide danger. For any storage tank for which fencing is required, a danger sign posted at the locked gates shall suffice. The signs shall read "DANGER - POISON GAS - HYDROGEN SULFIDE PRESENT", or, as appropriate "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The sign(s) shall be legible and large enough to be read by all persons entering the site.

3. Compliance Schedule. Each existing crude oil pump station and producing well, tank battery and associated production facility not currently meeting the requirements and minimum standards set forth herein shall be brought into compliance within one year of the effective date of this Section, except that contingency plans shall be submitted within 180 days. Each crude oil pump station and producing well, tank battery and associated production facility constructed following the effective date of this Section shall be designed, constructed and operated to meet the requirements set forth herein.

H. Personnel Protection and Training. All persons responsible for the implementation of any H_2S 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. Persons, operators and facilities shall choose equipment with consideration for both the H_2S working environment and anticipated stresses. NACE Standard MR0175 (latest edition) shall be used for selection of metallic equipment or, if applicable, adequate protection by chemical inhibition or other methods that control or limits the corrosive effects of H_2S shall be used.

J. Exemptions. An exemption to certain requirements of this Section may be granted by petitioning the director. 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. Submission of a safety plan required by other governmental agencies may accompany the petition for exemption. The director, after considering all relevant factors, may approve an exemption if the circumstances warrant an exemption.

K. Release. Upon a release of hydrogen sulfide the following actions must be taken:

1. Activation of the H_2S Contingency Plan. The person, operator or facility shall activate the H_2S contingency plan immediately upon an H_2S release where the potential exists for exposure to a potentially hazardous volume of H_2S, or where a concentration of H_2S greater than 50 ppm exists at the property line of any well, facility or operation.

2. Notification of the Division. The person, operator or facility shall notify the division upon a release of hydrogen sulfide requiring activation of the H_2S contingency plan as soon as practicable, preferably within one hour of discovery of the release or as soon as possible in cases where 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.

L. Corrective Actions. The division may require corrective actions if necessary to maintain control of a well or any other facility or to safeguard public safety.

Case No. 12897

The following are OCD's post-hearing comments. A revised draft of the proposed rule including these comments is attached as Exhibit A hereto.

Questions raised during the H2S hearing 7_19_02

Q. "Do parts of this rule also apply to facilities with H2S >100 ppm where there is no PHV and what about 711 facilities?" OCD recommends the following:

B. Scope. This Section provides for public safety in areas where hydrogen sulfide gas (H_2S) may exist in concentrations greater than 100 ppm or in a potentially hazardous volume. 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. Exempt from this rule are surface waste management facilities permitted pursuant to 19 NMAC 15.I.711.

Q. "C.5 discrepancy in wording for wildcat wells." OCD recommends the follow:

C5. 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 H_2S. The escape rate is calculated using the maximum daily rate of the gaseous mixture produced or the best estimate thereof. For a natural gas well, the escape rate shall be calculated by using the current daily absolute open flow rate against atmospheric pressure. For an oil well, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate or best estimate thereof. For an oil or natural gas well drilled in an ~~un~~developed area ~~(wildcat well)~~ the escape rate may be determined by using offset wells completed in the interval in question, or using some other reasonable means to calculate the escape rate. For wildcat wells subparagraph C.13.d shall apply. For facilities or operations not mentioned, the escape rate shall be calculated using the actual flow of gaseous mixture through the facility or operation.

Q. "Under Subsection D.4. Recalculation. Do you actually want all results submitted even if the results show no PHV involved?" OCD recommends the following:

4. Recalculation. If operational change or production alterations are made ~~that~~, then recalculations may be made through application of generally accepted engineering principles and generally accepted operating practices. If recalculations indicate that a H2S concentration has become greater than 100 ppm or a 25% or greater increase in the actual volume fraction of hydrogen sulfide ~~may~~ has occured in a given operation or facility, the person, operator or facility shall recalculate the radius of exposure and, if the ROE reveals that a PHV may be present,

submit the results to the division electronically in a generally accepted electronic format that is compatible with the division's systems.

Q. E.8. Retention and On-site Inspection. "Was the intent that these plans actually be on site at every well, flow line, etc.?" OCD Recommends the wording in the title On-site be stricken.

. E.8. Retention and ~~On-site~~ Inspection.

Q. "It appears that subsection D conflicts with subsection F and G on times allowed for submission of plans and compliance schedules. What is your actual intent here?" The intent was to have subsection F operations (i.e drilling workover) to have a plan before commencement of operations, and Subsection G existing facilities (i.e. production operations) to allow 180 days for contingency plans and one year for equipment, signs, fencing etc. For New subsection G facilities after enactment of rule then the intent was they should fully comply with the rule before commencement of operations. Also submittals shall be electronic unless exempted by the Division. OCD recommends the following changes:

D.3.b. If calculation of the radius of exposure reveals that a potentially hazardous volume may be present, the person, operator or facility shall provide the results of the testing and the resulting radius of exposure determinations to the division electronically in a generally accepted electronic format that is compatible with the division's systems ~~within 180 days of~~ before commencing operations or, for existing facilities, within 180 days of the effective date of this Section. ~~An~~ Operators may petition the Division for an extension of the submission date, or for an exception to the electronic submission requirement ~~of the 180 day reporting period~~ pursuant to subsection J of this Section.

E5. Submission. For existing subsection G facilities, ~~T~~the H_2S contingency plan shall be submitted to the division electronically in a form that is compatible with the division's systems and to the local emergency planning committee no later than 180 days following submission of the radius of exposure required in Subsection D of this Section. For subsection F operations ~~T~~the H_2S contingency plan may be submitted separately or along with the application for permit to drill (APD) and ~~may~~ shall be submitted to the division electronically in a generally accepted electronic format that is compatible with the division's systems before commencement of operations.

G3. Compliance Schedule. Each existing crude oil pump station and producing well, tank battery and associated production facility not currently meeting the requirements and minimum standards set forth herein shall be brought into compliance within one year of the effective date of this Section, except that contingency plans shall be submitted within 180 days. Each crude oil pump station and producing well, tank battery and associated production facility constructed following the effective date of this Section shall be designed, constructed and operated to meet the requirements set forth herein.

RESPECTFULLY SUBMITTED,

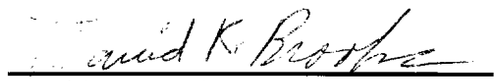

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EXHIBIT A-amended after 7-19-02 hearing
to Application to Amend Rule 118 (Hydrogen Sulfide)

RULE: 19.15.2.52 Hydrogen Sulfide Gas (Hydrogen Sulfide)

OUTLINE:

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    2. API.
    3. ASTM.
    4. Dispersion Technique.
    5. Escape Rate.
    6. GPA.
    7. LEPC.
    8. NACE.
    9. PPM.
    10. Potentially Hazardous Volume.
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    1. API Standards.
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    3. Operating Practices In Hydrogen Sulfide Concentrations of 100 ppm or Greater.
G. Protection from Hydrogen Sulfide at Crude Oil Pump Stations, Producing Wells, Tank Batteries Etc.
    1. API Standards.
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    3. Compliance Schedule.
H. Personnel Protection and Training.
I. Standards for Equipment That May Be Exposed to Hydrogen Sulfide.
J. Exemptions.

K. Release.
    1. Activation of the H_2S Contingency Plan.
    2. Notification of the Division.
L. Corrective Actions.

19.15.2.52 Hydrogen Sulfide Gas (Hydrogen Sulfide)

A. In General. Hydrogen sulfide gas (known by its chemical abbreviation " H_2S" or as "sulfurated hydrogen" or "hydrosulfuric acid") is a flammable, poisonous gas that may occur naturally as a component of crude petroleum and natural gas. The gas has a distinct and characteristic odor of rotten eggs but due to olfactory fatigue may not be sensed by the human sense of smell.

B. Scope. This Section provides for public safety in areas where hydrogen sulfide gas (H_2S) may exist in concentrations greater than 100 ppm or in a potentially hazardous volume. 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. Exempt from this rule are surface waste management facilities permitted pursuant to 19 NMAC 15.I.711.

C. 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. ASTM. The acronym "ASTM" means the american society for testing and materials.
4. Dispersion Technique. A "dispersion technique" is a mathematical representation of the physical and chemical transportation characteristics, dilution characteristics and transformation characteristics of H_2S gas in the atmosphere.
5. 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 H_2S. The escape rate is calculated using the maximum daily rate of the gaseous mixture produced or the best estimate thereof. For a natural gas well, the escape rate shall be calculated by using the current daily absolute open flow rate against atmospheric pressure. For an oil well, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate or best estimate thereof. For an oil or natural gas well drilled in ~~an~~ ~~un~~developed area ~~(wildcat well)~~ the escape rate may be determined by using offset wells completed in the interval in question, or using some other reasonable means to calculate the escape rate. For wildcat wells subparagraph C.13.d shall apply. For facilities or operations not mentioned, the escape rate shall be calculated using the actual flow of gaseous mixture through the facility or operation.
6. GPA. The acronym "GPA" means the gas processors association.
7. 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. § 11001.
8. NACE. The acronym "NACE" refers to the national association of corrosion engineers.
9. PPM. The acronym "ppm" means "parts per million" by volume.
10. Potentially Hazardous Volume (hereinafter referred to as a "potentially hazardous volume" or by the acronym "PHV") means the volume of hydrogen sulfide gas of such concentration that:
    a. the 100 ppm radius of exposure includes any public area as defined herein;
    b. the 500 ppm radius of exposure includes any public road as defined herein; or
    c. the 100 ppm radius of exposure is in excess of 3,000 feet.
11. Public Area. A "public area" is any dwelling, office, place of business, church, school, hospital, school bus stop, government building, or any portion of a park, city, town, village or other similar area where members of the public may reasonably be expected to be present.
12. Public Road. A "public road" is any federal, state, municipal or county road or highway or postal route.
13. Radius of Exposure. The radius of exposure (hereinafter referred to as "radius of exposure" or "ROE") is an imaginary circle constructed around a point of escape the radius of which is

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: $X= [(1.589)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$, or

b. For determining the 500-ppm radius of exposure: $X=[(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$

Where: X= radius of exposure in feet: hydrogen sulfide concentration = decimal equivalent of the mole or volume fractions of hydrogen sulfide in the gaseous mixture; Q= maximum volume of gas determined to be available for escape in cubic feet per day (corrected for standard conditions of 14.73 psia and 60°F).

c. Where multiple sources of hydrogen sulfide are present (e.g. wells, treatment equipment, flow lines, etc.), the radius of exposure may encompass a larger area than would otherwise be calculated using a radius of exposure computation for each component part.

d. For a well being drilled in an area where insufficient data exits 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.

D. Determination of Hydrogen Sulfide Risk.

1. Determination of Hydrogen Sulfide Concentration.

a. Each person, operator or facility to which this Section applies shall determine the hydrogen sulfide concentration within each of its operations or systems. A representative sample for each system or operation may be used for testing provided that the person, operator or facility can demonstrate that the concentration derived from a test of the representative sample is reasonably representative of the hydrogen sulfide concentration within the operation or system.

b. The tests referred to in the previous Subparagraph shall be conducted in accordance with applicable ASTM or GPA standards or by other methods approved by the division.

c. If a representative sample from a system or operation was tested within one (1) year of the effective date of this Section, new testing shall not be required; provided, however, new testing shall not be required for a producing well that was tested at any time prior to the effective date of this Section.

d. The Division may disapprove the test methodology and require additional testing if the testing methodology did not conform to the requirements of this Section.

2. Tested Concentrations Below 100 ppm. If the testing described in the previous Paragraph determines that the hydrogen sulfide concentration in a given operation or system is less than 100 ppm, no further actions are required pursuant to this Section.

3. Tested Concentrations Above 100 ppm; Calculation of the Radius of Exposure.

a. If the testing described in Paragraph 1 of this Subsection determines that the concentration of hydrogen sulfide in a gaseous mixture is 100 ppm or greater, then the person, operator or facility must calculate the radius of exposure pursuant to this Section.

b. If calculation of the radius of exposure reveals that a potentially hazardous volume may be present, the person, operator or facility shall provide the results of the testing and the resulting radius of exposure determinations to the division electronically in a generally accepted electronic format that is compatible with the division's systems ~~within 180 days of~~ before commencing operations or, for existing facilities, within 180 days of the effective date of this Section. An Operators may petition the Division for an extension of the submission date, or for an exception to the electronic submission requirement ~~180-day reporting period~~ pursuant to subsection J of this Section.

4. Recalculation. If operational change or production alterations are made ~~that~~, then recalculations may be made through application of generally accepted engineering principles and generally accepted operating practices. If recalculations indicate that a H_2S concentration has become greater than 100 ppm or a 25% or greater increase in the actual volume fraction of hydrogen sulfide ~~may~~ has occured in a given operation or facility, the person, operator or facility shall recalculate the radius of

exposure and, if the ROE reveals that a PHV may be present, submit the results to the division electronically in a generally accepted electronic format that is compatible with the division's systems.

E. H_2S Contingency Plan.

1. In General. An H_2S contingency plan is a written document that provides a plan of action that will be used to alert and protect persons at risk in the event of a potentially significant release of hydrogen sulfide gas. The Plan must be developed in accordance with the following paragraphs.

2. When Required. An H_2S contingency plan must be prepared whenever a potentially hazardous volume of hydrogen sulfide may be present.

3. Input of Emergency Response Authorities and the Division. The person, operator or facility shall seek input on the proposed H_2S contingency plan from the division, the New Mexico department of public safety (and as appropriate the New Mexico state police), the local emergency planning committee, the county sheriff, city or municipal police, and/or police and fire departments.

4. Elements.

a. Elements Required for Each Plan:

i. A detailed description of each action to be taken in the event of a release of a potentially hazardous volume of hydrogen sulfide, including an immediate action plan that substantially conforms to paragraph 7.6 of 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;

ii. A call list including the following as applicable:

aa. local supervisory personnel;
bb. county sheriff;
cc. the department of public safety and state police;
dd. city or municipal police;
ee. the appropriate division district office; and
ff. other public agencies as appropriate.

iii. A plat or map detailing the area within the radius of exposure of a potentially hazardous volume; and

iv. A list of the names and telephone numbers of all personnel to be contacted when a release is reported or suspected.

b. Where the 500-ppm radius of exposure encompasses any public road, the person, operator or facility shall include the following additional elements in the H_2S contingency plan:

i. Instructions and procedures for alerting and coordinating with emergency response authorities in the event of a release of a potentially hazardous volume of hydrogen sulfide at any public road;

ii. A plat or map detailing the area of exposure, including the locations of public roads within the radius of exposure of a potentially hazardous volume;

iii. A plan to divert traffic and safely get existing traffic off the road and out of danger.

c. Where the 100-ppm radius of exposure encompasses any public area, the following additional elements shall be included in the H_2S contingency plan:

i. detailed plans of action to alert and protect persons in the event of a release of a potentially hazardous volume of hydrogen sulfide, including instructions and procedures for alerting persons at risk and emergency response authorities in the event of a release of a potentially hazardous volume of hydrogen sulfide;

ii. a call list including all the persons set forth in Sub subparagraph E(4)(a)(ii), above, and the following:

aa. ambulance services;
bb. hospitals;
cc. county and city fire departments;
dd. doctors;
ee. contractors for supplemental or emergency equipment; and

ff. other public agencies as appropriate.

iii. a statement describing how emergency response actions will be coordinated with the division and the New Mexico state police, consistent with the New Mexico hazardous materials emergency response plan (HMER);

iv. a plat or map detailing the area of exposure, including the locations of private dwellings or residences, public facilities such as schools, businesses, public roads or other similar areas where the public may be reasonably expected to be present within the radius of exposure;

v. the names and telephone numbers of all persons living within the radius of exposure of 100 ppm hydrogen sulfide and contact persons for each public area, such as churches, schools and businesses;

vi. provisions for advance briefing of affected and responsible persons within the radius of exposure. Such advance briefing shall include the hazards and characteristics of hydrogen sulfide, the necessity for an H_2S contingency plan, the possible sources of hydrogen sulfide within the radius of exposure, instructions for reporting a gas leak, the manner in which persons will be notified in the event of an emergency and steps to be taken in an emergency; and

vii. in lieu of the previous subparagraph, a reaction-type plan may be prepared and submitted that provides for mass notification of a hydrogen sulfide leak and for an evacuation of affected areas;

viii. additional support information, if applicable, such as the location of emergency evacuation routes, the location of safety and life support equipment, the location of hydrogen sulfide containing facilities, the location of nearby telephones or other means of communication and special instructions for conditions at a particular installation such as local terrain and the effect of various weather conditions.

d. Additional Requirements. The division may impose additional requirements or modify requirements based on site-specific conditions, population density or special circumstances.

5. Submission. For existing subsection G facilities ~~T~~the H_2S contingency plan shall be submitted to the division electronically in a form that is compatible with the division's systems and to the local emergency planning committee no later than 180 days following submission of the radius of exposure required in Subsection D of this Section. For subsection F operations ~~T~~the H_2S contingency plan may be submitted separately or along with the application for permit to drill (APD) and ~~may~~ shall be submitted to the division electronically in a generally accepted electronic format that is compatible with the division's systems. before commencement of operations.

6. Failure to Submit Plan. Failure to submit an H_2S contingency plan when required may result in denial of an application for permit to drill that well, cancellation of an allowable or other appropriate enforcement action.

7. Annual Review, Amendment. The person, operator or facility shall review the H_2S contingency plan on an annual basis, if activation of a plan reveals a deficiency or, if changes to processes, concentrations of hydrogen sulfide or other circumstances occur. The person, operator or facility shall submit any amendments to the division electronically in a form that is compatible with the division's systems and to the local emergency planning committee. Reasonable efforts shall be taken to update on an annual basis the names and telephone numbers of persons designated in E.4.c.v.within the 100 ppm radius of exposure.

8. Retention and ~~On-Site~~ Inspection. An H_2S contingency plan shall be reasonably accessible in the event of a release and maintained on file at all times and shall be available for inspection by the Division.

9. Activation Levels. The H_2S contingency plan shall be activated in the event of a release of a potentially hazardous volume of H_2S above the respective thresholds (i.e. 500 ppm radius at any public road, 100 ppm radius at any public area, etc.) or if a sustained concentration of H_2S exceeds 50 ppm at the property line of any facility, well or operation.

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

1. API Standards. All drilling, completion, workover and well servicing operations 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 Safe Drilling of Wells Containing Hydrogen Sulfide," RP-49, most recent edition.

2. Minimum Standards. At a minimum, and possibly in addition to the foregoing API standards, each drilling, completion, workover and well servicing operation shall also be conducted in accordance with the following:

a. Before Commencing Operations. The person, operator or facility shall complete an H_2S contingency plan, where required, before commencement of operations. In addition, hydrogen sulfide training shall be completed and all related safety equipment and warning systems shall be operational before commencement of operations. Detection and monitoring equipment is not required for drilling from the surface to within 500 feet of the zone anticipated to contain hydrogen sulfide.

b. Egress Routes. The person, operator or facility shall maintain passable egress routes at all times during operations.

c. Safety, Detection and Monitoring Equipment. The person, operator or facility shall provide hydrogen sulfide detection and monitoring equipment as follows:

i. Each drilling and completion site shall have a hydrogen sulfide detection and monitoring system that automatically activates visible and audible alarms when the ambient air concentration of hydrogen sulfide reaches 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.

ii. The detection system shall be calibrated, tested and the results recorded monthly. Each test of the hydrogen sulfide monitoring system shall be recorded on the driller's log or its equivalent.

iii. 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.

iv. Hydrogen sulfide detection, safety and monitoring equipment must be provided and the prescribed safety equipment must be made operational during drilling when drilling is within 500 feet of the zone anticipated to contain hydrogen sulfide and continuously thereafter through all subsequent drilling.

d. Wind Indicators and Signs.

i. 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.

ii. Danger or caution signs shall be displayed along all accesses to the site. The signs shall read "DANGER - POISON GAS, HYDROGEN SULFIDE PRESENT" or, as appropriate, "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division, and in smaller lettering: "Do Not Approach If Red Flag is Flying" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The signs shall be legible and large enough to be read by all persons entering the well site and shall be placed a minimum of 200 feet but no more than 500 feet from the well site and at a location which allows vehicles to turn around at a safe distance prior to reaching the site.

iii. When a sustained concentration of hydrogen sulfide is detected in excess of 20 ppm at any detection point, red flags shall be displayed.

e. If Hydrogen Sulfide Encountered During Operations. If hydrogen sulfide was not anticipated at the time the division approved the APD but is encountered during drilling in excess of 100 ppm in the gaseous mixture, the operator shall immediately ensure control of the well, suspend drilling operations unless detrimental to well control, and obtain materials and safety equipment to bring the operations into compliance with this Section. The operator shall notify the division of the event and the mitigating steps that have or are being taken as soon as possible, but no later than 24 hours following discovery.

3. Operating Practices In Hydrogen Sulfide Concentrations of 100 ppm or Greater. Operating practices in areas known to contain a concentration of hydrogen sulfide gas of 100 ppm or greater in the gaseous mixture shall be subject to the following requirements:

a. If Hydrogen Sulfide Is Encountered During Use of Air, Gas, Mist or Other Non-Mud Circulating Media. If hydrogen sulfide gas in excess of 100 ppm is encountered while drilling with air, gas, mist or other non-mud circulating mediums for aerated mud, the well shall be killed with a water- or oil-based mud, and mud shall be used thereafter as the circulating medium for continued drilling. An alternate drilling method may be used after encountering hydrogen sulfide in excess of 100 ppm, but only if the alternative method is specifically approved by the Division.

b. Flare System. For drilling and completion operations, the person, operator or facility shall install a flare system to safely gather and burn hydrogen sulfide-bearing gas, unless exempted pursuant to Subsection J. Flare outlets shall be located as far from the well bore as feasible but not less than 150 feet from the well. 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 be provided supplemental fuel to maintain ignition.

c. Remote Controlled Choke. When a potentially hazardous volume of H_2S may be present in any public area, the following measures shall be taken:

i. The person, operator or facility shall install a remote controlled choke during drilling and during completion and well servicing operations when the 100-ppm H_2S radius of exposure includes a public area, unless exempted pursuant to Subsection J;

ii. For completion or workover operations, the person, operator or facility may install a suitable alternative to a remote choke (i.e. a remote controlled valve, blow out preventer with remote accumulator, etc. may be used); and

iii. For drilling operations, the person, operator or facility shall install a remote controlled choke or remote controlled valve that includes, at a minimum, a pressure and hydrogen sulfide-rated well control choke and kill system including manifold and blowout preventer pursuant to specifications API-16C and API-RP 53. The blowout preventer stack shall have at least one spool for the kill and choke lines, two pipe rams, one blind ram, one annular device and a rotating head. Mud-gas separators shall also be used. These systems shall be tested and maintained pursuant to the specifications referenced or other division rules, if more stringent. Variations to blowout preventer stack arrangements may be granted by the division for good cause shown.

d. Mud Program. A mud program, including de-gassing and flaring, capable of handling H_2S conditions and well control shall be used.

e. Well Testing. Except with prior approval by the division, the drill-stem testing shall be conducted only during daylight hours and formation fluids shall not be permitted to flow to the surface (closed chamber only). An operator shall notify the division 24 hours in advance of a drill-stem test if an H_2S contingency plan is required pursuant to this Section.

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

1. API Standards. Operations at crude oil pump stations and producing wells, tank batteries and associated production facilities shall be conducted according 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.

2. Minimum Standards. At a minimum, production from crude oil pump stations and producing wells, tank batteries and associated production facilities shall also be conducted in accordance with the following Subparagraphs and Sub subparagraphs. Where API standards referred to in the previous paragraph are less stringent than the following, the more stringent standards shall apply.

a. Gaseous Mixtures Containing 100 ppm or more. Producing wells containing 100 ppm or more of hydrogen sulfide in the gaseous mixture, crude oil pump stations, tank batteries and associated production facilities, refineries, gas plants and compressor stations, shall be subject to the following:

i. H_2S Contingency Plan. If a potentially hazardous volume of H_2S exists, an H_2S contingency plan shall be required.

ii. Signage. A danger sign or signs shall be posted within 50 feet of each facility to alert the public of the potential hydrogen sulfide danger. If fenced, a danger sign at the gates shall suffice. Danger signs shall be posted at each flow line and gathering line on the well pad that contains hydrogen sulfide gas. The signs shall read "DANGER - POISON GAS - HYDROGEN SULFIDE PRESENT", or, as appropriate "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The signs shall be legible and large enough to be read by all persons entering the well site. . A sign shall be placed at each point where a flow line or gathering line crosses a public road. Each sign shall be legible and shall contain the name of the owner or operator and an emergency telephone number.

iii. Fencing. Fencing and gates shall be required when crude oil pump stations and producing wells, tank batteries and associated production facilities are located in a public area or within a 1/4-mile of a residence, school, church, park, playground, school bus stop or place of business. The fence shall consist of a 5-foot chain link topped by two stands of barbed wire or other designs approved by the division. Gates shall be locked when unattended.

iv. Wind Direction Indicators. Wind direction indicators shall be required at every crude oil pump station, producing well, tank battery and associated production facility where the H_2S concentration in a gaseous state exceeds 100 PPM.

v. Secondary Well Control. Wells where the 100-ppm H_2S radius of exposure incorporates a public area shall possess a secondary means of immediate well control through the use of appropriate christmas tree or downhole completion equipment. Such equipment shall allow downhole accessibility (reentry) under pressure for permanent well control operations.

vi. Automatic Safety Valve or Shutdown. If the 100-ppm radius of exposure involves a public area, the person, operator or facility shall install an automatic safety valve or shutdown at the facility or wellhead or shall install other appropriate shut-in control. The automatic safety valve shall be set to activate upon a release of a potentially hazardous volume of hydrogen sulfide.

b. Tanks or vessels containing 300 ppm or more of hydrogen sulfide in the gaseous mixture shall be subject to the following additional requirements:

i. Each stair or ladder leading to the top of any storage tank shall be chained or marked to restrict entry. For any tank battery that requires fencing pursuant to this Section, a danger sign posted at the gates may be substituted for chaining and signs.

ii. The person, operator or facility shall post a danger sign on or within 50 feet of any storage tank to alert persons of the potential hydrogen sulfide danger. For any storage tank for which fencing is required, a danger sign posted at the locked gates shall suffice. The signs shall read "DANGER - POISON GAS - HYDROGEN SULFIDE PRESENT", or, as appropriate "CAUTION - POISON GAS - HYDROGEN SULFIDE MAY BE PRESENT" or equivalent language approved by the division. Each sign shall be painted in colors that satisfy Table 1 of ANSI standard Z53.1-1967 or regulations of the federal occupational safety and health administration. The sign(s) shall be legible and large enough to be read by all persons entering the site.

3. Compliance Schedule. Each existing crude oil pump station and producing well, tank battery and associated production facility not currently meeting the requirements and minimum standards set forth herein shall be brought into compliance within one year of the effective date of this Section, except that contingency plans shall be submitted within 180 days. Each crude oil pump station and producing well, tank battery and associated production facility constructed following the effective date of this Section shall be designed, constructed and operated to meet the requirements set forth herein.

H. Personnel Protection and Training. All persons responsible for the implementation of any H_2S 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. Persons, operators and facilities shall choose equipment with consideration for both the H_2S working environment and anticipated stresses. NACE Standard MR0175 (latest edition) shall be used for selection of metallic equipment or, if applicable, adequate protection by chemical inhibition or other methods that control or limits the corrosive effects of H_2S shall be used.

J. Exemptions. An exemption to certain requirements of this Section may be granted by petitioning the director. 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. Submission of a safety plan required by other governmental agencies may accompany the petition for exemption. The director, after considering all relevant factors, may approve an exemption if the circumstances warrant an exemption.

K. Release. Upon a release of hydrogen sulfide the following actions must be taken:

1. Activation of the H_2S Contingency Plan. The person, operator or facility shall activate the H_2S contingency plan immediately upon an H_2S release where the potential exists for exposure to a potentially hazardous volume of H_2S, or where a concentration of H_2S greater than 50 ppm exists at the property line of any well, facility or operation.

2. Notification of the Division. The person, operator or facility shall notify the division upon a release of hydrogen sulfide requiring activation of the H_2S contingency plan as soon as practicable, preferably within one hour of discovery of the release or as soon as possible in cases where 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.

L. Corrective Actions. The division may require corrective actions if necessary to maintain control of a well or any other facility or to safeguard public safety.