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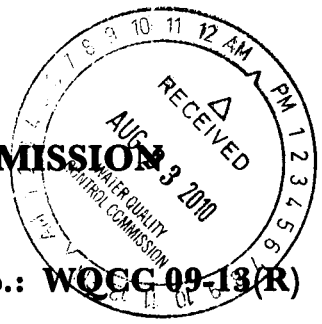

STATE OF NEW MEXICO
Before the
WATER QUALITY CONTROL COMMISSION

In the Matter of:
PROPOSED AMENDMENT
TO 20.60.2 NMAC (Dairy Rules)

No.: WQCC 09-13(R)

August 23, 2010

THE COALITION'S REASONS FOR DECISION AND CONCLUSION

I. COALITIONS REASONS FOR DECISION ON A FINAL RULE.

The Coalition[1] raised a number of significant issues---through witnesses and exhibits presented in this rule-making hearing process on the New Mexico Environment Department [NMED] proposals for regulating industrial dairy operations---regarding the need for final regulations that will adquately assure public health and safety, protect of private and public property, and maintain water quality in New Mexico. The Water Quality Control Commission [WQCC] has the necessary information upon which to make a decision on the shape, scope and content of the final rule. Herein, the Coalition highlights the reasons for adopting in the final rule certain key provisions it proposed during the hearings.

1 "The Coalition" or "Citizens Coalition" is comprised of Amigos Bravos, Caballo Concerned Citizens Group, Food and Water Watch, and Sierra Club Rio Grande Chapter. The scope and purposes of Coalition member organizations may be found in their original NOI in this case.

The Coalition stresses that only if the WQCC frames a final rule containing regulations in accord with Coalition recommendations on these highlighted critical areas can it provide NMED with both the necessary regulatory framework and sufficient regulatory flexibility to protect New Mexico's water quality, public and private property, and the health and safety of all citizens living in proximity and downstream of industrial dairy operations.

Coalition witnesses in this proceeding included three technical experts with highly relevant experience: Kathy J. Martin, PE, Elanor Starmer, Western Regional Director of Food and Water Watch, and Dr. Kendall Thu. These experts provided the WQCC with valuable scientific and technical information on the problems underlying industrial, Concentrated Animal Feeding Operations ("CAFO") dairy pollution--and the kind of regulations required to remediate that pollution.

Ms. Martin's experience focuses on the core issues before this Commission: working knowledge of the causes and effects of animal waste pollution and enacting appropriate regulations to control and remediate that pollution. She been involved in framing regulations and providing testimony on the substance of regulations for CAFOs in numerous states for over a dozen years and has worked on two-hundred permit applications in twenty states. Ms. Martin is a professional

engineer licensed in Oklahoma in the field of Civil Engineering. She holds a Bachelor's degree in Petroleum Engineering and a Master's degree in Civil Engineering with fifty hours beyond the Master's program in areas of civil and chemical engineering. She worked for the Oklahoma Water Resources Board writing permits for non-hazardous industrial wastewater and drafting regulations for the design, construction, operation, maintenance, and closure of waste lagoons and land application methods used by various industries in Oklahoma. She also served as a Project Officer of the Tar Creek Superfund Site, overseeing development and implementation of a regional groundwater study on the Roubidoux Aquifer with respect to impacts from intrusion of acid mine drainage from the lead and zinc mines of the Tri-State Mining District.

She has participated in rule-makings on CAFOs and related issued in Oklahoma, Kansas, Nebraska, Colorado, Indiana, and New Mexico and drafted a fifty-page, stand-alone CAFO regulation for Seward County, Kansas. She has appeared as an expert witness in numerous administrative hearings. *See* Coalition Exhibit C-1 where a list of her appearances is attached to her *curriculum vitae.* Most of her appearances were in hearings on state National Pollutant Discharge Elimination System (NPDES) permits for CAFOs, groundwater discharge permits, and, in some cases, air and odor aspects of the permits. She has also spent the past

four years researching issues related to enteric pathogen internalization in food crops contaminated with fecal pathogens and the impact on the national food supply including Escherichia coli 0157:H7 in spinach, Salmonella Typhimurium in peanuts, and Salmonella Saintpaul in tomatoes (2008). Prefiled Direct Testimony of Kathy J. Martin, PE, at 1-3.

Ms. Martin's testimony in this proceeding included a complete analysis of the effectiveness and sufficiency of the proposed Dairy Industry ["DIGCE"] regulations, supporting arguments for many of the Coalition's proposed changes, and testimony on specific items that the Coalition continues to believe are important and constructive additions to the regulations proposed by the NMED. Her analysis covered new definitions related to setbacks, increased setbacks distances for new and existing facilities and land application areas, denial of permit applications with technical deficiencies, maximum capacity of dairy facilities, identification of other dairy and land application areas (including off-site areas), identification of past noncompliance, issues related to third-party hauling of dairy waste, separation distance of impoundment construction to groundwater, timing of design plan submittals, and issues specific to the use of licensed professional engineers and the engineering approval process for CAFO waste handing systems. Ms. Martin provided a pointed engineering critique of the

DIGCE proposal of using clay liners in both her written rebuttal and during oral testimony, including the negative impacts of seepage volume on groundwater quality. *See* Prefiled Direct Testimony of Kathy J. Martin, PE, at 1-2, Pre-filed Rebuttal Testimony of Kathy J. Martin P.E. with attached exhibits, and Transcript ["Tr."] at 2507-2590:7-9.

Elanor Starmer, a second Coalition expert, currently oversees organizational operations for Food and Water Watch in the twelve western states. She holds a B.A. from Brown, and both an M.A. and M.S. from Tufts, in, respectively Development Economics (from the Fletcher School of Law and Diplomacy) and Agricultural Science (from the Friedman School of Nutrition). For over a decade Ms. Starmer has devoted her work to studying the impacts of livestock waste and pollution. She served as a reviewer for the Pew Commission on Industrial Farm Animal Production. Testimony of Elanor Starmer, Tr. at 272-274:9-1.

Ms. Starmer's direct testimony dealt with the constituents required for monitoring under section 20.6.2 3223. Her rebuttal testimony dealt with issues of the economic reasonableness of the proposed rule. *See complete testimony and filings*, Pre-filed Direct and Pre-filed Rebuttal Testimony of Elanor Starmer with attached exhibits; Tr. 271-415:4-8.

Another Coalition expert, Dr. Kendall M. Thu, Professor and Chair of the Department of Anthropology at Northern Illinois University, specializes in agricultural practices, is the editor of *Culture and Agriculture,* a Fellow of the Society for Applied Anthropology, served two years on the National Air Quality Task Force of the U.S. Department of Agriculture, and has authored over fifty scholarly publications on the relationships among food systems and public, environmental, and social health. His scholarly work in these areas is focused on the impacts of CAFOs. *See generally,* Dr. Kendall M. Thu, *Curriculum Vitae,* Coalition Rebuttal Exhibit C-11 at 1-35; *see also complete testimony and filings,* Pre-filed Rebuttal and Testimony of Dr. Kendall Thu with attached exhibits; Tr. 717-729:2-6.

Dr. Thu's testimony rebutted testimony provided by Mr. Bradley, Mr. Carter and Professor Hagevoort. Unlike the industrial CAFO dairy industry witnesses, who in their testimony comment or assert social benefits of dairy facilities without mentioning or invoking negative social consequences of CAFOs, Dr. Thu thoroughly reviewed the applicable scientific literature in the Journal of Epidemiology, Journal of Pediatrics, Journal of Environmental Health Perspectives, Journal of Agra Medicine, and the Journal of Agricultural Safety and Health. He found that all of these scholarly publication contain articles addressing the issue of quality of life degradation for people who live near CAFOs. The types

of severe social impacts identified in the scholarly journals--degraded water quality, air quality, personal health, children's health, the health of the elderly--are impacts borne by persons living "downwind" of CAFO operations, including industrial CAFO-type dairy operations. Such people suffer, among other illnesses, bronchial conditions, asthma, chronic bronchitis or emphysema. All of these types of problems are the negatives of industrial CAFO-type dairy operations--and they can be avoided with provisions in permit regulations, such as extensive setbacks from domestic properties and other uses. Testimony of Dr. Kendall Thu, Tr. at 720-725:19-9.

Coalition expert witnesses who live and work in New Mexico--Rachel Conn, Daniel Lorimier and Brian Shields--also have extensive experience dealing with public concerns and the technical and policy issues that are at the heart of the proposed regulations before the Commission.

Rachel Conn holds a Bachelor's degree in Environmental Biology from Colorado College and has worked in the environmental field for over a decade, much of that time in ground water assessment issues. For the past seven years she has worked for Amigos Bravos, an award-winning, nationally recognized river conservation organization established in 1988, with offices in Taos and Albuquerque, a staff of seven, and a membership of over 1,600 supporters. In her

position as Clean Water Circuit Rider, she reviews and comments on groundwater and NPDES permits in New Mexico, and provides organizations, communities and groups of interested persons with training and assistance to improve public participation in the permitting process. She also conducts Clean Water Act training throughout New Mexico and serves as Vice Chair of the Clean Water Network, a national organization dedicated to protecting the health, safety and quality of our nation's waters. Prefiled Direct Testimony of Rachel Conn at 1.

In her testimony, Ms. Conn underscored the need to provide adequate notice concerning discharges and pending permits for industrial CAFO dairy operations to the people affected (and potentially affected) by the animal waste and discharges. Specifically, she testified as to the need to include sufficiently detailed location maps as part of required notice so that interested persons understand which areas permitted discharges are likely to affect. S*ee generally complete testimony and filings*, Pre-filed Direct and Pre-filed Rebuttal Testimony of Rachel Conn with attached exhibits; Tr. 296-399:2-11

Coalition witness Daniel Lorimier works for the New Mexico Sierra Club, the state branch of the 1.3 million-member national organzation that John Muir founded in 1892. On behalf of the Rio Grande Chapter, Mr. Lorimier has been involved with dairy issues in New Mexico since 2005. His involvement includes

clean water advocacy in southeastern New Mexico, supporting NPDES primacy efforts by NMED, organizing against a poorly conceived dairy groundwater discharge permit application in Sierra County, and participating in both the Advisory Committee and Stakeholder Negotiation phases of the NMED efforts to draft new regulations as per SB206 (2009 Regular Session). Mr. Lorimier holds Bachelor of Science degree in Business Administration, has experience owning and managing small businesses, and served on the Sierra Electric Cooperative Board of Director. He has been involved in environmental advocacy since 1997, and has held the position of Conservation Coordinator and Lobbyist for the Rio Grande Chapter of the Sierra Club since 2004. *See generally*, Daniel Lorimier Prefiled Rebuttal Testimony and attached Coalition Exhibit C-31; *see also* Tr. at 1815-1817:5-11.

Relying upon a study of the economic impacts of industrial scale dairying, Mr. Lorimier rebutted assertions of Dairy Industry witness Professor Robert Hagevoort that the industry has only positive economic impacts. Mr. Lorimier testified that the study showed CAFO operations caused county-wide declines in property values in the counties within the eight states studied. Dan Lorimier, Prefiled Rebuttal Testimony and attached Coalition Exhibit C-31; Tr. at 1815-1817:5-11; *see also* Prefiled Rebuttal Testimony of Elanor Starmer and Tr. at 278-

283:1-11 (discussing externalized costs of industrial dairy operation pollution--costs to society that the industrial CAFO dairy operations pass on to neighbors, state and federal agencies, and taxpayers, who all foot the bill for oversight and remediation of industrial, CAFO-type dairy polluted water and land).

Brian Shields, the final Coalition witness, is Executive Director of Amigos Bravos, Inc. He was a founding member of the Board of Directors from 1988-1990, Projects Director from 1991-1996, and has served as Executive Director since 1996. For the past 22 years, Mr. Shields has been involved in numerous regulatory proceedings regarding the protection of water quality, including the development of closure plans and corresponding financial assurance requirements under the New Mexico Mining Act of 1993. He represented Amigos Bravos in a successful national lawsuit that resulted in a court decision requiring the U.S. Environmental Protection Agency ["EPA"] to develop financial assurance regulations under Comprehensive Environmental Response Compensation and Liability Act ["CERCLA"], section 108(B). Since 1999, he has worked on financial assurance issues with Jim Kuipers of Kuipers and Associates, one of the foremost financial assurance experts in the country. Prefiled Direct Testimony of Brian Shields at 1; Tr. at 284-285:20-14.

The testimony Mr. Shields provided focused on the need for integrating front-end dairy operations closure and closeout plans with adequate financial assurance. This approach protects the people of New Mexico from shouldering the immense financial burdens of cleanup and remediation of polluted industrial dairy sites that have been closed or abandoned. Front-end planning for close-out and closure of industrial CAFO-type dairy operations, when coupled with adequate financial assurance, guarantees that the responsible party will pay to clean up polluted water and land. *Id.* at 285-286:23-2; *see also complete testimony and filings*, Pre-filed Direct Testimony of Brian Shields with attached exhibits; *see also* Tr. 284-397:4-25.

A. The Final Rule Must Assure Adequate Notice, Including A Map, To Potentially and Actually Affected Persons.

To effectively participate in the process of identifying the local problems related to industrial, CAFO-type dairy operations--and solving them as expeditiously as possible--both actually and potentially affected members of the public must be given adequate notice of both private and state actions in relation to local dairies. At hearing, the Coalition presented ample, unrefuted evidence on the issue of adequate notice and the need to assure an informed and participating local public by reaching all affected and potentiall affected persons with notice that includes a location map. Testimony of Rachel Conn, Tr. at 298-299:3-14.

Under the Coalition proposal, the final rule would require that notice, with an included map, be provided to all property owners within one mile of a proposed discharge. *Id.* This broadens NMED's proposal to merely provide mail notice to property owners within one mile by adding the provision that notice include a location map. *Id.* Ms. Conn testified that in cases in which the public is confronted with discharge permit issues and notices of contamination, providing a map showing key features of the landscape in relation to an existing or proposed discharge enhances public participation in the permitting process. *Id.* Significantly, no contravening evidence was provided on this point by any other party.

The Coalition was (and is) supportive of NMED's proposed rule extending the notification requiement to persons within a one mile radius. Testimony of Rachel Conn, Tr. at 300:2-23; *see also* Testimony of Bill Olson, Tr. 1628-1629:17-22, referencing NMED NOI Attachment 8 at 21 (using the example of the ParaSol case as one where the public complained of inadequate notice and NMED tried to come up with a direct-mailing approach, stating direct mailing is the most effective means of reaching the affected public).[2] In his Prefiled Direct

2 Mr. Olson stated, in pertinent part:

> [T]he potential for groundwater impacts at a distance from a dairy facility makes it necessary to have a greater public notice distance. So adjacent land owners that could be potentially impacted would have the opportunity to participate in the permitting process. The larger notice distance, it's also required--consistent with the notice requirements that the Commission currently has, as well, for abatement and prevention of water pollution in 20.6.2.4108B.(4).

Id.

Testimony, NMED's Bart Farris stated the agency found groundwater contaminant plumes that extended beyond a mile in length. *Id.*, Attachment 3 at 8. This fact alone justifies a regulatory requirement that notice be provided to all persons within *at least* a one mile radius of any potentially discharging facility.

The reasons for requiring an increased distance for notification is, however, two-fold. First, pollution plumes can extend beyond one mile in radius. Second, the industrial, mega-dairy operations tend to be located in rural areas where the population is sparsely settled. Thus, the existing notice requirement set forth in 20.6.2.3108 is not sufficient to reach both affected and potentially affected persons. Testimony of Rachel Conn, Tr. at 300:2-23; *see also* Testimony of Bill Olson, Tr. at 821:13-23; 1245-1246:6-16; and at 1628-1629:17-22.

Ms. Conn also testified that an expanded notice requirement for New Mexico's dairies is consistent with practices in other states, for example Kansas. *Id.* at 335:1-8 (Kansas administrative rules require notices sent to all property owners and habitable structures within one mile of a CAFO).

Another point of uncontested evidence is that without a map showing the actual or potential discharge location, it is usually difficult for someone to understand potential impacts of that discharge. Testimony of Rachel Conn, Tr. at 298-299:3-14. In order to understand the situation, affected and potentially

affected members of the public and other interested persons (such as non-governmental entities concerned with environmental quality issues) need to be able to have a location map that situates the facility in relation to relevant features such as watercourses, public drinking water supplies, and irrigation systems. *Id.* This allows a person to identify the potential impacts of the proposed or identified discharge. *Id.*

The bottom line is that a very simple addition to the notification process--including a location map as part of the notice--will increase the quality of public participation and understanding of the discharge issue in each case, making for a more efficient and effective public process--which benefits *all* parties in discharge permit cases.

B. The Final Rule Must Assure Adequate Setbacks To Protect Public Health and Safety, Property and Water Quality.

Coalition setback proposals were submitted with the Coalition's direct testimony as Coalition Exhibit C-2. Supporting these proposals, the Coalition provided ample evidence that NMED's proposed production area setback distance requirements must be increased. *See Id.* at 7-8 (proposed distance increases). The Coalition also provided ample evidence to establishing additional production area setbacks to strengthen the final rule. These must be set at a sufficiently protective distance from irrigation supply wells, ditch irrigation systems, *acequias*, irrigation

canals or drains, human consumptive food crops, occupied residences and businesses, populated areas, municipalities, State Parks, and public surface water drinking and irrigation supplies. *Id.* at 8.

Along these lines, the Coalition supplied ample, uncontroverted evidence to support the contention that it is necessary to increase NMED's proposed land application area setbacks in order to adequately assure protection of public health and safety, private and public property, and state groundwater quality. *Id.* Land application area setback distances must also be established with the same considerations that apply (above) to production area setbacks. *See* Coalition Direct Exhibit C-2 at 9-10.[3]

Setback distances are in part established to protect the property rights of neighbors, to allow NMED to correct a pollution problem, and to attempt to contain pollution within the site boundaries. Testimony of Bill Olson, Tr. at 480: 2-11; 505:7-24. NMED acknowledged that increased numbers of monitoring wells would better detect the location of a plume of pollution under a facility. Yet,

3 The need for these increased setbacks is carefully analyzed and discussed in Coalition testimony and exhibits. *See* Prefiled Direct Testimony of K. J. Martin, P.E., at 2-3 (setbacks are of special concern for human consumptive food crops in proximity to dairy production facilities and land application areas due to fecal pathogen contamination); id. at 5 (State Parks are a significant investment of state and federal funding and important contributors to state and local economies; protecting these investments should be a high priority for New Mexico--which necessitates adequate protection of these resources similar to that under Oklahoma regulations, where CAFOs must be setback three (3) miles from recreational sites and the regulation does not limit the setback to State Parks).

NMED made a concession to the Dairy Industry by changing the proposed regulations so as to not require more than two monitoring wells. Testimony of Bill Olson, Tr. at 490-491:24-25. Significantly, in this regard, Mr. Olson conceded that if a monitoring well at a waste lagoon does not catch contamination, only adequate setbacks would offer protection to domestic wells. Testimony of Bill Olson, Tr. at 493:18-23. NMED also conceded that the same arguments apply to land application areas. Testimony of Bill Olson, Tr. at 506: 17-25.

WQCC should note that the Hagevoort, Carter, and Bradley testimony on behalf of the Dairy Industry ("DIGCE") that alleged there are only social benefits from industrial, CAFO-type dairy facilities was completely lacking in scientific documentation and ignored the negative impacts the Dairy Industry has on water quality, public health and safety, the value and usability of private property, and the quiet use and enjoyment of private homes located near these facilities. *See, e.g.*, Testimony of Dr. Kendall Thu, Tr. at 720:19-24. As Dr. Thu testified, studies have shown that persons living within a two-mile radius of a CAFO are at increased risk for health problems and degradation of quality of life. *Id.* at 723: 4-8; *see also* Dr. Kendall Thu, Prefiled Rebuttal, at 1-3. Studies have also shown that CAFOs have a severe negative impact upon the health and quality of life of neighboring residents, so much so that setback distances of at least a mile between a dairy

facility and the nearest occupied residence is well-founded and, in most cases, adequately protective of water quality, public health and safety, and the quiet use and enjoyment of private property. *Id.* at 721-724:15-17.

Dr. Thu recommended that setback distances for land application areas should also be at least one mile from where the manure is spread and the nearest property line of an occupied residence, unless there is an agreement made between the dairy and the residence for a lesser distance. Testimony of Dr. Kendall Thu, Tr. at 723:9-14. NMED made a similar finding, noting that ground water contamination at existing dairy facilities can migrate distances of up to one mile. *Compare* Bill Olsen, Prefiled Direct (NMED Attachment 8) at 21 (asserting ground water contamination at existing dairy facilities can migrate to distances greater than 1/3 of a mile) *with* Bart Farris, Prefiled Direct (NMED Attachment 3) at 8 (stating that in some areas groundwater contaminant plumes extend beyond a mile in length).

Setback distance requirements in the final rule must be increased. *See sections* 20.6.2.3205, 20.6.2.3206, 20.6.2.3207, 20.6.2.3216. In each applicable section of the final rules, to be sufficiently protective of water quality, human life and property, there must be sufficient setback requirements from irrigation supply wells, ditch irrigation systems, acequias, irrigation canals or drains, human consumptive

crops, occupied residences and businesses, populated areas, municipalities, state parks, and public surface water drinking supplies. For the same reason, there must also be sufficiently protective *land application area* setback requirements for those dairies applying for a permit renewal or modification to assure that land application of dairy wastes does not endanger human health, private property, and erode state water quality.

C. The Final Rule Must Require Adequate Closeout and Closure Plans With Financial Assurance Sufficient To Guarantee That Polluters Pay To Clean Up Their Pollution.

1. The final rule must require closure and closeout plans so polluters clean up their pollution.

The Coalition supplied unrefuted evidence at hearing that a closure plan and financial assurance must be developed and established concurrently with the design of the facility, and addressed through the initial permit application process. Testimony of Brian Shields, Tr. at 286:3-9. Regarding the closure plan, NMED does not oppose the Coalition's proposal and suggests that our proposal may merit further consideration due to the precarious financial situation of the dairies (which applied to financial assurance requirements as well--see below). *Compare id.* at 289:12-17 *with* Bill Olson, Prefiled Rebuttal, NMED Attachment 1 at 16, Attachment 4 at 6. The Coalition also supplied unrefuted evidence that good financial operational planning, especially for businesses engaged in managing

waste, requires "front-end" planning that addresses operational and cleanup alternatives. Testimony of Brian Shields, Tr. at 290:8-14. Without addressing closure and cleanup at the inception of the permitting process, it is difficult to determine the most cost effective operational plan. *Id.*

Moreover, the Coalition also provided unrefuted testimony to the effect that comprehensive closure plans are an important tool to help operators determine the most protective and cost-effective waste management practices so they may avoid potential unforeseen long-term cleanup costs and environmental impacts. Brian Shields, Prefiled Direct at 2. For example, if a closeout plan had been required prior to open pit mining at the Mollycoddle (now Chevron Mining) molybdenum mine in Questa---where EPA now estimates an eight-hundred million dollar cleanup cost---it is highly unlikely that the company would have chosen to place the waste rock piles in close proximity to the Red River. *Id.* As, currently, sixty-one percent (61%) of active New Mexico dairies do not comply with groundwater standards for nitrates, the experience of the state's mining industry should be a cautionary tale. Brian Shields, Prefiled Direct at 1; *see also* Coalition Exhibit C-4.

2. The final rule must require financial assurance to guarantee that polluters pay clean up costs.

The Coalition adduced unrefuted evidence at hearing and in prefiled rebuttal testimony regarding the need for strict financial assurance requirements.

NMED does not oppose or support the Coalition financial assurance proposal presented in this rule-making. NMED suggests, however, that the Coalition proposal may merit further consideration due to the allegedly precarious financial situation of dairies. *Compare* Brian Shields, Tr. at 291:16-20 *with* Bill Olson, Prefiled Rebuttal, NMED Attachment 1 at 16 *and* 4 at 8. The fact is, the federal government and states, including New Mexico, already require financial assurance for a wide variety of industrial and commercial operations. Testimony of Brian Shields, Tr. at 286:18-20.

The EPA recognized that financial assurance is intended to address pollution from toxic and hazardous substances. EPA has stated that:

> [H]aving the financial wherewithal to perform closure and/or cleanup is critical to protecting human health and the environment from toxic and hazardous waste and substances that are polluting the land, air, and water. The financial responsibility requirements achieve this protection by: (1) promoting the proper handling of hazardous and toxic, waste and substances,(2) ensuring that funds will be available to address contamination; (3) preventing the shifting of cleanup costs from the responsible party to the tax payer or other parties; and (4) making facilities and land available to the public for reuse.

See EPA, *Compliance and Enforcement National Priority: Financial Responsibility Under Environmental Laws* at 2 (2005) (cited in Brian Shields, Prefiled Direct at 2); *see also* Testimony of Brian Shields, Tr. at 375: 9-12.

The rationale for financial assurance is the guarantee that polluters, even when a business fails, have the financial wherewithal to adequately delineate environmental contamination and provide for the cleanup and remediation of that contamination. This minimizes the cost that local, state and federal governments must bear if they are forced to intervene in order to clean up a polluted site. It also gets the job done sooner, and protects tax payers from subsidizing the cost of cleaning up industrial pollution. Finally, financial assurance creates a strong incentive--return of the surety or bond--for industries to safely locate, manage, and dispose of waste during normal operations. Brian Shields, Prefiled Direct at 1-2.

There is ample data in the record to show the unabated extent of water contamination and air emissions from CAFOs in New Mexico. The record also shows the financial unpredictability--the "boom and bust" cycle--of the New Mexico dairy industry. When an industry that has been documented to cause resource damage also is known to have uncertainty in its short and long-term viability, the situation necessitates a requirement that the industry provide up-front financial assurance (and closure and close-out plane) in order that the public health and safety is assured. Brian Shields, Tr. at 287:8-21.

In this hearing process, the Dairy Industry argued that financial hardship for dairymen has created a situation where more than 50 percent of the state's

dairies are vulnerable to bankruptcy. Significantly, DIGCE provided anecdotes rather than concrete, scientific evidence in support of that allegation. Assuming, for the sake of argument, that these anecdotes and the anecdotal conclusion are correct, it is all the more crucial that, where dairies shut down and/or abandon facilities prior to cleaning up contamination, there are final regulations "on the books" that require adequate financial assurance integrated with complete, executable closure plans in order to be certain that public health and safety, private property and water quality are safeguarded. *Id.*

The Dairy Industry, choosing to argue from the anecdotes of self-interested dairymen (instead of scientific evidence) that financial assurance imposes an "undue" cost burden on dairies, concludes from these anecdotes that no additional regulations are need for financial assurance and closure plans as the market provides a "built-in" incentive to complete closure. Absent <u>any</u> scientific studies to back up such a claim, it is just one more load of manure on the proverbial pile. Sadly, moreover, it fails to address the pressing need the WQCC faces in this rule making: having the necessary information to engage in the rational decision-making process leading to the adoption of regulations that adequately protect the water quality, public health and safety and private property of the citizens of this state from an epidemic of industrial dairy pollution.

The unrefuted evidence before the WQCC makes it very plain: only adequate "up front" financial assurance integrated with closure/close-out plans will safeguard the public and natural environment when dairies go bankrupt, abandon a site, or fail to complete proper site closure and remediation. Testimony of Brian Shields, Tr. at 291-292:23-10.

Many states facing industrial CAFO-type dairy-created crises of water and land pollution chose to require up-front closure and financial assurance for CAFOs. Contravening Dairy Industry arguments in this case, there is no evidence such requirements have caused a single dairy to go out of business. Testimony of Brian Shields, Tr. at 292:12-15. Based upon the evidence presented at hearing, the Coalition contends that closeout plans must be required as part of the application process for new and renewed permits. *See* §§ 20.6.2.3205; 20.6.2.3206; 20.6.2.3207. Closure plans must be submitted at the time of application for a new, or modified & renewed permit and financial assurance must be required for closure at the time of the initial discharge application. *See* §§ 20.6.2.3205; 20.6.2.3206; 20.6.2.3207. Financial assurance should be required as part of the application process for new and renewed permits under §20.6.2.3205; *see also* §§ 20.6.2.3206 and 20.6.2.3207.

D. The Final Rule Must Require Adequate Monitoring, Giving NMED Regulatory Flexibility Sufficient To Maintain Water Quality By Requiring Additional Monitoring As Needed.

Elanor Starmer noted in her testimony that New Mexico's roughly 240,000 dairy cows generate an estimated 8.7 million tons of waste per year, citing a 2008 U.S. Government Accountability Office ["GAO"] study. She reported the GAO study found that dairies cluster in certain regions--as they are here in the New Mexico--and that clustering exacerbates the water quality impacts of that waste. The reason for this is that, regionally, more nutrients are produced in manure than can be taken up by the crop land. This results in a high potential for leaching in such regions. Testimony of Elanor Starmer, Tr. at 274:4-25.

Ms. Starmer also provided direct testimony that industrial-scale, CAFO-type dairy waste contains many contaminants which have an adverse impact on human health. The contaminants include, but are not limited to: nitrate, nitrogen, ammonia nitrogen, fecal coliform bacteria, phosphorous, dissolved mineral salts, and, in some cases, pharmaceuticals. Her testimony also surveyed the scientific literature on this point which she summarized as thoroughly documenting such contaminants reaching and contaminating groundwater. *Id.*

Ms. Starmer cited a 2006 EPA review of the applicable scientific literature that revealed, in pertinent part:

> Viral and bacterial pathogens associated with fecal contamination can reach groundwater via pathways in the subsurface and near surface. The improper management of manure or runoff from land-applied manure can reach the groundwater source by traveling sometimes great distances through the subsurface.

Id. at 275:1-25. She went on to note that the literature identifies shallow groundwater conditions as perhaps the most important factor affecting groundwater vulnerability to contamination from animal waste. Infiltrating wastewater or waste constituents have a short travel distance to the groundwater and a shorter soil column to attenuate waste concentrations. *Id.*

Ms. Starmer also testified that in a 2003 rule on CAFOs, the EPA found manure pollutants from water traveling through the soil to groundwater can contaminate shallow groundwater of the type that characterizes the situation in New Mexico, particularly in the areas where New Mexico's industrial dairy operations are located. Tr. 276:1-25, 283:1-19. She noted that NMED found about one-third of New Mexico dairies have depth to groundwater at fifty feet or less, with some at only five feet. *Id.* at 276:1-25. She cited studies showing an increased risk of contamination here, as alluvial materials in soils comprising and underlying the New Mexico industrial dairy belt are generally permeable. This permeability allows contaminants to move rapidly from the surface to the underlying aquifer. *Id.* She testified that, given 90 percent of New Mexicans

depending upon wells for drinking water, contaminants in groundwater underlying dairies *must* be monitored if state regulations are to be adequately protective of public drinking water supplies. *Id.* at 276:1-25

Ms. Starmer voiced concern that the proposed dairy regulations do not include requirements for monitoring certain contaminants that are recognized as serious byproducts of industrial CAFO-type dairy operations. These include, but are not limited to, total coliform and E. coli (indicators of fecal contamination), ammonia nitrogen (an indicator of new livestock pollution not yet converted to nitrate nitrogen), and phosphorous (which degrades surface waters in areas of groundwater discharge and dissolves to mineral salts). Tr. 277:1-25.

She testified that the final rule must allow NMED to require monitoring for these additional constituents on a case-by-case basis in each discharge permit--and that the final regulations must, therefore, provide NMED with sufficient flexibility to do so on an "as needed" basis. However, she noted, in attempting to entice the Dairy Industry into supporting the new rule, NMED has incised this flexibility from the proposed rules. Hence, the WQCC needs to restore this provision in the final rule. *Id.; see generally* Elanor Starmer, Prefiled Direct Testimony and live testimony.

The Coalition's evidence on this issue supports a final rule that requires ground water sampling for total water chemistry, total coli form bacteria and E. Coli, *see* §§ 20.6.2.3226; 20.6.2.3227, and stormwater sampling for conductivity, pH, dissolved oxygen, ammonia nitrogen, total coli form bacteria, and E. Coli--*see* § 20.6.2.3227. In addition, the final rules must permit NMED to require, as needed, monitoring of other constituents of concern in groundwater, stormwater, and wastewater. S*ee, e.g.,* §20.6.2.3227. Finally, all discharge permits issued to dairies should be sufficiently restrictive of mass loading of contaminants in groundwater, *see* §20.6.2.3227, and, assure adequate protection and a reasonable margin of safety in monitoring. The final regulations also must require a minimum of quarterly sampling and reporting for all dairy groundwater monitoring wells. *See* §§ 20.6.2.3226; 20.6.2.3223.

E. The Final Rule Must Give NMED Sufficient Regulatory Authority To Preserve Water Quality.

NMED's original proposal at section 3109(C) allowed NMED to disapprove a permit if it would cause "a hazard to public health or undue risk to property" must be rewritted into inal rule in order to provide the agency with sufficient regulatory flexibility to adequately protect state water quality in an emergency. *Compare* original section 3109(C) *and* revised section 3205(I)(2). This phrase has a been a touch-stone of New Mexico water quality laws and regulations since they

were enacted and provides the bedrock on which NMED may intercede, as necessity dictates, to protect public health and safety, preserve private property, and assure state water quality.

II. CONCLUSION.

For the reasons set forth above and in the exhibits and testimony that the Coalition presented at hearing, the Coalition requests the Water Quality Commission to approve NMED's proposed regulations with the changes the Coalition provided. In the Pre-filed Rebuttal testimony of its expert Kathy J. Martin P.E., the Coalition offers the WQCC an extensive analysis of the weaknesses and flaws in the Dairy Industry NOI and attachments. The analysis also critiques the written testimony of Dairy Industry witnesses on the cost of regulatory compliance, and their support for the DIGCE diluted final rule.

Ms. Martin's careful analysis leads to only one conclusion: the only valid scientific arguments presented in this case support NMED's proposed rule if it is supplemented with the Coalition proposals. *See* Kathy J. Martin Pre-Filed Direct Testimony and Coalition Exhibit C-2.

Given the magnitude of the pollution problems New Mexico's industrial dairy operations have created, only by enacting a strong set of regulations will there be any assurance that the contaminants these industrial dairy operations

introduced into the waters of New Mexico--which are clearly "in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property"--will be remediated. NMSA 74-6-2. (definition of water pollution).

Without taking this necessary step now, the public health and safety, private property and water quality of the state will not and cannot be adequately assured.

DATED: At Santa Fe, New Mexico, this 23d day of August, 2010.

Respectfully submitted on behalf of the Coalition:

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CERTIFICATION OF SERVICE

I, Jonathan Block, certify that on this 23d day of August, 2010, I served five paper copies of this pleading by hand and emailed a digital copy of the same to the WQCC Administrator and served by First Class mailing or email all persons on the service list provided to me by the Administrator.

Jonathan M. Block