

**STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION**

_____)
In the Matter of:)
PROPOSED AMENDMENTS)
TO 20.6.6 NMAC (Dairy Rule))
_____)

No. WQCC 12-09(R)
and
No. WQCC 13-08(R)

**Dairy Industry Group for a Clean Environment,
Petitioner**

WRITTEN TESTIMONY OF WILLIAM C. OLSON

My name is William C. Olson, and I am presenting this technical testimony in the New Mexico Water Quality Control Commission (Commission) rule-making hearing case No. WQCC 12-09(R) and No. WQCC 13-08(R). I am testifying as an expert witness on behalf of the Rio Grande Chapter of the Sierra Club, Amigos Bravos, Caballo Concerned Citizens, Lee County Concerned Citizens, and Rio Valle Concerned Citizens (the “Coalition”). This testimony is in response to September 4, 2012 and August 5, 2013 Dairy Industry Group for a Clean Environment (DIGCE) petitions to amend the Ground Water Protection – Supplemental Permitting Requirements for Dairy Facilities (“Dairy Rule”) in 20.6.6 NMAC.

I. BACKGROUND AND EXPERIENCE

I have a Bachelor of Science degree in Geology, and a Master of Science degree in Hydrology from the New Mexico Institute of Mining and Technology, and over 28 years of work experience related to ground water discharge permits and remediation of contaminated ground water under Commission and New Mexico Oil Conservation Division (NMOCD) rules.

Since January of 2012, I have been a private consultant on water quality issues in New Mexico for various clients including assisting the New Mexico Environment Department

(NMED) in the development of the Copper Mine Rule and serving as an expert witness for the New Mexico Attorney General's Office on water quality issues.

Prior to 2012, I worked for 25 years in state government on water quality issues with both the NMED and NMOCD. I held the position of Bureau Chief of the Ground Water Quality Bureau with the NMED from October of 2004 to November of 2011. As Bureau Chief, I was responsible for supervising and managing personnel of the Ground Water Quality Bureau's Mining Environmental Compliance Section, Pollution Prevention Section, Remediation Oversight Section, Superfund Oversight Section, and Grants and Planning Section. My duties included directing the permitting and enforcement of discharge permits and abatement of ground water pollution pursuant to the New Mexico Water Quality Act (WQA) and Commission rules; remediation of contaminated properties pursuant to the Voluntary Remediation Act and Voluntary Remediation Regulations; remediation of abandoned sites in support of the U.S. Environmental Protection Agency (EPA) Superfund Program; and implementation of NMED's responsibilities under the New Mexico Mining Act.

I led the NMED team that developed the Dairy Rules, was a principal NMED technical witness in the Commission's 2009 rulemaking hearings and was a NMED negotiation team member in the settlement of DICE's appeal of the Commission's original 2010 Dairy Rule. Subsequently, as a private citizen after my retirement from state government, at the Commission November 2011 rulemaking hearing I testified on behalf of NMED, DIGCE and the Coalition on the settlement of DIGCE's appeal and the resulting agreed amendments to the Dairy Rule that comprise the current Dairy Rule.

Prior to my term as Bureau Chief of the Ground Water Quality Bureau, I was a hydrologist for the NMOCD Environmental Bureau from 1990 to 2004. In this capacity, I

implemented and enforced the WQA and Commission Rules related to discharge permitting and abatement of ground water pollution at refineries, natural gas processing plants, natural gas compressor stations, brine extraction wells and oilfield service companies. I also implemented and enforced NMOCD water quality protection permit and pollution abatement rules adopted pursuant to the New Mexico Oil and Gas Act (Oil and Gas Act) for oilfield exploration, development, production and disposal sites. Additional duties included conducting ground water studies, rule development and serving as an expert witness for water quality protection rules related to the oilfield industry.

From 1988 to 1990, I worked for the New Mexico Environmental Improvement Division's Ground Water Quality Bureau as a hydrologist and from 1986 to 1988 I worked for the NMOCD as a hydrologist. Both of these jobs involved discharge permitting and abatement of water pollution under Commission rules.

I previously served on the New Mexico Water Quality Control Commission as the designee of the NMOCD for a period of approximately 13 years, and later served on the New Mexico Oil Conservation Commission as the designee of the Secretary of the Energy Minerals and Natural Resources Department for a little over 5 years. During service on both of these commissions, I participated in the adoption of a number of water quality protection rules under both the WQA and Oil and Gas Act.

A copy of my current resume is marked as **Coalition Exhibit WCO-2**.

II. INTRODUCTION

On December 22, 2009, NMED submitted a petition for regulatory change to the Commission. The petition proposed to amend the Ground and Surface Water Protection Regulations, 20.6.2 NMAC, to include new industry specific rules for the dairy industry. The

petition was in response to 2009 legislative amendments to the Water Quality Act requiring the Commission to adopt new industry-specific discharge permit rules for the dairy industry and “to specify in regulations the measures to be taken to prevent water pollution and to monitor water quality.” NMSA 1978, § 74-6-4(K). A public hearing was held on the proposed regulatory change on April 13-16 and June 8-17, 2010. The hearing participants were the NMED, DIGCE and the Coalition, the members of which have changed slightly since that time.

The Commission approved the Dairy Rule on December 11, 2010. On January 21, 2011 DIGCE filed a Notice of Appeal with the Court of Appeals seeking judicial review of the Dairy Rule. Following lengthy settlement negotiations, all of the parties reached an agreement on proposed amendments to the Dairy Rule on July 7, 2011 which were embodied in a settlement of all of DIGCE’s issues with the regulations that was submitted to and accepted by the Court of Appeals which dismissed the appeal with prejudice. On July 28, 2011 NMED, DIGCE and the Coalition filed a joint Petition to Amend the Dairy Rule to make changes to the Dairy Rule consistent with the terms of the settlement agreement. The amendments were designed to protect ground water at dairy facilities while allowing greater flexibility for dairy operators in the management of their facilities. The Commission held a hearing on the substance of the proposed amendments and settlement terms and on November 16, 2011 adopted an amended Dairy Rule that became effective on December 31, 2011.

On September 4, 2012, DIGCE filed a “Petition to Amend 20.6.6 NMAC (Dairy Rule) and Request for Hearing” (“1st petition”). The 1st petition proposed amendments regarding provisions of the Dairy Rule dealing with flow meter calibration, backflow prevention devices and nutrient management plans. DIGCE and the Coalition filed written technical testimony regarding these issues with the Commission on November 19, 2012. Prior to a hearing on the

September 4, 2012 petition, on August 5, 2013 DIGCE filed a “Second Petition to Amend 20.6.6 NMAC (Dairy Rule) and Request for Hearing” (“2nd petition”). DIGCE’s 2nd petition proposes additional amendments to the Dairy Rule and includes the proposed amendments from its first petition.

The purpose of this hearing is to address DIGCE’s proposed amendments to the Dairy Rule. As I discussed in the previous section on my background, I participated in the Dairy Rule development process, the original Dairy Rule hearings, the Dairy Rule appeal settlement negotiations and the final Commission hearings amending the rule based upon the settlement agreement. The Coalition supports the need for a Dairy Rule that prevents water pollution and monitors water quality in an effective, efficient and reliable manner consistent with the statutory requirements of the Water Quality Act (WQA). However, I wish to provide testimony on what the Coalition believes is a major defect in DIGCE’s proposed amendments in the 2nd petition that will not prevent water pollution as statutorily required by the WQA. As proposed by DIGCE, the amendments would adopt a point of compliance concept in the Dairy Rule that allows a dairy to cause pollution of ground water under a dairy facility. According to DIGCE’s proposed rule, dairy wastewater would be allowed to be placed in soil-lined impoundments that are designed to leak into the subsurface and have the potential to cause ground water contamination in excess of Commission standards. Water quality would not be measured directly adjacent to potential sources of water pollution. Compliance with water quality standards would only be measured at 1 or 2 monitoring wells located downgradient from the overall dairy facility. I will present testimony on water quality contamination from dairies, DIGCE’s proposed amendments, and DIGCE’s proposed point of compliance concept, including an analysis of why this concept is not consistent with the purpose and requirements of the WQA and Commission rules, historical

pollution prevention at dairy facilities, and place of withdrawal requirements, and should not be adopted as proposed.

Coalition witness Kathy Martin and myself will also present testimony in support of specific modifications to DIGCE's proposed amendments that provides a mechanism for prevention of water pollutions from impoundments consistent with WQA. **Coalition Exhibit WCO-3** presents the text of the Coalition proposed modifications in track changes formatting.

My testimony is contained in exhibits marked **Coalition Exhibits WCO-1 to WCO-20** and constitutes my written direct testimony on DIGCE's proposed amendments to the Dairy Rule.

III. WATER QUALITY AT DAIRIES

The Dairy Rule is fundamentally about protection of ground water resources in New Mexico through Commission adopted industry specific rules for dairy facilities. New Mexico is an arid state, with limited water resources. It is growing and developing rapidly, placing an increasing demand on its limited ground water resources. New Mexican's obtain approximately 90 percent of their drinking water from ground water sources and it is therefore extremely important to protect those resources. Towards that end, the Legislature enacted the WQA and, pursuant to its statutory authority, since 1977 the Commission has adopted regulations to protect all surface and subsurface waters in New Mexico. The WQA was amended by the legislature in 2009 requiring that the Commission specify in rules the measures to be taken to prevent water pollution and monitor water quality.

Pollution prevention at dairies is important because extensive contamination of ground water resources has occurred from dairy facilities in the State of New Mexico. Since the adoption of pollution prevention rules in 1977, NMED discovered that some dairy operational

and disposal practices failed to prevent ground water pollution and resulted in impacts on ground water quality. Over time, as NMED required new pollution prevention and ground water monitoring measures, the number of cases of ground water contamination at dairy facilities increased as more monitoring data was obtained. NMED provided extensive detailed testimony regarding the number of cases of ground water contamination related to dairy facilities in the 2010 Commission Dairy Rule hearings. As of the last compilation of ground water quality at dairy facilities in 2009, NMED documented that 72% of dairy facilities in New Mexico have had nitrate-nitrogen contamination of ground water during the history of the facility. In 2009, at that time 57.1% of the dairy facilities had nitrate-nitrogen contamination of ground water in excess of Commission standards. The data shows that 71.9% of dairy facilities with contamination in excess of standards were caused by dairy wastewater impoundments (**Coalition Exhibits WCO-4, WCO-5, WCO -6 and WCO-7 page 43, #145**).

The extent of ground water contamination at dairies can be large. NMED has required Abatement Plans for abatement of water pollution pursuant to Commission rules for at least 50 dairies. The estimated volume of ground water contamination at an individual dairy has been shown to range from 740 acre-ft. to 4,154 acre-ft. The total volume of estimated ground water contamination at just 4 of the dairies under Abatement plans would provide sufficient water to supply 8,300 households for a whole year. Estimates of the extent of ground water contamination from 2 dairies shows that ground water contamination plumes caused by dairy operations can and do extent beyond a mile in length (**Coalition Exhibit WCO-8 and WCO-7 page 35, #126**).

IV. DIGCE 1ST PETITION AMENDMENTS

In regards to proposed amendments to the Dairy Rule in DIGCE's 1st petition, pursuant to

the Commission's Procedural Order and Section 303 of the Guidelines for Water Quality Control Commission Regulation Hearings, the Coalition and DIGCE previously filed a Notice of Intent to Present Technical Testimony (NOI) on November 19, 2012. DIGCE's 1st petition proposes amendments to limited sections of the rule regarding three issues: (1) backflow prevention devices; (2) field calibration and (3) Nutrient Management Plan requirements. The proposed amendments in DIGCE's 2nd petition incorporates the language it proposed in the 1st petition. Therefore, in the absence of additional changes to the rule in the 2nd petition regarding these 3 issues the Coalition stands by its previously filed November 19, 2012 NOI testimony but reserves the right to provide additional testimony if DIGCE changes its testimony or NMED provides new testimony on these matters. In addition, as discussed in Section V.A. below these issues were extensively addressed in technical testimony in the original 2010 Dairy Rule rulemaking hearings and Commission Order. In a settlement on file with the New Mexico Court of Appeals, DIGCE, NMED and the Coalition agreed in 2011 that all of these issues were resolved. Unless DIGCE can present new scientific evidence regarding these issues that could not have been presented at the 2010 Commission hearings, the Commission must reject DIGCE's proposed amendments as contrary to its previous agreement of resolution of these issues as discussed below.

V. DIGCE 2ND PETITION AMENDMENTS CONTRARY TO DAIRY RULE SETTLEMENT AGREEMENT ACCEPTED BY THE COMMISSION

Some of the proposed amendments in DIGCE's 2nd petition, including the allowance of soil lined impoundments and elimination of manure solids separators, as well as, the proposed amendments in DIGCE's 1st petition are essentially a resubmittal and request for rehearing of issues from the original 2010 rulemaking. These proposed rule changes were the subject of

extensive technical and scientific testimony and evidence at the Commission's April 13-16 and June 8-17, 2010 rulemaking hearings. The Commission evaluated and deliberated on the scientific and technical data presented at the 2010 hearings and decided not to accept these proposals as detailed in the Commission's January 14, 2011 Statement of Reasons and Order (**Coalition Exhibit WCO-7**). As discussed previously, DIGCE subsequently appealed the Commission's rulemaking decision and then entered into settlement negotiations with NMED and the Coalition to resolve these issues. The result of these negotiations was a July 7, 2011 Settlement Agreement and agreed Dairy Rule amendments in which DIGCE, NMED and the Coalition "*agree to jointly petition the Water Quality Control Commission ("WQCC") to amend 20.6.2 NMAC (Dairy Rule) to make changes to the Dairy Rule in substantially the form set forth in Attachment A to this Agreement*" (**Coalition Exhibit WCO-9**). After a rulemaking hearing on November 16, 2011, the Commission adopted the amended Dairy Rule as jointly proposed by DIGCE, NMED and the Coalition (**Coalition Exhibit WCO-10**). The amended rule became effective on December 31, 2011 and is the rule currently in effect. In the Settlement Agreement, DIGCE, NMED and the Coalition "*agree that this Agreement resolves all issues relating to this matter and any issues that could have been raised by any Party*" (**Coalition Exhibit WCO-9**). On July 8, 2011, DIGCE, NMED and the Coalition also filed a "Notice of Settlement, Amended Motion for Stay of Dairy Rule, and Stipulation" whereby all three parties declared to the Commission that "*On July 7, 2011, DIGCE, the Department and the Coalition signed a Settlement Agreement resolving all issues raised in DIGCE's appeal of the Dairy Rule to the New Mexico Court of Appeals*" (**Coalition Ex. WCO-11**). Based upon these agreements, the Commission should reject DIGCE's 2nd petition amendments to allow soil liners and eliminate manure separators and its 1st petition amendments unless DIGCE can present new scientific

evidence regarding these issues that could not have been presented at the 2010 Commission hearings.

VI. DIGCE 2ND PETITION AMENDMENTS LACK A SCIENTIFIC BASIS FOR PREVENTION OF WATER POLLUTION AND MONITORING WATER QUALITY

Subsection K of Section 74-6-4 of the WQA requires that the Commission “*shall specify in regulations the measures to be taken to prevent water pollution and to monitor water quality*” and that “*The commission shall consider, in addition to the factors listed in Subsection E of this section, the best available scientific information.*” It is a fact that 57% of dairies have caused extensive ground water pollution and that 72 % of these cases were caused by wastewater impoundments. The current Dairy Rule was adopted based on extensive scientific information presented at hearing on how the rule will prevent water pollution and monitor water quality. Prior to this date DIGCE has not provided scientific information to justify how the amendments in its 2nd petition will prevent water pollution or adequately monitor water pollution to determine if water quality standards are met. As a result, with the exception of DIGCE’s proposed point of compliance concept, I must defer comment on how the proposed amendments would accomplish the statutory mandates of the WQA until DIGCE provides such technical information in its NOI.

VII. DIGCE 2ND PETITION PROPOSED POINT OF COMPLIANCE CONCEPT

In DIGCE’s amendments to 20.6.6.23 NMAC it has proposed to eliminate ground water monitoring of sources of water pollution at dairies by deleting all rule language requiring ground water monitoring downgradient of wastewater impoundments, stormwater impoundments, and land application areas. DIGCE proposes facility monitoring instead of pollutant source monitoring whereby only 2 monitor wells would be placed downgradient of the entire facility. In

some cases, DIGCE's proposal in 20.6.6.23(A)(7) would allow only one monitoring well to be placed downgradient of the entire dairy facility. Dairy facilities can be hundreds of acres in size. It is not possible for 1 or 2 facility monitoring wells to determine if pollution prevention measures implemented at sources of water pollution within the dairy are effective in ensuring that water quality standards are met. In order to monitor a dairy facility under DIGCE's proposed amendments, the monitor well would need to be placed at the property boundary of the facility. Such a monitoring system would allow water pollution to occur from a source of pollution up to the facility property boundary a considerable distance away from the source and would not prevent water pollution as statutorily required by the WQA. As proposed by DIGCE, their amendments would adopt a point of compliance concept that allows a permittee to cause extensive pollution of ground water by rule. In the following sections, I present testimony on the WQA requirements, existing Commission rule requirements, historical pollution prevention at dairy facilities, place of withdrawal requirements, and an analysis of why a point of compliance concept is not consistent with the WQA and other Commission rules and actions, and should not be adopted as proposed.

A. WATER QUALITY ACT REQUIREMENTS

In this section I present the relevant portions of the WQA that conflict with the DIGCE's point of compliance concept to allow water pollution by eliminating monitoring of pollution sources and only requiring that water quality standards be met at the downgradient boundary of the dairy facility.

The WQA is the primary statute that governs protection of ground water quality in the State of New Mexico. The WQA was originally adopted in 1967 and created the Commission. The majority of the WQA as seen today that relates to discharge permitting for ground water

quality protection was adopted in the 1970's.

One of the main functions of the Commission's duties and powers under the WQA is to adopt rules to "*prevent or abate water pollution*" as set out in 74-6-4.E NMSA 1978. It is clear that the Commission when adopting specific rules for discharge permits for dairy facilities must prevent water pollution.

To allow for flexibility in applying adopted rules, the WQA in 74-6-4.H NMSA 1978 gives the Commission the authority to grant exceptions to its rules subject to limitations after a public hearing. In particular, 74-6-4.H NMSA 1978 specifies, "*The commission may only grant a variance conditioned upon a person effecting a particular abatement of water pollution within a reasonable period of time. Any variance shall be granted for the period of time specified by the commission. The commission shall adopt regulations specifying the procedure under which variances may be sought, which regulations shall provide for the holding of a public hearing before any variance is granted*". This provision contemplates that there are circumstances under which a permit applicant may be allowed, through the granting of a variance, to cause temporary pollution of water as long as it is abated within a reasonable period of time. Under this provision, a person is limited from being granted approval of a variance that allows permanent or long-term water pollution

Another significant provision of the WQA in 74-6-5.E(3) NMSA 1978 requires that the constituent agency deny a discharge permit if "*the discharge would cause or contribute to water contaminant levels in excess of any state or federal standard. Determination of the discharge's effect on ground water shall be measured at any place of withdrawal of water for present and reasonably foreseeable future use*". The WQA explicitly prohibits approval of a discharge permit that allows ground water to be contaminated above water quality standards at "*any place*

of withdrawal of water for present or reasonably foreseeable future use”.

Another limitation under the WQA in 74-6-12.F NMSA 1978 states, *“reasonable degradation of water quality resulting from beneficial use shall be allowed. Such degradation shall not result in impairment of water quality to the extent that water quality standards are exceeded”*. This statutory provision allows some degradation of ground water but prohibits degradation in excess of the water quality standards. Existing Commission rules reflect this in sections on approval of discharge permits such as 20.6.2.3109.C NMAC and numerous other sections of Commission rules that reference compliance with standards as part of an action to be taken.

In 2009, the WQA was amended to allow the Commission to adopt industry specific rules that were not previously allowed under the statute. Prior to the 2009 WQA amendments, the permitting process was based on a model where an applicant for a discharge permit would propose a plan to protect ground water for the NMED’s review. There was no guidance or specificity in the rules for the measures to be taken to protect water quality except that the plan as proposed by the applicant had to demonstrate that the proposed plan would not cause an exceedance of the Commission’s ground water quality standards. The 2009 WQA amendments initiated a paradigm shift in the rulemaking and permitting process. Most significantly, the 2009 amendments created a new Subsection K in Section 74-6-4 NMSA 1978 that allows the Commission to adopt regulations specific to particular industries, and directed the Commission to promulgate industry specific rules for the dairy industry and the copper industry. The 2009 amendments deleted the prior provision in the WQA in 74-6-4.D NMSA 1978 stating that *“regulations shall not specify the method to be used to prevent or abate water pollution”*, Instead, the 2009 amendments inserted a new Subsection K of Section 74-6-4 of the WQA

requiring that the Commission “*shall specify in regulations the measures to be taken to prevent water pollution and to monitor water quality*”. It is clear from the 2009 amended statutory language in 74-6-4.K NMSA 1978 that the main purpose of these Commission hearings is to adopt specific rules for dairy facilities to prevent water pollution. The 2009 amendments did not in any way alter the WQA to make allowances for point of compliance concepts.

Based upon the above statutory requirements within the WQA, allowing dairy facility discharges to cause ground water pollution in excess of Commission standards as long as it does not reach the facility boundary violates the language of the WQA and authority granted the Commission. In addition, any permit application that causes ground water pollution in this manner would be mandated to be denied pursuant to 74-6-5.E(3) NMSA 1978 as discussed above.

B. COMMISSION RULE REQUIREMENTS

Pursuant to authority granted to the Commission under the WQA, the Commission held rulemaking hearings in 1976 and, subsequently in 1977, adopted rules for permitting of discharges. Below I will discuss how the rules promulgated by the Commission are consistent with the statutory requirements I discussed above for preventing and abating pollution of ground water.

As set out in 20.6.2.3101.A NMAC, the purpose of the discharge permitting rules “*controlling discharges onto or below the surface of the ground is to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply . . .*” You will notice I underlined the words “all ground water”. This language clearly shows that all ground water is to be protected under a permit consistent with the provisions of the WQA.

As set out in 20.6.2.4101.A NMAC, the purpose of the Commission rules on prevention and abatement of water pollution is to “*abate pollution of subsurface water so that all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, is either remediated or protected for use as domestic and agricultural water supply*” . You will notice that I again underlined the words “all ground water”. This language clearly shows that all ground water is to be remediated and protected in the abatement of water pollution consistent with the provisions of the WQA.

There are numerous areas of the Commission rules that link to the WQA’s “*place of withdrawal*” requirement in 74-6-5.E(3) NMSA 1978. Both discharge permits and abatement plans (which could also be required for a permitted facility that causes ground water pollution) must consider whether ground water is protected at a “*place of withdrawal of water for present and reasonably foreseeable future use*” or an application must be denied. The portions of the Commission rules that relate to this are:

- 20.6.2.7.AA NMAC in the definition of “*hazard to public*” which links “*place of withdrawal*” to a determination of whether a hazard to public health exists. This definition is later related to whether a permit can be approved;
- 20.6.2.3103 NMAC numeric water quality standards, which provides that discharges “*will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section*”;
- 20.6.2.3109.E NMAC and 20.6.2.3109. E(1) NMAC which allows the agency to modify a permit to abate water pollution based upon an exceedance of the 20.6.2.3103 standards which are applied at a “*place of withdrawal*”;

- 20.6.2.3109.H NMAC where a permit must be denied for “*the discharge of any water contaminant which may result in a hazard to public health.*” The definition of hazard to public health is tied to “*place of withdrawal*” language;
- 20.6.2.4103.B NMAC where ground water abatement standards link back to the 20.6.2.3103 NMAC numeric water quality standards, which are applied at a “*place of withdrawal*”;
- 20.6.2.4106.E NMAC where design of a Stage 2 abatement plan links back to attainment of the 20.6.2.3103 NMAC numeric water quality standards, which are applied at a “*place of withdrawal*”;
- 20.6.2.4109.F NMAC where Stage 2 abatement plan approval links back to attaining the 20.6.2.3103 NMAC numeric water quality standards, which are applied at a “*place of withdrawal*”; and
- 20.6.2.4112 NMAC where approval of completion of abatement links back to attaining the 20.6.2.3103 NMAC numeric water quality standards, which are applied at a “*place of withdrawal*”.

Pursuant to its authority under the WQA, the Commission has also promulgated different types of variance rules. One rule in 20.6.2.4103 NMAC allows a method for seeking alternative abatement standards that can exceed the Commission’s numeric standards of 20.6.2.3103 NMAC under certain circumstances. In order to obtain alternative abatement standards, the discharger must be in the process of abatement, then petition the Commission, and the petition may be granted only after a public hearing. In a second rule, there is a mechanism for considering site-specific variances to Commission rules in 20.6.2.1210 NMAC that contains provisions for individual variances in accordance with Section 74-6-4.H NMSA 1978 of the WQA. In these

cases, the Commission may only grant variances after a public hearing and the variance terms are limited to five-year period. In addition, in a third case, the current Dairy Rule, in 20.6.6.18 NMAC the Commission adopted a new variance rule for dairy facilities that allows for alternate discharge designs consistent with the WQA. This variance rule offers some expanded criteria for consideration, allows variances to be granted for the useful life of the feature and provides for 5-year review of the effectiveness of the variance.

In summary, these existing rules all provide for protection of ground water throughout the entire permitted site consistent with the WQA. DIGCE's proposed concept of allowing contamination and measuring compliance at a point of compliance away from the source area is not consistent with WQA or the above-discussed Commission rules.

C. HISTORICAL POLLUTION PREVENTION AT DAIRY FACILITIES

Ground water in the State of New Mexico has typically been protected under the presumption that all ground water is to be protected from contamination unless it can be demonstrated that it does not have a present or foreseeable future use. In 1967 the State Engineer provided a letter to the New Mexico Oil Conservation Commission declaring that "*All underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids is hereby designated by the State Engineer pursuant to 65-3-11.(15) N.M.S.A., 1953 Compilation; except that this designation shall not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination*" (**Coalition Exhibit WCO-12**). This designation was used during an April 19, 1967 Oil Conservation Commission (OCC) hearing in support of OCC Order 3221, one of the early ground water pollution prevention measures taken in New Mexico.

In response to the 1973 amendments to the Water Quality Act, the Commission in 1977 adopted new rules that included discharge permitting and ground water standards. The purpose of the permitting rules as set out in 20.6.2.3101.A NMAC was for “*controlling discharges onto or below the surface of the ground [is] to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply . . .*”

In 1985, the NMOCD requested an update of the State Engineer 1967 ground water determination. The State Engineer reaffirmed his 1967 determination that “*all underground waters*” were to be protected from contamination (**Coalition Exhibit WCO-13 and Coalition Exhibit WCO-14**).

On February 26, 1987, the Director of the Environmental Improvement Division (predecessor to the NMED) provided comments to the EPA on the 1986 final draft of Guidelines for Ground-Water Classification under the EPA Ground-Water Protection Strategy (**Coalition Exhibit WCO-15**). In his comments, the Director stated that “*Protected under the regulations for present and potential future use as domestic and agricultural water supply is all ground water having a concentration of 10,000 mg/l or less total dissolved solids (TDS)*” (**Coalition Exhibit WCO-15, page 2**). He also stated that, “*The WQCC system gives the same protection to present and potential future uses of ground water*” (**Coalition Exhibit WCO-15, page 4**). In addition, he stated that, “*The WQCC system has been in use in New Mexico for ten years since 1977. Experience has shown that this relatively clear and easily understood system is very effective in protecting ground water quality in the state*” (**Coalition Exhibit WCO-15, page 4**).

Based upon my 25 year experience implementing and enforcing the WQA and Commission rules for prevention and abatement of water pollution for both of the constituent

agencies that enforce Commission rules, all ground water at dairy facilities has been treated as a public resource of the state and protected from pollution from wastewater discharges unless the applicant or permittee can demonstrate that the water does not have a present or foreseeable future use. DIGCE's proposed concept of allowing water pollution by measuring compliance with water quality standards at a point of compliance away from the source area at a facility boundary is not consistent with historical application of WQA and the above-discussed Commission rules at dairy facilities.

D. PLACE OF WITHDRAWAL REQUIREMENTS

As I discussed in Section A above the WQA in 74-6-5.E(3) NMSA 1978 explicitly prohibits approval of a discharge permit that allows ground water to be contaminated above water quality standards at "*any place of withdrawal of water for present or reasonably foreseeable future use*". The WQA and the Commission rules as they exist today do not define the term "*place of withdrawal of water for present or reasonable foreseeable future use*" nor do they give direction as to how to determine where this area exists.

The language "*place of withdrawal of water for present and reasonably foreseeable use*" under the WQA, as it was subsequently adopted by the Commission, was the subject of technically complex litigation in adjudicatory permit hearings before the NMED and the Commission for over a decade.

In the early 2000's, the Tyrone Mine (at that time operated by Phelps Dodge Tyrone, Inc. and currently operated by Freeport McMoRan Tyrone) objected to the NMED's conditions of approval contained in the NMED's draft closure permit for the Tyrone Mine. A major point of contention was that the NMED conditions of approval for the closure permit applied to ground water at all places within the mine. This objection led to a 10-day evidentiary hearing before the

NMED in 2002. In 2003, the NMED issued a 106 page Hearing Officer's Report and 307 pages of Findings of Fact and Conclusions of Law and a the closure permit for Tyrone based on the Hearing Officer's report, findings and conclusions.

Tyrone appealed the NMED issued closure permit to the Commission on July 3, 2003. The Commission held another 10-day evidentiary hearing in October and November of 2003. For those hearings, I served on the Commission as a designee of the New Mexico Oil Conservation Division, and attended the evidentiary hearings and participated in the Commission deliberations. The Commission subsequently issued a decision in 2004 upholding the NMED approved permit and concluding that the Tyrone Mine was a "place of withdrawal," and that all ground water underneath the Tyrone Mine was required to be protected under the WQA.

Tyrone was unsatisfied with this decision and appealed the Commission's decision to the New Mexico Court of Appeals. In 2006, the Court of Appeals issued a decision that upheld all portions of the NMED approved closure permit for the Tyrone Mine with the exception of conditions 4 and 17 of the permit. The Court of Appeals remanded conditions 4 and 17 of the discharge permit to the Commission concluding that the Commission decision that the entire mine site is a place of withdrawal was overly broad. The remand directed the Commission to conduct further proceedings to "*create some general factors or policies to guide its determination*" as to what constitutes a "*place of withdrawal*" under the WQA (**Coalition Exhibit WCO-16, page 10 #35**). The court also decided to "*decline to adopt as a standard a 'point of compliance'*" concept for the purposes of protecting ground water quality standards, as Tyrone had urged (**Coalition Exhibit WCO-16, page 11 #37**).

In response to the Court of Appeals remand of conditions 4 and 17 of the Tyrone Permit, in 2007 the Commission held 24 days of hearings on the issue of "*place of withdrawal*". At this

time, I was employed as the Bureau Chief of the Water Quality Bureau of the NMED and was the lead witness for the NMED in the Commission hearings. In these hearings, the NMED presented extensive testimony on proposed criteria that are relevant and useful to the determination of whether there is a present or reasonably foreseeable future use of ground water at and around the Tyrone Mine (**Coalition Exhibit WCO-17, pages 4-11**). The criteria were selected to be relatively general and neutral criteria that would not be controversial, cover a broad range of issues that the Commission needs to consider in making these types of decisions, and could be applicable to any site or type of facility. The NMED proposed criteria were:

- (1) Site hydrology and geology;
- (2) The quality of ground water prior to any discharge from that facility;
- (3) Past and current land use in the vicinity;
- (4) Potential future land use in the vicinity;
- (5) Past and current water use in the vicinity;
- (6) Potential future water use in the vicinity; and
- (7) Population trends in the vicinity.

The NMED also presented extensive technical testimony on the application of these criteria to the Tyrone Mine and maintained that under these criteria ground water underneath the Tyrone mine site was a “place of withdrawal”, and required protection from contamination in excess of Commission standards (**Coalition Exhibit WCO-17, pages 22-24**). Tyrone proposed alternate criteria and took the position that lands inside the 12,500 acre Mining and Minerals Division permit boundary for the Tyrone Mine were not places of withdrawal, and that the Commission water quality standards did not apply.

The Commission issued its decision on February 4, 2009 (**Coalition Exhibit WCO-18**). The Commission decided that the WQA protected ground water at “*any place of withdrawal for present and reasonably foreseeable future use.*” and that the WQA “does not establish any specific ‘point(s) of compliance’ for compliance with water quality standards” (**Coalition Exhibit WCO-18, page 80**). The Commission also adopted the criteria for determining “*place of withdrawal*” as proposed by the NMED (**Coalition Exhibit WCO-18, pages 78-80**). In addition, the Commission applied these criteria and made a number of determinations in support of the NMED’s testimony (**Coalition Exhibit WCO-18, page 80-84**) and determined that “*the regional and alluvial aquifers underlying portions of the Tyrone mine site are places of withdrawal of water for present and reasonable foreseeable future use pursuant to Section 74-6-5(E)(3).*” (**Coalition Exhibit WCO-18, page 81, paragraph 33**). Finally, the Commission held that if “*it is not technically feasible for water quality standards to be met underneath the Tyrone Mine, the appropriate remedy for Tyrone is to seek alternative abatement standards under the Commission Regulations at section 20.6.2.4103.F NMAC.*” (**Coalition Exhibit WCO-18, page 84, paragraph 52**).

The Commission’s February 4, 2009 Order, while deciding an adjudicatory matter for a particular discharge permit site, is the only guiding Commission decision on how to make “place of withdrawal” determinations.

E. ANALYSIS OF DIGCE’S PROPOSED POINT OF COMPLIANCE CONCEPT

The Coalition does not support DIGCE’s proposed elimination of existing Dairy Rule requirements in 20.6.6.23 NMAC for monitoring sources of pollution and replacing it with only one or two monitoring wells at the boundary of the facility. DIGCE’s amendments institute a

point of compliance concept that would expressly allow large-scale contamination to occur by measuring the contamination at some distance away from a source of discharge. DIGCE's above-proposed amendments of the Dairy Rule should not be approved for the following reasons:

1. Inconsistencies with WQA, Commission Rules, Historical Pollution Prevention at Dairy Facilities and Place of Withdrawal Requirements.

DIGCE's proposed amendments to the Dairy Rule create a point of compliance concept that is inconsistent and in direct conflict with the WQA, other Commission rules, the historical application of pollution prevention at dairy facilities, and place of withdrawal requirements. I have extensively discussed these issues in my earlier testimony above. These amendments would allow pollution of ground water in excess of Commission standards underneath a source of pollution at a dairy facility and downgradient of source up to a point of compliance some distance away from the discharge source at the facility boundary. Such water pollution would be allowed to occur without the need for a variance as set out by statute and existing Commission rules. This includes the construction of new dairy facilities with underlying clean ground water, construction of new facilities at existing dairies in areas that may contain clean water or continued operation of failed existing facilities that have contaminated ground water in excess of applicable standards. New facilities and failed existing facilities would be allowed by rule to pollute water up to the facility boundary. As discussed in my earlier testimony, the WQA explicitly and clearly requires prevention of pollution and not allowance of pollution. The intent of the WQA is reflected in the 37-year history of the ground water protection at dairy facilities.

As proposed, it appears that DIGCE, through an administrative rule-making process, contrary to the WQA, is attempting to eliminate a statutory requirement under 74-6-5.E(3)

NMSA 1978 for a site-specific determination of what constitutes a “*place of withdrawal*”. It is interesting that DIGCE takes this approach without addressing how to deal with the issue of “*place of withdrawal*”. In fact, the proposed rule is effectively making an advance determination that all dairy facilities are not places of withdrawal without consideration of any site-specific ground water factual information, including information on the use of ground water at each dairy facility. This determination cannot be made since the facilities, locations, and site-specific conditions have not been provided and DIGCE has not provided an analysis of the application of criteria for determining if each dairy is a place of withdrawal.

As demonstrated in the Tyrone hearings, application of objective criteria for defining “*place of withdrawal*”, as adopted by the Commission in their February 4, 2009 Decision and Order on Remand, is likely to lead to a determination that ground water has a present or reasonably foreseeable future use. Only in rare instances will ground water be found not to have a reasonably foreseeable future use. This is consistent with the intent and purpose of the WQA to protect state water resources by preventing and abating water pollution, and is necessary to meet the needs of New Mexico to protect its limited state water supplies now and into the future. This rule as proposed eliminates the need for a discharger to demonstrate that the ground water is not protectable thereby providing a dairy facility a blanket exemption to pollute ground water without any type of “*place of withdrawal*” analysis.

If the rule is adopted as proposed by DIGCE there will be a direct conflict between the new Dairy Rule and the WQA including the potential for public hearings. When the NMED attempts to approve a discharge permit pursuant to the Dairy Rule that allows pollution by rule up to a distance downgradient of the dairy facility, it is likely the public will challenge the permit. Since the WQA in 74-6-5.E(3) NMSA 1978 explicitly requires that a permit be denied if

the discharge would cause an exceedance of standards at any place of withdrawal of water for present or reasonably foreseeable future use, the public would have a good case to seek denial of a permit.

According to the proposed rule, ground water pollution from a wastewater impoundment would only need to be measured at 1 or 2 monitoring wells located downgradient of the facility which could be a considerable distance from the impoundment. This establishes a point of compliance concept in the rule that would allow all ground water underneath and downgradient of the impoundment to be polluted in excess of water quality standards -- contrary to the WQA.

Under DIGCE's point of compliance concept, if the ground water from the downgradient point of compliance well meets standards, then all ground water upgradient and underlying the dairy facility does not need to meet standards. Such ground water would effectively be "written off." It would not be prevented from being polluted nor protected. It would not need to meet standards. Such an interpretation is contrary to the purpose and requirements of the WQA, the Commission's Rules, historical pollution prevention at dairy facilities, and place of withdrawal requirements. Ground water is not static; it moves. Contamination can spread. A future production well installed in a clean part of the aquifer, outside at a point of compliance could draw in contamination from a distance away. There is no basis in the statute or Commission rules for adopting the point of compliance concept. In addition, in implementing the WQA, the NMOCD does not apply a point of compliance concept.

2. Potential for harm

It is the burden of the discharger to show that the site is not a place of withdrawal of water for present or reasonably foreseeable future use. This is consistent with the Commission intent in the initial adoption of rules in 1977. Pursuant to 74-6-5.E(3) NMSA, NMED can

approve a dairy discharge permit only if approval the discharge will not result in an exceedance of standards at any place of withdrawal of water for present or reasonably foreseeable future use. Under DIGCE's proposed amendments to 20.6.6.23 NMAC, dairy facilities would be allowed to pollute ground water up to the facility boundary by rule without a demonstration or evaluation that the ground water to be polluted is not at a place of withdrawal. As of January of 2014, NMED reported to the Commission that there were 181 dairy facilities that require permit renewals. As discussed earlier, the total volume of estimated ground water contamination at just 4 of the dairies under Abatement Plans would provide sufficient water to supply 8,300 households for a whole year. Each dairy facility can be hundreds of acres in size and extrapolating this over all 181 dairy facilities that need permit renewal will result in extensive water pollution and harm to the state through the loss of water resources. This is a significant loss of public resources especially when approximately 90% of the residents of the state rely on ground water as a source of drinking water and the state is experiencing high demand for its ground water resources due to severe drought.

Moreover, the proposed rule changes could have a dramatically adverse impact on the Dairy Industry as increasing pollution from dairies may cause lending institutions to refuse to loan money to dairies. I know from my experience as Bureau Chief that lending institutions are very concerned when dairies do not have up-to-date discharge permits. Given the history of pollution from dairies, substantially easing and eliminating crucial groundwater protections from the dairy rules will likely result in increased groundwater pollution and could cause the lenders to back away from loaning the money that keeps dairies operating.

The allowance of pollution by rule at dairy facilities through a point of compliance concept as proposed in the amendments will also potentially harm other water quality protection

programs within the state. If this proposed rule is approved for dairy facilities, the approximately 900 NMED facilities receiving discharge permits, and possibly oilfield facilities receiving discharge permits issued by the NMOCD, will seek that point of compliance rules apply equally to them. This includes discharge permits for:

- Molybdenum mines
- Uranium mines
- Municipal waste water treatment plants;
- Industrial facilities;
- Power plants;
- Large scale domestic waste systems;
- Los Alamos National Laboratory;
- Waste Isolation Pilot Plant;
- Oil refineries;
- Natural gas processing plants;
- Natural gas compressor stations;
- Oilfield Service Companies;
- Brine wells; and
- Geothermal facilities

Expansion of pollution by rule and point of compliance concepts to other discharge permits would greatly increase the amount of lost state water resources.

There are also other state programs that rely on the “place of withdrawal” approach to ground water pollution that could likewise be affected by approval of this proposed rule including:

- Hazardous waste permitting and cleanups under the Hazardous Waste Act; and
- Superfund site cleanup.

VIII. COALITION PROPOSED AMENDMENTS TO THE DAIRY RULE

The extent of ground water contamination at dairies can be large. The goal of preventing ground water pollution underlies many of the provisions of the Dairy Rule pursuant to the statutory requirements of the WQA. Voluminous information on water pollution from dairy discharge activities has been presented to the Commission at previous hearings on the Dairy Rule and Abatement Plan hearings such as those conducted for the Dona Ana Dairies south of Las Cruces, New Mexico. As discussed previously in my testimony, extensive contamination of ground water has occurred at dairy facilities from wastewater impoundments. Pollution of ground water results in a loss of state resources and its abatement is expensive for permittees, the Department and the public. Preventing ground water contamination is more cost effective and efficient than remediating ground water contamination. For example, while the design, construction and installation of lined impoundments, and the installation of monitoring wells poses upfront costs for a permittee, these costs are far less than the costs of abating ground water contamination and the loss of precious state drinking water supplies.

In regards to DIGCE's 2nd petition amendments to allow for soil lined impoundments for storage of highly contaminated dairy wastewater, soil lined impoundments are designed to leak and DIGCE has provided no prior scientific information on how these proposed systems will prevent water pollution consistent with the requirements of Subsection K of Section 74-6-4 of the WQA. Due to the fact that 57% of dairies have caused extensive ground water pollution and that 72 % of these cases were caused by wastewater impoundments, there is a strong need to employ new waste control measures that will effectively prevent water pollution as required by

the WQA. Therefore, the Coalition proposes amendments to 20.6.6.17.D NMAC to require that any newly constructed wastewater impoundments or leaking wastewater impoundments that have caused ground water pollution in excess of standards and require replacement be double-lined with leak detection systems (**Coalition Exhibit WCO-3**). This exhibit presents the text of the Coalition proposed amendments in redline/strikeout format. Kathy Martin, a registered professional engineer, will provide expert witness testimony on behalf of the Coalition regarding engineering designs presented in the Coalitions proposed amendments. Double-lined impoundments with leak detection are an accepted environmental industry standard for the prevention of ground water pollution that should be required for effective pollution prevention and have been approved by NMED in discharge permits for new facilities that store and manage dairy wastewater (**Coalition Exhibit WCO-19 and WCO-20**).

IX. CONCLUSION


In conclusion, I oppose the changes to the Dairy Rule except those I have identified in my written direct testimony and exhibits herein. It is my professional opinion, except to the extent described in this testimony proposing and attesting to the need for more stringent regulations rather than the elimination or relaxation of the current regulations, that the current regulations are reasonable, correct and comport with the best available science applied to the prevention of pollution from dairies.

As we have not, to date, been provided with any scientific basis to support DIGCE's proposed rule change and no statements from NMED indicating its positions on DIGCE's proposed changes, I reserve my opinions on their positions, to the extent not expressed herein, for my rebuttal testimony.

I recommend that the Commission adopt the Coalition modifications that I have proposed to the rule for the reasons set out in my testimony.

Thank you. That concludes my direct testimony.

I, William C. Olson, swear that the foregoing is true and correct.



William C. Olson