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December 21, 2005

Ms. Florene Davidson
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Industry Committee Comments
Draft 11/14/05 Surface Waste Management Rules,
19.15.2.53 NMAC

Dear Oil Conservation Division:

We are submitting this letter on behalf of Bill Carr, joint counsel for the Industry Committee on the Surface Waste Management Rules. The Industry Committee represented by Mr. Carr is comprised of representatives of BP America Production Company, Inc., Burlington Resources Oil & Gas Company, LP, ConocoPhillips Company, Devon Energy Production Company, Dugan Production Corp., Marathon Oil Company, Marbob Energy Corporation, Occidental Permian, Ltd, OXY USA, Inc., OXY USA WTP Limited Partnership, XTO Energy, Inc. and Yates Petroleum Corporation, plus others who have assisted, but not yet formally joined, all of whom have extensive oil and gas operations within the State of New Mexico. This comment letter is an Industry Committee effort to incorporate current science and operation flexibility into the Oil Conservation Division's (OCD's) November 14, 2005 amendments to the proposed surface waste management regulations. The Industry Committee, made up of the listed oil and gas companies, has multiple facilities and operations that the revised regulations will substantially impact.

The Industry Committee is concerned that many of these regulation amendments are not based upon sound science and, as a result, place additional requirements on New Mexico operators without commensurate environmental benefits. Several experts in the fields of hydrocarbon remediation and soil science are providing written and oral testimony regarding these proposed revisions. These experts are Dr. Kerry L. Sublette, Director of the Integrated Petroleum Environmental Consortium and Sarkeys Professor of Environmental Engineering at the University of Tulsa, a recognized expert in hydrocarbon remediation by landfarming; Dr. Ben Thomas of Exponent (formally with Risk Assessment & Management Group, Inc.), a recognized expert in hydrocarbon toxicology and risk assessments; Dr. Daniel Stephens, of

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Daniel B. Stephens & Associates, Inc. a recognized expert in vadose zone hydrogeology and groundwater quality issues; and Mr. Mark Miller, of Daniel B. Stephens & Associates, Inc., an expert in landfill permitting, design, and operations.

I. GENERAL COMMENTS

A. Technical Issues

1. **There is no technical justification for the proposed maximum 1000 mg/kg acceptable chloride concentration for landfarming.** As outlined in the testimony of Dr. Sublette and Dr. Stephens testimonies will outline a proposed a flexible approach based on mass loading that can protect fresh ground water, public health, and the environment.
2. **The proposed 100 mg/kg TPH threshold for surface waste management facilities (landfarms and landfills) do not reflect the best science.** As outlined in Dr. Sublette and Dr. Thomas testimony, an approach that considers degree of risk, bioremediation, and the types of petroleum residuals provides a stronger, more flexible program that is protective of fresh water, public health and the environment.
3. **The proposed landfill design is not reflective of the most current science.** Mr. Miller's testimony will address current landfill design and operations that are protective of fresh water, public health, and the environment.
4. **The proposed rules adopt an inflexible, one-size-fits-all approach to regulating surface waste management facilities, regardless of the fact that such facilities vary in size, nature of waste treated, location, and timeframe of operation. As a result, the risk presented by the various facilities varies considerably.** The Industry Committee believes that appropriate regulation should be flexible and tailored to science and the degree of risk presented by each type of facility. In summary, the Industry Committee offers the following approach:

Step 1. High risk facilities should be identified and are appropriately subject to site-specific permitting requirements. Examples of such facilities include commercial landfills and landfarms and large facilities where wastes may be managed over time, increasing the possible threat to drinking water, public health and the environment.

Step 2. Lower risk facilities should be registered and subjected to minimum operational requirements, but should not require site-specific permitting that may

interfere with management of oilfield wastes. Examples include spill remediation landfarming efforts, and evaporation ponds which are best regulated as pits.

Step 3. An appropriate risk-based hydrocarbon clean up and closure standards or approach should be established by rule for each type of facility. Total petroleum hydrocarbons (TPH) are not the best means of assessing potential threats to fresh water and public health. Instead, NMED Tier 1 hydrocarbon constituents (discussed below) for gasoline range organics and periodic TPH-Diesel Range Organics (TPH-DRO) testing to show when the bioremediation endpoint is reached, and hence toxicity reduced to acceptable limits, presents a stronger technical approach.

Step 4. The best current science should be used to determine site operations and closure for chlorides through modeling and risk. Then operators prepare a chloride management plan as part of the overall permitted facility operations plan that demonstrates how chlorides will be managed to prevent a potential threat to drinking water.

This strong scientifically-based approach will allow the Division's limited resources to be focused on those facilities posing the greatest environmental risk while allowing prompter cleanup at smaller sites that pose no realistic threat to fresh water, public health or the environment.

II. SPECIFIC COMMENTS

In addition to the general comments presented above, the Industry Committee provides a) in Attachment A specific amendments to the surface waste management revised rules, and b) the following specific comments to the proposed revisions.

Proposed 19.15.2.53 Surface Waste Management Facilities.

19.15.2.53(A) (1) and (B)

The Industry Committee supports the recommendations of Drs. Stephens, Sublette, and Thomas that landfarms be split into two classes:

Class "A" landfarms, which are either (i) commercial facilities or (ii) large centralized facilities expected to manage large volumes of contaminated soils and oil field wastes, and to continue in operation for an extended period of time.

Class "B" landfarms, which operated less than three years and expected to manage smaller volumes of contaminated soil and oil field wastes.

Both commercial and large centralized facilities can be expected to operate for longer periods of time, giving rise to a greater risk that landfarm operation might adversely affect fresh

water, public health or the environment. On the other hand, small landfarms (e.g., those than handle less than 8000 cubic yards of material) that may operate for less than three years, typically do not present a realistic threat to fresh water, public health or the environment when using "best management practices". Because these smaller and short-term facilities present less risk, they do not require the degree of site-specific review that larger commercial or centralized facility might.

Therefore, the Industry Committee proposes to require landfills and Class A landfarms to obtain a division approved permit and Class B landfarms to register with the division. Conforming changes are made to 19.15.2.53(A)(1) and (2):

- (1) No person shall operate a surface waste management facility *other than an evaporation pond or Class B landfarm* except pursuant to and in accordance with the terms and conditions of a division-issued surface waste management facility permit, unless such facility is exempt from permitting pursuant to Paragraph (2) of Subsection A of 19.15.2.53 NMAC.
- (2) The following facilities are exempt from the permitting *and registration* requirements of 19.15.2.53 NMAC, but not from the requirements of 19.15.2.50 NMAC regarding pits: [listing]

19.15.2.53(B)(1)

In this section, the Industry Committee proposes to define the two categories of Class A and Class B landfarms as follows:

- (a) Class A landfarm is (i) any commercial facility or (ii) any centralized facility that operates more than 3 years, manages greater than 8000 cubic yards of materials. Class A landfarms require a division-issued site-specific surface waste management facility permit.
- (b) Class B landfarm is a centralized facility that operates less than 3 years, manages between 1400 and 8000 cubic yards of material, remediates soils/solids to risk-based clean up standards, and is closed in place or closed by removing soils/solids for beneficial reuse (roads, berms, or other industrial uses). Class B landfarms require a notice of registration with the division.

19.15.2.53(C)

The Industry Committee proposes changes in the initial language of this section to exclude evaporation pits and Class B landfarms from permitting requirements. Class B landfarms are best handled under a registration and best management practice approach to encourage use of these facilities to encourage cleanups, as outlined above. Therefore proposes that this section be amended to read as follows:

C. Landfills and Class A Landfarms Permitting requirements. Unless exempt from 19.15.2.53 NMAC, all new *surface waste management facilities other than evaporation ponds and Class B landfarms* shall, prior to commencement of construction, and all *such* existing facilities shall, prior to major modification, be permitted by the division in accordance with the applicable requirements of Subsection C of 19.15.2.53 NMAC.

19.15.2.53(C)(1)

In paragraph (C)(1)(I), the Industry Committee proposes to qualify that only existing geological/hydrological data from available information/references or newly acquired site

specific data need to provided. Expert experience has shown that detailed hydrogeological data of the type suggested by the existing rule is not needed for design and development of an operations plan to protection of fresh water, public health and the environment. The Industry Committee proposes the following revised paragraph:

- (l) geological/hydrological data *from available information/references or newly acquired site specific data* including:
- (i) depth to and quality of *fresh* ground water beneath the site;
 - (ii) [no change]
 - (iii) [DELETE]
 - (iv) depth to, name of and thickness of the shallowest fresh water aquifer *unless referenced data indicates that fresh ground water is not present beneath the site;*
 - (v) [no change]
 - (vi) [no change]
 - (vii) potentiometric maps for the shallowest fresh water aquifer *unless referenced data indicates that fresh ground water is not present beneath the site;*
 - (viii) porosity and permeability for the soil on which the contaminated soils will be placed;
- (m) certification by *the applicant* that information submitted in the application is true, accurate and complete to the best of *its* knowledge; and
- (n) [DELETED MATERIAL] *a demonstration* that the facility's operation will not adversely impact fresh water, public health or the environment and that the facility will comply with division rules and orders.

19.15.2.53(D)

This section should be stated as apply to facilities "other than evaporation ponds and Class B landfarms" consistent with comments above.

19.15.2.53(E)(1)

Industry Committee objects to the proposed limitation on facilities with groundwater less than 50 feet below ground surface. Based on the environmental setting, a properly engineered and operated facility poses little substantial risk to groundwater in such a situation. This provision should be *deleted*.

19.15.2.53(E)(12)

In subparagraph (a), the Industry Committee recommends that the requirement for leak detection systems be caveated as applicable to those facilities which have such systems. In addition, weekly sampling is more stringent than necessary. Monthly sampling will provide an adequate measure of protection. The introductory wording for paragraph (a) be revised as follows: "*for facilities with leak detection system, monthly inspection of leak detection sumps and...*"

The Industry Committee objects to the requirement in paragraphs (E)(12)(b) because monthly inspections and sampling of all monitor wells is too frequent. The federal Resource Conservation and Recovery Act regulations, as adopted by New Mexico, typically require at most quarterly or semi-annual sampling of ground water monitoring wells at *hazardous waste* facilities. The Industry Committee does not see why more frequent monitoring is required for oil field waste facilities that present less of an environmental risk.

The Industry Committee objects to the language in proposed paragraphs (E)(12)(c) and (d) as it requires inspections to be performed after “any” rainfall and an inspection of berms after “any” windstorm. This language is vague, so these regulations be amended to read as follows:

- (c) inspections and maintenance of berms in such a manner as to prevent excessive erosion; and
- (d) inspections and maintenance of outside walls of all levees in such a manner as to prevent excessive erosion.

19.15.2.53(E)(13)

The Industry Committee objects to the requirement to control the 100-year storm event. A storm event of this size is rare and the quantity of water involved is significant. The Industry Committee recommends that OCD follow the U.S. Environmental Protection Agency’s standard practice of requiring protection for up to a 25-year, 24-hour storm event. This provides an adequate measure of protection without excessive surface disturbance or unnecessary increase in the size of the facilities.

19.15.2.53(F)(1)

In paragraph (F)(1) for Permitted Landfills, there is no sound technical basis for imposing an across-the-board 5 acre limit. Instead, the size of the cells is an appropriate area for the exercise of technical judgment during the permit process. A properly designed facility should be protective of fresh water, public health and the environment.

19.15.2.53(F)(2)

In paragraph (F)(2), the Industry Committee objects to the proposed liner requirements as not reflecting best current practice. Based upon consultation with experts in the industry, the Industry Committee believes that the following language better reflects best current practices:

(2) Landfills shall be constructed using composite liners with leachate collection and removal systems, if needed to protect fresh ground water. Liner components may include synthetic or natural low permeability materials, such as 40-mil HDPE, geosynthetic clay liners, clay, or other earthen materials with a saturated hydraulic conductivity less than 1×10^{-7} cm/sec, or equivalent. The Division may reduce liner requirements based on an applicant’s demonstration to the division’s satisfaction, that fresh water will not be adversely impacted.

Please refer to the testimony and submissions of Mr. Miller.

19.15.2.53(F)(8)-(9)

The Industry Committee objects to the requirement in proposed paragraphs (8) and (9) as being overly prescriptive. There are some applications where cover may be more appropriately applied using an alternative methodology. If this alternative is acceptable to the division, it should be used without the necessity of also going through a variance procedure, which imposes additional burden on both the division and the applicant. More specifically, the frequency of cover application (paragraph (F)(8)), the thickness of daily cover (paragraph (F)(9)(a)), the one month coverage requirement (paragraph (F)(9)(b)) are examples of overly prescriptive conditions. Similar, the requirement that the operator provide an intermediate cover that shall be

“inspected and maintained to prevent erosion and infiltration.” It is impossible to prevent infiltration. This requirement would have the practical purpose of preventing the use of a landfill.

19.15.2.53(F)(10)

The Industry Committee objects to the limitation of two open cells. Modern landfill practice increasingly emphasizes the use of monofills within a cell. The use of monofilling requires, however, that separate cells be open for each type of waste used in monofilling. Within reason, monofilling and the use of generator specific landfills enhance the protectiveness of landfilling and should be encouraged, not prohibited, by the division’s rules. The limit on the number of open landfill cells should be *deleted*.

19.15.2.53(F)(11) and new (F)(13)

Groundwater monitoring should only be required where necessary. If there is not fresh water under the landfill, groundwater monitoring is inappropriate and should not be required. Because the absence of fresh water is not uncommon in parts of New Mexico, that situation should be addressed directly by the rules. The Industry Committee proposes adding the following phrase to the proposed rule: *“If necessary to protect fresh ground water, a...”* , and also recommends a new subparagraph (F)(13), which would provide as follows:

(13) The Division may suspend part of all groundwater monitoring requirements based on an applicant’s demonstration that fresh ground water will not be adversely impacted during the active life of the landfill and post-closure care period.

19.15.2.53(G)

The Industry Committee recommends that the conditions set forth in this section are appropriate for Class A landfarms, but more stringent than necessary or desirable for smaller facilities basically used for a short time to address a specific remedial problem. The Industry Committee proposes to address such small, temporary facilities as Class B landfarms in a new section (K). 19.15.2.53(G) should be amended to limit it to operation requirements for “Class A landfarms.”

19.15.2.53(G)(1)

The Industry Committees believes that the best approach for larger Class A landfarms is to require the development of a landfarm operational plan that lays out the technical approach that the operator will use to bioremediate oilfield wastes and manage chlorides. The Industry Committee proposes the following condition:

(1) The operator shall submit for division approval a landfarm operations plan. The plan shall be based on the environmental setting and landfarm design, and address waste acceptance procedures, representative waste sampling and analysis, cell operations, salt management program, waste placement plan, storm water management, bioremediation program (depth placement, moisture management, tilling schedule, bioremediation end-point [e.g., using TPH DRO], treatment zone and below treatment zone sampling and analysis program, and annual reporting and certification.

The submissions and testimony of Drs. Sublette, Thomas, and Stephens lay out the benefits of this approach. The proposed landfarm operations plan addresses the bioremediation mechanisms, the desired bioremediation end-point with measurement criteria, management of chlorides, and provides for a site-specific approach to ensuring appropriate landfarm operation.

The Industry Committee objects to the prohibition in proposed paragraph (G)(1) that does not allow soils and soil-like materials with a chloride concentration greater than 1000 mg/kg from being placed in a landfarm.¹ Dr. Sublette will testify that soil remediation may occur in soils with chloride concentrations in excess of 1000 mg/kg. Dr Stephens will testify that higher chlorides can be placed on the landfarm and managed to protect fresh water, the public and environment. The Industry Committee proposes that this condition be substantially revised as follows:

Only soils and soil like material such as drill cuttings or tank bottoms shall be placed in landfarm. The person tendering waste for treatment at a landfarm shall provide an analysis of representative samples of the waste for chloride content.

19.15.2.53(G)(2)

There is no sound technical basis for imposing an across-the-board 5 acre limit for landfarms. Instead, the size of the cells is an appropriate area for the exercise of technical judgment during the permit process. A properly designed facility should be protective of fresh water, public health and the environment. The Industry Committee objects to the five acre cell limit.

New 19.15.2.53(G)(4)

The Industry Committee proposes that the regulations establish a default monitoring and beneficial reuse standard for Class A landfarms as follows:

(4) Unless otherwise provided in the landfarm operations plan approved by the division, the treatment zone shall be sampled and analyzed for TPH-DRO semiannually. The operator shall plot the TPH-DRO results to determine the bioremediation endpoint of the treatment zone. Once the bioremediation endpoint is reached, the soil may be beneficially reused or another lift may be added.

As the experts will testify at the hearing, the TPH-DRO test is a good indicator of the success of bioremediation. If the TPH-DRO level does not differ substantially between two tests, that indicates that bioremediation has reached its endpoint and that the toxicity has been addressed and the cell is either ready to have the soil removed for beneficial reuse or that another lift can be added.

19.15.2.53(G)(5)

This provision is subsumed in new (G)(1), which requires a landfarm operations plan.

¹ In the initial version of these regulations, OCD allowed salt-contaminated waste of up to 2000 mg/kg to be placed in landfarms. See previous proposed 19.15.2.53(G)(12) NMAC. It is unclear why OCD reduced the allowable chloride concentration.

19.15.2.53(G)(6)

The Industry Committee proposes substantial revisions to paragraph (G)(6).

(5) Unless otherwise provided in the landfarm operations plan approved by the division, the soils below the treatment zone in each new or modified landfarm cell shall be monitored to ensure that hydrocarbons or chlorides are not transferred to the underlying native soil at a rate that would endanger fresh ground water. A treatment zone shall not exceed three feet in depth from the ground surface. Semi-annually, a minimum of four representative samples shall be taken from different locations within each landfarm cell after the first contaminated soils are received. The samples shall be taken from three feet below the cell's original surface. The samples shall be analyzed, using EPA approved methods, for chloride, and benzene, toluene, ethyl benzene and xylenes (BTEX), a subset of the NMED Tier I constituents, all major cations and anions and selected metals, annually. If the chlorides exceed [DB STEPHENS MODEL NUMBER] or BTEX exceeds ten times the NMED Tier I constituent levels, the next semiannual sampling event shall be completed at five feet below the cell's original surface and shall include all of the NMED Tier I constituents, plus all major cations, anions and selected metals (if conducted in conjunction with the annual sampling). Reports showing the results of the analyses shall be submitted to the environmental bureau in division's Santa Fe office no later than 45 days after completion of the sampling. If the semi-annual or annual sampling results at five feet below the cell's original surface show chloride concentrations above the [DB STPEHENS MODEL NUMBER] or NMED Tier I constituent concentrations at or above ten times the NMED Tier I constituents levels, and that would endanger fresh water, a remediation plan shall be required.

The proposed revisions adopt the best current science to landfarm operations. The critical issue in landfarming is not the hydrocarbon or chloride concentration per se, but rather whether the hydrocarbons can be remediated by biological processes and whether the chlorides are at such high levels that they impede biological remediation or pose themselves a direct threat to groundwater. Chloride concentration is less important than the total mass of chlorides involved. The technical basis for this observation is provided by Stephens, Sublette and Thomas.

19.15.2.53(G)(7)

The disking requirement is issue is now addressed by proposed (G)(1)'s landfarm operation plan. The recordkeeping requirement is retained.

19.15.2.53(G)(8) and (9)

These requirements are best addressed holistically as part of the landfarm operational plan required under proposed (G)(1). Accordingly, they should be *deleted*.

The Industry Committee objects to the requirement in proposed paragraph (G)(8) that the TPH concentration be reduced to 100 mg/kg prior to adding an additional lift. Dr. Sublette will testify that a 100 mg/kg level is arbitrary and does not reflect current scientific literature. EPA has also determined that a reduction in TPH concentrations greater than 95% are very difficult to achieve because of "recalcitrant" or nondegradable species that are included in the TPH analysis. See EPA, *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers* (EPA 510-B-95-007) V-15 (Oct. 1994). In this case, a soil sample with an initial TPH concentration of 2000 mg/kg would be very difficult

to landfarm to a level less than 100 mg/kg. Consequently, the 100 mg/kg TPH concentration requirement makes it functionally impossible for a facility to landfarm.

It is unreasonable that OCD would propose a level much lower than is needed to protect public health and the environment. The Industry Committee supports the analysis of Dr. Sublette who states that a landfarm should have a bioremediation point based upon the hydrocarbon and soil properties of the facility. When this endpoint is met in a landfarm lift, new waste material should be allowed.

The Industry Committee therefore supports a risk based approach similar to that taken by the New Mexico Environment Department (NMED) and other States. The Petroleum Storage Tank Bureau of NMED has promulgated regulations concerning the remediation of soils contaminated by a leaking underground storage tanks. *See generally* 20.5 NMAC. These regulations, and their associated Guidelines for Corrective Action incorporated by reference into the regulations, include sections governing the remediation of contaminated soil. *See* 20.5.12.1208, 20.5.12.1233 NMAC. Briefly, owners or operators initially must perform a “tier 1” evaluation to determine whether soil concentration poses a threat to groundwater. *See* 20.5.12.1213(A) NMAC. Concentrations of contaminants of concern are compared to “risk based screening levels” (RBSLs) developed by NMED. 20.5.12.1213(B) NMAC. The RBSLs are not one-size-fits-all and instead depend upon the soil configuration. *See* NMED, Petroleum Storage Tank Bureau, *Guidelines for Corrective Action* § 4.11. If concentrations are less than RBSLs, the area qualifies for “no further action status.” 20.5.12.1213(D) NMAC. If a contaminant of concern exceeds a RBSL, the owner or operator must perform a “tier 2” evaluation to determine a site specific target level (SSTL) for the soil. 20.5.12.1215(A) NMAC. If the contaminants of concern exceed the SSTL for the soil, the owner or operator must remediate the soils to the SSTL or, if directed by NMED, perform an additional, “tier 3” evaluation.² 20.5.12.1215(B) NMAC. In addition, NMED regulations and guidance do not contain a TPH soil remediation standard. TPH contamination in soil only requires remediation when NMED determines that TPH in the soil adversely affects public health safety and welfare or the environment. 20.5.12.1219 NMAC. Thus, the petroleum Storage Tank Bureau has determined that soil remediation or TPH and individual contaminants depends upon the soil characteristics of the area.

In other States, if TPH is used as a clean up limit, it is based on sensitive and non-sensitive areas (e.g., Colorado and Louisiana). In Nebraska and Texas, TPH limits are 1% (e.g., 10,000 mg/kg) in non-sensitive areas. TPH carbon ranges should be used if establishing a clean up limit based on the final potential exposure of the residual hydrocarbons (e.g., residential, industrial, or rural). For example, TPH gasoline range organics (GRO) are considered mobile in the environment, easily remediated, and have a higher toxicity, and TPH diesel range organics (DRO) are less mobile in the environment, harder to bioremediate, and have lower toxicity.

² These cases often involve complex hydrogeology or sensitive ecological receptors. 20.5.12.1217(A) NMAC.

19.15.2.53(G)(10)

The Industry Committee objects to the requirement in proposed paragraph (G)(10) as unnecessary. It is unclear what benefit OCD hopes to obtain by separating exempt and non-exempt soils. Both the soils will be landfarmed and the site eventually closed. Thus, there is no reason to keep these soils separated.

19.15.2.53(G)(11) and (13)

The Industry Committee objects to proposed paragraphs (G)(11) and (13) because these two paragraphs directly contradict each other. Paragraph (G)(11) states that "Moisture shall be added, as necessary, to control blowing dust" while (G)(13) states that "No free liquids shall be placed in the landfarm cells." The OCD should reconcile these two requirements.

19.15.2.53(G)(14)

For the reasons provided by Stephens, Sublette and Thomas and summarized above in comments on 19.15.2.53(G), Yates objects to the prohibition on disposal of drill cuttings and other chloride contaminated waste. It is not the concentration of the chlorides that is determinative; rather it is the affect on remediation and the possibility of adversely affecting fresh water. If the Class A landfarm operator has a plan for addressing both the impact on remediation and to preclude adverse effects on fresh water, then the landfarm operator should be allowed to accept higher chloride wastes. Yates therefore proposes that (G)(14) be *deleted*.

19.15.2.53(G)(15)

The Industry Committee notes that the requirement in proposed paragraph (G)(15) as unachievable unless a time frame is given. With large rainfall events it is impossible to prevent pooling and there will be freestanding water no matter what actions the operator takes. The Industry Committee proposes that this paragraph be amended to read:

(15) Pooling of liquids in the landfarm is prohibited. Freestanding water shall be removed *within 72 hours of a precipitation event*.

19.15.2.53(G)(18) NEW

For additional permitting and operational flexibility, the Industry Committee proposes language for alternative bioremediation procedures with the divisions approval.

(18) The division may approve other treatment procedures than those described above if they provide equivalent protection for fresh water, the public, and the environment.

19.15.2.53(I)(1)

The Industry Committee has several proposals related to proposed paragraph (I)(1). The operator may close the facility in a reasonable time based on the approved closure plan submitted during the permitting process. The OCD should bear the burden of proof for any changes to the closure plan at the time of closure because OCD has already approved a closure plan in the facility's operating permit. See proposed 19.15.2.53(C)(1)(i) NMAC. Finally, an operator should have the option to remedy any contamination that may occur. The Industry Committee proposes that this paragraph be amended to read:

(1) Facility closure by operator. The operator shall notify the division's environmental bureau at least 90 days prior to cessation of operations at the facility and provide a proposed schedule for closure. Upon receipt of such notice and proposed schedule, the division shall inspect the facility and review the current closure plan for adequacy. *The notice is deemed received five days after postmarked by United States mail or date of actual receipt as evidence by commercial carrier or other means. Within 30 days of receipt of notice and proposed schedule, the division shall notify the operator when it has completed its review and inspection and shall specify in such notice any modifications of the closure plan and proposed schedule or additional requirements that it determines are necessary for the protection of fresh water, public health or the environment. If the division does not notify the operator within 30 days of receipt of the notice and proposed schedule, the schedule and plan are deemed accepted as written without modifications or additional requirements.* The operator shall be entitled to a hearing concerning any modification or additional requirement the division seeks to impose if it files an application for a hearing within 10 days after receipt of written notice of the proposed modifications or additional requirements. Closure shall proceed in accordance with the approved closure plan and schedule and any modifications or additional requirements imposed by the division *and upheld by the commission, if applicable.* During closure operations the operator shall maintain the facility to protect fresh water, public health and the environment. If it is determined that closure is complete, the division shall release the financial assurance, except for the amount needed to maintain and sample a proposed post-closure monitoring system for the post-closure period *identified in the closure plan*, and to re-vegetate the site. Prior to the partial release of the financial assurance covering the facility, the division will inspect the site to determine that closure is complete. After the *closure period* has expired, the division shall release the remainder of the financial assurance if the monitoring system shows that fresh water is protected and the re-vegetation is successful. If the *monitoring systems* reveal a threat to fresh water, human health or the environment during the *post-closure period specified in the facility's closure plan*, the division shall not release the financial assurance *unless the contamination is remediated by the owner or operator.*

19.15.2.53(I)(3) general

The Industry Committee objects to the closure remediation standards of proposed paragraph (3)(d)(i) as arbitrary and capricious. Dr. Thomas will provide evidence that risk-based hydrocarbon landfarm closure levels can protect fresh water, the public health, or the environment. The New Mexico Environment Department (NMED) has developed soil screening levels (SSLs) for contaminants in the soil. *See NMED, Technical Background Documents for Development of Soil Screening Levels (Revision 3.0) (Aug. 2005).* The SSLs identify "levels below which there is generally no need for further concern." *Id.* at 1. While NMED has not determined a SSL for BTEX, it has developed levels for the individual constituents. Each of these levels are well in excess of the benzene and BTEX level proposed by OCD. NMED has established SSL levels of 3.3 mg/kg for benzene, 252 mg/kg for toluene, 128 mg/kg for ethylbenzene, and 102 mg/kg for xylenes. *See id.* at App. A. There no reason that OCD should seek to establish levels that are far more stringent for the same purpose; to protect health and the environment.

In addition, Dr. Sublette's comments will show that a TPH remediation level should depend upon the hydrocarbons and soil type of the landfarm. Dr. Sublette noted that if hydrocarbons deposited at the site are properly remediated, there will be no residual toxicity even if the TPH concentration exceeds 100 mg/kg.

Dr. Thomas notes that the more toxic and soluble constituents of petroleum are the small aromatic compounds (e.g., BTEX) and small naphthenic acids. He notes further that soil microorganisms degrade these small compounds preferentially, thereby reducing the toxicity of

the mixture. As a result, Dr. Thomas recommends that BTEX (i.e., surrogates for the gasoline-range organics that are lost by volatilization and/or biodegradation) and TPH-DRO (i.e., a measure of the other fraction of petroleum that is degraded by soil microbes) be used by operators to monitor the effectiveness of bioremediation. Treatment is considered to be complete when the concentration of TPH-DRO (i.e., the mean of four samples) "plateaus" (i.e., when biodegradation of the toxic constituents has been completed, regardless of TPH-DRO level.)

19.15.2.53(I)(3) technical

In paragraph (I)(3)(a)(ii), consistent with the positions of Stephens, Sublette, and Thomas, TPH and RCRA metals should be stricken.

Based on the position of Mr. Miller, the Industry Committee proposes that paragraph (I)(3)(b)(i) be revised to read as follows for landfill closure:

(i) all landfill cells are properly closed, covering the cell with a 40-mil thick geomembrane, or division-approved evapotranspiration cap, *or other final cover design approved by the division*, and at least two feet of uncontaminated soil contoured to promote drainage of precipitation; side slopes shall not exceed a 33 percent grade (three feet horizontal to one foot vertical), such that the final cover of the landfill's top portion has a *minimum* gradient of two percent to five percent, and the slopes are sufficient to prevent the ponding of water and erosion of the cover material; and

The proposed changes include allowing alternate designs approved by the division that may be more appropriate for the environmental setting; changing from three to two feet of final cover based upon the recommendation of expert Miller; and specifying that the gradients listed are the minimum.

In paragraph (I)(3)(c), the Industry Committee proposes to replace the 30 year post-closure period with a site-specific closure period approved by the division. This makes several changes to (c), as follows:

(c) Landfill post closure. Following facility closure, the post closure care period for a landfill shall be *approved by the Division*

(i) A post closure care and monitoring plan shall include maintenance of cover integrity, maintenance and operation of *leachate collection and removal systems* and operation of any required ground water monitoring systems.

(ii) The operator or other responsible entity shall sample existing water monitoring wells annually and submit reports of monitoring performance and data collected within 45 days from the end of each calendar year.

The changes also clarify the proper terminology.

In paragraph (I)(3)(d), The Industry Committee proposes several changes to move to a true risk-based and bioremediation endpoint analysis for landfarms, consistent with the best science:

(d) Landfarm closure. The operator shall ensure that

- (i) disking and addition of bioremediation enhancing materials continues until soils within the cells are remediated to a *TPH-DRO bioremediation endpoint*;
- (ii) soil remediated to the foregoing standards are re-vegetated;
- (iii) landfarmed soils that have not been or cannot be remediated to the above standards are *amended*, or removed and the cell filled in with soil and re-vegetated;
- (iv) all berms on the compost facility are removed;
- (v) buildings, fences, roads and equipment are removed, the site cleaned-up and tests conducted on the soils for contamination; and
- (vi) annual reports of treatment zone sampling are submitted to the division's Santa Fe office until the division has approved final closure of the facility.

The principal change is to adopt total petroleum hydrocarbons-diesel range organics (TPH-DRO) as the endpoint for biological remediation. As the experts will testify, once the biological processes have achieved the TPH-DRO bioremediation endpoint, the toxicity of the remaining products is minimal and protective of fresh water, public health and the environment. See the discussions by Drs Sublette and Thomas on this issue.

A minor change is to clarify (I)(3)(d)(iii) to make it clear that further remedial or blending work can be done to achieve the standard.

The Industry Committee proposes to caveat paragraph (I)(3)(e)(i) that it applies only when necessary to protect fresh ground water. In addition, the fixed post-closure period references should be deleted because the post-closure period should be specified in the closure plan. The revised condition would read as follows:

- (e) Landfarm post closure. If necessary to protect fresh ground water, the post-closure care period for a landfarm shall be approved by the Division. The operator or other responsible entity shall ensure that:
 - (i) water monitoring, if required because of a threat to fresh water, is maintained to detect possible migration of contaminants; and
 - (ii) any cover material is inspected and maintained.

In general, the Industry Committee does not believe that groundwater monitoring should be required after landfarm closure because the proposed regulations require that all soil not meeting the contaminant standards be removed. Thus, there will be little chance of contamination and no reason to monitor groundwater.

Proposed 19.15.2.53(K) Class B landfarms

The Industry Committee proposes the recommendations of the technical experts Stephens, Sublette and Thomas that a more flexible system is preferable for small, site-specific remediation oriented landfarms, denominated "Class B" landfarms by those experts. A new section (K) is proposed be adopted to create a more flexible, notice and best management practice regime for these units, as follows:

K. Notice of Registration and Requirements for Class B Landfarms

- (1) A Notice of Registration shall be filed with the division for each Class B landfarm. The notice shall include:
 - (a) the names and addresses of the applicant;

- (b) a topographic map showing the facility's location in relation to governmental surveys (quarter-quarter section, township and range), highways or roads giving access to the facility site, watercourses, and surface water sources;
- (c) depth to fresh ground water from available references
- (d) the types of wastes to be bioremediated and schedule for closure (less than three years from date of first waste receipt) including maximum chloride mass
- (e) a closure plan including treatment zone sampling and analysis for TPH-DRO.

(2) By submitting the Notice of Registration, the Registrant agrees to follow the operational requirements applicable to Class B Landfarms listed below:

- (a) No landfarm shall be located in any watercourse or lakebed as defined in 19.15.2.53(E)(2);
- (b) No landfarm shall exceed 5 acres.

No wastes with water content greater than 80 percent shall be placed in the facility.

- (c) Landfarms shall accept only oil field related wastes, except as provided in Subparagraph (c) of Paragraph (5) of Subsection E of 19.15.2.53 NMAC. No non-exempt wastes, which are RCRA subtitle C hazardous wastes by either listing or characteristic testing, shall be accepted at a permitted facility.
- (d) Except for liquids to control dust and maintain optimal moisture content to enhance bioremediation, only soils and soil like material such as drill cuttings or tank bottoms shall be placed in landfarm.
- (e) Landfarm operations shall be conducted in accordance with industry practices for piling, spreading, disking, moisture content management, and microbe enhancement.
- (f) The application of microbes for the purposes of enhancing bioremediation requires prior division approval.

(3) Class B Landfarm Closure

(a) The operator shall notify the division's environmental bureau at least 60 days prior to cessation of operations and if necessary submit a revised closure plan and schedule. The closure plan shall include treatment zone sampling results for hydrocarbon constituents and chlorides and a comparison to risk based clean up standards (REF).

(b) If the remediated soils TPH-DRO has reached the TPH-DRO bioremediation endpoint and the chloride concentrations are below [DB STEPHENS MODEL NUMBER], the operator may close in place, or remove the soils and reuse as backfill, road construction/maintenance, berm construction, etc.

(c) If the upon receipt of such notice and plan, the treatment zone sampling results are above the TPH-DRO bioremediation endpoint or the chloride concentrations are above the [DB STEPHENS MODEL NUMBER], the division shall require an additional closure plan within 30 days outlining additional requirements necessary for the protection of fresh water, public health or the environment. The division may impose additional requirements necessary to protect fresh water public health or the environment if, after notice and an opportunity for hearing, the division demonstrates that such requirements are necessary to protect fresh water, public health and the environment. The operator shall implement the division approved revised closure plan and schedule.

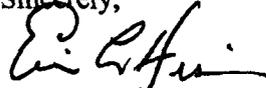
The Industry Committee believes that the proposed Class B landfarm provisions represents an important enhancement to the proposed surface waste management facility rules. The Class B landfarm allows prompt and effective management of spills. Because of the small scale and short duration of Class B landfarms (they are limited to less than 8000 cubic yards and three years), they do not pose a threat to fresh water, public health or the environment if properly sited and operated. The provisions set forth above provide for proper siting and operation of the Class B landfarm. The closure provisions provide a further assurance to the division that the landfarms will achieve appropriate closure standards: numeric risk-based standards for gasoline range organics (such as BTEX) and a bioremediation endpoint for other constituents of concern. Closure remains subject to division notice and supervision, with the division having the right to require additional measures for closure to ensure protection of fresh water, public health and the environment.

Comments on Proposed Surface Waste Management Rules
Industry Committee
December 21, 2005
Page 16

* * * *

The Industry Committee appreciates the opportunity to comment on the proposed rules. Please feel free to contact me at (480) 505-3927, if you have any questions or concerns about these comments.

Sincerely,



Eric L. Hiser

Enclosure

Industry Committee proposed amendments

cc: Mark E. Fesmire, Director, OCD

Comments on Proposed Surface Waste Management Rules
Industry Committee
December 21, 2005
Page 17

ATTACHMENT A

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 1

19.15.1.7 DEFINITIONS:

B. Definitions beginning with the letter "B".

(1) Back allowable shall mean the authorization for production of any shortage or underproduction resulting from pipeline proration.

(2) Background shall mean, for purposes of ground[-]water abatement plans only, the amount of ground[-]water contaminants naturally occurring from undisturbed geologic sources or water contaminants occurring from a source other than the responsible person's facility. This definition shall not prevent the director from requiring abatement of commingled plumes of pollution, shall not prevent responsible persons from seeking contribution or other legal or equitable relief from other persons[,] and shall not preclude the division director from

exercising enforcement authority under any applicable statute, regulation or common law.

(3) Barrel shall mean 42 United States gallons measured at 60 degrees fahrenheit and atmospheric pressure at the sea level.

(4) Barrel of oil shall mean 42 United States gallons of oil, after deductions for the full amount of basic sediment, water and other impurities present, ascertained by centrifugal or other recognized and customary test.

(5) Below-grade tank shall mean a vessel, excluding sumps and pressurized pipeline drip traps, where any portion of the sidewalls of the tank is below the surface of the ground and not visible.

(6) Berm shall mean an embankment or ridge constructed for the purpose of preventing the movement of liquids, sludge, solids[,] or other materials.

(7) Biopile, also known as biocell, bioheap, biomound and compost pile, shall mean a pile of contaminated soils used to reduce concentrations of petroleum constituents in excavated soils through the use of biodegradation. This technology involves heaping contaminated soils into piles or "cells" and stimulating aerobic microbial activity within the soils through the aeration or addition of minerals, nutrients and moisture.

(8) Bioremediation endpoint shall mean that point in time when the mean concentration of TPH-DRO (i.e., the mean of four samples) does not change significantly between two successive sampling periods, which indicates that biodegradation of the toxic constituents has been completed, regardless of TPH-DRO level.

~~(7)~~(98) Bottom hole or subsurface pressure shall mean the gauge pressure in pounds per square inch under conditions existing at or near the producing horizon.

~~(8)~~(109) Braden head gas well shall mean any well producing gas through wellhead connections from a gas reservoir [which]that has been successfully cased off from an underlying oil or gas reservoir.

O. Definitions beginning with the letter "O".

(1) Official gas-oil ratio test shall mean the periodic gas-oil ratio test made by order of the division by such method and means and in such manner as prescribed by the division.

(2) Oil, crude oil[,] or crude petroleum oil shall mean any petroleum hydrocarbon produced from a well in the liquid phase and [which]that existed in a liquid phase in the reservoir.

(3) Oil field wastes shall mean those wastes [produced]generated in conjunction with the exploration, production, refining, processing, gathering and transportation of crude oil [and/]or natural gas [and commonly collected at field storage, processing, disposal, or service facilities, and waste collected at gas processing plants, refineries and other processing or transportation facilities]or generated from oil field service company operations. Oil field waste does not include domestic waste such as tires, appliances, paper trash, ordinary garbage and refuse, sewage, sludge from a waste treatment plant or waste of a character not generally associated with oil and gas industry operations.

(4) Oil well shall mean any well capable of producing oil and [which]that is not a gas well as defined herein.

(5) Operator shall mean any person who, duly authorized, is in charge of the development of a lease or the operation of a producing property, or who is in charge of the operation or management of a facility.

(6) Overage or overproduction shall mean the amount of oil or the amount of natural gas produced during a proration period in excess of the amount authorized on the proration schedule.

(7) Owner means the person who has the right to drill into and to produce from any pool, and to appropriate the production either for himself or for himself and another.

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 2

S. Definitions beginning with the letter "S".

- (1) Secondary recovery shall mean a method of recovering quantities of oil or gas from a reservoir which quantities would not be recoverable by ordinary primary depletion methods.
- (2) Shallow pool shall mean a pool which has a depth range from [0]zero to 5000 feet.
- (3) Shortage or underproduction shall mean the amount of oil or the amount of natural gas during a proration period by which a given proration unit failed to produce an amount equal to that authorized in the proration schedule.
- (4) Shut-in shall be the status of a production well or an injection well which is temporarily closed down, whether by closing a valve or disconnection or other physical means.
- (5) Shut-in pressure shall mean the gauge pressure noted at the wellhead when the well is completely shut in, not to be confused with bottom hole pressure.
- (6) Significant modification of an abatement plan shall mean a change in the abatement technology used excluding design and operational parameters, or relocation of 25[%]percent or more of the compliance sampling stations, for any single medium, as designated pursuant to [Subsection E, Paragraph (4), Subparagraph (b), Subsubparagraph (iv) of Section]Subsubparagraph (iv) of Subparagraph (b) of Paragraph (4) of Subsection E of 19.15.5.19 NMAC.
- (7) Soil shall mean:
- (a) unconsolidated rock material over bedrock; or
 - (b) freely divided rock-derived material containing an admixture of organic material that may be capable of supporting vegetation.
- [(7)](8) Spacing unit is the area allocated to a well under a well spacing order or rule. Under the Oil [&]and Gas Act, NMSA 1978, Section 70-2-12.B(10), the commission has the power to fix spacing units without first creating proration units. See *Rutter & Wilbanks Corp. v. Oil Conservation Comm'n*, 87 NM 286 (1975). This is the area designated on division form C-102.
- [(8)](9) Subsurface water shall mean ground water and water in the vadose zone that may become ground water or surface water in the reasonably foreseeable future or may be utilized by vegetation.
- (10) Surface waste management facility shall mean any facility that receives for collection, disposal, evaporation, remediation, reclamation, treatment or storage any produced water, drilling fluids, drill cuttings, completion fluids, contaminated soils, basic sediment and water (BS&W), tank bottoms or other oil field related waste, except:
- (a) a facility that utilizes underground injection wells subject to regulation by the division pursuant to the federal Safe Drinking Water Act, and does not manage oil field wastes on the ground in pits, ponds, below-grade tanks or land application units;
 - (b) a facility for temporary storage of oil field wastes in above-ground tanks; or
 - (c) a facility permitted pursuant to environmental improvement board rules or water quality control commission rules; or
 - (d) a pit regulated pursuant to 19.15.2.50 NMAC.

T. Definitions beginning with the letter "T".

(?) TPH-DRO shall mean the C10-C28 fraction of total petroleum hydrocarbons using EPA Method 8015B with silica gel cleanup.

19.15.2.51 TRANSPORTATION OF PRODUCED WATER, DRILLING FLUIDS AND OTHER LIQUID OIL FIELD WASTE:

A. No person shall transport any produced water, drilling fluids or other liquid oil field waste, including but not limited to drilling fluids and residual liquids in oil field equipment, except for small samples removed for analysis, by motor vehicle from any lease, central tank battery or other facility without an approved form C-133, authorization to move liquid waste. The transporter shall maintain a photocopy of the approved C-133

in any transporting vehicle.

B. A person may apply for authorization to move liquid waste by filing a complete form C-133 with

19.15.2 NMAC

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 3

the division's Santa Fe office. Authorization is granted upon the division's approval of form C-133.

C. No owner or operator shall permit produced water, drilling fluids or other liquid oil field waste to be removed from its leases or field facilities by motor vehicle except by a person possessing an approved form C-133. The division shall post a list of currently approved C-133s, authorization to move liquid waste, on its website.

~~D. The division may deny approval of a form C-133 if an officer, director or partner in the applicant, or a person with an interest in the applicant exceeding 25 percent, is or was within the past five years an officer, director, partner or person with an interest exceeding 25 percent in another entity that possesses or has possessed an approved form C-133 that has been cancelled or suspended, has a history of violating division rules or other state or federal environmental laws or rules; is subject to a commission or division order, issued after notice and hearing, finding such entity to be in violation of an order requiring corrective action; or has a penalty assessment for violation of division or commission rules or orders that is unpaid more than 70 days after issuance of the order assessing the penalty.~~

E. Cancellation or suspension of authorization to move liquid wastes. Vehicular movement or disposition of produced water or other liquid oil field wastes in any manner contrary to division rules shall be cause, after notice and opportunity for hearing, for cancellation or suspension of a transporter's authorization to move

liquid wastes. A transporter whose authorization to move liquid waste pursuant to this section has been cancelled or suspended must notify all owners or operators for whom it has moved liquid waste in the previous 30 days.

F. Notification of cancellations or suspension of authorization to move liquid wastes. The Division shall provide a notification on the last day of each month to operators that identifies transporters whose C-133 authorization to move liquid waste has been cancelled or suspended in that calendar month. An owner or operator who permits a transporter with a cancelled or suspended C-133 authorization to move liquid waste 10 days after the date of the notification shall be in violation of paragraph C of 19.15.2.51. The OCD shall post a copy of the notification on its website.

19.15.2.52 DISPOSITION OF PRODUCED WATER AND OTHER OIL FIELD WASTES:

A. Prohibited dispositions. Except as authorized by 19.15.2.50 NMAC or 19.15.2.53 NMAC, no person, including any transporter, shall dispose of produced water or other oil field wastes:

- (1) on the surface of the ground; in any pit; or in any pond, lake, depression or watercourse; or
- (2) in any other place or in any manner that may constitute a hazard to fresh water, public health or the environment.

B. Authorized disposition of produced water. The following methods of disposition of produced water are authorized:

- (1) delivery to a permitted salt water disposal well or facility, secondary recovery or pressure maintenance injection facility, surface waste management facility or to a drill site for use in drilling fluid in a manner that does not constitute a hazard to fresh water, public health or the environment; or
- (2) use in accordance with any division-issued use permit or rule.

C. Authorized dispositions of other oil field waste. Other oil field waste shall be disposed of by transfer to an appropriate surface waste management facility or injection facility or as otherwise authorized by the division. Recovered drilling fluids may be transported to other drill sites for reuse provided that such fluids are transported and stored in a manner that does not constitute a hazard to fresh water, public health or the environment.

19.15.2.53 SURFACE WASTE MANAGEMENT FACILITIES:

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 4

A. Permit required.

(1) No person shall operate a surface waste management facility other than an evaporation pond or a class B landfarm except pursuant to and in accordance with the terms and conditions of a division-issued surface waste management facility permit, unless such facility is exempt from permitting pursuant to Paragraph (2) of Subsection A of 19.15.2.53 NMAC.

(2) The following facilities are exempt from the permitting and registration requirements of 19.15.2.53 NMAC, but

not from the requirements of 19.15.2.50 NMAC regarding pits:

(a) centralized facilities that receive wastes from a single well, regardless of capacity or volume of waste received;

(b) centralized facilities that receive only waste exempt from the provisions of the federal Resource Conservation and Recovery Act (RCRA), receive less than 50 barrels of liquid waste per day (averaged over a 30-day period), have a capacity to hold 500 barrels of liquids or less or 1400 cubic yards of solids or less, and

are permitted pursuant to 19.15.2.50 NMAC; and

(c) emergency pits authorized by Subsection D of 19.15.2.50 NMAC; and

(d) pits regulated pursuant to 19.15.2.50 NMAC.

7

B. Definitions applicable 19.15.2.53 NMAC only.

(1) A landfarm is a discrete area of land designed and used for the remediation of hydrocarbon contaminated soils and soil like materials such as drill cuttings or tank bottoms ~~that do not exceed the chloride standard contained in Paragraph (1) of Subsection G of 19.15.2.53 NMAC~~. Two classes of landfarms may be operated:

(a) Class A landfarm is (i) any commercial facility or (ii) any centralized facility that operates more than 3 years, manages greater than 8000 cubic yards of materials. Class A landfarms require a division-issued site-specific surface waste management facility permit.

(b) Class B landfarm is a centralized facility that operates less than 3 years, manages between 1400 and 8000 cubic yards of material, remediates soils/solids to a bioremediation endpoint, and is closed in place or closed by removing soils/solids for beneficial reuse (roads, berms, or other industrial uses). Class B landfarms require a notice of registration with the division.

(2) A landfill is a discrete area of land or an excavation designed for permanent disposition of oil field wastes that are exempt from RCRA subtitle C or are solid wastes that are not hazardous by listing or characteristic.

(3) A cell is a confined area engineered for the disposal of solid waste.

(4) A commercial facility is a surface waste management facility that ~~is not a centralized facility~~ receives compensation for waste management.

(5) A centralized facility is a surface waste management facility that:

(a) does not receive compensation for waste management;

(b) is used exclusively by one generator subject to New Mexico's "Oil and Gas Conservation Tax Act", Section 7-30-1 NMSA-1978 as amended; and

(c) receives exclusively wastes that are generated from production units or leases operated by such generator, or by an affiliate of such generator. For this provision's purposes, an affiliate of a generator is a person who controls, is controlled by or is under common control with the generator.

(6) A major modification is a modification of a facility that involves an increase in the land area that the permitted facility occupies, a change in the nature of the permitted waste stream or addition of a new treatment unit or units or a substantial change in the type of treatment process (e.g., the addition of bioremediation or stabilization where not previously used). Adjustment of existing treatment processes to account for variations in incoming materials does not constitute a major modification.

(7) A minor modification is a modification of a facility that is not a major modification.

(8) Operator means the operator of a surface waste management facility.

C. Permitting requirements for facilities other than evaporation ponds and Class B landfarms. Unless exempt from 19.15.2.53 NMAC, all new surface waste management facilities, other than evaporation ponds and Class B landfills, commercial centralized facilities shall, prior to commencement of construction, and all such existing

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 5

~~commercial or centralized facilities shall~~, prior to major modification, ~~shall be permitted by the division in accordance with the applicable requirements of Subsection C of 19.15.2.53 NMAC.~~

(1) Application requirements for new facilities and, ~~major modifications and renewals~~. An application, form C-137, for a permit for a new facility or, ~~to modify an existing facility or for renewal of a permit~~ shall be filed

with the environmental bureau in the division's Santa Fe office. The application shall include:

(a) the names and addresses of the applicant and all principal officers and owners of 25 percent or more of the applicant;

(b) a plat and topographic map showing the facility's location in relation to governmental surveys (quarter-quarter section, township and range), highways or roads giving access to the facility site, watercourses, water sources and inhabited buildings within one mile of the site's perimeter;

(c) the names and addresses of the surface owners of the real property on which the facility is sited and surface owners of the real property within one mile of the site's perimeter;

(d) a description of the facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of any pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the facility, buildings and chemical storage areas;

(e) engineering designs, certified by a registered professional engineer, including technical data on the design elements of each applicable disposal method and detailed designs of surface impoundments;

(f) a plan for management of approved wastes that complies with the operational requirements contained in Subsections E, F, G and H of 19.15.2.53 NMAC;

(g) an inspection and maintenance plan that complies with the requirements contained in Paragraph (12) of Subsection E of 19.15.2.53 NMAC;

(h) a hydrogen sulfide prevention and contingency plan that complies with those provisions of 19.15.3.118 NMAC that apply to surface waste management facilities;

(i) a closure and post closure plan, including a cost estimate, sufficient to close the facility to protect fresh water, public health and the environment; said estimate to be based upon the use of equipment normally available to a third party contractor, and including costs as necessary for removal of all fluids and wastes;

back-filling, grading and mounding of pits; cleanup of contaminated soils and re-vegetation of the surface, or other

restoration sufficient to protect fresh water, public health and the environment; and post closure monitoring. The closure and post closure plan shall comply with the requirements contained in Paragraph (3) of Subsection I of 19.15.2.53 NMAC;

(j) a contingency plan that complies with the requirements of Paragraph (14) of Subsection E of 19.15.2.53 NMAC;

(k) a plan to control run-on water onto the site and run-off water from the site that complies with the requirements of Paragraph (13) of Subsection E of 19.15.2.53 NMAC;

(l) geological/hydrological data from available information/references or newly acquired site specific data including:

(i) depth to and quality of fresh ground water beneath the site;

(ii) a map showing names and location of streams or other watercourses within one mile of the site;

~~(iii) laboratory analyses, performed by an independent commercial laboratory, for major cations and anions, RCRA metals and total dissolved solids (TDS) of ground water samples of the shallowest fresh water aquifer beneath the proposed site;~~

(iv) depth to, name of and thickness of the shallowest fresh water aquifer unless referenced data indicates that fresh ground water is not present beneath the site;

(v) soil types beneath the proposed facility, including a lithologic description of all soil and rock members from ground surface down to the shallowest fresh water aquifer;

(vi) geologic cross-sections;

(vii) potentiometric maps for the shallowest fresh water aquifer unless referenced data indicates that fresh ground water is not present beneath the site;

~~(viii) porosity, permeability, and conductivity, compaction ratios and swelling characteristics for the soils/sediments on which the contaminated soils will be placed;~~

(m) certification by the applicant that information submitted in the application is true, accurate, and complete to the best of his or her knowledge; and

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 6

~~(n) any other information that the division may require to demonstrate that the facility's operation will not adversely impact fresh water, public health or the environment and that the facility will comply with division rules and orders.~~

(2) Application requirements for minor modifications. An existing facility applying for a minor modification shall file a form C-137 with the environmental bureau in the division's Santa Fe office describing the

proposed change and identifying any information that has changed from its last C-137 filing.

(2A) Application requirements for permit renewals. An existing facility applying for a permit renewal shall file a form C-137 with the environmental bureau in the division's Santa Fe office stating the intention to renew and providing the following information:

(a) a copy of the permit with any corrections necessary to adequately reflect the existing facility;

(b) the information required under paragraphs (a), (c), (d) of section (C)(1) of 19.15.2.53;

(c) current copies of any plans required under paragraphs (f) through (k) of section (C)(1) of 19.15.2.53 that have changed since the permit's issuance;

(d) the certification and demonstration required under paragraphs (m) and (n) of section (C)(1) of 19.15.2.53.

(3) Determination that an application is administratively complete. Upon receipt of an application for a surface waste management facility permit or modification or renewal of an existing permit, the division shall review the application for administrative completeness. To be deemed administratively complete, the application shall provide all information required by Paragraph (1) or (2) (as applicable) of Section C of 19.15.2.53 NMAC. The division shall notify the applicant in writing when it deems the application administratively complete. If the division determines that the application is not administratively complete, the division shall notify the applicant of the deficiencies in writing within 30 days of receipt of the application and state what additional information is necessary.

(4) Notice requirement for new facilities, major modifications or renewals.

(a) Upon receipt of notification of the division's determination that the application is administratively complete, the applicant for a new permit, permit renewal or major modification shall give written

notice of the application, by certified mail, return receipt requested, to the surface owners of record within one mile

of the facility, the county commission of the county where the facility site is located, the appropriate city officials if

the facility site is within city limits or within one mile of the city limits, and any affected federal, tribal or pueblo governmental agency. ~~The division may extend the distance requirements for notice if the division determines that the proposed facility has the potential to adversely impact fresh water, public health or the environment at a distance~~

~~greater than one mile.~~ The applicant shall furnish proof that it has given the required notices.

(b) Following mailing of notice as provided in Subparagraph (b) of Paragraph (2) of Subsection C of 19.15.2.53 NMAC, the applicant shall publish notice, in a form approved by the division, in a newspaper of general circulation in the county of the facility's location or proposed location, and in a newspaper of

general circulation in the state.

(c) The division shall distribute notice of its determination that an application for a new facility or for a renewal or major modification of an existing facility is administratively complete to all persons who have requested notification of division and commission hearing dockets within 30 days following the date that the division determines the application to be administratively complete.

(d) Any person wishing to comment on an application prior to the division's preliminary consideration of the application may file comments within 30 days, or as extended by the division director, after the

date of publication of notice of the application in the newspaper.

(e) Within 60 days after the end of the public comment period provided in Subparagraph (d) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC, the division shall issue a tentative decision concerning the application, renewal or modification, including proposed conditions for approval or reasons for disapproval, as applicable. The division shall mail notice of the tentative decision, together with a copy of the decision, by certified

mail, return receipt requested, to the applicant and shall post notice on the division's website, together with a copy

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 7

of the tentative decision.

(f) Within 30 days after receiving the division's tentative decision, the applicant shall provide notice of the tentative decision by:

(i) publishing notice, in a form approved by the division, in a newspaper of general circulation in this state and in a newspaper of general circulation in the county where the facility is or will be located;

(ii) mailing notice by first class mail or e-mail to, all persons as identified to the applicant by the division, who have requested notification of applications generally, or of the particular application, including

all persons who have filed comments on the particular application during the initial public comment period, and who

have included in such comments a legible return address or e-mail address; and

(iii) mailing notice by first class or e-mail to any affected local, state, federal or tribal governmental agency, as determined and identified to the applicant by the division.

(g) This notice issued pursuant to Subparagraph (f) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC shall include:

(i) the applicant's name and address;

(ii) the facility's location, including a street address if available, and sufficient information to locate the facility with reference to surrounding roads and landmarks;

(iii) a brief description of the proposed facility;

(iv) the depth to, and TDS concentration of, the ground water in the shallowest aquifer beneath the facility site;

(v) a statement that the division's tentative decision is available on the division's website, or, upon request, from the division clerk, including the division clerk's name, address and telephone number;

(vi) a statement of the comment period and of the procedures for requesting a hearing on the application; and

(vii) a brief statement of the procedures to be following by the division in making a final decision.

(h) Any person, whether or not such person has previously submitted comments, may file comments or request a hearing on the application by filing their comments or hearing request with the division clerk

within 30 days after the date that the applicant issued public notice of the division's tentative decision. Any request

for a hearing shall be in writing and shall state specifically the reasons why a hearing should be held. The division

shall schedule a public hearing on the applications if:

(i) the division has proposed to deny the application or grant it subject to conditions not expressly required by rule, and the applicant requests a hearing;

(ii) the division director determines that there is significant public interest in the application;

(iii) the division director determines that comments have raised objections that have probable technical merit; or

(iv) determination of the application requires that the division make a finding, pursuant to Paragraph (3) of Subsection G of 19.15.1.7 NMAC, whether any water source has a reasonably foreseeable beneficial use.

(i) If the division schedules a hearing on an application, it shall give notice of the hearing's date, time and place by certified mail, return receipt requested, to the applicant and to each person who has specifically requested a hearing in writing, and by first class or electronic mail to all other parties who have filed written comments and provided a current address on the application.

(5) Financial assurance requirements.

(a) Centralized facilities. Upon notification by the division that it has approved a permit but prior to the division issuing the permit, an applicant for a new centralized facility permit shall submit acceptable financial assurance in the amount of \$25,000 per facility, or a statewide "blanket" financial assurance in the amount

of \$50,000 to cover all of that applicant's centralized facilities, unless such applicant has previously posted a blanket

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 8

financial assurance for centralized facilities.

(b) New commercial facilities or major modifications of existing facilities. Upon notification by the division that it has approved a permit for a new commercial facility or a major modification of an existing commercial facility but prior to the division issuing the permit, the applicant shall submit acceptable financial assurance in the amount of the facility's estimated closure and post closure cost. The facility's estimated closure and post closure cost shall be the amount provided in the closure plan the applicant submitted unless the division determines that such estimate does not reflect a reasonable and probable closure and post closure cost, in which event, the division shall determine the estimated closure and post closure cost and shall include such determination

in its tentative decision. If the applicant disagrees with the division's determination of estimated closure and post closure cost, the applicant may request a hearing as provided in Subparagraph (c) of Paragraph (4) of Subsection C

of 19.15.50.2 NMAC. If the applicant so requests, and no other person files a request for a hearing regarding the application, the hearing shall be limited to determination of estimated closure and post closure cost.

(c) The financial assurance shall be on forms prescribed by the division, payable to the state of New Mexico and conditioned upon the proper operation of the facility, closure of the site and post closure monitoring in compliance with statutes of the state of New Mexico, division rules and the permit terms. The applicant shall notify the division of any material change affecting the financial assurance within 30 days of discovery of such change.

(6) Forms of financial assurance. The division may accept the following forms of financial assurance:

(a) Surety bonds. A surety bond shall be executed by the applicant and by a corporate surety licensed to do business in the state, and shall be non-cancelable.

(b) Letters of credit. A letter of credit shall be issued by a bank organized or authorized to do commercial banking business in the United States, shall be irrevocable for a term of not less than five years and shall

provide for automatic renewal for successive, like terms upon expiration, unless the issuer has notified the division

in writing of non-renewal at least 90 days before its expiration date. The letter of credit shall be payable to the state

of New Mexico in part or in full upon receipt from the division director or his authorized representative of demand

for payment accompanied by a notice of forfeiture.

(c) Cash accounts. An applicant may provide financial assurance in the form of a federally insured or equivalently protected cash account or accounts in a financial institution, provided that the operator and

the financial institution shall execute as to each such account a collateral assignment of the account to the division,

which shall provide that only the division may authorize withdrawals from the account. In the event of forfeiture under 19.15.2.53(D)(2) NMAC, and the division may, at any

time and from time to time, direct payment of all or any part of the balance of such account (excluding interest accrued on the account) to itself or its designee for closure of the facility.

(d) Replacement of financial assurance.

(i) The division may allow an operator to replace existing forms of financial assurance with other forms of financial assurance that provide equivalent coverage.

(ii) The division shall not release any existing financial assurance until the operator has submitted, and the division has approved, an acceptable replacement.

(e) Review of adequacy of financial assurance. The division may at any time not less than five years after acceptance of financial assurance for a commercial facility, initiate a review of such financial assurance's

adequacy. Upon determination, after notice to the operator and opportunity for a hearing, that the financial assurance is not adequate to cover the reasonable and probable cost of closure of such facility and post closure monitoring, the division may require the operator to furnish additional financial assurance sufficient to cover such reasonable and probable cost, provided that the financial assurance required of a facility permitted prior to the effective date of 19.15.2.53 NMAC shall not exceed \$250,000 except in the event of a major modification of such

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 9

facility. If such a facility applies for a major modification, the division shall determine the applicable financial assurance requirement based on the total estimated closure and post closure cost of the facility as modified, without regard to the \$250,000 limit.

D. Permit approval, denial, revocation, suspension or modification for facilities other than evaporation ponds and Class B landfarms.

(1) Granting of permit.

(a) The division ~~may~~shall issue a permit for an new facility or major modification upon finding that an acceptable application has been filed, that the conditions of Paragraphs (4) and (5) of Subsection C of 19.15.2.53

NMAC have been met and that the facility or modification can be constructed and operated in compliance with applicable statutes and rules and without endangering fresh water, public health or the environment.

(b) Each permit issued for a new surface waste management facility shall remain in effect for 10 years from the date of its issuance. If the division grants a permit for a major modification of any facility, the permit for that facility shall remain in effect for 10 years from the date the division approves the major modification.

Any permit may be renewed for successive 10-year terms. If the holder of a surface waste management facility permit submits an application for permit renewal at least 120 days before the permit expires, ~~and the operator is not in violation of the permit on the date of its expiration,~~ then the existing permit for the same activity shall not expire

until the division has approved or denied an application for renewal. A surface waste management facility permit continued under this provision remains fully effective and enforceable. An application for permit renewal shall include and adequately address all of the information necessary for evaluation of a new permit as provided in Paragraph ~~(4)~~(2A) of Subsection C of 19.15.2.53 NMAC. Previously submitted materials may be included by reference

provided they are current, readily available to the division and sufficiently identified so that the division may retrieve them. At the time of the renewal there shall be public notice in the manner prescribed by Paragraph (4) of Subsection C of 19.15.2.53 NMAC. The division shall grant an application for renewal if the division finds that an

acceptable application has been filed, that the conditions of Paragraphs (4) and (5) of Subsection C of 19.15.2.53 NMAC have been met, and that the facility can be operated in compliance with applicable statutes and rules and without endangering fresh water, public health or the environment.

(c) The division shall review each permit at least once during the ten-year term, and shall review permits to which Subparagraph (b) of Paragraph (1) of Subsection D of 19.15.2.53 NMAC does not apply at

list every five years. The review shall address the operation, compliance history, financial assurance and technical

requirements for the surface waste management facility. The division, after notice to the operator and opportunity for a hearing, may require appropriate modifications of the permit, including modifications necessary to make the permit terms and conditions consistent with statutes, rules or judicial decisions.

(2) Denial of permit. The division may deny an application for a permit or modification of a permit if it finds that the proposed facility or modification may endanger fresh water or may be detrimental to public health or

the environment. ~~The division may also deny an application for a permit if the applicant, an owner of 25 percent or~~

~~greater interest in the applicant, or an affiliate of the applicant, has a history of failure to comply with division rules~~

~~and orders or state or federal environmental laws, is subject to a division or commission order, issued after notice and hearing, finding such entity to be in violation of an order requiring corrective action, or has a penalty assessment~~

~~for violation of division or commission rules or orders that is unpaid more than 70 days after issuance of the order~~

~~assessing the penalty. An affiliate of an applicant, for purposes of Paragraph (2) of Subsection D of 19.15.2.53~~

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 10

~~NMAC, shall be a person who controls, is controlled by, or under common control with, the applicant or a 25 percent or greater owner of the applicant.~~

(3) Additional requirements. The division may impose additional conditions or requirements, in addition to the operational requirements set forth in 19.15.2.53 NMAC that it determines are necessary and proper

for the *protection* of fresh water, public health or the environment. If appealed, the division has the burden to prove at hearing that the additional requirements are necessary to protect fresh water, public health or the environment. Any such additional conditions or requirements shall be incorporated into the permit.

(4) Revocation, suspension or modification of a permit. The division may revoke, suspend or impose additional operating conditions or limitations on a permit at any time, for good cause, after notice to the operator and

opportunity for a hearing. Suspension of a permit may be for a fixed period of time or until the operator remedies the violation or potential violation. If a facility's permit is suspended, such facility shall not accept new waste during the suspension period.

E. Operational requirements applicable to permitted facilities other than evaporation ponds and Class B landfills.

~~(1) No surface waste management facility shall be located where ground water is less than 50 feet below the surface.~~

(2) No surface waste management facility shall be located in any watercourse or lakebed. Facilities located ~~adjacent to~~ within 250 feet of any watercourse or lakebed shall have a division-approved plan for handling storm water runoff. For purposes of this provision, watercourse shall mean any lake bed or gully, draw, stream bed, wash, arroyo or channel that is delineated on a USGS Quadrangle map having a scale factor of 1:24,000 or which clearly has a hydraulic connection to rivers, streams, or lakes. Watercourses under this definition do not include human-made channels, ephemeral washes, or arroyos which are not delineated on a USGS Quadrangle map having a scale factor of 1:24,000 or which clearly are not connected hydraulically to rivers, streams, or lakes. A "lakebed" is any portion of a navigable lake.

(3) No surface waste management facility shall exceed 500 acres.

(4) No liquid wastes transported by a commercial carrier motor vehicle shall be accepted at the facility unless the transporter has

a form C-133, authorization to move liquid waste, approved by the division.

(5) Facilities shall accept only oil field related wastes and non-hazardous solid waste, except as provided in Subparagraph (c) of

Paragraph (5) of Subsection E of 19.15.2.53 NMAC. No non-exempt wastes, which are RCRA subtitle C hazardous

wastes by either listing or characteristic testing shall be accepted at a permitted facility. The operator shall require the following documentation for accepting wastes:

(a) Exempt oil field wastes. A generator, or his authorized agent, shall provide a certification that represents and warrants that the wastes are generated from oil and gas exploration and production operations; exempt from RCRA subtitle C regulations; and not mixed with non-exempt wastes. The operator shall have the option to accept certifications, on form C-142, certification of waste status, on a monthly, weekly or per load basis.

Both the generator and the operator shall maintain and shall make said certificates available for the division's inspection.

(b) Non-exempt, non-hazardous, oil field or solid wastes. The operator shall complete and maintain, subject to division inspection, a form C-138, request for approval to accept solid waste, accompanied by acceptable

documentation to determine that the waste is non-hazardous.

(c) Emergency non-oil field wastes. Non-hazardous, non-oil field wastes may be accepted in an emergency if ordered by the department of public safety. The operator shall complete a form C-138, request to accept solid wastes, and maintain the same, accompanied by the department of public safety order, subject to division inspection.

(6) The operator of a commercial facility shall maintain records reflecting, for each calendar month,

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 11

the generator, the location of origin, the location of disposal based on exempt and non-exempt categories, the volume and type of waste, the date of disposal and the hauling company for each load or category of waste accepted

at the facility. Such records shall be maintained in appropriate books and records for a period of not less than five years after facility closure, subject to division inspection.

(7) Disposal at a facility shall occur only when an attendant is on duty unless loads can be monitored or otherwise isolated for inspection before disposal. The facility shall be secured to prevent unauthorized disposal when no attendant is present.

(8) To protect migratory birds, all tanks exceeding eight feet in diameter, and exposed pits and ponds that may contain floating hydrocarbons

shall be screened, netted or covered. Upon the operator's written application, the division may grant an exception to

screening, netting or covering of a facility upon the operator's showing that an alternative method will protect migratory birds or that the facility is not hazardous to migratory birds. All waste management facilities shall be fenced in a manner approved by the division.

(9) All waste management facilities shall have a sign, readable from a distance of 50 feet and containing the operator's name, facility location by unit letter, section, township and range and emergency telephone numbers.

(10) An operator shall not transfer a permit without the division's prior written approval. A request for transfer of a permit shall identify all officers, directors and owners of 25 percent or greater interest in the transferee. No public notice or hearing shall be required for approval of such a request unless the director otherwise

orders. Until the division approves the transfer and the required financial assurance is in place, the division shall not

release the transferor's financial assurance.

(11) Operators shall comply with the provisions of 19.15.3.116 NMAC.

(12) Each operator shall have an inspection and maintenance plan that includes the following:

(a) ~~for facilities with leak detection system, weekly inspection of all leak detection sumps including monthly inspection of leak detection sumps and~~ sampling if fluids are present with analyses of any fluid samples furnished to the division; and maintenance of records of inspection dates, the inspector and the status of the leak detection system;

(b) ~~semi-annual~~ monthly inspection and sampling of all monitor wells that may be ~~required for landfills or and that may be required for other facilities where ground water has been contaminated with analyses of ground water~~ furnished

to the division; and maintenance of records of inspection dates, the inspector and the status of ground water monitoring wells;

(c) ~~inspections of the berms after any rainfall or windstorm, and~~ maintenance of berms in such a manner as to prevent excessive erosion; and

(d) ~~inspections of the outside walls of all pond levees after any rainfall, and~~ maintenance of outside walls of all levees in such a manner as to prevent excessive erosion.

(13) Each operator shall have a plan to control run-on water onto the site and run-off water from the site, such that:

(a) the run-on control system shall prevent flow onto the facility's active portion during the peak discharge from a ~~100~~ 25-year, 24-hour storm;

(b) the run-off control system from the facility's active portion collects and controls at least the water volume resulting from a 24-hour, ~~100~~ 25-year, 24-hour storm; and

(c) run-off from the facility's active portion shall not be allowed to discharge any pollutant to the waters of the state or United States that violates any state water quality standards.

(14) Contingency plan. Each operator shall have a contingency plan, unless the operator can demonstrate that a failure of the operations plan should not reasonably cause a fire, explosion, or sudden release of contaminants.

The operator shall provide the

division's environmental bureau with a copy of any amendment to the contingency plan, including amendments required by Subparagraph (h) of Paragraph (14) of Subsection E of 19.15.2.53 NMAC; and promptly notify the division's environmental bureau of any changes in the emergency coordinator or in the emergency coordinator's

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 12

contact information. The contingency plan shall be designed to minimize hazards to public health, welfare or the environment from fires, explosions or any unplanned sudden or non-sudden release of contaminants or waste to air,

soil, surface water or ground water. The operator shall carry out the plan's provisions immediately whenever there

is a fire, explosion or release of contaminants or hazardous waste constituents that could threaten public health, welfare or the environment. The contingency plan for emergencies shall:

(a) describe the actions facility personnel must take in response to fires, explosions or releases of contaminants or hazardous waste constituents to air, soil, surface water or ground water;

(b) describe arrangements with local police departments, fire departments, hospitals, contractors and state and local emergency response teams to coordinate emergency services;

(c) list the emergency coordinator's name, address and phone numbers (office and home).

Where more than one person is listed, one must be named as the primary emergency coordinator;

(d) include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems and decontamination equipment). This list must be kept

up to date. In addition, the plan shall include the location and a physical description of each item on the list and a brief outline of its capabilities;

(e) include an evacuation plan for facility personnel. The plan must describe signals to be used to begin evacuation, evacuation routes and alternate evacuation routes in cases where fire or releases of hazardous wastes could block the primary routes;

(f) include an evaluation of expected contaminants, expected media contaminated and procedures for investigation, containment and correction or remediation;

(g) list where copies of the contingency plan will be kept, which shall include the facility; all local police departments, fire departments and hospitals; and state and local emergency response teams;

(h) indicate when the contingency plan will be amended, which shall be within 30 days of any event (i) through (v); which shall be immediately if necessary, whenever:

(i) the facility permit is revised or modified;

(ii) the plan fails in an emergency;

(iii) the facility changes design, construction, operation, maintenance or other circumstances in a way that increases the potential for fires, explosions or releases of hazardous waste constituents,

or change the response necessary in an emergency;

(iv) the list of emergency coordinators or their contact information changes; or

(v) the list of emergency equipment changes;

The facility emergency coordinator may amend the plan as necessary to protect fresh water, public health or the environment during an emergency.

(l) describe how the emergency coordinator or his designee, whenever there is an imminent or actual emergency situation, will immediately;

(i) activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) notify appropriate state and local agencies with designated response roles if their assistance is needed;

(j) describe how the emergency coordinator, whenever there is a release, fire or explosion, will immediately identify the character, exact source, amount and extent of any release materials (The emergency coordinator may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.) and describe how the emergency coordinator will concurrently assess possible hazards to public health, welfare or the environment that may result from the release, fire or explosion (This assessment shall consider both

the direct and indirect hazard of the release, fire or explosion.);

(k) describe how if the facility stops operations in response to fire, explosion or release, the emergency coordinator will monitor for leaks, pressure buildup, gas generation or rupture in valves, pipes or the equipment, wherever this is appropriate;

(l) describe how the emergency coordinator, immediately after an emergency, will provide for

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 13

treating, storing or disposing of recovered waste, or any other material that results from a release, fire or explosion at a facility; and

(m) describe how the emergency coordinator will ensure that no waste, which may be incompatible with the released material, is treated, stored or disposed of until cleanup procedures are complete.

F. Operational requirements - permitted landfills.

~~(1) No landfill cell shall exceed five acres in size.~~

(2) Landfills shall be constructed using ~~composite~~ 40-mil high density polyethylene (HDPE) or equivalent double liners with leachate collection and removal-detection systems, if needed to protect fresh ground water as described in Paragraph (5) of Subsection H of 19.15.3.53 NMAC incorporated into the design. Liner components may include synthetic or natural low permeability materials, such as 40-mil HDPE, geosynthetic clay liners, clay, or other earthen materials with a saturated hydraulic conductivity less than 1×10^{-7} cm/sec, or equivalent. The Division may reduce liner requirements based on an applicant's demonstration, unless the operator shows to the division's satisfaction, that fresh water will not be adversely impacted.

(3) The operator shall confine the landfill's working face to the smallest practical area and compact the solid waste to the smallest practical volume.

(4) The operator shall prevent unauthorized access by the public and entry by large animals to the landfill's active portion through the use of fences, gates, locks or other means that attain equal protection.

(5) ~~The surface waste management facility operator shall provide adequate means to prevent and extinguish fires.~~

(6) The operator shall control litter and odors.

(7) The operator shall not excavate a closed cell or allow others to excavate a closed cell except as approved by the division.

(8) The operator shall cover the landfill's active face with a six-inch layer of earth or approved alternate daily cover at the conclusion of each day's operation, ~~or more often on an alternative schedule as conditions may dictate and as described in a and as approved by the Division~~ approved operations plan.

(9) The operator shall provide intermediate cover that shall be:

(a) ~~appropriate one-foot thickness;~~

(b) placed on all areas of the landfill that will not receive further waste for one month or ~~greater~~ an alternative schedule as approved by the Division, but have not reached final elevation;

(c) stabilized with vegetation on any areas that will be inactive for more than two years; and

(d) inspected and maintained to ~~reduce~~ prevent erosion and infiltration.

(10) Once a landfill cell has been filled it shall be closed pursuant to the conditions contained in the surface waste management facility permit and the requirements of Subsubparagraph (i) of Subparagraph (b) of Paragraph (3) of Subsection I of 19.15.2.53 NMAC. ~~No more than two landfill cells may be open at a facility at the same time.~~ The operator shall notify the division's environmental bureau 72 hours prior to closure of a landfill cell.

(11) Ground water monitoring -- If necessary to protect fresh ground water, a ground water monitoring system, approved by the division's environmental bureau, shall be installed at each landfill and consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from the uppermost aquifer that:

~~(a) represent the quality of background ground water that has not been affected by leakage from a landfill; and~~

(b) represent the quality of ground water passing beneath the surface waste management facility.

(12) Monitoring wells shall be constructed in such a manner that the integrity of the borehole and well is maintained and is in accordance with ASTM method 5092.

(13) The Division may suspend part of all groundwater monitoring requirements based on an applicant's demonstration that fresh ground water will not be adversely impacted during the active life of the landfill and post-closure care period.

G. Operational requirements - Class A Landfills.

The following operational requirements shall apply to Class A Landfills.

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 14

(1) The operator shall submit for division approval a landfarm operations plan. The plan shall be based on the environmental setting and landfarm design, and address waste acceptance procedures, representative waste sampling and analysis, cell operations, salt management program, waste placement plan, storm water management, bioremediation program (depth placement, moisture management, tilling schedule, bioremediation end-point [e.g., using TPH DRO], treatment zone and below treatment zone sampling and analysis program, and annual reporting and certification.

(2) Except for liquids used to control dust or moisture contents, only soils and soil like material such as drill cuttings or tank bottoms that do not have a chloride concentration exceeding 1000 mg/kg shall be placed in landfarm. The person tendering waste for treatment at a landfarm shall certify provide an analysis of that representative samples of the waste have been tested for chloride content, and found to conform to this requirement plan, and the landfarm's operator shall not accept waste for landfarm treatment unless accompanied by such certification.

~~(2) No landfarm cell shall exceed five acres in size.~~

(3) At new or modified facilities, no contaminated soils shall be placed within 100 feet of a boundary of the facility.

(4) Unless otherwise provided in the landfarm operations plan approved by the division, the treatment zone shall be sampled and analyzed for TPH-DRO semiannually. The operator shall plot the TPH-DRO results to determine the bioremediation endpoint of the treatment zone. Once the bioremediation endpoint is reached, the soil may be beneficially reused or another lift may be added. No contaminated soils shall be placed within 20 feet of any pipeline crossing the landfarm.

~~(5) The portions of the facility containing contaminated soils shall be bermed to prevent run-on and run-off of rainwater.~~

~~(6) A~~

(5) Unless otherwise provided in the landfarm operations plan approved by the division, the soils below the treatment zone in each new or modified landfarm cell ~~to base of the treatment zone in each landfarm cell~~ shall be monitored to ensure that hydrocarbons or chlorides contaminants, including salts, are not transferred to the underlying native soil at a rate that would endanger fresh or to the ground water. Such A treatment zone shall not exceed three feet in depth from the ground surface to the bottom of the treatment zone. One background soil or soil water sample shall be taken from the center of each landfarm cell two ~~three~~ feet below the native ground surface prior to operation. The sample shall be analyzed for total petroleum hydrocarbons (TPH), major cations/anions, volatile aromatic organics (BTEX), and heavy selected metals (approved by the Division) using approved United States environmental protection agency (EPA) methods. Thereafter Semi-annually, a minimum of four representative samples shall be taken from different locations within each landfarm cell six months after the first contaminated soils are received and then semi-annually thereafter. The samples shall be taken from soils no deeper than three feet below the cell's original surface. The soil samples shall be analyzed, using EPA approved methods, for total petroleum hydrocarbons (TPH) chloride, and benzene, toluene, ethyl benzene and xylenes (BTEX), a subset of the NMED Tier I constituents. The soil samples shall be analyzed, using approved EPA methods, for all major cations and anions and RCRA selected metals, annually. If the chlorides exceed [DB STEPHENS MODEL NUMBER] or BTEX exceeds ten times the NMED Tier I constituent levels, the next semiannual sampling event shall be completed at five feet below the cell's original surface and shall include all of the NMED Tier I constituents, plus all major cations, anions and selected metals (if conducted in conjunction with the annual sampling). Reports showing the results of the analyses shall be submitted to the environmental bureau in division's Santa Fe office no later than 45 days after completion of the sampling. If the semi-annual or annual sampling results at five feet below the cell's original surface show chloride concentrations above the [DB STPEHENS MODEL NUMBER] or NMED Tier I constituent concentrations at or above ten times the of NMED Tier I constituents levels, TPH, major cations/anions, BTEX or heavy selected metals that exceed the concentrations from the results of the background sampling and that would endanger fresh water, a remediation plan shall be required.

(7) All contaminated soils shall be either biopiled or spread and disked within 72 hours of receipt. The division's environmental bureau may approve other remediation procedures if they provide equivalent protection for fresh water, public health and the environment. The operator shall maintain records of the facility's treatment activity schedule in a form readily accessible for division inspection.

(8) Contaminated soils that are to be land spread shall be spread on the surface in six-inch, or less, lifts. The TPH concentration of each lift shall be reduced to 100 mg/kg operator must implement a sampling plan approved by the Division to document active treatment of each lift prior to adding an additional lift. The

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 15

~~maximum thickness of land spread soils in any cell shall not exceed two feet, at which time the soils shall be removed prior to adding additional lifts.~~

~~(9) Soils shall be disked biweekly or biopiles shall be turned at least monthly.~~

~~(10) Exempt and non-exempt contaminated soils shall be physically separated so that the division can visually identify whether the waste is exempt or non-exempt.~~

~~(11) Moisture shall be added, as necessary, to control blowing dust and to enhance bioremediation.~~

~~(12) The application of microbes for the purposes of enhancing bioremediation requires prior division approval.~~

~~(13) No free liquids shall be placed in the landfarm cells.~~

~~(14) No drill cuttings or soils contaminated with produced water generated within the division's districts I and II, or other salt contaminated wastes, shall be placed in a landfarm cell. Wastes shall be considered salt contaminated if the chloride concentration exceeds 2,000 parts per million. The person tendering waste for treatment at a landfarm shall certify that representative samples of the waste have been tested for chloride content and found to conform to this requirement, and the landfarm's operator shall not accept waste for landfarm treatment~~

~~unless accompanied by such a certification.~~

~~(15) Pooling of liquids in the landfarm is prohibited. Freestanding water shall be removed within 72 hours of a precipitation event.~~

~~(16) The division's environmental bureau may approve other treatment procedures than those described above if they provide equivalent protection for fresh water, public health and the environment.~~

H. Permitting and Operational requirements - evaporation ponds.

~~(1) Evaporation ponds shall be permitted under the Pit Rule pursuant to 19.15.2.50 NMAC, constructed in such a manner as to prevent overtopping due to wave action or rainfall.~~

~~(2) Evaporation ponds shall be constructed so that the inside grade of the levee is no steeper than 2:1. Levees shall have an outside grade no steeper than 3:1. The tops of the levees shall be at least 18 inches wide.~~

~~(3) Synthetic materials used for lining evaporation ponds shall be impermeable.~~

~~(4) Evaporation ponds shall be double-lined with a leak detection system incorporated into the design. Such leak detection systems shall be monitored monthly. A monitoring record shall be maintained and shall~~

~~be readily accessible for division inspection. The discovery of any liquids in the leak detection system shall be reported to the division within 24 hours.~~

~~(5) Leak detection system specifications:~~

~~(a) The operator shall install a leak detection system of an approved design between the primary and secondary liner, and notify the appropriate division district office at least 72 hours in advance of the primary liner's scheduled installation to afford the opportunity for a division representative to inspect the leak detection system.~~

~~(b) Leak detection systems may consist of, but are not necessarily limited to, approved fail-safe electric detection systems or drainage and sump systems.~~

~~(c) If an electric grid detection system is used, it shall be monitored to ensure that all components of the system remain functional.~~

~~(d) If a drainage and sump system is used, the operator shall install a network of slotted or perforated drainage pipes between the primary and secondary liners. The network shall be of sufficient density so that no point in the pond bed is more than 20 feet from such drainage pipe or lateral thereof. The material placed between the pipes and laterals shall be sufficiently permeable to allow the transport of the fluids to the drainage pipe. The slope for all drainage lines and laterals shall be at least six inches per 50 feet. The slope of the pond bed~~

~~shall also conform to these values to assure fluid flow towards the leak detection system. The drainage pipe shall convey any fluids to a corrosion-proof sump located outside the pond's perimeter.~~

~~(6) Thickness of flexible membrane liners shall be at least 40 mil.~~

~~(7) All materials used for lining evaporation ponds shall be resistant to hydrocarbons, salts and acidic and alkaline solutions. The liners shall also be resistant to ultraviolet light.~~

~~(8) The division may approve spray systems to enhance natural evaporation. Engineering designs for such systems shall be submitted to the division's environmental bureau for approval prior to installation. Spray systems shall be operated such that spray-borne salt does not leave the pond area.~~

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 16

~~(9) A skimmer pond or tank shall be used to separate any oil from produced water prior to water discharge into the pond.~~

~~(10) Design of a skimmer pond shall conform to the same design criteria as those for an evaporation pond.~~

I. Closure and post closure requirements for facilities other than evaporation ponds and Class B landfarms.

(1) Facility closure by operator. The operator shall notify the division's environmental bureau at least 390 days prior to cessation of operations at the facility and provide a proposed schedule for closure. Upon receipt of such notice and proposed schedule, the division shall inspect the facility and review the current closure plan for adequacy. The notice is deemed received five days after postmarked by United States mail or date of actual receipt as evidence by commercial carrier or other means. Within 30 days of receipt of notice and proposed schedule. The division shall notify the operator when it has completed its review and inspection and shall specify in such notice any modifications of the closure plan and proposed schedule or additional requirements that it determines are necessary for the protection of fresh water, public health or the environment. The operator shall be entitled to a hearing concerning any modification or additional requirement the division seeks to impose if it files an application for a hearing within 10 days after receipt of written notice of the proposed modifications or additional requirements. Closure shall proceed in accordance with the approved closure plan and schedule and any modifications or additional requirements imposed by the division, and upheld by the commission, if appropriate. During closure operations the operator shall maintain the facility to protect fresh water, public health and the environment. If it is determined that closure is complete the division shall release the financial assurance, except for the amount needed to maintain and sample a proposed post-closure monitoring wells system for 30 years according to the post-closure period identified in the closure plan, semi-annual analysis of such monitoring wells and to re-vegetate the site. Prior to the partial release of the financial assurance covering the facility, the division will inspect the site to determine that closure is complete. After the 30 years following closure have period has expired, the division shall release the remainder of the financial assurance if the monitoring wells system shows no that fresh water is protected contamination and the re-vegetation is successful. If the monitoring wells or other monitoring or leak detection systems reveal contamination a threat to fresh water, human health or the environment during the facility's operation or in the 30 years following the facility's post-closure period specified in the facility's closure plan, the division shall not release the financial assurance unless the contamination is remediated by the owner or operator.

(2) Facility closure initiated by the division. Forfeiture of financial assurance.

(a) For good cause, the division may, after notice to the operator and opportunity for a hearing, order immediate cessation of a facility's operation when it appears that such cessation is necessary to protect fresh water, public health or the environment, or to assure compliance with statutes or division rules and orders. The division may order closure without notice and opportunity for hearing in the event of an emergency, subject to Section 70-2-23 NMSA 1978, as amended.

(b) If an operator refuses or is unable to conduct operations at a facility in a manner that protects public health, fresh water and the environment, refuses or is unable to conduct or complete an approved closure plan, is in material breach of the terms and conditions of its permit, or the operator defaults on the conditions under which the financial assurance was accepted, or if disposal operations have ceased and there has been no significant activity at the facility for six months, the division may take the following actions to forfeit all or part of the financial assurance:

(i) send written notice by certified mail, return receipt requested, to the surface waste management facility operator and the surety, if any, informing them of the decision to close the facility and to forfeit the financial assurance, including the reasons for the forfeiture and the amount to be forfeited, and notifying the operator and surety that a hearing request or other response must be made within 10 days of receipt of the notice; and

(ii) advise the operator and surety of the conditions under which the forfeiture may be avoided. Such conditions may include but are not limited to an agreement by the operator or another party to resume operations in accordance with permit conditions, or perform closure and post closure operations in accordance with the permit conditions, the closure plan (including any modifications or additional requirements imposed by the division and upheld by the commission) and division rules, and satisfactory demonstration that such party has the ability to perform such agreement.

(c) The division may allow a surety to perform closure if the surety can demonstrate an ability to timely complete the closure and post closure in accordance with the approved plan.

(d) If the operator and the surety do not respond to a notice of proposed forfeiture within the

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 17

time provided, or fail to satisfy the specified conditions for non-forfeiture, the division shall proceed, after hearing if

a hearing has been timely requested, to declare forfeiture of the financial assurance. The division may then proceed

to collect the forfeited amount and use the funds to complete the closure, or, at the division's election, to close the

facility and collect the forfeited amount as reimbursement. All amounts collected as a result of forfeiture of any financial assurance shall be deposited in the Oil and Gas Reclamation Fund. In the event the amount forfeited and collected is insufficient for closure, the operator shall be liable for the deficiency. The division may complete or authorize completion of closure and post closure and may recover from the operator all reasonably incurred costs of

closure and forfeiture in excess of the amount collected pursuant to the forfeiture. In the event the amount collected

pursuant to the forfeiture was more than the amount necessary to complete closure and all costs of forfeiture, the excess shall be returned to the operator or surety, as applicable.

(e) If the operator abandons the facility or cannot fulfill the conditions and obligations of the permit or division rules, the state of New Mexico, its agencies, officers, employees, agents, contractors and other entities designated by the state shall have all rights of entry into, over and upon the facility property, including all necessary and convenient rights of ingress and egress with all materials and equipment to conduct operation, termination and closure of the facility, including but not limited to the temporary storage of equipment and materials, the right to borrow or dispose of materials and all other rights necessary for operation, termination and closure of the facility in accordance with the permit and to conduct post closure monitoring.

(3) Facility and cell closure and post closure standards. The following minimum standards shall apply to closure and post closure of the installations indicated, whether the entire surface waste management facility is being closed or only a part of the facility.

(a) Oil treating plant closure. The operator shall ensure that:

(i) all tanks and equipment used for oil treatment are removed from the site and recycled or properly disposed of in accordance with division rules;

(ii) the site is sampled, in accordance with the procedures specified in chapter nine of EPA publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, for TPH, BTEX,

major cations and anions and RCRA-selected metals, in accordance with a gridded plat of the site containing at least four equal sections that the division has approved; and

(iii) sample results are submitted to the environmental bureau in the division's Santa Fe office.

(b) Landfill cell closure. The operator shall ensure that:

(i) all landfill cells are properly closed, covering the cell with a 40-mil thick geomembrane, or division-approved evapotranspiration cap, or other final cover design approved by the division, and at least ~~two~~^{three} feet of uncontaminated native soil contoured to promote drainage of precipitation; side slopes shall not exceed a ~~33~~^{32.5} percent grade (~~three~~^{four} feet horizontal to one foot vertical), such that the final cover of the landfill's top portion has a minimum gradient of two percent to five percent, and the slopes are sufficient to prevent the ponding of water and erosion of the cover material; and

(ii) the area is re-vegetated or otherwise restored in a manner that is capable of sustaining native plant growth.

(c) Landfill post closure. Following facility closure, the post closure care period for a landfill shall be approved by the Division

(i) A post closure care and monitoring plan shall include maintenance of cover integrity, maintenance and operation of any leachate collection and removal systems~~leak detection system and~~ and operation of any required methane and ground ~~ground~~-water monitoring systems.

(ii) The operator or other responsible entity shall sample existing ~~ground~~-water monitoring wells-wells annually and submit reports of monitoring performance and data collected within 45 days from the end of each calendar year.

(d) Landfarm closure. The operator shall ensure that

(i) disking and addition of bioremediation enhancing materials continues until soils

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 18

within the cells are remediated to a TPH-DRO bioremediation endpoint - a TPH concentration of 100 mg/kg, a benzene concentration of 0.2 mg/kg and a BTEX concentration of 50 mg/kg;

(ii) soil remediated to the foregoing standards are re-vegetated;

(iii) landfarmed soils that have not been or cannot be remediated to the above standards are amended, or removed; and the cell filled in with native soil and re-vegetated;

(iv) all berms on the compost facility are removed;

(v) buildings, fences, roads and equipment are removed, the site cleaned-up and tests conducted on the soils for contamination; and

(vi) annual reports of treatment zone sampling are submitted to the division's Santa Fe office until the division has approved final closure of the facility.

(e) Landfarm post closure. If necessary to protect fresh ground water, (The post-closure care period for a landfarm shall be five years approved by the Division. The operator or other responsible entity shall ensure that:

(i) ground water monitoring, if required because of ground water contamination a threat to fresh water, is maintained to detect possible migration of contaminants; and

(ii) any cover material is inspected and maintained.

(f) [Evaporation ponds -- DELETED]

~~(i) all liquids in the ponds are removed and disposed of in a division approved surface waste management facility;~~

~~(ii) all liners are disposed of division approved surface waste disposal facility permit;~~

~~(iii) all equipment associated with the facility is removed;~~

~~(iv) the site shall be sampled, in accordance with the procedures specified in chapter nine of EPA publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods for TPH, BTEX, major cations and anions and RCRA metals, in accordance with a gridded plat of the site containing at least~~

~~four equal sections that the division has approved; and~~

~~(v) sample results are submitted to the environmental bureau in the division's Santa Fe office.~~

(4) Alternatives to re-vegetation. If the operator or owner of the land contemplates use of the land where a cell or facility is located for purposes inconsistent with re-vegetation, the operator may, with division approval, implement, implement an alternative surface treatment appropriate for the contemplated use, provided that

the alternative treatment will effectively prevent erosion.

J. Transitional provisions for Permitted Existing facilities other than evaporation ponds and Class B landfarms.

Surface waste management facilities in operation prior to the effective date of 19.15.2.53 NMAC pursuant to permits or orders of the division may continue to operate in accordance with such permits or orders, subject to the following provisions.

(1) All existing facilities shall comply with the operational, waste acceptance and closure requirements provided in 19.15.2.53 NMAC, except as otherwise specifically provided in this paragraph, the applicable permit or order, or in any specific waiver, exception or agreement that the division has granted in writing to the particular facility. Existing facilities need not comply with the paragraphs (E)(1) through (3), (E)(8), (F)(1) through (3) and (F)(11), (G)(2) through (6), and (H)(1) through (10) of 19.15.2.53 NMAC. [Need to check cross-references after changes]

(2) Any major modification of an existing facility, and any new cells constructed an existing facility shall conform to the design and construction specifications provided in 19.15.2.53 NMAC.

(3) Operators of existing facilities that were permitted under the 19.15.9.711 NMAC shall continue operation under the permit issued pursuant to 19.15.9.711 NMAC. At the first permit renewal after April 1, 2009, the operator must comply with the provisions of, ~~not later~~

~~than April 1, 2007, either bring all existing cells into compliance with the design and construction specifications provided in 19.15.2.53 NMAC, or close any cells that do not conform to those requirements; provided that the division may grant waivers to allow continued operation of existing cells not conforming to such requirements on a~~

~~case-by-case basis as long as the existing design and construction specifications adequately protect fresh water,~~

Proposed Industry Revisions to Proposed Rules, 11/14/05 Draft

December 21, 2005

Page 19

public health and the environment. If an operator applies for a waiver of this requirement, the operator shall give notice of the application in the manner provided in Subparagraphs (a) and (b) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC. The division may grant such a waiver administratively if it receives no objection within 30 days after the notice's publication.

K. Notice of Registration and Requirements for Class B Landfarms

(1) A Notice of Registration shall be filed with the division for each Class B landfarm. The notice shall include:

(a) the names and addresses of the applicant;

(b) a topographic map showing the facility's location in relation to governmental surveys (quarter-quarter section, township and range), highways or roads giving access to the facility site, watercourses, and surface water sources;

(c) depth to fresh ground water from available references

(d) the types of wastes to be bioremediated and schedule for closure (less than three years from date of first waste receipt)

(e) a closure plan including treatment zone sampling and analysis for TPH-DRO.

(2) By submitting the Notice of Registration, the Registrant agrees to follow the operational requirements applicable to Class B Landfarms listed below:

(a) No landfarm shall be located in any watercourse or lakebed.

(b) No landfarm shall exceed 5 acres.

No wastes with water content greater than 80 percent shall be placed in the facility.

(c) Landfarms shall accept only oil field related wastes, except as provided in Subparagraph (c) of Paragraph (5) of Subsection E of 19.15.2.53 NMAC. No non-exempt wastes, which are RCRA subtitle C hazardous wastes by either listing or characteristic testing, shall be accepted at a permitted facility.

(d) Only soils and soil like material such as drill cuttings or tank bottoms shall be placed in the landfarm.

(e) Landfarm operations shall be conducted in accordance with industry practices for piling, spreading, disking, moisture content management, and microbe enhancement.

(f) The application of microbes for the purposes of enhancing bioremediation requires prior division approval.

(3) Class B Landfarm Closure

(a) The operator shall notify the division's environmental bureau at least 60 days prior to cessation of operations and submit a closure schedule and, if necessary, a revised closure plan. The closure plan shall include treatment zone sampling results for TPH-DROs and chlorides.

(b) If the remediated soils TPH-DRO has reached the TPH-DRO bioremediation endpoint and the chloride concentrations are below [NUMBER FROM DB STEPHENS MODELING], the operator may close in place, or remove the soils and reuse as backfill, road construction/maintenance, berm construction, etc.

(c) If the upon receipt of such notice and plan, the treatment zone sampling results are above TPH-DRO bioremediation endpoint or the chlorides are above the [NUMBER FROM DB STEPHENS MODELING], the division shall require an additional closure plan within 30 days outlining additional requirements necessary for the protection of fresh water, public health or the environment. The division may impose additional requirements necessary to protect fresh water public health or the environment if, after notice and an opportunity for hearing, the division demonstrates that such requirements are necessary to protect fresh water, public health and the environment. The operator shall implement the division approved revised closure plan and schedule.

CERTIFICATE OF SERVICE

I certify that on December 21, 2005 I served a copy of the foregoing Industry Committee Comments to the following by

- U.S. Mail, postage prepaid
- Hand Delivery
- Fax
- Electronic Service by LexisNexis File & Serve

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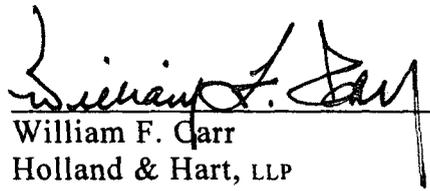
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December 21, 2005

VIA EMAIL (florene.davidson@state.nm.us) AND FEDERAL EXPRESS

Ms. Florene Davidson
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Yates Petroleum Corporation comments
Draft 11/14/05 Surface Waste Management Rules,
19.15.2.53 NMAC

2005 DEC 21 PM 2 23

Dear Oil Conservation Division:

Yates Petroleum Corporation (Yates) appreciates the opportunity to provide written comments on the Oil Conservation Division's (OCD's) November 14, 2005 amendments to the proposed surface waste management regulations. Yates has multiple facilities involved in oil and natural gas production in New Mexico. Consequently, the regulations will have a substantial impact on its operations.

The proposed revisions to the surface waste management regulations impose many new burdens upon operators. Yates is concerned that many of the proposed regulations are not based upon sound science and, as a result, place overly burdensome and unnecessary obligations on New Mexico operators without commensurate environmental benefits. Several experts in the fields of hydrocarbon remediation and soil science are providing written and oral testimony regarding these proposed revisions. These experts are Dr. Kerry L. Sublette, Director of the Integrated Petroleum Environmental Consortium and Sarkeys Professor of Environmental Engineering at the University of Tulsa, a recognized expert in hydrocarbon remediation by landfarming; Dr. Ben Thomas of Exponent (formally with Risk Assessment & Management Group, Inc.), a recognized expert in hydrocarbon toxicology and risk assessment; Dr. Daniel Stephens, of Daniel B. Stephens & Associates, Inc. a recognized expert in vadose zone hydrogeology and groundwater quality issues; and Mr. Mark Miller, of Daniel B. Stephens & Associated, Inc., an expert in landfill permitting, design, and operations. Yates hereby incorporates their submittals and testimony into its comments.

Yates proposed amendments and changes to the proposed rules are attached as Appendix "A" to these comments.

I. GENERAL COMMENTS

A. Technical Issues

1. **There is no technical justification for the proposed maximum 1000 mg/kg acceptable chloride concentration for landfarming.**

As outlined in the testimony of Dr. Sublette and Dr. Stephens testimonies will outline a proposed a flexible approach based on mass loading that can protect fresh ground water, public health, and the environment.

2. **The proposed 100 mg/kg TPH threshold for surface waste management facilities (landfarms and landfills) do not reflect the best science.**

As outlined in Dr. Sublette and Dr. Thomas testimony, an approach that considers degrees of risk, bioremediation, and the types of petroleum residuals provides a stronger, more flexible program that is protective of fresh water, public health and the environment.

3. **The proposed landfill design is not reflective of the most current science.**

Mr. Miller's testimony will address current landfill design and operations that are protective of fresh water, public health, and the environment.

4. **The proposed rules adopt an inflexible, one-size-fits-all approach to regulating surface waste management facilities, regardless of the fact that such facilities vary in size, nature of waste treated, location and timeframe of operation. As a result, the risk presented by the various facilities varies considerably.**

The Industry Committee believes that appropriate regulation should be flexible and tailored to science and the degree of risk presented by each type of facility. In summary, the Industry Committee offers the following approach:

Step 1. High risk facilities should be identified and are appropriately subject to site-specific permitting requirements. Examples of such facilities include commercial landfills and landfarms and large facilities

where wastes may be managed over time, increasing the possible threat to drinking water, public health and the environment.

Step 2. Lower risk facilities should be registered and subjected to minimum operational requirements, but should not require site-specific permitting that may interfere with management of oilfield wastes. Examples include spill remediation landfarming efforts and evaporation ponds (which are best regulated as pits).

Step 3. An appropriate risk-based hydrocarbon clean up and closure standards or approach should be established by rule for each type of facility. Total petroleum hydrocarbons (TPH) are not the best means of assessing potential threats to fresh water and public health. Instead, NMED Tier 1 hydrocarbon constituents (discussed below) for gasoline range organics and periodic TPH-Diesel Range Organics (TPH-DRO) testing to show when the bioremediation endpoint is reached, and hence toxicity reduced to acceptable limits, presents a stronger technical approach.

Step 4. The best current science should be used to determine site operations and closure for chlorides through modeling and risk. Then operators prepare a chloride management plan as part of the overall permitted facility operations plan that demonstrates how chlorides will be managed to prevent a potential threat to drinking water.

This strong scientifically-based approach will allow the Division's limited resources to be focused on those facilities posing the greatest environmental risk while allowing prompter cleanup at smaller sites that pose no realistic threat to fresh water, public health or the environment. Yates hopes that the Commission will seize this opportunity to create a strong, scientifically-based approach to petroleum remediation that will be a model for other states.

B. Legal Issues

1. The Oil and Gas Act does not authorize the Commission to grant preferred or non-preferred status to any operator.

Yates objects to the requirements found in proposed 19.15.2.51(D) and proposed 19.15.2.53(D)(2) as implementing a "good standing" requirement upon operators. The New Mexico Oil and Gas Act (OGA) outlines the division's and the commission's powers. *See generally* N.M. Stat. Chapter 70, Article 2. When rules are promulgated that are not reasonably related to their legislative purpose, those rules are arbitrary and capricious. *See Old Abe Co., v. New Mexico Mining Comm'n*, 908 P.2d 776, 781 (N.M. Ct. App. 1995); *Tenneco Oil Co. v. New Mexico Water Quality Control Comm'n*, 760

P.2d 161, 165 (N.M. Ct. App. 1987). The OGA does not grant power to the commission to grant preferred status to any operator. That is exactly what these regulations do; they grant preferred status to certain operators. As such, the OCD has acted outside its legislative authority and has adopted regulations that are arbitrary and capricious.

2. The Oil and Gas Act and New Mexico Administrative Procedures Act do not provide for permit or application denial without notice and an opportunity for hearing.

The proposed regulations allow a C-133 application or permit to be denied based upon criteria that violate an operator's due process. The proposed revision outlines conditions under which OCD may deny a permit or application. However, operators are not granted any procedural due process protections. Under the New Mexico Administrative Procedures Act, an applicant for a permit must be granted an opportunity for a hearing. 12.8.14 NMSA; *see also Jones v. New Mexico State Racing Comm'n*, 671 P.2d 1145, 1147 (N.M. 1983) ("It is well settled that the fundamental requirements of due process in an administrative context are 'reasonable notice and opportunity to be heard and present any claim or defense.'"). If an operator may be denied a permit or C-133 application due to any of these criteria, the operator must have the opportunity for notice and a hearing.

3. The proposed regulations' standards are, in places, so vague as to be unconstitutional.

In addition to the procedural due process deficiency, these regulations are so vague as to violate an operator's substantive due process. One criterion for denial of a C-133 application or a permit is if the owner or operator "has a history of violating division rules or other state or federal environmental laws or rules." *See* proposed 15.15.2.51(D) and 19.15.2.583(D)(2) NMAC. This proposed language is so vague and arbitrary that it provides operators no standard. Regulations are void for vagueness when persons of common intelligence must guess at their meaning and would differ in their application. *See New Mexico Munin. League v. N.M. Env. Improvement Bd.*, 539 P.2d 221, 228 (Ct. App. 1975); *see also Bokum Res. Corp. v. N.M. Water Qual. Control Comm'n*, 603 P.2d 285, 289 (N.M. 1979). This regulation is so uncertain that an operator does not have fair notice of what constitutes a "history" of violating division rules or what are considered "environmental" laws. Operators are only left to guess whether the company's past actions may be found to violate this requirement.

II. SPECIFIC COMMENTS

In addition to the general comments presented above, Yates provides the following specific comments to the proposed revisions.

Proposed 19.15.1.7 NMAC Definitions.

Yates proposes, consistent with the science based approach advocated by the Industry Committee experts, adoption of a term defining the “bioremediation endpoint,” as follows:

(8) Bioremediation endpoint shall mean that point in time when the mean concentration of TPH-DRO (i.e., the mean of four samples) does not change significantly between two successive sampling periods, which indicates that biodegradation of the toxic constituents has been completed, regardless of TPH-DRO level.

Yates objects to the proposed definition of a “surface waste management facility” because it is broad enough to include pits regulated pursuant to 19.15.2.50 NMAC for Pits and Below-Grade Tanks. See proposed 19.15.1.7(10) NMAC. Thus, certain pits would be subject to dual and/or conflicting regulations. For example, proposed paragraph 19.15.2.53(E) prohibits the location of surface waste management facilities in certain areas. OCD has already promulgated regulations concerning the location of pits. See 19.15.2.50(C) NMAC. Yates proposes that OCD include subparagraph (d) to specify that the definition of “surface waste management facility” does not include pits regulated pursuant to 19.15.2.50 NMAC. Yates proposes adding:

(d) a pit regulated pursuant to 19.15.2.50 NMAC.

Yates also proposes a definition of TPH-DRO, as follows:

TPH-DRO shall mean the C10-C28 fraction of total petroleum hydrocarbons using EPA Method 8015B with silica gel cleanup.

**Proposed 19.15.2.51 NMAC Transportation of Produced Water, Drilling
Fluids and Other Liquid Oil Field Waste.**

19.15.2.51(C)

Yates supports OCD’s revision to the regulations that includes a list of transporters on the OCD website with approved C-133 authorization to transport oil field waste. This should help operators ensure that a transporter has received the proper authorization to move liquid waste. Yates, however, believes that OCD should notify operators of transporters whose authorization to move liquid wastes has been either suspended or cancelled. In this way, operators will not need to continuously check OCD’s website to ensure that its transporter’s authorization has not been cancelled or suspended. Yates proposes that OCD provide a monthly notification that identifies transporters whose authorization has been cancelled or suspended. OCD could provide a written notification and post the information on its website.

In addition, the regulations should provide a safe-harbor for an operator using a transporter whose authorization is suspended when the operator has not received notice of the suspension. A monthly notification would not place a burden on OCD, it would ensure that only authorized transporters are allowed to move liquid waste, and it would provide notice to operators of those transporters whose authorization is suspended. Yates proposes including subparagraph F as follows:

F. Notification of cancellations or suspension of authorization to move liquid wastes. The Division shall provide a notification on the last day of each month to operators that identifies transporters whose C-133 authorization to move liquid waste has been cancelled or suspended in that calendar month. An owner or operator who permits a transporter with a cancelled or suspended C-133 authorization to move liquid waste 10 days after the date of the notification shall be in violation of paragraph C of 19.15.2.51. The OCD shall post a copy of the notification on its website.

19.15.2.51(D)

Yates objects to this “good standing” language in this paragraph. Yates incorporates its objections as stated in the general comments I.B.

19.15.2.51(E)

Yates proposes that OCD amend this proposed paragraph to require a transporter whose authorization has been cancelled or suspended to notify its customers. This requirement, in addition to the notification from OCD that Yates proposed in paragraph (C) above, will protect innocent operators if a transporter’s authorization is cancelled or suspended. Without these protections, operators would need to verify the transporter’s status every time a transporter moves its oil field waste. This is an unrealistic burden given the remote field locations where such transport may occur. As a result, Yates proposes that OCD add the language “A transporter whose authorization to move liquid waste pursuant to this section has been cancelled or suspended must notify all owners or operators for whom it has moved liquid waste in the previous 30 days” to proposed paragraph (E).

Proposed 19.15.2.52 Disposition of Produced Water.

Yates proposes that OCD add the language “or rule” to paragraph (B)(2). This clarifies that produced water disposed according to the permit by rule provisions in the proposed pit regulations (19.15.2.50 NMAC) is an authorized disposition. Thus, Yates proposes that paragraph (B)(2) be amended to read: “use in accordance with any division-issued use permit *or rule*.”

Proposed 19.15.2.53 Surface Waste Management Facilities.

19.15.2.53(A)(1)

Yates supports the recommendations of Drs. Stephens, Sublette, and Thomas that landfarms be split into two classes:

- Class "A" landfarms, which are either (i) commercial facilities or (ii) large centralized facilities expected to manage large volumes of contaminated soils and oil field wastes and are expected to continue in operation for an extended period of time.
- Class "B" landfarms, which are operated for less than three years and are expected to manage smaller volumes of contaminated soil and oil field wastes.

Both commercial and large centralized facilities can be expected to operate for longer periods of time, giving rise to a greater risk that landfarm operation might adversely affect fresh water, public health or the environment. On the other hand, small landfarms (e.g., those that handle less than 8000 cubic yards of material) that may operate for less than three years, typically do not present a realistic threat to fresh water, public health or the environment when using "best management practices." Because these smaller and short-term facilities present less risk, they do not require the degree of site-specific review that larger commercial or centralized facility might.

Therefore, Yates proposes to require landfills and Class A landfarms to obtain a division approved permit and Class B landfarms to register with the division. Conforming changes are made to 19.15.2.53(A)(1) and (2):

- (1) No person shall operate a surface waste management facility *other than an evaporation pond or Class B landfarm* except pursuant to and in accordance with the terms and conditions of a division-issued surface waste management facility permit, unless such facility is exempt from permitting pursuant to Paragraph (2) of Subsection A of 19.15.2.53 NMAC.
- (2) The following facilities are exempt from the permitting *and registration* requirements of 19.15.2.53 NMAC, but not from the requirements of 19.15.2.50 NMAC regarding pits: [listing]

Yates reiterates that the OCD should amend the surface waste management regulations to exclude pits regulated pursuant to 19.15.2.50 NMAC. If not, pits will be regulated under two different schemes and will require double permitting. Yates proposes the addition of subparagraph (A)(2)(d) that reads:

- (d) *pits regulated pursuant to 19.15.2.50 NMAC.*

19.15.2.53(B)(1)

In this section, Yates proposes to define the two categories of Class A and Class B landfarms as follows:

(a) Class A landfarm is (i) any commercial facility or (ii) any centralized facility that operates more than 3 years, manages greater than 8000 cubic yards of materials. Class A landfarms require a division-issued site-specific surface waste management facility permit.

(b) Class B landfarm is a centralized facility that operates less than 3 years, manages between 1400 and 8000 cubic yards of material, remediates soils/solids to risk-based clean up standards, and is closed in place or closed by removing soils/solids for beneficial reuse (roads, berms, or other industrial uses). Class B landfarms require a notice of registration with the division.

19.15.2.53(B)(4)

Yates proposes to make the receipt of compensation the criterion for identifying a commercial facility.

19.15.2.53(B)(5)

Yates strongly supports OCD's inclusion of the language "or by an affiliate of such generator" in proposed paragraph (B)(5)(c). This language recognizes that operating entities are sometimes made up of complex mixtures of subsidiary and affiliated entities.

19.15.2.53(B)(6)

Yates reiterates its objection to the definition of "major modification" in paragraph (B)(6) as it relates to treatment processes. This definition is too vague to provide guidance to either operators or the division. Yates proposes the following clarification:

(6) A major modification is a modification of a facility that involves an increase in the land area that the permitted facility occupies, a change in the nature of the permitted waste stream or addition of a new treatment unit or units or a substantial change in the type of treatment process (e.g., the addition of bioremediation or stabilization where not previously used). Adjustment of existing treatment processes to account for variations in incoming materials does not constitute a major modification.

This language more clearly defines a major modification by referencing objective factors that can be included in future permits. The proposed revision further clarifies that it is the addition of new treatment units, rather than the shuffling of existing units or minor operational adjustments to achieve better results using existing processes, that triggers the definition of "major modification." This revision is more objective, giving greater certainty. In addition, the proposed definition is too restrictive and prevents operators from improving their treatment processes based on optimization of existing technologies, which is surely not an intended consequence of the division's rule.

19.15.2.53(C)

Yates proposes changes in the initial language of this section to exclude evaporation pits and Class B landfarms from permitting requirements. Evaporation

ponds share more in common with pits and are better regulated under that rule, which is specifically designed for the types of wastes typically handled in pits (e.g., liquids). Class B landfarms are best handled under a registration and best management practice approach to encourage use of these facilities to encourage cleanups, as outlined in Yates General Comments above. Yates therefore proposes that this section be amended to read as follows:

C. Permitting requirements for facilities other than evaporation ponds and Class B landfarms. Unless exempt from 19.15.2.53 NMAC, all new *surface waste management facilities other than evaporation ponds and Class B landfarms* shall, prior to commencement of construction, and all *such* existing facilities shall, prior to major modification, be permitted by the division in accordance with the applicable requirements of Subsection C of 19.15.2.53 NMAC.

19.15.2.53(C)(1)

Yates does not believe that it is the best use of Commission, division and operator resources to reproduce the entire application package upon permit renewal. Reduced requirements would be more appropriate. Yates proposes these requirements in new 19.15.2.53(C)(2A). (C)(1) now would apply only to initial applications and major modifications.

(1) Application requirements for new facilities and major modifications [DELETED MATERIAL]. An application, form C-137, for a permit for a new facility *or to make a major modification* to an existing facility shall be filed with the environmental bureau in the division's Santa Fe office. The application shall include: [list]

Yates proposes that OCD include language in paragraphs (C)(1)(d) and (C)(1)(e) to clarify that these provision only apply to new or modified pits or facilities. The diagram and engineering design requirements of these proposed regulations may not exist for existing pits and facilities and may be impractical to develop. Thus, Yates proposes amending these regulations to read:

(d) a description of the facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of any *new or modified* pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the facility, buildings and chemical storage areas;

and

(e) engineering designs *for any new facility or modified part of an existing facility*, certified by a registered professional engineer, including technical data on the design elements of each applicable *new or modified*

disposal method and detailed designs of *new or modified* surface impoundments;

Yates proposes that OCD revise paragraph (C)(1)(i) to allow an owner or operator to implement alternative surface treatment if the owner or operator contemplates use of the land for purposes inconsistent with re-vegetation. Yates proposes revising the final sentence of paragraph (C)(1)(i) to read "The closure and post closure plan shall comply with the requirements contained in Paragraphs (3) *or* (4) of Subsection I of 19.15.2.53 NMAC;". This will provide operators and landowners greater flexibility when determining closure and post-closure activities that conform with the future use of the land.

In paragraph (C)(1)(I), Yates proposes to qualify that only existing geological/hydrological data from available information/references or newly acquired site specific data need to be provided. Expert experience has shown that detailed hydrogeological data of the type suggested by the existing rule is not needed for design and development of an operations plan to protect fresh water, public health and the environment. Yates therefore proposes the following revised paragraph:

(l) geological/hydrological data *from available information/references or newly acquired site specific data* including:

- (i) depth to and quality of *fresh* ground water beneath the site;
- (ii) [no change]
- (iii) [DELETE]
- (iv) depth to, name of and thickness of the shallowest fresh water aquifer *unless referenced data indicates that fresh ground water is not present beneath the site;*
- (v) [no change]
- (vi) [no change]
- (vii) potentiometric maps for the shallowest fresh water aquifer *unless referenced data indicates that fresh ground water is not present beneath the site;*
- (viii) porosity and permeability [DELETED] for the soil on which the contaminated soils will be placed;
- (m) certification by *the applicant* that information submitted in the application is true, accurate and complete to the best of *its* knowledge; and
- (n) [DELETED MATERIAL] *a demonstration* that the facility's operation will not adversely impact fresh water, public health or the environment and that the facility will comply with division rules and orders.

These proposed revisions reasonably restrict the amount of data needed to that most important for proper permitting of the facility. The revision is consistent with the pit guidelines. The demonstration requirement of proposed 19.15.2.53(C)(1)(n) provides an adequate safety net if additional information is needed.

19.15.2.53(C)(2A)

Yates proposes a new provision 19.15.2.53(C)(2A) to address permit renewals. It is Yates' experience that a complete application is not needed to renew an existing facility permit. Preparation of such an application is wasteful of resources for both the division and the operator. Instead, what the division needs is a clear indication of any changes that may have occurred at the facility that may affect protection of fresh water, public health or the environment. Yates therefore proposes the following provision to balance these considerations:

(2A) Application requirements for permit renewals. An existing facility applying for a permit renewal shall file a form C-137 with the environmental bureau in the division's Santa Fe office stating the intention to renew and providing the following information:

- (a) a copy of the permit with any corrections necessary to adequately reflect the existing facility;*
- (b) the information required under paragraphs (a), (c), (d) of section (C)(1) of 19.15.2.53;*
- (c) current copies of any plans required under paragraphs (f) through (k) of section (C)(1) of 19.15.2.53 that have changed since the permit's issuance;*
- (d) the certification and demonstration required under paragraphs (m) and (n) of section (C)(1) of 19.15.2.53.*

19.15.2.53(C)(4)

Yates objects to the variable notice requirements. The one mile radius and newspaper publication is adequate. The allowance of discretion merely invites subsequent challenge to permit actions on the grounds that the division "should have" required more. Yates therefore proposes *deleting* the second to last sentence of 19.15.2.53(C)(4)(a).

19.15.2.53(C)(6)

Yates objects to proposed paragraph (C)(6)(c) because the regulation does not require OCD to provide evidence of a forfeiture prior to removing funds from a cash account. OCD should be required to show that a forfeiture has occurred. Consequently, Yates proposes amending this language to:

(c) Cash accounts. An applicant may provide financial assurance in the form of a federally insured or equivalently protected cash account or accounts in a financial institution, provided that the operator and the financial institution shall execute as to each such account a collateral assignment of the account to the division, which shall provide that only the division may authorize withdrawals from the account. In the event of forfeiture under 19.15.2.53(I)(2) NMAC, the division may direct payment

of all or any part of the balance of such account (excluding interest accrued on the account) to itself or its designee *for closure of the facility*.

19.15.2.53(D)

This section should be apply to facilities “other than evaporation ponds and Class B landfarms” consistent with Yates’ comments above.

Yates objects to the OCD’s use of the discretionary “may” in proposed paragraph (D)(1)(a). Operators who have complied with all applicable regulations for a new facility or major modification should have the assurance that such permit will be issued. In other words, the OCD should not have discretion to deny a permit application when an operator has complied with applicable regulations. Consequently, Yates proposes replacing “may” with “shall” in the first sentence of paragraph (D)(1)(a). Revised paragraph (D)(1)(a) would read as follows:

D. Permit approval, denial, revocation, suspension or modification *for facilities other than evaporation ponds or Class B landfarms*.

(1) Granting of permit.

(a) The division *shall* issue a permit for a new facility or major modification upon finding....

Yates objects to the language in paragraph (D)(1)(b) because the division has exceeded its statutory authority. The New Mexico APA states that when a permittee has timely filed for a permit renewal, the permit cannot expire before the agency issues a final determination. 12-8-14(A) NMSA. Proposed paragraph (D)(1)(b) states that upon application for a permit renewal, a permit will not expire *unless the operator is in violation of the permit*. OCD has exceeded its authority in placing this condition upon the statutory mandate. Consequently, OCD must remove the language “and the operator is not in violation of the permit on the date of its expiration, then” from the proposed regulation.

In addition, Yates objects to the requirement in proposed paragraph (D)(1)(b) that requires operators to re-submit all the information from an original permit when seeking a permit renewal. Instead, the regulations should only require an operator to submit information that has changed since the previous application. The reference to (C)(1) should be replaced by (C)(2A). See Yates comments on 19.15.2.53(C)(2A) above.

In paragraph (D)(1)(c), OCD should replace “list” with “least”.

19.15.2.53(D)(2)

In paragraph (D)(2), Yates opposes this language as a “good standing” requirement. Yates reiterates its objection in the general comments. In addition, Yates objects to this paragraph because it applies to affiliates that Yates may not control. If OCD wants to include “affiliates” in paragraph (D)(2), it should amend the definition of

“affiliate” for this paragraph to only include entities in which an operator has at least 51% control. An operator with less than 51% interest may not effectively be able to control the affiliate. Everything after the first two sentence should be *deleted*.

19.15.2.53(D)(3)

In paragraph (D)(3), if the division seeks to impose “additional requirements” the division should have the burden of showing that the requirements are necessary to protect fresh water, public health or the environment. The permit requirements of 19.15.2.53 NMAC were developed to protect soil and groundwater from contamination resulting from surface waste management facilities. Consequently, any permit issued pursuant to these regulations should not require any “additional requirements.” Yates proposes that if additional requirements are needed, OCD should have the burden to demonstrate the requirements are necessary to protect fresh water, public health or the environment. Yates recommends amending this paragraph to read:

(3) Additional requirements. The division may impose additional conditions or requirements, in addition to the operational requirements set forth in 19.15.2.53 NMAC that it determines are necessary and proper for the protection of fresh water, public health or the environment. *If appealed, the division has the burden to prove at hearing that the additional requirements are necessary to protect fresh water, public health or the environment.* Any such additional conditions or requirements shall be incorporated into the permit.

19.15.2.53(E)(1)

Consistent with its comments throughout, this section should be titled “Operational requirements applicable to permitted facilities other than evaporation ponds and Class B landfarms.”

Yates objects to the proposed limitation on facilities with groundwater less than 50 feet below ground surface. Based on the environmental setting, a properly engineered and operated facility poses little substantial risk to groundwater in such a situation. Yates recommends that this provision should be *deleted*.

19.15.2.53(E)(2)

Yates proposes that OCD adopt the definition of “watercourse” as provided by Burlington Resources. The “watercourse” definition is under consideration as part of the OCD’s revisions of its pit regulations. Burlington Resources recently developed this definition for OCD. The definition, as provided by Burlington resources, is:

Watercourse shall mean any lake bed or gully, draw, stream bed, wash, arroyo or channel that is delineated on a USGS Quadrangle map having a scale factor of 1:24,000 or which clearly has a hydraulic connection to rivers, streams, or lakes. Watercourses under this definition do not

include human-made channels, ephemeral washes, or arroyos which are not delineated on a USGS Quadrangle map having a scale factor of 1:24,000 or which clearly are not connected hydraulically to rivers, streams, or lakes.

In addition, Yates proposes that OCD provide a definition of "lakebed" for proposed paragraph (E)(2). Only in this manner can an operator be assured that it is not locating a surface waste management facility in a prohibited area. Yates proposes OCD adopt the language "For purposes of this paragraph, a 'lakebed' is any portion of a navigable lake" to proposed paragraph (E)(2).

Yates also proposes that the OCD remove the word "adjacent" from proposed paragraph (E)(2). While adjacent generally means "borders, contiguous, or neighboring," see 33 CFR § 328.3(a), its use provides operators inadequate information to determine whether they are locating a surface waste management facility too close to a watercourse or lakebed. Yates proposes that OCD adopt a definite distance shown to be protective of human health and the environment. For purposes of this regulation, Yates proposes a distance of 200 feet.

19.15.2.53(E)(4)

The provision should be clarified by noting that "no *liquid* wastes transported by a commercial carrier"

19.15.2.53(E)(5)

Facilities should be allowed to accept non-hazardous solid waste upon approval of the division, consistent with past practice and proposed 19.15.2.53(F)(5)(b). Paragraph (E)(5) should be revised to read "Facilities shall accept only oil field related wastes *and non-hazardous solid waste*, except as provided..."

In paragraph (E)(5)(b), the allowance should be expanded to expressly include "Non-exempt, non-hazardous, oil field *or solid* wastes." Acceptance of this waste is contingent upon division approval.

19.15.2.53(E)(8)

The netting provision should be limited to exposed pits and ponds "*that may contain floating hydrocarbons.*" Storm water ponds, which may be required by these regulations, should not require netting because there is virtually no chance of harm to birds.

19.15.2.53(E)(12)

In subparagraph (a), Yates recommends that the requirement for leak detection systems be caveated as applicable to those facilities which have such systems. In addition, weekly sampling is more stringent than necessary. Monthly sampling will provide an adequate measure of protection. Yates recommends that the introductory

wording for paragraph (a) be revised as follows: "*for facilities with leak detection system, monthly inspection of leak detection sumps and...*"

Yates objects to the requirement in paragraphs (E)(12)(b) because monthly inspections and sampling of all monitor wells is too frequent. The federal Resource Conservation and Recovery Act regulations, as adopted by New Mexico, typically require at most quarterly or semi-annual sampling of ground water monitoring wells at *hazardous waste* facilities. Yates does not see why more frequent monitoring is required for oil field waste facilities that present less of an environmental risk.

Yates objects to the language in proposed paragraphs (E)(12)(c) and (d) as it requires inspections to be performed after "any" rainfall and an inspection of berms after "any" windstorm. This language is vague, so these regulations be amended to read as follows:

- (c) inspections and maintenance of berms in such a manner as to prevent excessive erosion; and
- (d) inspections and maintenance of outside walls of all levees in such a manner as to prevent *excessive* erosion.

19.15.2.53(E)(13)

Yates objects to the requirement to control the 100-year storm event. A storm event of this size is rare and the quantity of water involved is significant. Yates recommends that OCD follow the U.S. Environmental Protection Agency's standard practice of requiring protection for up to a 25-year, 24-hour storm event. This provides an adequate measure of protection without excessive surface disturbance or unnecessary increase in the size of the facilities.

19.15.2.53(E)(14)

No contingency plan should be required when a facility can demonstrate that as a result of its operations, no fire or release of contaminants would occur. The introductory language should be revised to read:

- (14) Contingency plan. Each operator shall have a contingency plan, *unless the operator can demonstrate that a failure of the operations plan should not reasonably cause a fire, explosion, or sudden release of contaminants.*

Yates objects to the language in proposed paragraph (14)(g) because it requires the contingency plan to include "all" local police departments, fire departments, and hospitals. This provision is overly broad and unnecessary. Only those emergency services that may respond to an emergency at the facility should be included within a facility's emergency response plan. Other sections of proposed paragraph (14) only apply to "local" emergency responders. *See* proposed 19.15.2.53(14)(b), (i)(ii) NMAC.

Yates proposes that OCD should remove the word "all" from this revision to specify the regulation only requires the facility include local emergency responders.

Yates objects to proposed paragraph (14)(h) because the contingency plan cannot be amended "immediately." While Yates appreciates the need to amend the contingency plan when circumstances change, some time must be granted to the facility to effectuate required amendments. Consequently, Yates proposes that OCD amend this paragraph to read:

(h) indicate when the contingency plan will be amended, which *shall be within 30 days of any event (i) through (v)*:

Yates also recommends that the following provision be added to make it clear that the facility emergency coordinator may amend the plan as needed during an emergency response to protect fresh water, public health or the environment:

The facility emergency coordinator may amend the plan as necessary to protect fresh water, public health or the environment during an emergency.

19.15.2.53(F)(1)

In paragraph (F)(1), there is no sound technical basis for imposing an across-the-board 5 acre cell limit. Instead, the size of the cells is an appropriate area for the exercise of technical judgment during the permit process. A properly designed facility should be protective of fresh water, public health and the environment. Yates thus objects to the five acre cell limit.

19.15.2.53(F)(2)

In paragraph (F)(2), Yates objects to the proposed liner requirements as not reflecting best current practice. Based upon consultation with experts in the industry, Yates believes that the following language better reflects best current practices:

(2) Landfills shall be constructed using composite liners with leachate collection and removal systems, if needed to protect fresh ground water. Liner components may include synthetic or natural low permeability materials, such as 40-mil HDPE, geosynthetic clay liners, clay, or other earthen materials with a saturated hydraulic conductivity less than 1×10^{-7} cm/sec, or equivalent. The Division may reduce liner requirements based on an applicant's demonstration to the division's satisfaction, that fresh water will not be adversely impacted.

Please refer to the testimony and submissions of Mr. Miller.

19.15.2.53(F)(8)-(9)

Yates objects to the requirement in proposed paragraphs (8) and (9) as being overly prescriptive. There are some applications where cover may be more appropriately

applied using an alternative methodology. If this alternative is acceptable to the division, it should be used without the necessity of also going through a variance procedure, which imposes additional burden on both the division and the applicant. More specifically, the frequency of cover application (paragraph (F)(8)), the thickness of daily cover (paragraph (F)(9)(a)), the one month coverage requirement (paragraph (F)(9)(b)) are examples of overly prescriptive conditions. Similar, the requirement that the operator provide an intermediate cover that shall be "inspected and maintained to prevent erosion and infiltration." It is impossible to prevent infiltration. This requirement would have the practical purpose of preventing the use of a landfill. Yates proposes that the OCD either clarify how it proposes infiltration should be prevented or amend the regulation by replacing "prevent" with "minimize."

19.15.2.53(F)(10)

Yates objects to the limitation of two open cells. Modern landfill practice increasingly emphasizes the use of monofills within a cell. The use of monofilling requires, however, that separate cells be open for each type of waste used in monofilling. In addition, there may be legal issues present that make multiple landfill cells desirable (e.g., where a landfill operator constructs a cell for a specific company to improve accountability). Within reason, monofilling and the use of generator specific landfills enhance the protectiveness of landfilling and should be encouraged, not prohibited, by the division's rules. Yates objects to the limit on the number of open landfill cells should be *deleted*.

19.15.2.53(F)(11) and new (F)(13)

Groundwater monitoring should only be required where necessary. If there is not fresh water under the landfill, groundwater monitoring is inappropriate and should not be required. The variance procedure imposes too much additional burden on the division, the commission and the applicant. Because the absence of fresh water is not uncommon in parts of New Mexico, that situation should be addressed directly by the rules. Yates there proposes adding the following phrase to the proposed rule: "*If necessary to protect fresh ground water, a...*" Yates also recommends a new subparagraph (F)(13), which would provide as follows:

(13) The Division may suspend part of all groundwater monitoring requirements based on an applicant's demonstration that fresh ground water will not be adversely impacted during the active life of the landfill and post-closure care period.

19.15.2.53(G)

Yates believes that the conditions set forth in this section are appropriate for Class A landfarms, but more stringent than necessary or desirable for smaller facilities basically used for a short time to address a specific remedial problem. Yates proposes to address such small, temporary facilities as Class B landfarms in a new section (K). 19.15.2.53(G) should be amended to limit it to operation requirements for "Class A landfarms."

19.15.2.53(G)(1)

Yates believes that the best approach for larger Class A landfarms is to require the development of a landfarm operational plan that lays out the technical approach that the operator will use to bioremediate oilfield wastes. Yates proposes the following condition:

(1) The operator shall submit for division approval a landfarm operations plan. The plan shall be based on the environmental setting and landfarm design, and address waste acceptance procedures, representative waste sampling and analysis, cell operations, salt management program, waste placement plan, storm water management, bioremediation program (depth placement, moisture management, tilling schedule, bioremediation end-point [e.g., using TPH DRO], treatment zone and below treatment zone sampling and analysis program, and annual reporting and certification.

The submissions and testimony of Drs. Sublette, Thomas, and Stephens lay out the benefits of this approach. The proposed landfarm operations plan addresses the bioremediation mechanisms, the desired bioremediation end-point with measurement criteria, management of chlorides, and provides for a site-specific approach to ensuring appropriate landfarm operation.

Yates objects to the prohibition in proposed paragraph (G)(1) [renumbered (G)(2) in the Industry Revisions] that does not allow soils and soil-like materials with a chloride concentration greater than 1000 mg/kg from being placed in a landfarm.¹ Dr. Sublette will testify that soil remediation may occur in soils with chloride concentrations in excess of 1000 mg/kg. Dr Stephens will testify that higher chlorides can be placed on the landfarm and managed to protect fresh water, the public and environment. Yates proposes that this condition be substantially revised as follows:

Except for liquids used to control dust or moisture content, only soils and soil like material such as drill cuttings or tank bottoms shall be placed in landfarm. The person tendering waste for treatment at a landfarm shall provide an analysis of representative samples of the waste for chloride content.

19.15.2.53(G)(2)

In paragraph (G)(2), there is no sound technical basis for imposing an across-the-board 5 acre limit for landfarms. Instead, the size of the cells is an appropriate area for the exercise of technical judgment during the permit process. A properly designed facility should be protective of fresh water, public health and the environment. Yates thus objects to the five acre cell limit.

¹ In the initial version of these regulations, OCD allowed salt-contaminated waste of up to 2000 mg/kg to be placed in landfarms. See previous proposed 19.15.2.53(G)(12) NMAC. It is unclear why OCD reduced the allowable chloride concentration.

19.15.2.53(G)(3) and (4)

Paragraphs (G)(3) and (4) need grandfathering as they relate to existing facilities and there is no basis for restricting distance from a pipeline crossing if it is appropriately protected and included in the facilities plan. Yates proposes that (G)(3) be revised as follows and (G)(4) be deleted.

(3) *At new or modified facilities, no contaminated soils shall be placed within 100 feet of the boundary of the facility;*

New 19.15.2.53(G)(4)

Yates proposes that the regulations establish a default monitoring and beneficial reuse standard for Class A landfarms as follows:

(4) Unless otherwise provided in the landfarm operations plan approved by the division, the treatment zone shall be sampled and analyzed for TPH-DRO semiannually. The operator shall plot the TPH-DRO results to determine the bioremediation endpoint of the treatment zone. Once the bioremediation endpoint is reached, the soil may be beneficially reused or another lift may be added.

As the experts will testify at the hearing, the TPH-DRO test is a good indicator of the success of bioremediation. If the TPH-DRO level does not differ substantially between two tests, that indicates that bioremediation has reached its endpoint and that the toxicity has been addressed and the cell is either ready to have the soil removed for beneficial reuse or that another lift can be added.

19.15.2.53(G)(5)

This provision is subsumed in new (G)(1), which requires a landfarm operations plan.

19.15.2.53(G)(6)

Yates proposes substantial revisions to paragraph (G)(6) [numbered (G)(5) in the Industry Revisions]:

(5) Unless otherwise provided in the landfarm operations plan approved by the division, the soils below the treatment zone in each new or modified landfarm cell shall be monitored to ensure that hydrocarbons or chlorides are not transferred to the underlying native soil at a rate that would endanger fresh ground water. A treatment zone shall not exceed three feet in depth from the ground surface. Semi-annually, a minimum of four representative samples shall be taken from different locations within each landfarm cell after the first contaminated soils are received. The samples shall be taken from three feet below the cell's original surface. The samples shall be analyzed, using EPA approved methods, for chloride, and benzene, toluene, ethyl benzene and xylenes (BTEX), a subset of the NMED Tier I constituents, all major cations and anions and selected metals, annually. If the chlorides exceed [DB STEPHENS MODEL NUMBER] or BTEX exceeds ten times the NMED Tier I constituent levels, the next semiannual sampling event shall

be completed at five feet below the cell's original surface and shall include all of the NMED Tier I constituents, plus all major cations, anions and selected metals (if conducted in conjunction with the annual sampling). Reports showing the results of the analyses shall be submitted to the environmental bureau in division's Santa Fe office no later than 45 days after completion of the sampling. If the semi-annual or annual sampling results at five feet below the cell's original surface show chloride concentrations above the [DB STEPHENS MODEL NUMBER] or NMED Tier I constituent concentrations at or above ten times the NMED Tier I constituents levels, and that would endanger fresh water, a remediation plan shall be required.

First, Yates objects to OCD's proposed paragraph (G)(6) because, by its terms, it can only apply to new landfarm facilities. In other words, it is impossible for an existing facility to obtain a background sample. Consequently, Yates proposes that OCD include a sentence within this paragraph that specifies that it only applies to "new" landfarms.

Second, the proposed Industry Revisions adopt the best current science to landfarm operations. The critical issue in landfarming is not the hydrocarbon or chloride concentration per se, but rather whether the hydrocarbons can be remediated by biological processes and whether the chlorides are at such high levels that they impede biological remediation or pose themselves a direct threat to groundwater. Chloride concentration is less important than the total mass of chlorides involved. The technical basis for this observation is provided by Drs. Stephens, Sublette and Thomas.

Third, proposed paragraph (G)(6) requires remediation if a second semi-annual or annual sampling result shows that the concentration of BTEX/NMED Tier I constituents exceeds the NMED Tier I constituent levels by ten times or if chloride concentrations exceeds either the site-specific value (set forth in the landfarm operational plan) or the default value [FROM THE DB STEPHENS MODEL]. These limits have been carefully reviewed by NMED (for the Tier I standards) and the experts and are protective of fresh water, public health and the environment while also being simple and straight-forward to administer.

19.15.2.53(G)(7)

The diking requirement issue is now addressed by proposed (G)(1)'s landfarm operation plan. The recordkeeping requirement is retained.

19.15.2.53(G)(8) and (9)

These requirements are best addressed holistically as part of the landfarm operational plan required under proposed (G)(1). Accordingly, they should be *deleted*.

Yates objects to the requirement in proposed paragraph (G)(8) that the TPH concentration be reduced to 100 mg/kg prior to adding an additional lift. Yates incorporates the argument of Dr. Sublette that a 100 mg/kg level is arbitrary and does not reflect current scientific literature. Adoption of a numerical standard is arbitrary and capricious if it is not technically achievable. See *Tenneco Oil Co.*, 760 P.2d at 167. EPA has determined that a reduction in TPH concentrations greater than 95% are very difficult to achieve because of "recalcitrant" or nondegradable species that are included in the

TPH analysis. See EPA, *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers* (EPA 510-B-95-007) V-15 (Oct. 1994). In this case, a soil sample with an initial TPH concentration of 2000 mg/kg would be very difficult to landfarm to a level less than 100 mg/kg. Consequently, the 100 mg/kg TPH concentration requirement makes it functionally impossible for a facility to landfarm.

In addition, Yates opposes this TPH concentration as arbitrary and capricious because it is unduly restrictive. This is exemplified in a review of soil TPH remediation regulations from sister states. For example, Colorado requires an operator to ensure that upon pit closure, soil concentrations meet TPH concentrations of 1000 mg/kg for sensitive areas and 10,000 mg/kg for non-sensitive areas.² 2 Colo. Code Regs. § 905(b); Table 910. If the TPH concentration exceeds the applicable limit, the operator must remediate the soil to those levels. 2 Colo. Code Regs. § 910(b); Table 910. In a similar manner, Nebraska requires oil spill cleanup remediation to achieve TPH concentrations of 1% by weight (10,000 mg/kg).³ NOGCC Reg. 022.04. Texas requires remediation of soil in non-sensitive areas contaminated by activities associated with the exploration, development, and production, to achieve a level of 1.0% by weight (10,000 mg/kg) of total petroleum hydrocarbons.³ 16 Tex. Admin. Code § 3.91. Finally, Arizona promulgated soil remediation standards for hydrocarbons with chains of 10 to 32 carbon atoms of 4100 mg/kg for residential areas and 18,000 mg/kg for non-residential areas.⁴ See A.A.C. § 18-7-203, 205 App. A.

As these sister-state regulations demonstrate, OCD's proposed TPH soil remediation requirement of 100 mg/kg is unreasonably low. Arizona's soil remediation limit is based upon ingestion, inhalation and dermal contact and is protective of a lifetime cancer risk of 1 in 1,000,000 for Class A (known) carcinogens and 1 in 100,000 for Class B and C carcinogens. See A.A.R. 3606, 3608 (Dec. 26, 1997). Arizona adopted a study based upon cancer potency factors derived from 21 toxicological studies. See *id.* at 3611. Likewise, Colorado explicitly states it promulgated TPH remediation levels (i.e., 1000 mg/kg or 10,000 mg/kg) to "ensure protection of public health, safety and welfare, and to prevent and mitigate significant adverse environmental impacts." 2 Colo. Code Regs. §

² In Colorado several factors distinguish "sensitive" from "non-sensitive" areas, including the presence of an aquifer, the hydraulic conductivity of the soil, and the presence of a wellhead protection area or water well. See 2 Colo. Code Regs. Fig. 901-1.

³ This remediation level only applies to "non-sensitive" areas. Sensitive areas, defined by characteristics such as the proximity of groundwater or surface water; natural wildlife refuges or parks, and commercial or residential areas, have remediation levels determined on a case by case basis. 16 Tex. Admin. Code § 3.91.

⁴ Arizona has promulgated individual soil remediation levels for hydrocarbons with fewer than 10 or greater than 32 carbon atoms. See A.A.R. 3606, 3611 (Dec. 26, 1997). Soils containing contaminants with hydrocarbon chains with fewer than 10 or greater than 32 carbon atoms must remediate the soil to the individual levels. *Id.* In addition, ADEQ is in the process of reevaluating its soil remediation standards and may eliminate this group and instead rely upon individual remediation standards for contaminants with a given carbon chain.

910(b)(5). Thus, other states have stated, either explicitly or implicitly, that public health and the environment are protected by a TPH concentration well in excess of 100 mg/kg.

It is unreasonable that OCD would propose a level much lower than is needed to protect public health and the environment. Yates supports the analysis of Dr. Sublette who states that a landfarm should have a bioremediation point based upon the hydrocarbon and soil properties of the facility. When this endpoint is met in a landfarm lift, new waste material should be allowed.

Yates therefore supports a risk based approach similar to that taken by the New Mexico Environment Department (NMED) and other States. The Petroleum Storage Tank Bureau of NMED has promulgated regulations concerning the remediation of soils contaminated by a leaking underground storage tanks. *See generally* 20.5 NMAC. These regulations, and their associated Guidelines for Corrective Action incorporated by reference into the regulations, include sections governing the remediation of contaminated soil. *See* 20.5.12.1208, 20.5.12.1233 NMAC. Briefly, owners or operators initially must perform a "tier 1" evaluation to determine whether soil concentration poses a threat to groundwater. *See* 20.5.12.1213(A) NMAC. Concentrations of contaminants of concern are compared to "risk based screening levels" (RBSLs) developed by NMED. 20.5.12.1213(B) NMAC. The RBSLs are not one-size-fits-all and instead depend upon the soil configuration. *See* NMED, Petroleum Storage Tank Bureau, *Guidelines for Corrective Action* § 4.11. If concentrations are less than RBSLs, the area qualifies for "no further action status." 20.5.12.1213(D) NMAC. If a contaminant of concern exceeds a RBSL, the owner or operator must perform a "tier 2" evaluation to determine a site specific target level (SSTL) for the soil. 20.5.12.1215(A) NMAC. If the contaminants of concern exceed the SSTL for the soil, the owner or operator must remediate the soils to the SSTL or, if directed by NMED, perform an additional, "tier 3" evaluation.⁵ 20.5.12.1215(B) NMAC. In addition, NMED regulations and guidance do not contain a TPH soil remediation standard. TPH contamination in soil only requires remediation when NMED determines that TPH in the soil adversely affects public health safety and welfare or the environment. 20.5.12.1219 NMAC. Thus, the petroleum Storage Tank Bureau has determined that soil remediation or TPH and individual contaminants depends upon the soil characteristics of the area.

19.15.2.53(G)(10)

Yates objects to the requirement in proposed paragraph (G)(10) as unnecessary. It is unclear what benefit OCD hopes to obtain by separating exempt and non-exempt soils. Both the soils will be landfarmed and the site eventually closed. Thus, there is no reason to keep these soils separated.

⁵ These cases often involve complex hydrogeology or sensitive ecological receptors. 20.5.12.1217(A) NMAC.

19.15.2.53(G)(11) and (13)

Yates objects to proposed paragraphs (G)(11) and (13) because these two paragraphs directly contradict each other. Paragraph (G)(11) states that "Moisture shall be added, as necessary, to control blowing dust" while (G)(13) states that "No free liquids shall be placed in the landfarm cells." The OCD should reconcile these two requirements. Yates recommends that (G)(11) be revised to read:

(11) Moisture shall be added, as necessary, to control blowing dust *and to enhance bioremediation.*

19.15.2.53(G)(14)

For the reasons provided by Stephens, Sublette and Thomas and summarized above in comments on 19.15.2.53(G), Yates objects to the prohibition on disposal of drill cuttings and other chloride contaminated waste. It is not the concentration of the chlorides that is determinative; rather it is the affect on remediation and the possibility of adversely affecting fresh water. If the Class A landfarm operator has a plan for addressing both the impact on remediation and to preclude adverse effects on fresh water, then the landfarm operator should be allowed to accept higher chloride wastes. Yates therefore proposes that (G)(14) be *deleted*.

19.15.2.53(G)(15)

Finally, Yates notes that the requirement in proposed paragraph (G)(15) as unachievable unless a time frame is given. With large rainfall events it is impossible to prevent pooling and there will be freestanding water no matter what actions the operator takes. Thus, Yates proposes that this paragraph be amended to read:

(15) Pooling of liquids in the landfarm is prohibited. Freestanding water shall be removed *within 72 hours of a precipitation event.*

19.15.2.53(G)(18) NEW

For additional permitting and operational flexibility, the Industry Committee proposes language for alternative bioremediation procedures with the division's approval.

(18) *The division may approve other treatment procedures than those described above if they provide equivalent protection for fresh water, the public, and the environment.*

19.15.2.53(H)

Evaporation ponds handle liquids and are fundamentally different in operation than the landfills and landfarms that are the focus of proposed 19.15.2.53. Evaporation ponds have much more in common with pits. Yates therefore proposes that evaporation ponds be permitted as pits pursuant to 19.15.2.50 NMAC.

19.15.2.53(I)(1)

Consistent with the nomenclature changes throughout, this section should be titled “Closure and post-closure requirements for facilities other than evaporation ponds and Class B landfarms.”

Yates has several proposals related to proposed paragraph (I)(1). Initially, the paragraph should contain time frames for division action. If the division does not act within a given time frame, the operator should be allowed to move forward with closure. In this way, the operator may close the facility in a reasonable time based on the approved closure plan submitted during the permitting process. Yates also believes that OCD should bear the burden of proof for any changes to the closure plan at the time of closure because OCD has already approved a closure plan in the facility’s operating permit. *See* proposed 19.15.2.53(C)(1)(i) NMAC. The paragraph should also specify that the closure plan will proceed in accordance with the result of any appeal. Finally, the paragraph does not allow an operator the option of cleaning up any contamination found to avoid forfeiting its financial assurance. Finally, an operator should have the option to remedy any contamination that may occur. In total, Yates proposes that this paragraph be amended to read:

(1) Facility closure by operator. The operator shall notify the division’s environmental bureau at least 90 days prior to cessation of operations at the facility and provide a proposed schedule for closure. Upon receipt of such notice and proposed schedule, the division shall inspect the facility and review the current closure plan for adequacy. *The notice is deemed received five days after postmarked by United States mail or date of actual receipt as evidence by commercial carrier or other means. Within 30 days of receipt of notice and proposed schedule, the division shall notify the operator when it has completed its review and inspection and shall specify in such notice any modifications of the closure plan and proposed schedule or additional requirements that it determines are necessary for the protection of fresh water, public health or the environment. If the division does not notify the operator within 30 days of receipt of the notice and proposed schedule, the schedule and plan are deemed accepted as written without modifications or additional requirements.* The operator shall be entitled to a hearing concerning any modification or additional requirement the division seeks to impose if it files an application for a hearing within 10 days after receipt of written notice of the proposed modifications or additional requirements. Closure shall proceed in accordance with the approved closure plan and schedule and any modifications or additional requirements imposed by the division *and upheld by the commission, if applicable.* During closure operations the operator shall maintain the facility to protect fresh water, public health and the environment. If it is determined that closure is complete, the division shall release the financial assurance, except for the amount needed to maintain and sample a proposed post-closure monitoring system for the post-closure period *identified in the closure plan,* and to re-vegetate the site. Prior to the partial release of the financial assurance covering the facility, the division will inspect the site to determine that closure is complete. After the *closure period* has expired, the division shall release the remainder of the financial assurance if the monitoring system shows that fresh water is protected and the re-vegetation is successful. If the *monitoring systems* reveal a threat to fresh water, human health or the environment during the *post-closure period specified in the facility’s closure plan,* the division shall not release the financial assurance *unless the contamination is remediated by the owner or operator.*

19.15.2.53(I)(2)

Yates objects to the six month requirement in (I)(2)(b) as it is unnecessary and unworkable, particularly for facilities that are primarily used to respond to spill events. Facilities otherwise meeting permit requirements should not be forced to close just because there is no contaminated soil for a period of time. Keeping well managed and designed existing facilities in place is better than requiring them to shut down and then having to reopen them at short notice if they are needed for future remedial work.

Similarly, in (I)(2)(b)(ii), the proposed rule should recognize that an agreement to reopen the facility and operate in accordance with its permit may be an appropriate resolution. Yates proposes that (I)(2)(b)(ii) be revised as follows:

(ii) advise the operator and surety of the conditions under which the forfeiture may be avoided. Such conditions may include but are not limited to an agreement by the operator or another party to resume operations in accordance with permit conditions, or perform closure and post closure operations in accordance with the permit conditions, the closure plan (including any modifications or additional requirements imposed by the division and upheld by the commission) and division rules, and satisfactory demonstration that such party has the ability to perform such agreement.

19.15.2.53(I)(3) general

Yates objects to the landfarm closure remediation standards of proposed paragraph (3)(d)(i) as arbitrary and capricious. Under the OGA, it is OCD's duty to "regulate the disposition of nondomestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas to *protect the public health or the environment.*" 70-2-12 NMSA (emphasis added). A regulation is arbitrary and capricious if it is not reasonably related to the legislative purpose. See *Tenneco Oil Co.*, 760 P.2d at 165. Dr. Thomas will provide evidence that risk-based hydrocarbon landfarm closure levels can protect fresh water, the public health, or the environment. The New Mexico Environment Department (NMED) has developed soil screening levels (SSLs) for contaminants in the soil. See NMED, *Technical Background Documents for Development of Soil Screening Levels (Revision 3.0)* (Aug. 2005). The SSLs identify "levels below which there is generally no need for further concern." *Id.* at 1. While NMED has not determined a SSL for BTEX, it has developed levels for the individual constituents. Each of these levels are well in excess of the benzene and BTEX level proposed by OCD. NMED has established SSL levels of 3.3 mg/kg for benzene, 252 mg/kg for toluene, 128 mg/kg for ethylbenzene, and 102 mg/kg for xylenes. See *id.* at App. A. There no reason that OCD should seek to establish levels that are far more stringent for the same purpose; to protect health and the environment. In fact, for landfarm applications, using a these factors with a multiple of ten when confined to the level immediately below the original cell bottom is fully protective of fresh water, public health and the environment, as the experts will outline in their testimony.

The overly stringent levels are also exemplified in a review of soil TPH landfarming and remediation regulations from sister states. For example, Colorado's

regulations applicable to "land treatment"⁶ require that an operator prepare a site investigation and remediation workplan. 2 Colo. Code Regs. § 909(c). If soil concentrations exceed certain limits, an operator must remediate the soils to those levels. 2 Colo. Code Regs. § 910(b); Table 910. As stated, the Colorado TPH soil remediation levels are 1000 mg/kg for sensitive areas and 10,000 mg/kg for non-sensitive areas. 2 Colo. Code Regs. § 905(b); Table 910. In a similar way, the allowable benzene concentration under the Colorado regulations is 0.5 mg/kg. *Id.*

At this time, Texas does not have standard TPH remediation levels for landfarms for oil and gas waste. *See Railroad Comm'n of Tex., Surface Waste Management Manual, Application Information for Landtreatment Permit at <http://www.rrc.state.tx.us/divisions/og/publications/SurfaceWasteManagementManual/index.html>.* Instead, Texas establishes target remediation levels on a case-by-case basis. *Id.* However, the Texas regulations for the cleanup of crude oil spills associated with the exploration, development, and production in non-sensitive areas require an operator to achieve a level of 1.0% by weight (10,000 mg/kg) of total petroleum hydrocarbons. 16 Tex. Admin. Code § 3.91. Other states have similar soil remediation standards. For example, Nebraska requires oil spill cleanup remediation to achieve TPH concentrations of 1% by weight (10,000 mg/kg). 3 NOGCC Reg. 022.04. Finally, Arizona promulgated soil remediation standards for hydrocarbons with chains of 10 to 32 carbon atoms of 4100 mg/kg for residential areas and 18,000 mg/kg for non-residential areas. *See A.A.C. § 18-7-203, 205 App. A.* As these sister-state regulations demonstrate, OCD's proposed TPH soil remediation requirement of 100 mg/kg is unreasonably low. Other states have stated, either explicitly or implicitly, that public health and the environment are protected by a TPH concentration well in excess of 100 mg/kg. As a result, it is unreasonable that OCD would propose a level much lower than is required to protect public health and the environment.

As previously stated, regulations that are so stringent that they cannot be met are arbitrary and capricious. *Tenneco Oil Co.*, 760 P.2d at 165. In this case, the 100 mg/kg TPH concentration is so stringent that it effectively does not allow landfarming to occur. As stated in the comments to paragraph (G)(8) above, EPA has determined that a reduction in TPH concentration greater than 95% is very difficult to achieve because of "recalcitrant" or nondegradable species that are included in the TPH analysis. *See EPA, How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers* (EPA 510-B-95-007) V-15 (Oct. 1994). Consequently, any sample with an initial TPH concentration greater than 2000 mg/kg will be effectively excluded from landfarming.

⁶ "Land treatment" is defined as "treatment method by which [exploration and production] waste is applied to soils and treated to result in a reduction of hydrocarbon concentration by biodegradation and other natural attenuation processes. Land treatment may be enhanced by tilling, disking, aerating, composting and the addition of nutrients or microbes." 2 Colo. Code Regs. § 100.

In addition, Dr. Sublette's comments will show that a TPH remediation level should depend upon the hydrocarbons and soil type of the landfarm. Dr. Sublette noted that if hydrocarbons deposited at the site are properly remediated, there will be no residual toxicity even if the TPH concentration exceeds 100 mg/kg.

Dr. Thomas notes that the more toxic and soluble constituents of petroleum are the small aromatic compounds (e.g., BTEX) and small naphthenic acids. He notes further that soil microorganisms degrade these small compounds preferentially, thereby reducing the toxicity of the mixture. As a result, Dr. Thomas recommends that BTEX (i.e., surrogates for the gasoline-range organics that are lost by volatilization and/or biodegradation) and TPH-DRO (i.e., a measure of the other fraction of petroleum that is degraded by soil microbes) be used by operators to monitor the effectiveness of bioremediation. Treatment is considered to be complete when the concentration of TPH-DRO (i.e., the mean of four samples) "plateaus" (i.e., when biodegradation of the toxic constituents has been completed, regardless of TPH-DRO level.)

19.15.2.53(I)(3) technical

In paragraph (I)(3)(a)(ii), consistent with the positions of Stephens, Sublette, and Thomas, TPH and RCRA metals should be stricken.

Based on the position of Mr. Miller, Yates proposes that paragraph (I)(3)(b)(i) be revised to read as follows for landfill closure:

- (i) all landfill cells are properly closed, covering the cell with a 40-mil thick geomembrane, or division-approved evapotranspiration cap, or other final cover design approved by the division, and at least two feet of uncontaminated soil contoured to promote drainage of precipitation; side slopes shall not exceed a 33 percent grade (*three feet horizontal to one foot vertical*), such that the final cover of the landfill's top portion has a *minimum* gradient of two percent to five percent, and the slopes are sufficient to prevent the ponding of water and erosion of the cover material; and

The proposed changes include allowing alternate designs approved by the division that may be more appropriate for the environmental setting; changing from three to two feet of final cover based upon the recommendation of expert Miller; and specifying that the gradients listed are the minimum.

In paragraph (I)(3)(c), Yates proposes to replace the 30 year post-closure period with a site-specific closure period approved by the division. This makes several changes to (c), as follows:

- (c) Landfill post closure. Following facility closure, the post closure care period for a landfill shall be *approved by the Division*
 - (i) A post closure care and monitoring plan shall include maintenance of cover integrity, maintenance and operation of *leachate collection and removal systems* and operation of any required ground water monitoring systems.
 - (ii) The operator or other responsible entity shall sample existing water monitoring wells annually and submit reports of monitoring performance and data collected within 45 days from the end of each calendar year.

The changes also clarify the proper terminology.

In paragraph (I)(3)(d), Yates proposes several changes to move to a true risk-based and bioremediation endpoint analysis for landfarms, consistent with the best science:

- (d) Landfarm closure. The operator shall ensure that
 - (i) disking and addition of bioremediation enhancing materials continues until soils within the cells are remediated to a *TPH-DRO bioremediation endpoint*;
 - (ii) soil remediated to the foregoing standards are re-vegetated;
 - (iii) landfarmed soils that have not been or cannot be remediated to the above standards are *amended*, or removed and the cell filled in with soil and re-vegetated;
 - (iv) all berms on the compost facility are removed;
 - (v) buildings, fences, roads and equipment are removed, the site cleaned-up and tests conducted on the soils for contamination; and
 - (vi) annual reports of treatment zone sampling are submitted to the division's Santa Fe office until the division has approved final closure of the facility.

The principal change is to adopt total petroleum hydrocarbons-diesel range organics (TPH-DRO) as the endpoint for biological remediation. As the experts will testify, once the biological processes have achieved the TPH-DRO bioremediation endpoint, the toxicity of the remaining products is minimal and protective of fresh water, public health and the environment. See the discussions by Sublette and Thomas on this issue.

A minor change is to clarify (I)(3)(d)(iii) to make it clear that further remedial or blending work can be done to achieve the standard.

Yates proposes to caveat paragraph (I)(3)(e)(i) that it applies only when necessary to protect fresh ground water. In addition, the fixed post-closure period references should be deleted because the post-closure period should be specified in the closure plan. The revised condition would read as follows:

- (e) Landfarm post closure. If necessary to protect fresh ground water, the post-closure care period for a landfarm shall be approved by the Division. The operator or other responsible entity shall ensure that:
 - (i) water monitoring, if required because of a threat to fresh water, is maintained to detect possible migration of contaminants; and
 - (ii) any cover material is inspected and maintained.

In general, Yates does not believe that groundwater monitoring should be required after landfarm closure because the proposed regulations require that all soil not meeting the contaminant standards be removed. Thus, there will be little chance of contamination and no reason to monitor groundwater.

Proposed (I)(3)(f) should be deleted as evaporation ponds are best handled under the pit rule.

19.15.2.53(J)

Yates proposes that paragraph (J)(1) specify those requirements that are applicable to existing facilities. As written, the proposed regulation purports that all operational, waste acceptance and closure requirements are applicable unless granted a specific waiver. However, several of these requirements are impossible or nearly impossible for existing facilities to implement. As a result, Yates proposes amending this language to the following:

- (1) All existing facilities shall comply with the operational, waste acceptance and closure requirements provided in 19.15.2.53 NMAC, except as otherwise *exempted in this paragraph* or as specifically provided in the applicable permit or order, or in any specific waiver, exception or agreement that the division has granted in writing to the particular facility. Existing facilities need not comply with the paragraphs (E)(1) through (3), (E)(8), (F)(1) through (3) and (F)(11), (G)(2) through (6), and (H)(1) through (10) of 19.15.2.53 NMAC.

Yates objects to the requirement in paragraph (J)(3) that operators must bring all existing facilities that were permitted under 19.15.9.711 NMAC into compliance with the design and construction specifications of these proposed regulations. Instead, Yates proposes that all facilities operating pursuant to a permit issued under 19.15.9.711 NMAC be allowed to continue operations until the first permit renewal after April 1, 2009. Yates proposes OCD amend this paragraph to read:

- (3) Operators of existing facilities that were permitted under the 19.15.9.711 NMAC shall *continue operation under the permit issued pursuant to 19.15.9.711 NMAC. At the first permit renewal after April 1, 2009, the operator must comply with the provisions of 19.15.2.53 NMAC*, or close any cells that do not conform to those requirements; provided that the division may grant waivers to allow continued operation of existing cells not conforming to such requirements on a case-by-case basis as long as the existing design and construction specifications adequately protect fresh water, public health and the environment. If an operator applies for a waiver of this requirement, the operator shall give notice of the application in the manner provided in Subparagraphs (a) and (b) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC. The division may grant such a waiver administratively if it receives no objection within 30 days after the notice's publication.

The proposed change provides time to retire cells in an orderly fashion.

Proposed 19.15.2.53(K) Class B landfarms

Yates supports the recommendations of the technical experts Stephens, Sublette and Thomas that a more flexible system is preferable for small, site-specific remediation oriented landfarms, denominated "Class B" landfarms by those experts. A new section (K) is proposed to be adopted to create a more flexible, notice and best management practice regime for these units, as follows:

K. Notice of Registration and Requirements for Class B Landfarms

(1) A Notice of Registration shall be filed with the division for each Class B landfarm. The notice shall include:

- (a) the names and addresses of the applicant;
- (b) a topographic map showing the facility's location in relation to governmental surveys (quarter-quarter section, township and range), highways or roads giving access to the facility site, watercourses, and surface water sources;
- (c) depth to fresh ground water from available references
- (d) the types of wastes to be bioremediated and schedule for closure (less than three years from date of first waste receipt) including maximum chloride mass
- (e) a closure plan including treatment zone sampling and analysis for TPH-DRO.

(2) By submitting the Notice of Registration, the Registrant agrees to follow the operational requirements applicable to Class B Landfarms listed below:

- (a) No landfarm shall be located in any watercourse or lakebed as defined in 19.15.2.53(E)(2);
- (b) No landfarm shall exceed 5 acres.

No wastes with water content greater than 80 percent shall be placed in the facility.

(c) Landfarms shall accept only oil field related wastes, except as provided in Subparagraph (c) of Paragraph (5) of Subsection E of 19.15.2.53 NMAC. No non-exempt wastes, which are RCRA subtitle C hazardous wastes by either listing or characteristic testing, shall be accepted at a permitted facility.

(d) Except for liquids to control dust and maintain optimal moisture content to enhance bioremediation, only soils and soil like material such as drill cuttings or tank bottoms shall be placed in landfarm.

(e) Landfarm operations shall be conducted in accordance with industry practices for piling, spreading, disking, moisture content management, and microbe enhancement.

(f) The application of microbes for the purposes of enhancing bioremediation requires prior division approval.

(3) Class B Landfarm Closure

(a) The operator shall notify the division's environmental bureau at least 60 days prior to cessation of operations and if necessary submit a revised closure plan and schedule. The closure plan shall include treatment zone sampling results for hydrocarbon constituents and chlorides and a comparison to risk based clean up standards (REF).

(b) If the remediated soils TPH-DRO has reached the TPH-DRO bioremediation endpoint and the chloride concentrations are below [DB STEPHENS MODEL NUMBER], the operator may close in place, or remove the soils and reuse as backfill, road construction/maintenance, berm construction, etc.

(c) If the upon receipt of such notice and plan, the treatment zone sampling results are above the TPH-DRO bioremediation endpoint or the chloride concentrations are above the [DB STEPHENS MODEL NUMBER], the division shall require an additional closure plan within 30 days outlining additional requirements necessary for the protection of fresh water, public health or the environment. The division may impose additional requirements necessary to protect fresh water public health or the environment if, after notice and an opportunity for hearing, the division demonstrates that such requirements are necessary to protect fresh water, public health and the environment. The operator shall implement the division approved revised closure plan and schedule.

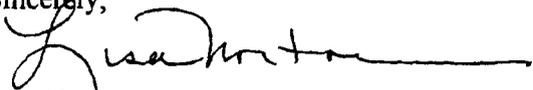
Comments on Proposed Surface Waste Management Rules
Yates Petroleum Corporation
December 21, 2005
Page 31

Yates believes that the proposed Class B landfarm provisions represents an important enhancement to the proposed surface waste management facility rules. The Class B landfarm allows prompt and effective management of spills. Because of the small scale and short duration of Class B landfarms (they are limited to less than 8000 cubic yards and three years), they do not pose a threat to fresh water, public health or the environment if properly sited and operated. The provisions set forth above provide for proper siting and operation of the Class B landfarm. The closure provisions provide a further assurance to the division that the landfarms will achieve appropriate closure standards: numeric risk-based standards for gasoline range organics (such as BTEX) and a bioremediation endpoint for other constituents of concern. Closure remains subject to division notice and supervision, with the division having the right to require additional measures for closure to ensure protection of fresh water, public health and the environment.

* * * *

Yates appreciates the opportunity to comment on the proposed rules. Please feel free to contact Lisa Norton, at (505) 748-4185 or our legal counsel, Eric Hiser, at (480) 505-3927, if you have any questions or concerns about these comments.

Sincerely,



Lisa Norton
Environmental Coordinator

Cc: Mark E. Fesmire, Director, OCD