Closing Statement of the New Mexico State Land Office and State Land Commissioner Ray B. Powell, Jr. prior to rule-making rulings in September of 2012

Following weeks of hearings on altering the "Pit Rule", the Oil Conservation Commission (OCC) has requested line-by-line analyses from the parties, and closing statements prior to the Commission's deliberations. The Commissioner of Public Lands has a representative on the three member panel who will represent the Commissioner with input on the line-by-line decisions. This statement, therefore, reflects the initial position filed by State Land Commissioner Ray Powell, as modified by the evidence presented during the hearings.

The State Land Office (SLO) came into these hearings asking for two kinds of information: hard economic evidence showing the cost to industry of various regulatory language that industry sought to change, and risk assessment analysis to better understand the increased risk, if any, to the land and water of making a given regulatory change. The State Land Office and Commissioner Powell carry a responsibility to balance current returns on state lands against the risk of future liability from any toxic wastes left from today's industrial activities. It has been this Land Commissioner's steadfast position that shifting costs from present-day operations to future generations of New Mexicans is unacceptable.

Controversy over burial of drill cuttings vs. removal of same to a separate waste repository site.

Going into these hearings, industry wanted to ease requirements as to when it must use 'closed-loop' systems, technologies which would incentivize recycling of usable materials and off-site burial of both liquid and dry materials produced during the drilling

stages of well creation and maintenance. The SLO's position was that these technologies were effective in reducing future liabilities by removing any potential source of contaminants at pit closure and that questions inside the industry itself had arisen as to the cost effectiveness of these methods with many companies now electing to use closed-loop systems.

While the representatives of the oil and gas industry left 'closed-loop' systems in the regulations, they proposed loosening the criteria under which use of such systems is mandated, and at the same time requested other changes in the regulatory scheme which would make leak detection on site less likely. The economics of these changes were for the most part unremarked upon, other than the common sense assumption that industry would not request a change unless it somehow cost operators money in the field. For example, the requested siting changes, moving wastes closer to water tables and streambeds, were presented as safe and adequate, but without any attempt to quantify the cost to industry of complying with current regulations. Only in the area of use of 'closed-loop' systems was any concerted attempt made by the proponents of rule change to quantify the cost to industry.

Specific economic evidence of three types was presented. One witness who worked for a major producing company in the San Juan basin suggested that the cost to that company of each closed-loop system used was in the range of $100,000.00 per well. This testimony was undermined by several factors: first, the same company was allowed under the rule to develop 80% of its wells without using a 'closed-loop' system; second, the cost of the closed-loop system was not a significant percentage of the multi-million dollar investment per well; and third, some of these wells would be 'closed-loop' regardless of rule change because

some of them were located in places where no buried waste would be allowed for reasons other than those specified in Oil Conservation Division (OCD) regulations. Another witness was an operator in the Permian Basin who likewise found the 'closed-loop' system costly in his operations. For purposes of making a statewide regulation affecting hundreds of new wells, this witness' testimony was limited by the small number of wells drilled and the fact that one of his wells was an exception, a problem well. Finally, in the public comment segment of the hearings, an operator from the San Juan Basin testified to cost overruns from his use of a 'closed-loop' system and its impact on his small margin business.

The evidence presented illustrated some of the more trenchant arguments against the original regulatory changes enacted after the last set of hearings. Unfamiliarity with a new system and the costs to small operators of switching over to or learning a new system are very real. Distance to the nearest waste repository site can also be a serious issue, both for the cost and environmental impact of trucking the wastes. How these problems, taken together, equate to the need to change the rule now, years after its implementation, however, was not apparent. What was missing from the presentation was any kind of comprehensive study of economic impacts. There were no studies of all rigs started in 2010, or even of all rigs started in 2010 in the Permian Basin. There were no studies from other jurisdictions, from neighboring states, or from fields with similar configurations to New Mexico's basins. Experts attempted to show that rig counts were deceptive and the fact that the rig count is higher now in the Permian Basin than at any time before or after the 'Pit Rule's adoption is *despite* the requirement in some instances for use of a 'closed-loop' system. While it certainly cannot be ruled out that such a regulation might be having a deleterious economic

impact, fact-finders will have difficulty finding that the industry has met its burden of showing that this rule has, in fact, caused negative economic impacts across the industry.

Without clear economic costs, it is impossible for regulators, or the OCC to do any kind of cost-benefit analysis of the proposed rule changes. Essentially the 'benefit' is reduced to vague concepts such as 'freedom from regulatory burdens'. Because there are studies, including one by the Texas Railroad Commission, cited during the hearings and this Commissioner's pre-hearing statement, which suggest that the use of 'closed-loop' systems actually saves money, the 'benefit' from eliminating or even limiting the requirements for use of 'closed-loop' systems is still an open question.

Moving to the cost side of the policy-maker's obligation of testing the evidence, the issue should be what would be the effects of lessening regulatory requirements? Certainly siting wastes closer to a water table should, in common sense terms, increase the risk to the public. Public comment suggested the same, as some ranchers explained that a short walk to something toxic was too close for comfort. Industry's experts in these hearings consistently presented models or theories which failed to take into account things that go wrong. Rather than adopt a worse-case scenario, the industry experts preferred to examine average inputs.[1] It seemed that the industry's presentation, taken as a whole, was based on a preference for business risk-analysis over the risk-analysis of insurance or regulation. Industry wanted to replace the worst-case risk-analysis with analysis based upon probabilities. Another problem

[1] Testifying as to why he did not choose inputs from a high rainfall part of the state (Dulce), industry expert Tom Mullins stated: "I don't know—that kind of feeds into when you continually – when you are modeling and you continually take the highest parameters on one thing after the next, you can get a result that skews in one direction." Transcript at P 1367 Risk assessment for the insurance industry does not assess average rainfall, but anticipates the damage done by a hurricane. Likewise, risk assessment for rules applied statewide should take into account worst case scenarios and set a safety standard which does not allow sacrificing unusual regions of the state.

untouched by industry's experts was the compound effects of the various rule changes requested. If the OCC allows wastes to be located closer to water, and then allows an increase in levels of the carcinogen benzene in the wastes, and finally allows an increase in the level of acceptable chlorides making leak detection less likely, what are the combined impacts of these rule changes taken together; by what percentage has the OCC increased the risk to public health? Finally, the methodologies presented ignored any current information, even information held by the OCD in its own files of actual leaks and how chemicals have behaved in situations where a spill has occurred. So, in three important ways, the presentations on risk were uncomforting: worst-case scenarios were not accepted as a norm in correct risk-assessment analysis; compound impacts of various rule changes were not addressed; and real world data was never considered or addressed.

One example of how the above factors impacted the evidence presented would be the testimony of industry's toxicology expert, Dr. Thomas. His theory was that there was no vector for the risk of toxins to move from a pit to the groundwater. He believes that bentonite clays, common in the Permian Basin, are impermeable. Therefore, he was willing to testify that not only was the industry's fifty-fold increase in the amount of benzene (a known carcinogen) safe, but one hundred or one thousand times the current limit would also be safe. A later industry expert was slightly less sanguine about the qualities of bentonite clays. While they can present an undivided layer for some distance, there are cracks and fissures. In addition, it is known that the clay layer has a slope to it and that liquid waste could therefore travel for some miles until the wastes met a fissure and could drop to the rather shallow water tables found in most areas of the Permian Basin. Leaving large amounts of a known carcinogen in the ground simply does not make sense.

Another industry expert witness, Mr. Tom Mullins, presented computer modeling which he concluded showed that wastes would move so slowly from a properly closed pit that they would not reach ground water for some thousands of years. Besides the questions of what inputs Mr. Mullins chose for his model, there were two problems with his testimony. First was his assumption of a properly closed pit. For example, Mr. Mullins' assumption that the pit contents are entirely dried out before burial is not always true. Of perhaps greater concern was Mr. Mullins reluctance to testify about, or admit any knowledge of, known leaks and spills in New Mexico. He did not profess knowledge of a chloride spill west of Hobbs, New Mexico. While evidence of this spill was not presented as part of these regulatory proceedings, the fact that industry experts professed no knowledge of it should impact those witnesses' credibility.

In addition to not professing knowledge of leaks outside the realm of these OCC hearings, Mr. Mullins did not have an explanation for seven leaks from lined pits, evidence for which came directly from the Oil Conservation Division's own records. It was suggested on redirect that perhaps these leaks came not through closed, lined pits, but during the operational phase of these wells, before pit closure. This was hardly reassuring testimony for a regulatory agency requesting risk reduction (that perhaps the same industry in other operations was creating the mess that it claimed it would not ever cause during pit closures).

In summary, there were several questions raised by the rule change proponents' presentations regarding their views on public health. First, and perhaps most troubling, was their experts' consistent lack of knowledge about when things go wrong. They did not discuss or distinguish other instances of leaking wastes from oil field operations. They

consistently failed to consider bad practices in the field in their hypotheticals, and seemed to want to replace worst-case methodologies with average-case ones more appropriate to business modeling. Finally, because their consistent position appeared to be summed up in the statement "There is no risk" they allowed for no weighing of risk because they quantified every risk, whether it be liquids' movement through the ground or amounts of benzene, near or functionally at zero. The industry's reluctance to identify real risk points, to concede risk, makes the policy-maker's job of weighing the benefits of rule change against the risk created by the change nigh to impossible.

Multiwell Fluid Pits.

While industry advocates and experts attempted to downplay the risks from burial of drill cuttings in current on-site pits, they agreed to have closed-loop systems applied to a new and different context, super-sized pits called multi-well fluid pits. In this proposal, large pits would be constructed to hold the waters necessary to drill multiple wells. This concentration of water and drilling would reduce surface impacts, reduce truck traffic, and aid industry in several critical areas of development, including horizontal drilling and fracturing technologies. Because of the water requirements for fracturing, the pits could also be used for recycling of fluids, and would therefore reduce industry's water requirements. At pit closure, the industry would take all of the materials off site and reclaim the site.

This concept seems to be more efficient economically on its face, and to reduce the environmental impacts of drilling. The presentation and the rule changes proposed, however, appeared to need additional work. On perhaps the most critical aspect, the leak detection system, the proponents' own experts took differing positions as to the meaning of the

proposed rules. Some industry witnesses took the position that the proposed rules clearly assumed two liners for the pit with a space between in order to detect leaks from the first liner prior to their slippage through the second. The proposed rules did not explicitly state this requirement, however, and another industry expert, Dan Arthur, testified that the rule deliberately left the method of leak detection up to the industry. While flexibility in the implementation of safety standards is a goal of regulation, at the first stage there have to be explicit standards, particularly where, as here, the risks are greater. There was also insufficient testimony and clarity in the rules regarding the size of these pits or the realistic time frames for their operation. Size, particularly depth and consequent volume of water is critical to the pressure created on the liner system. Width and coverage are critical to issues of bird migration and eliminating attractive nuisance, particularly in a water-starved environment. Finally, there was inadequate testimony as to what chemicals at what levels would be allowed in these pits during the various stages of production. Some of this missing information is new to the industry, admittedly, as these multi-well fluid pits represent the edge of technological innovation, but a regulatory body needs more certainty than was presented in order to authorize a whole new way of holding oil field liquids.

The importance of markers.

Industry's request to increase acceptable levels of chlorides in buried wastes and at operational sites is of particular concern to the Commissioner of Public Lands because of their use by regulators as a marker of potential spills. Whether or not such chlorides are damaging at higher levels, when they appear now at such levels, regulators know that a spill has occurred, that something unusual has happened and will require more information. If

there has been a spill, the most important next event is to recognize and limit that spill. Chlorides are an excellent marker because they move faster than other chemicals.

Chlorides give us a chance to discover and intervene in a leak event, much like canaries gave notice of a leak in a coal mine's air supply. If industry needs to raise the levels of chlorides, then industry should offer a new mechanism to detect spills and leaks because this critical function is necessary to assure public health.

Recommendations.

The State Land Office recommends that further work be done on establishing fair and safe parameters for multi-well fluid pits in anticipation of new regulations to cover this industry activity. Comprehensive economic studies on the costs and benefits of existing regulations would be welcomed. Current regulations, for the most part, appear to be both prudent and sustainable.