



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

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Director

Oil Conservation Division

March 8, 2005

Mr. William F. Carr
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Re: Oil Conservation Division Case No. 13402: Consolidated Application of Loco Hills GSF for an Exemption to the Liner and Leak Detection Requirements of 19.15.2.50.C NMAC and Approval of Stage 1 and 2 Abatement Plans, with Provisional Abatement Standards, Eddy County, New Mexico.

Dear Bill,

The Oil Conservation Division (OCD) does not oppose the request of Loco Hills GSF (Loco Hills) to continue case 13402, currently scheduled for hearing March 8, 2005, until the April 14, 2005 Commission hearing docket. The OCD wishes to make clear, however, that this continuance is at the request of Loco Hills and not at the request of the OCD.

The OCD is well aware of Loco Hills' desire that this matter be resolved quickly. At Loco Hills' request, the OCD provided Loco Hills with a "path forward" letter detailing the applicable rules, the showing that Loco Hills would have to make to obtain approval of its plan, and the procedure for seeking approval. See letter from Mark Fesmire to Loco Hills, dated October 21, 2004. As Mr. Fesmire stated in the letter, "The OCD is committed to a prompt review of the application, a prompt hearing (if necessary) and a prompt decision on the application." By setting the application for the March 8, 2005 hearing docket, the OCD has made every effort to bring this matter to a prompt resolution.

It remains Loco Hills' responsibility to demonstrate at the hearing that its proposal meets the requirements of the applicable statutes and rules. The OCD has repeatedly pointed out its concerns about Loco Hills' plans, both in correspondence with Loco Hills and at meetings with Loco Hills. It is disingenuous, to say the least, to state that last week Loco Hills "discovered" that the OCD's environmental bureau still had problems with the proposal.

This letter outlines OCD's major concerns with Loco Hills' proposal. It is not meant to be exhaustive in detail, and OCD reserves the right to raise additional concerns at the hearing, especially based on your presentation of evidence.

Rule 50 Issues

Loco Hills seeks an exception to Rule 50's requirement that storage pits have, "at a minimum, a primary and secondary liner" (Rule 50.C(2)(b)(ii)) and "a leak detection system...installed between the primary and secondary liner." Rule 50.C(2)(c).

Applicable Provisions

"The division may approve liners that are not constructed in accordance with division guidelines only if the operator demonstrates to the division's satisfaction that the alternative liner protects fresh water, public health and the environment as effectively as those prescribed in division guidelines." Rule 50.C(2)(b)(iii).

Division guidelines include the following requirements:

- For clay liners, the bottoms and sides must have a hydraulic conductivity no greater than 1×10^{-7} centimeters per second. Pit Guidelines, II D, p. 7.
- Leak detection systems may consist of fail-safe electric detection systems or drainage and collection systems. Pit Guidelines, II F(1), p. 11.

"The division may grant an exception from any requirement [of Rule 50] if the operator demonstrates that the granting of such exemption will not endanger fresh water, public health or the environment." Rule 50.G(2).

OCD Concerns

Loco Hills has not demonstrated to the satisfaction of OCD staff that its liner design will protect fresh water, public health and the environment. In particular:

1. Loco Hills has not demonstrated that its alternative pit design will protect fresh water, human health and the environment as effectively as a double-lined pit with leak detection constructed according to division guidelines, or that it will not endanger fresh water, public health or the environment. This concern was raised in the OCD's letter of October 21, 2004. See also OCD's letter of July 22, 2004, and Mr. Price's e-mail of January 12, 2004.

a. Loco Hills assumes that if its single clay liner meets the guideline's requirement that a clay liner have a hydraulic conductivity no greater than 1×10^{-7} centimeters per second, it has made the necessary showing. But Rule 50 and the guidelines also require a secondary liner, with leak detection. Loco Hills has not shown that a single-lined pond with designed leakage will protect fresh water, human health and the environment as effectively as a double-lined pit with leak detection constructed according to division guidelines, or that its leaking pit will not endanger fresh water, public health or the environment. See OCD letter of October 21, 2004.

b. A properly designed double-lined pit with leak detection should prevent contaminants from reaching ground water. Loco Hills' alternative is a pit that is designed to leak. Loco Hills argues that its "abatement plan" will remove more contamination than is introduced through the leaking pit, leading to a net environmental gain. But, as discussed below, Loco Hills proposal will result in the continued release of contaminants, preventing the groundwater from ever reaching standards. See OCD letter of October 21, 2004.

2. Loco Hills has not demonstrated that the pit will have a hydraulic conductivity no greater than their 1×10^{-8} centimeters per second target rate, or their 1×10^{-7} centimeters per second proposed rate.

a. Loco Hills has not provided detailed plans and specifications for the pit. See the 7 points identified in the OCD's letter of August 5, 2004.

b. Loco Hills' prior design for a clay-lined pond failed; Loco Hills has not demonstrated that it has corrected the problems present in the original design.
Ex.: One issue with the original clay liner was that the liner material was heterogeneous, including rocks, sand, gypsum, caliche, anhydrite and other impurities that affect permeability. This issue was discussed at the August 3, 2004 meeting with Loco Hills, and is also mentioned in OCD's letter to Loco Hills of August 5, 2004. The current proposal makes no provision for removing these impurities.

c. Loco Hills has provided insufficient data on the effect of adding bentonite.
Ex.: Loco Hills provided a product information sheet from the bentonite supplier. Loco Hills has not demonstrated that the addition of bentonite in the proposed amount to the onsite material will result in a

hydraulic conductivity rate no greater than 1×10^{-7} centimeters per second. This is a particularly glaring deficiency given the failure of Loco Hills' original design to meet the hydraulic conductivity requirements.

d. Loco Hills' pre- and post-construction testing proposals are insufficient.

3. Loco Hills has not demonstrated that contaminants leaking from the pit will not reach groundwater.

a. Because Loco Hills has not conducted a stage I investigation (see discussion below), they do not have enough site-specific information to support their theory that brine from the pit will saturate the soil to 10 meters below the bottom of the pit, and remain sequestered there by "natural barriers."

b. The OCD disagrees with Loco Hills' theory that geology at the location matches the geology 35 miles away at the WIPP site, and will protect the groundwater. Instead the available information suggests that the geology at the site is heterogeneous, and that brine could migrate to groundwater.

Alternative Abatement Standards Issues

Although Loco Hills suggests that a formal application for alternative abatement standards is "premature," it has submitted an application for "provisional" alternative abatement standards of 5,000 mg/l TDS and 3,000 mg/l chloride to take effect if a system failure occurs at the clay-lined pond. Their proposed point of compliance for these standards is the on-site supply well SW-2, and the point at which ground water will meet background quality is the monitoring well in Bear Grass Draw BGD MW-1. BMP, pages 18-19.

Applicable Provisions

The division may approve alternative abatement standards if the petitioner demonstrates three things:

- 1) either that compliance with the abatement standard is not feasible by the maximum use of technology within the economic capability of the responsible person, or there is no reasonable relationship between the economic and social costs and benefits (including attainment of the standards set forth in Rule 19); and
- 2) the proposed alternative standard is technically achievable and cost-benefit justifiable; and
- 3) compliance with the proposed alternative abatement standard will not create a present or future hazard to public health or undue damage to property. Rule 19.B(6).

OCD Concerns with Loco Hills' Alternative Abatement Standards

1. The OCD's October 21, 2004 letter stated, "Because it appears that Loco Hill's abatement plan may not result in the groundwater meeting the standards for contaminants, Loco Hills may also need to petition for approval of alternative abatement standards under 19.15.1.19.B(6)(a) NMAC." The "provisional" alternative abatement standards proposed by Loco Hills were filed as part of its application for an exception to Rule 50, and address only system failure at the clay-lined pond. Loco Hills' "provisional" alternative abatement standards do not address the OCD's concern that Loco Hills' abatement plan will not result in the groundwater meeting the standards for contaminants. Instead, Loco Hills disavows responsibility for existing contamination: "Alternative Abatement Standards are not proposed as a strategy for restoration ground water quality due to the past actions of previous operators and are not part of the Abatement Plan." BMP, page 18.

2. Loco Hills has not met the three-part showing required under Rule 19.B(6) to support approval of alternative abatement standards for the contamination caused by the clay-lined pond, much less for the existing contamination.

Abatement Plan Issues

Loco Hills seeks postponement of a stage I abatement plan, and approval of its stage II abatement plan.

Applicable Provisions, General

An abatement plan "shall mean a description of any operational, monitoring, contingency and closure requirements and conditions for the prevention, investigation and abatement of water pollution." Rule 7.A(2).

Ground water pollution at any place of withdrawal for the present or reasonably foreseeable future use, where the TDS concentration is 10,000 mg/l or less, must be abated to 250.0 mg/l chloride and 1000.0 mg/l TDS. Rule 19.B(2)(b) and 20.6.2.3103.B NMAC.

The vadose zone shall be abated so that water contaminants in the vadose zone will not with reasonable probability contaminate the groundwater or surface water in excess of that standard, through leaching, percolation or other transport mechanism, or as the water table elevation fluctuates. Rule 19.B(1).

If the background concentration of any water contaminant exceeds the standard, pollution shall be abated to the background concentration. Rule 19.A(2).

"Background" means "the amount of ground-water contaminants naturally occurring from undisturbed geologic sources or water contaminants occurring from a course other than the responsible person's facility. This definition shall not prevent the director from requiring abatement of commingled plumes of pollution..." Rule 7.B(2).

Applicable Provisions for a Stage I Plan

"The purpose of stage I of the abatement plan shall be to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option." Rule 19.E(3). Ordinarily a stage I plan is to be submitted with, or before, a stage II plan, so that the stage II plan can address the particular conditions at the site. See Rule 19.E(4)(a). By letter dated October 21, 2004, Division Director Mark Fesmire stated that "If Loco Hills does not have complete information defining site conditions, OCD may establish assumed conditions for the plan with a timetable for additional information and provide for revision of the permit to reflect the conditions as they exist at that time."

OCD Concerns Regarding Loco Hills' Stage I Plan

Loco Hills proposes the following: "Before two years of Abatement Plan activities are complete, Loco Hills will present a plan to better define the southern extent of high TDS ground water. We will also present a plan to better define the vertical extent and magnitude of the release." Stage I and II Abatement Plan, page 10.

Based on information submitted with the application, the OCD has calculated that existing contamination may have migrated as much as 15,000 feet down gradient from the site. Loco Hills has not shown a need to wait for two years before making a plan for defining the southern extent of the contamination. At a minimum, the OCD will recommend to the Oil Conservation Commission that Loco Hills be required to submit a plan for determining the extent of the contamination within 60 days, and complete the work required under the plan within 6 months. Loco Hills should then be required to modify its abatement plan, if necessary to address the contamination.

Applicable Provisions for a Stage II Plan

"The purpose of stage 2 of the abatement plan shall be to select and design, if necessary, an abatement option that, when implemented, will result in attainment of the abatement standards and requirements set forth in Section 19.15.1.19 NMAC, Subsection B including post-closure maintenance activities." Rule 19.E(4)(a).

OCD Concerns Regarding Loco Hills' Stage II Plan

Loco Hills has not demonstrated that its abatement plan will result in attainment of the abatement standards and requirements set out in Rule 19: abatement of contamination to no more than 250.0 mg/l chlorides and 1000.0 mg/l TDS.

1. It is unclear from Loco Hill's proposal whether it intends to abate contamination to the standards set out in Rule 19, or maintain current contamination levels.

OCD takes the position that Loco Hills, as operator of the gas storage facility, is the "responsible person" under Rule 19 required to return water quality to standards. OCD is concerned that Loco Hills believes its only responsibility is to remove additional contamination resulting from its clay-lined pit with designed seepage. For example, in its discussion of alternative abatement standards Loco Hills states, "Alternative Abatement Standards are not proposed as a strategy for restoration [of] ground water quality due to the past actions of previous operators and are not part of the Abatement Plan." BMP, page 18.

2. It appears from Loco Hills' proposal that it takes the position that it may contaminate groundwater so long as the contamination does not extend beyond its property lines. For example, Loco Hills emphasizes that it is "currently negotiating a land transfer with the State Land Office and [is] planning to acquire adjacent land from a private landowner." BMP, page 3. In addition, it hopes to restrict use of water down gradient, emphasizing that the State Land Office "plans to prohibit construction of any supply wells on this down gradient property," and Loco Hills is "currently communicating with the BLM regarding a similar restriction for any U.S. Government land."

OCD takes the position that the waters of New Mexico are public, and that New Mexico will have a reasonably foreseeable future use for any fresh water in the state. A landowner cannot be permitted to contaminate the water, and placing restrictions on water use is not a substitute for an abatement plan. In any event, such restrictions, if obtained, may not be enforceable.

3. Loco Hills' abatement plan does not state how much brine will be removed, over what period of time. The plan relies entirely on the incidental environmental benefits accruing from Loco Hills' removal of brine for its business uses, and "natural attenuation." Natural attenuation of salts does not happen. Salts are not biodegradable and will remain in the environment. The plan does not estimate, much less guarantee, how much brine will be removed. The proposed pond can contain 9 million gallons of brine (assuming a 3 foot freeboard). But millions of gallons of brine currently stored in the salt caverns and in existing pits will be moved to the proposed pit, and Loco Hills has not calculated how much salt-contaminated ground water will be removed to complete the filling of the pit. Similarly, Loco Hills has not provided a calculation of how much brine will be needed to compensate for evaporation at the pit. Any other uses for the brine, such as brine sales or the construction and use of additional salt caverns, are speculative. Loco Hills has not shown that the removal of some unknown amount of brine to complete the filling of the pit, plus an unknown additional amount to compensate for evaporation, will return groundwater to Rule 19 standards.

4. Loco Hills' abatement plan does not include source elimination. Loco Hills acknowledges that an existing brine pit at the site is leaking, and theorizes that two water supply wells may have acted as conduits for brine to reach the groundwater. In addition, there are several "unknown wells" located in the area. Loco Hills' abatement plan does not include provisions for identifying and eliminating the possible sources of the contamination including vadose zone contamination. The OCD's concern about plugging any present conduits was expressed in its letter of August 5, 2004.

5. Loco Hills relies on a "net environmental gain" theory: it asserts that it will be removing more brine from the groundwater than it will introduce to the groundwater through its leaking pit. As discussed above, the OCD does not believe that Loco Hills' abatement plan will return the groundwater to standards. And as long as Loco Hills continues to introduce brine into the groundwater, it will not achieve standards no matter how much brine is pumped out of the groundwater. For that reason, the OCD's October 21, 2004 letter suggested that Loco Hills apply for alternative abatement standards in connection with its abatement plan. As discussed above, Loco Hills limited its request for alternative abatement standards to abatement of the additional contamination that will be caused by its leaking pit – it has made no provision for alternative abatement standards for clean-up of the existing contamination. Loco Hills cannot satisfy the requirements of a stage 2 abatement plan.

Bill, in your letter of March 7, 2005 you state that the purpose of the continuance is to enable Loco Hills to meet with representatives of the Environmental Bureau to identify and respond to their concerns. We hope this letter is a first step toward identifying the Bureau's concerns. We are willing to meet with you to continue the discussion. Please give me a call to set a mutually agreeable date.

Sincerely,

Gail MacQuesten
Oil Conservation Division Attorney

cc: Sonya Carrasco-Trujillo
Roger Anderson



March 7, 2005

BY HAND DELIVERY

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Dear Mr. Chairman:

Loco Hills GSF hereby requests that the hearing currently scheduled in the above-referenced case for March 8, 2005 be continued to the April 14, 2005 Commission hearing docket.

The purpose of this request is to enable us to meet with representatives of the Division's Environmental Bureau to identify and respond to the concerns they have about Loco Hills GSF's proposal. Although another delay in the approval process for this project creates difficult business issues for Loco Hills GSF, we believe this continuance is necessary. As you may know, Loco Hills GSF had requested a pre-hearing meeting with the Division's Environmental Bureau to define the issues to be addressed at the hearing. This request was denied. Last week we discovered that the Environmental Bureau still had problems with the Loco Hills GSF proposal and, instead of meeting with us to discuss these issues, planned to oppose us before the Commission and at that time announce their concerns.

We believe that if we engage in good faith discussions, we will be able to eliminate some of the remaining issues or, where we cannot, at least be aware of the concerns and prepared to respond thereto at the Commission hearing in April.

Very truly yours,

William F. Carr

cc: Gail MacQuesten
Mitchel Johnson
Randy Hicks