STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE PETITION TO AMEND 20.6.4 NMAC - *STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS* **WQCC 03-05**

HEARING OFFICER'S REPORT

I. INTRODUCTION

This matter comes before the New Mexico Water Quality Control Commission ("Commission" or "WQCC") upon the request from the Surface Water Quality Bureau (SWQB) of the New Mexico Environment Department (NMED) to initiate the matter of the triennial review of Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC, commonly referred to as "the triennial review."

On April 8, 2003, the Commission entered an order directing that a hearing be held and designating a hearing officer to conduct the hearing, handle related tasks and submit a report. The hearing was held in Santa Fe, New Mexico between February 24 and March 4, 2004. Following an extended post-hearing process, this report, with attachments, is respectfully submitted to the Commission for its deliberation at the November 2004 meeting.

II. AUTHORITY

A. Clean Water Act

The federal Clean Water Act (CWA), Section 101(a)(2), states its objective as the restoration and maintenance of the chemical, physical and biological integrity of the Nation's waters. The CWA achieves this objective by ensuring "wherever attainable, water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved."

CWA Section 303(c)(2) establishes the purpose of water quality standards ("WQS" or "standards") as "serv[ing] the purposes of the Clean Water Act." Generally speaking, this language means that the WQS should fulfill the objectives, goals and policies of the CWA. EPA's *Water Quality Standards Handbook* (Handbook) provides more specific guidance regarding the meaning of "serv[ing] the purposes of the Clean Water Act."

To "serve the purposes of the Clean Water Act", WQS must (a) include provisions for restoring and maintaining chemical, physical, and biological integrity of state waters; (b) wherever attainable, achieve a level of water quality that provides for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water; and (c) consider the use and value of State waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation.

WQS serve two important purposes: (a) to "define the goals for a water body, or portion, thereof, by designating the use or uses to be made of the water, by setting criteria necessary to protect the uses;" and (b) to "serve as the regulatory basis for the establishment of water-quality-based treatment controls and strategies beyond technology-based levels of treatment required by sections 301(b) and 306 of the Act" in NPDES and Dredge-or-Fill permits.

B. Water Quality Act

The New Mexico Water Quality Act (WQA), Section 74-6-3.E, designates the New Mexico Water Quality Control Commission (WQCC) as the state's water pollution control agency for all purposes of the CWA. The WQA requires the WQCC to take all necessary steps to comply with the CWA and to protect water quality in New Mexico.

WQA Section 74-6-4.C provides that the WQCC:

> shall adopt water quality standards for surface and ground water of the state based on credible scientific data and other evidence appropriate under the Water Quality Act. The standards shall include narrative standards and as appropriate, the designated uses of the waters and the water quality criteria necessary to protect such uses. The standards shall at a minimum protect the public health or welfare, enhance the quality of water and serve the purposes of the Water Quality Act. In making standards, the commission shall give weight it deems appropriate to all facts and circumstances, including the use and value of the water for water supplies, propagation of fish and wildlife, recreational purposes and agricultural, industrial and other purposes.

WQA Section 74-6-4.E designates NMED to provide technical services to the WQCC. As part of this designation, and as specifically provided by the 1998 *State of New Mexico Continuing Planning Process* (CPP), NMED takes the lead technical role in the triennial review process.

III. TRIENNIAL REVIEW PROCESS

A. EPA Approval

CWA Section 303(c)(1) requires New Mexico to hold a public hearing at least once every three years to review applicable water quality standards and, as appropriate, to modify and adopt standards. After the WQCC holds this hearing, it sends the modified WQS to EPA for review and approval. The states have considerable latitude in developing and tailoring their WQS to achieve state goals and priorities, but the WQS

still must comply with federal guidelines. If EPA approves the WQS, they become enforceable under federal law. If EPA does not approve the WQS, in whole or in part, it gives the state an opportunity to correct the problem. If the state cannot or will not correct the problem, then EPA must promulgate WQS for the state. There have been several instances in the history of New Mexico's WQS that EPA has disapproved a portion of the standards. In each case, the WQCC has avoided federal promulgation by correcting the problem itself.

B. **1998 Triennial Review**

New Mexico's most recent triennial review hearing was in 1998. On January 23, 2001, EPA informed the WQCC that the WQS amendments adopted in the 1998 triennial review were acceptable except for (a) the definition of "surface waters of the state"; (b) the implementation of the "reasonable operation of irrigation and flood control exemption;" (c) the designated uses for the Cimarron River and tributaries; (d) the secondary contact designated use for the lower Rio Grande; and (e) human health criteria for priority toxic pollutants. EPA also noted that the WQCC had not adopted adequate antidegradation implementation procedures.

The WQCC successfully addressed each of these items, except the antidegradation implementation procedures, in separate hearings. With respect to antidegradation implementation procedures, NMED initiated a process for adopting such procedures, releasing a preliminary draft for public review and comment in November 2003. Although EPA approved the WQS amendments adopted in the 1998 triennial review, EPA still may revise its decision based on consultations with the U.S. Fish and Wildlife Service (USFWS) pursuant to the federal Endangered Species Act.

C. 2003 Triennial Review

NMED implemented a full public participation process for the 2003 triennial review. On February 21, 2003, NMED initiated a 45-day comment period on a discussion draft of possible changes to the WQS. The comment period was publicly noticed through legal advertisements, written notice to the WQCC and SWQB mailing lists, and the NMED website. NMED held public meetings regarding the discussion draft in Las Cruces, Roswell, Santa Fe, and Farmington. NMED met with all stakeholders who requested an opportunity to review the discussion draft. As a result of these meetings, NMED extended the comment period by 30 days. NMED revised its discussion draft to take into account many of the comments received during the public participation process.

NMED filed its petition to amend the WQS on August 15, 2003, initiating the 2003 triennial review. The WQCC published notice of the hearing. The WQCC held the hearing on February 24, 2004, continuing until March 4, 2004. At the hearing, all interested persons were given a reasonable opportunity to submit data, views, and arguments orally and in writing, and to examine witnesses testifying at the hearing.

IV. STANDARD FOR RULEMAKING

The Water Quality Control Commission adopts water quality standards pursuant to its authority under the Water Quality Act, Section 74-6-4.C. This section establishes the requirements for adoption of standards. At a minimum, the standards must protect the public health or welfare, enhance the quality of water, and serve the purposes of the WQA. The standards must be based on credible scientific data and other evidence.

The Commission's decision to adopt a standard must be based on substantial evidence. "Substantial evidence supporting administrative agency action is relevant evidence that a reasonable mind might accept as adequate to support a conclusion." *Oil Transportation Co. v. New Mexico State Corporation Commission*, 110 N.M. 563, 571, 798 P.2d 169, 172 (1990). The agency must consider all evidence in the record. *Perkins v. Department of Human Services*, 106 N.M. 651, 654, 748 P.2d 24, 27 (Ct. App. 1987). It is not necessary that this evidence be admissible in a jury trial. *Tenneco Oil Co. v. WQCC*, 107 N.M. 469, 760 P.2d 161 (Ct. App. 1988)(the legal residuum rule does not apply in judicial review of administrative rulemaking).

V. PARTIES PROVIDING TECHNICAL TESTIMONY

NMED was represented by Eric Ames of the department's Office of General Counsel. Mr. Ames presented testimony by Marcy Leavitt, Chief of the NMED Surface Water Quality Bureau (SWQB); John Montgomery, SWQB Water Quality Standards Coordinator; Glenn Saums, Manager of the SWQB Point Source Regulation Section; Shann Stringer, leader of the SWQB Aquatic Biology and Physical Habitat Team; David Hogge, Manager of the SWQB Watershed Protection Section; and Ralph Ford-Schmid, an environmental specialist with the DOE Oversight Bureau. TR Vol. 1-4. (NMED's testimony runs through the first four days of the hearing, with some interruptions for public comment.)

Julia Stephens spoke for the Rio Grande Community Development Corporation, a private non-profit in the South Valley, and the South Valley Partners for Environmental Justice, a project with a grant through the National Institute of Environmental Health Sciences. TR pp. 612-625.

Alex Puglisi spoke for Las Placitas Association, a non-profit devoted to preserving and protecting the quality of life in the Placitas area. TR pp. 797-807.

The U.S. Fish and Wildlife Service was represented by Dale Pontius of the Department of Interior Office of the Solicitor. Mr. Pontius presented testimony by Brian Hanson, assistant field supervisor for the New Mexico Ecological Services Field Office; Lynn Wellman, regional water quality coordinator; Dr. Marilyn Myers, Fish and Wildlife Service biologist in the Ecological Services Field Office; and Joel Lusk, senior environmental contaminant specialist for the New Mexico Ecological Services Field Office. TR pp. 808-871.

Dr. John Hernandez spoke for Elephant Butte Irrigation District. Dr. Hernandez has a background in civil, sanitary and environmental engineering and water resources. EBID is a non-profit, quasi-governmental organization that delivers water to water-holders within the District, and has no other purpose. Dr. Hernandez facilitated the public comment of Steve Baca, below. TR 872-964.

The San Juan Water Commission was represented by Jolene McCaleb. Randy Kirkpatrick spoke for the Commission, a joint powers agency whose purpose is to assure a stable water supply for their entities, including the cities of Aztec, Bloomfield, Farmington, and the rural water users associations in San Juan County. Tom Pitts, a civil engineer with experience in water quality law, also testified for the Commission. TR 975-1171.

Amigos Bravos was represented by Erik Schlenker-Goodrich of the Western Environmental Law Center. Amigos Bravos is a non-profit river conservation organization dedicated to protecting the ecological and cultural richness of the Rio

Grande and other wild rivers in New Mexico. Rachel Conn, a clean water circuit rider, spoke for Amigos Bravos, as did Gayle Killam, the Director of the River Protection and Restoration Program for River Network and Matthew Bishop, an attorney with the Western Environmental Law Center. TR 1180-1257, 1297-1438. Several public commenters, below, supported Amigos Bravos' position.

Phelps Dodge Corporation, a mining company, was represented by Lee Decker. Ned Hall, Chief Environmental Engineer for Phelps Dodge New Mexico, testified, as did Dr. Benjamin Parkhurst, an expert in aquatic toxicology. TR 1453-1537, 1544-1565.

The University of California, which administers the Los Alamos National Laboratory, was represented by Louis Rose. Its witnesses were Dr. Fred Fisher, who worked in water quality compliance at the Lab, and Dr. Richard Meyerhoff, who works for an environmental engineering consulting firm in Phoenix. TR 1639-1790, 1836-1889.

The technical testimony presented by the parties will not be summarized here. To the extent the technical testimony offered supports or opposes a party's *final* proposal to amend the standards, it appears in Attachment A, with a transcript citation, under the relevant section of the standards.

A few parties did not present technical or other testimony. Alexander "Sam" Fernald noted before the hearing that NMED had addressed his concerns in its own proposals. Molycorp withdrew its intended offer of technical testimony when it became apparent that Amigos Bravos would not be offering technical testimony in support of its proposal relating to the Red River. Donivan Porterfield followed the action but did not participate in the testimony.

VI. PUBLIC COMMENT

Opportunities for public comment were offered many times during the hearing, including every day of the hearing at 11:30 a.m. and on the first two evenings of the hearing, after working hours.

1. J. Dyan Jojola of Isleta Pueblo spoke on behalf of her family and the Isleta Eagle Captains Club. Ms. Jojola attributed multiple health and religious problems of the Native Americans to a change in the water. They used to wash themselves in the river and eat the fish they caught. No longer. We need to protect what we have left now. TR pp. 259-264.

2. Gloria Castillo spoke for the South Valley Growers' Association, a group who farm, some with livestock. The farm areas are at the end of the line before the acequia waters flow onto Isleta Pueblo at the foot of the mesa. When they harvest food, they want to be sure it is free of contaminants. When their horses drink or graze, they want them to be safe. Their agrarian lifestyle is threatened. Conventional farming with flood irrigation is not an efficient use of water, especially on small farms representative of the region. Diversification of crops and more efficient irrigation techniques all help recharge the aquifer. They are very concerned about the quality of water in their area because they are south of the city, and concerned that cumulative effects are not considered in issuing permits for development. Increased monitoring is necessary, as well as information presented in a more readable way for laypeople. She does experience immersion in the water when she flood irrigates. See Castillo 1, the letter read. TR pp. 266-273.

3. Dr. Ann McCampbell is Chair of the New Mexico Multiple Chemical Sensitivity Task Force and is disabled by chemical sensitivities. She has become

involved in the process relating to the projects by the Department of Game and Fish to use piscicides to kill nonnative fish. She believes there is a collective blind spot among the agencies involved, including Game and Fish, Fish and Wildlife, National Forest and NMED, regarding potential downstream effects of poison in the water and effects on wildlife other than fish and fish food. There should be no routine use of aquatic pesticides in New Mexico, and NMED's proposal for the standards should not be adopted. The idea of allowing for some emergency use has some merit, but should be beefed up to prevent abuse. An independent scientific panel should be created, with experts in ecology and health and other relevant disciplines, to look at risks and benefits in using poisons for fish restoration. A toxicological consultation should also be performed. State registration of pesticides offers no more protection than federal registration of pesticides. She has personally suffered unreasonable adverse effects from exposure to pesticides registered by the state and federal governments. EPA does change its mind. Dursban was once used freely, and is now banned from most structural uses. The language regarding assessment monitoring requires additional clarification. There should be a broad survey of the whole ecosystem. NMED should not be making decisions on site-specific applications. Pesticides are pollutants and should be required to get NPDES permits. TR pp. 274-290. See also Dr. McCampbell's packet of written materials, in the record with other written public comment.

4. A panel of young men from South Valley Academy and the Indian Hispanic Academy spoke together: Myron Morgan, Daniel Gonzalez, Ben Siegling, Jonathan Bustillos, and Jonathan Sanchez. Mr. Morgan said that he and his family used to swim in the river before it got dirty. Mr. Gonzalez said that he used to swim and fish as well, but

everything's getting dry now. Mr. Siegling said that growing up in the South Valley, the river is a big part of your life, swimming and fishing for crawdads. It is important to ensure the river is there for future generations, and it hurts to see how dried up and dirty it is. Plant and animal life depend on it as well. Mr. Bustillos said that he has swum in the river with friends, but that now it does not look safe. It is a primary resource of the South Valley, and particularly supports crops and animals. Mr. Sanchez said that he has fished and swum in the river; it is a family tradition. TR pp. 291-295.

5. James Maestas and Mathew Sanchez spoke together as well. Mr. Maestas said that he lives in the South Valley and works with the Indio Hispano Academy of Agricultural Arts and Sciences, a non-profit formed at Isleta Pueblo to work with at-risk youth. They learned recently that the river is currently protected only for secondary contact, although he is personally aware of much regular primary contact. Land, water and children are priceless resources, and deserve the protection of upgrading the river to primary use. Mr. Sanchez of Santa Ana Pueblo said that he has swum in the water and used it for drinking and tribal rituals and irrigation. See Maestas 1-7, pictures of young men swimming in the river. TR pp. 296-299.

6. Mike Bowen spoke for the New Mexico Mining Association to support Phelps Dodge's position in the hearing. It is unclear what additional water bodies the agency is attempting to regulate with their proposed definition of "surface waters of the state." The revisions could impose significant costs without corresponding benefits, especially if the agency attempts to regulate water bodies located within private industrial or mining sites. The Association opposes NMED's proposal to amend the exclusion for waste treatment systems by adding the phrase "actively used." The Association supports SJWC's

proposal to incorporate an effective variance procedure in the standards, and the proposal to give NMED authority to adopt site-specific standards for a water segment. The Association opposes the placement of intermittent and ephemeral waters in the same classification, and the application of chronic criteria to such waters. TR pp. 792-795.

7. Steve Baca is a biologist who works for the New Mexico Department of Agriculture Bureau of Pesticide Management as an inspector. The Department of Agriculture does licensing and regulation and product registration. They mirror EPA's process and do fieldwork as well. EPA's product registration process is long and expensive, involving scientific, legal and administrative procedure. The state's main objective is to enforce the labels approved by EPA. Products require both federal and state registration. The Department has licensed approximately 3,300 private applicators and 69 non-commercials and a number of public applicators. They can require additional information concerning a product, notification to allow for inspection, buffer zones and public meetings. He is not aware of any process in place that requires public notice and comment before a pesticide is applied to a body of water, although he knows they required public meetings in the salt cedar eradication project. The total number of certified applicators would be close to 5,000. There is regular communication among the state and federal agencies and the product manufacturers. There are approximately 200 pesticides labeled for use on or near water. The Department does keep a list of chemically sensitive people who have requested notification prior to a spraying project, and although they are not required to make that notification, they do. About half of the labels require posting, but it is for worker protection. TR pp. 886-925.

8. Brian Shields is the Executive Director of Amigos Bravos. Amigos Bravos generally supports the Department's proposed changes to the standards, with a few exceptions. They are very pleased to nominate the first New Mexico outstanding national resource water, the Rio Santa Barbara. Mr. Shields encouraged the Commission to investigate adopting a perchlorate standard. Amigos Bravos is researching the effects of contamination from Los Alamos National Laboratory on the Rio Grande, and perchlorate is a major emerging concern, here and nationwide. Amigos Bravos questions the need for the proposed new aquatic life use, as Rachel Conn described. Amigos Bravos supports the proposal of the Rio Grande Community Development Corporation and the South Valley Partners for Environmental Justice that the Rio Grande from Cochiti Dam to Elephant Butte be protected for primary contact. Amigos Bravos conducted a Clean Water Act workshop in the South Valley during which the residents stated that they swim in those stretches of the River. Amigos Bravos also supports the Rio Grande Community Development Corporation and the South Valley Partners for Environmental Justice in calling for the application of certain water quality standards to the acequias that flows through their community. At the workshop they held, many residents reported using the acequias for swimming, fishing and other recreation and irrigation. Amigos Bravos supports their view that they are technically "waters of the state." Clean water is life. TR 1259-1264.

9. Hope Buechler spoke in support of Amigos Bravos' petition to nominate the Rio Santa Barbara as an ONRW. She is on Amigos Bravos' board of directors. She helped prepare the petition to nominate the Rio Santa Barbara as an ONRW and had read that it was a very special place, but nothing prepared her for the beauty and clarity of the

river and its wild setting when she hiked the middle fork; it is spectacular. She did a lot of research and legwork in connection with the petition, and observed that the economic study and baseline water quality study would be impossible for most community grassroots organizations to complete. The requirements are too difficult. TR 1264-1266.

10. Sterling Grogan is the biologist for the Middle Rio Grande Conservancy District, and has served in that capacity since 1997. The District operates 1,238 miles of canals and drains along 150 miles of the Rio Grande, between the outfall at Cochiti Dam and the northern boundary of Bosque del Apache National Wildlife Refuge. The canals provide irrigation water to approximately 70,000 acres of irrigated land on the six Middle Rio Grande pueblos, as well as thousands of non-Indian farms. The drains maintain the water table below the root zone, thereby making agriculture and development possible in the Middle Rio Grande Valley. The district was created by the state in 1925 to take over some 78 acequias to improve their ability to support irrigated agriculture, to protect the Middle Rio Grande Valley from river flooding and to drain what was then tens of thousands of acres of waterlogged soils. These continue to be the District's missions. It has come to their attention that one or more entities have petitioned the Commission to include the District's canals and drains in the definition of "waters of the state." The District opposes such a change, and also the designation for primary contact of the Middle Rio Grande from Cochiti to Bosque del Apache for the following reasons:

(a) If every irrigation canal had the same status as the Rio Grande, every property owner along the ditch and drain would be a potential defendant in litigation related to the endangered Rio Grande silvery minnow. This would include thousands of small farmers. If canals are "waters of the state," 11,000

individual pueblo Indians and non-Indians operating irrigation control gates would be diverting "waters of the state" when they irrigate their property and would be in legal jeopardy. Would an NPDES permit be required when the tail water from the farm reenters the drain?

(b) Hundreds of miles of district canals pass through the most densely populated area in New Mexico, Albuquerque and its metropolitan area. The quality of water in the canals is suitable for agriculture, and periodic sampling has found little, if any, evidence that activities along the canals contribute significant quantities of pollutants to the Rio Grande. However, there are places where detritus can enter the canals, and every spring the district and others clean each canal. What standards would apply to this cleaning if they were "waters of the state"?

(c) Due to decades of periodic flooding, the district is working with the Corps of Engineers and the Albuquerque Metropolitan Arroyo Flood control authority to make some drains and canals available to carry flood waters captured and channeled from the mesa to the west for future flood emergencies. Would each drain then become a point source as it enters the Rio Grande? What standards would apply?

(d) If the hundreds of miles of canals and drains were "waters of the state," would each of the six Middle Rio Grande Indian Pueblos they pass through be authorized to apply a different set of water quality standards?

(e) The District is unaware of any evidence that the quality of water in the drains and canals presents a problem to any person or entity. What purpose

would be served by imposing the huge burden on the irrigators of limited economic means that would accompany the designation of "waters of the state"? TR 1267-1274.

11. Joni Arends is the Executive Director of Concerned Citizens for Nuclear Safety (CCNC), a Santa Fe-based non-profit organization focusing on watch-dogging the Department of Energy sites in New Mexico. CCNS is very concerned about contaminants from Los Alamos National Laboratory (LANL) being introduced into surface and ground waters. Over ten million people downstream of LANL use the Rio Grande for drinking water, agriculture and recreation. Santa Fe and Albuquerque are considering diverting water from the Rio Grande for drinking water. CCNS is concerned that the Regents of the University of California have filed their petition to present technical testimony in this matter and the Regents are being represented as LANL. It is DOE and the National Nuclear Security Administration that own LANL. The Regents are only the managers and operators of the facility. The Regents should not hide behind LANL's name. If DOE and NNSA want to challenge New Mexico's water quality standards, they should be at the table. CCNS questions why an agency from another state is challenging this state's water quality standards. UC was established as public trust by the California Constitution. The Regents have a conflict of interest in challenging the standards requested by the public and the State of New Mexico. The hearing officer's husband works at LANL, and she strongly encourages NMED to enhance its pool of hearing officers for just such an occasion.

CCNS objects to the proposal by the UC Regents to prohibit the NMED Secretary from approving additional sampling and analysis methods in Section 20.6.4.12. The

Secretary should have that ability in order to protect public health and the environment. CCNS also objects to the UC Regent's proposal to add a provision to the acute toxicity of effluents by allowing discharges that exceed the standards once every three years. CCNS supports NMED's proposal, and is concerned by UC Regent's opposition, to add high quality coldwater aquatic life to the perennial tributaries to the Rio Grande in Bandelier National Monument and other places in Section 20.6.4.121a. CCNS supports NMED's proposal to add sections 20.6.4.121b and c in the canyons of Los Alamos. CCNS believes the lengthy evidence submitted by Fish and Wildlife Service supports adding these segments, their designated uses and the default criteria for their uses, and is concerned that the Regents oppose such additions.

CCNS urges the Commission to investigate adopting a perchlorate standard. For the past several years, CCNS, NMED and LANL have been sampling the leading edge of contamination from Los Alamos at the Rio Grande, and have been finding perchlorate and tritium at springs along the river. CCNS supports the Commission adopting a standard similar to that provisionally adopted by EPA, of one part per billion per liter of water. CCNS questions the need for a new "limited aquatic life use" and the way such a use has been used to deny chronic aquatic life standards to certain waters. By adopting a new use that is less protective, CCNS is concerned that the Commission may be setting a precedent and encouraging a less protective use on a wide range of water bodies. CCNS supports NMED's proposal to apply acute aquatic life and chronic aquatic life standards to these waters; this could be accomplished by applying the general aquatic life use. CCNS supports the proposed changes submitted by Amigos Bravos, including the nomination of the Rio Santa Barbara as an ONRW. CCNS supports changing the

definition of "waters of the state" to be more inclusive, and delinking it from the federal definition. CCNS supports amending New Mexico's mixing zone policy to protect the rivers from toxic discharges. TR 1274-1281.

Ms. Arends spoke again to request that commissioners review the recommendations and conclusions of a Fish and Wildlife Service Report called "The Water Quality Assessment of Four Intermittent Streams in Los Alamos." (NMED Ex. 23) Some of the conclusions relate to canyon bottoms, which CCNS is very concerned about, and wants to make sure that ephemeral and intermittent stream segments are protected. TR 1540-43.

12. John Klingel is a professional wildlife biologist. A number of years ago, he worked with the Department of Game and Fish and the Forest Service to develop land management plans. This required economic analysis. Although they had plentiful human resources, they had to bring in a PhD economist from Colorado. It was a long, complex and very expensive process, and it is not reasonable to expect the public to be able to do that. He believes the proposed addition of a limited aquatic life standard is unnecessary, confusing and may weaken needed protection for ephemeral and intermittent waters. Amphibians and crustaceans are important in the food chain and playa lakes are a superb example of ephemeral and intermittent waters which need protection. Aquatic life that should be expected to develop should be protected as well. Amigos Bravos' petition and Fish and Wildlife Service's comments seem reasonable and would add significant protection to New Mexico's most important resource, water. New Mexico has a number of closed basins that are intrastate waters. Endemic fish species have evolved here, including the White Sands pupfish. These waters need protection. Mr. Klingel has spent

some time in the Rio Santa Barbara drainage and supports its nomination as an ONRW. TR 1281-1284.

13. Taylor Streit is a fly-fishing guide in Taos and has spent 35 years in the Santa Barbara watershed. He is an author and contributor to books on fly-fishing, and read part of a chapter on the Rio Santa Barbara, which is a very long source of water in a pristine watershed. It had very good cutthroat fishery, and still does, although brown trout have invaded. Most is protected within the Pecos Wilderness, so it is likely to retain its primitive character. Of all the river canyons in New Mexico, the Santa Barbara is the wildest and the loveliest. It is a healthy stream with runoff that will last well into summer and maintain a good flow until snowfall. TR 1291-1296.

14. Tom Davis stated his concern that there are certain standards established for reaches of the Pecos River, and standards established in the past no longer available under the current proposed standards. Particular flows less than 50 CFS in the Pecos River above Avalon Dam and above Brantley Dam should have standards established for them. The Department should work with those who manage the river and look at reasonable standards for flows less than 50 CFS. TR 1538-39.

15. Bonnie Rabe is the supervisor of the Department of Agriculture Pesticides Program. She testified at the hearing about the pesticide registration process in response to a request prompted by questions from several of the Commissioners. The New Mexico Department of Agriculture, under the New Mexico Pesticide Control Act, is authorized to regulate the use of pesticides in New Mexico, and that includes product registration. Pesticides are registered at the federal level by EPA. Manufacturers submit criteria, and EPA decides whether to register based upon that criteria. Every state

requires registration at the state level as well. Manufacturers submit a current market label, efficacy data and other information as requested. Registrations are renewed on a yearly basis. There are 200 aquatic pesticides, of which 160 have use directly in water to control fish species, aquatic plants, algae and mosquito larvae. Once a pesticide is registered, it may be sold and distributed in the state. The Department conducts marketplace inspection to assure that all labeling is present and correct, and that proper containers are used. Inspectors also conduct use inspections to assure that applicators are following the label directions. They check the enforceable language on the label. Restricted use pesticides are designated as such by EPA, primarily for being an environmental hazard or a hazard to humans or other organisms such that it requires special knowledge for proper application. An applicator must pass multiple examinations to be licensed. Licenses are issued one year at a time, and renewal requires continuing education.

Ms. Rabe was less concerned about the fact that some of the documentation to be submitted under the Department's proposal would be a duplication of effort than about timing and the ability of those controlling mosquito larvae in particular to act promptly. EPA issued a guidance document dated June 11, 2003 with its interpretation of the intersection of the Clean Water Act and FIFRA when it comes to pesticides applied to waters of the U.S. Such an application would not constitute the discharge of a pollutant when made to control a pest in or above the water. TR 1566-1579. The Department of Agriculture does not give public notice when it is considering the approval of an aquatic pesticide in New Mexico. Public input is not automatically or formally sought in any way, but they will meet with people who have a concern about a particular product. TR

1587-88. The Department of Agriculture does not provide public notice of site-specific uses of aquatic pesticides, but there are some pesticide labels that require notice, before or after an application. There are products that fall under the worker protection standard. TR 1590. The Department does not conduct baseline water quality sampling prior to deployment of an aquatic pesticide, nor is the applicator required to do such, unless a label requires it. Ms. Rabe is not aware of labels requiring this sampling, or that require the evaluation of non-target species. There is no long-term monitoring of water for pesticides. TR 1599-1604.

16. B. J. Brock spoke for the New Mexico Cattle Growers' Association and New Mexico Wool Growers, Incorporated, representing approximately 2,000 members, most of them livestock producers from farms and ranches. A May 2, 2003 letter to NMED set out the Cattle Growers' concern that it had not been invited to participate in the proposed revisions. They request that the Commission consider only changes that are necessary to comply with standards required by EPA. They also ask that the Commission carefully consider unintended consequences, and they support retaining current language relating to fish and fisheries. They support retention of the current language defining waters of the state. If the definition includes ephemeral waters, specific reaches should be identified and opened to comment from the public. Ditches, canals, irrigation waterways and livestock and erosion control impoundments should be exempt from this proposal. They support the Middle Rio Grande Conservancy District in its opposition to the change of secondary contact to primary contact.

The term "where practicable" should be retained in section 20.6.4.6. BMPs should be identified as voluntary. An ONRW designation could have a negative effect on

ranching in New Mexico by curtailing grazing in the encompassing area. The Cattle and Wool Growers ask that livestock and agricultural practices be exempt from the ONRW designation. The Cattle and Wool Growers support the San Juan Water Commission's proposals for section 20.6.4.11, particularly as to samples taken at less than critical low flow. They would support the designation of the Department of Agriculture for oversight and enforcement of pesticide application to surface waters. Timing is critical in the application of pesticides. Finally, they support NMED's original proposal to have acute criteria rather than chronic apply to ephemeral streams. TR 1791-1803.

17. Cecilia Abeyta spoke for the New Mexico Farm and Livestock Bureau. It is a grassroots organization with over 10,000 members, and includes dairies, livestock producers and farmers. Ms. Abeyta read from a letter in the record from the Farm Bureau's new executive vice-president, John Wortman: The Farm Bureau believes the best way to accomplish the intent of the Clean Water Act is to implement best management practices designed on a case-by-case basis. The Farm Bureau also had a number of questions about NMED's proposals and their basis. Ms. Abeyta added some comments: The Farm Bureau supports NMED's proposed procedural requirements for nominating an ONRW, including baseline water quality data, scientific data and an economic analysis. Economic analysis should include a socioeconomic analysis. Water rights holders should be notified, and rights not impaired. NMED should work with a number of other entities to develop regulations spelling out the requirements for a socioeconomic analysis. ONRW designation will potentially have a negative impact on their industry and on the counties which rely on income from the ranchers. They also support an exclusion for agricultural activity. The definition of surface water proposed is

of major concern, and they suggest the Commission take no action on it, but direct NMED to develop a consensus and return at a later time. Surface water impoundments used for agriculture and drains and canals should be exempt. They object to the enforceability of BMPs for nonpoint sources and suggest that the word "voluntary" be included in the definition. As for pesticides, the Commission should delegate authority for review of aquatic pesticides to surface water to the Department of Agriculture. TR 1804-1814.

18. Peter Wilkinson spoke for the Department of Game and Fish to provide comments on NMED's piscicide proposal. Among other things, they suggest deleting any reference to federal processes, including NEPA, and deleting the requirement that a petitioner include an evaluation of available alternative and justification for selecting pesticide use in the petition. It is not conceivable that the Department could afford to do fish restorations without federal financial assistance, which means NEPA must always be followed. TR 1816-1834.

VII. THE MAJOR ISSUES

In its deliberations, the Commission may decide to proceed section by section through Attachment A to this report, from the beginning to the end of the standards. On the smaller proposed changes this approach would be efficient. If the Commission decides to tackle the larger issues first, however, it is these to which it should turn its attention:

A. The definition of "surface waters of the state." Section 20.6.4.7.RR.

Here, the Commission has the opportunity to consider the scope of the standards and its own authority and responsibility under the New Mexico

Water Quality Act. In the last triennial review, with a lot of debate and some obvious hesitation, the limitation that applies to the federal government—only waters that affect interstate commerce-- was added to constrain the scope of the state standards. The Commission is being asked to lift that limitation in this review.

B. "Limited aquatic life." The creation of a new use for naturally poor quality waters that may not support a full community of aquatic life. Section 20.6.4.NNN. The Commission is asked to consider three proposals here; UC would modify NMED's language to exclude waters where a self-sustaining fishery is existing or attainable. EBID would create a use called "aquatic habitat" to parallel the designated use of "wildlife habitat."

C. The nomination of the Rio Santa Barbara as an Outstanding National Resource Water. Section 20.6.4.8.D. The Rio Santa Barbara is a stream of exceptional ecological and recreational significance. This would be New Mexico's first ONRW. No party opposed the designation, although a public commenter raised the possibility that grazing would be restricted. In related proposals, the Commission is asked to mitigate the requirements for nomination of ONRWs in the future, and particularly to eliminate the requirement that economic analyses be conducted and submitted.

D. Sampling at less than critical low flow. Section 20.6.4.11. SJWC proposes that the Commission adopt a new standard recognizing that samples taken at less than critical low flow shall not be used to determine

that a waterbody is impaired. NMED wants the Commission to be able to use all available data, and notes the lack of flow gages on most streams in New Mexico.

E. Compliance with water quality standards and the evaluation of water quality criteria. Section 20.6.4.11.A-D. UC proposes a number of changes to these sections relating to averaging periods, frequency of exceedances, and minimum number of samples for determining compliance, among other things. NMED had not made substantive changes to these sections itself, and opposes UC's proposals, which it believes will render impossible the enforcement of the standards.

F. A proposed new section providing for variances from the standards. Section 20.6.4.11.K. The Commission should decide first whether it has the legal authority to adopt such procedure when the Water Quality Act does not expressly so provide—I believe it does not.

G. Site-specific ambient standards. Section 20.6.4.12. SJWC has proposed that the Commission explicitly acknowledge the efficacy of site-specific ambient standards if a standard is being exceeded for a naturally occurring substance. NMED opposes the change, and notes other adjustments that can be made to uses or criteria.

H. A new section regarding piscicides. Section 20.6.4.15. The Commission has the opportunity to consider its role vis-a-vis the roles of EPA and the Department of Agriculture in approving the application of pesticides to surface water, particularly for fish restoration. NMED withdrew its

widely-misunderstood and controversial "pesticide safe harbor" provision in this section, so the discussion is now limited to piscicides. Although the parties reached a compromise proposal after the hearing, I have suggested still another proposal to the Commission, or, alternatively, making no changes at all in preference to the compromise.

I. The application of chronic criteria to ephemeral waters. Section 20.6.4.98. NMED proposes to replace the terms "ephemeral" and "intermittent" with the single term "non-perennial." This change drew opposition, particularly from Phelps Dodge, which urges separating ephemeral from perennial and intermittent waters based on the hydrologic differences. The real controversy here is NMED's proposal to create a provision containing default designated uses for unclassified non-perennial waters, and to apply the acute *and chronic* aquatic life criteria. NMED had originally proposed only acute criteria; it reconsidered after reviewing materials provided by U.S. Fish and Wildlife showing aquatic life in ephemeral streams. The opponents assert that it is not clear from the literature that the streams in question are ephemeral; in many of the studies a variety of streams are studied without distinction between ephemeral and intermittent. The opponents also assert that NMED reconsidered its position too late in the triennial review process to have its proposal properly considered. I disagree with them on that last point and leave the rest for the Commission to parse.

VIII. ATTACHMENTS TO THIS REPORT

Attachment A is the primary document Commissioners will refer to during deliberations. The existing standards were the starting point, and those sections identified for amendment by the parties reflect the proposed changes in legislative format (brackets and strikethrough for deletions, underlining for additions). Beneath each section in which a party has proposed a change, in italics, is the name of the party proposing the change; a description of the proposal; the basis for the proposal, with cites to the administrative record and transcript; and arguments regarding the proposal made in the final post-hearing submittals from the parties, pro and con.

Given the sophistication of the parties and the excellent quality of their post-hearing written submittals, I have let them speak for themselves, and included their final arguments and proposed reasons largely in their own words. I did attempt to standardize record references and acronyms, for example, and did remove some of the duplicative statements and all of the headings in the briefs.

The exception to this inclusive approach to the post-hearing arguments is Molycorp's submittal, devoted to just Amigos Bravos' proposal in Section 20.6.4.123 to designate a new segment of the Red River for which the designated uses would include "high quality coldwater aquatic life" instead of the present "coldwater fishery" designation." Molycorp's objection to AB's proposal for Section 20.6.4.123 is based primarily on documentation from the 1990 Triennial Review, which is provided in the submittal, and I would encourage the Commission to have that packet in hand as they deliberate. Otherwise, Attachment A includes all arguments made by the parties in their

post-hearing submittals, pro and con, in italics beneath each section of the standards. Proposed changes withdrawn by any party are sometimes but not generally included.

The other packet the Commission will need to have in hand when they deliberate on Section 20.6.4.8.D is the nomination packet from Amigos Bravos relating to the Rio Santa Barbara. Commissioners will find the nomination packet at the end of the materials behind Pleading Log Tab 17.

Attachment B includes the Commission's own Adjudicatory Procedures. One party requested the Commission to take administrative notice of the procedures, and it may. TR 209.

Attachment C includes Department of Agriculture regulations on pesticides, as requested by a Commissioner during the hearing. TR 921. The Commission may properly take notice of these regulations.

Attachment D includes the Environmental Improvement Board regulations on radiation protection. The Commission may wish to review these in connection with its deliberations on Section 20.6.4.12.G, Radioactivity, and the University of California's Motion to Reopen the Record, which I have denied, but on which the Commission could overrule me. Again, the Commission may properly take notice of these regulations.

Finally, I hope what you see in Attachment A reflects a light touch as hearing officer. I have refrained from making a recommendation on several of the more contentious matters in the hearing, in deference to the policy-making role of the Commissioners, particularly where the weighing of the evidence will not necessarily be straightforward and fundamental policy issues are implicated. I have refrained from offering much legal advice as well, except where I believed one of the parties was

crossing some fairly well-established line in its arguments. As always, I would defer to Commission counsel if his analysis differs.

Consistent with the original assignment, I will prepare a draft statement of reasons for Commission counsel's review and Commission approval following the Commission's deliberation and decision. In each section, it is the italicized material with record references that would form the reason(s) for adopting the proposed change to that section. If the Commission adds reasons or rejects some offered reason, the draft statement of reasons will reflect that change.

Respectfully submitted,

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Felicia Orth, Hearing Officer

ATTACHMENT A

HEARING PARTICIPANTS' FINAL PROPOSED AMENDMENTS AND HEARING OFFICER'S COMMENTS

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 6 WATER QUALITY
PART 4 STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS

20.6.4.1 ISSUING AGENCY: Water Quality Control Commission.
[20.6.4.1 NMAC – Rp 20 NMAC 6.1.1001, 10-12-00]

20.6.4.2 SCOPE: Except as otherwise provided by statute or regulation of the water quality control commission, this part governs all surface waters of the state of New Mexico, which are subject to the New Mexico Water Quality Act, Sections 74-6-1 through 74-6-17 NMSA 1978.
[20.6.4.2 NMAC – Rp 20 NMAC 6.1.1002, 10-12-00]

NMED proposes to add a comma after "New Mexico" for clarification because the phrase beginning with "which" is nonessential; the WQS only apply to "surface waters of the state" and the term is defined in Section 20.6.4.7.RR. PL 20 at 1, PL 27 at Montgomery 1.

<u>Comment:</u> See also NMSA 1978, Section 74-6-2, New Mexico Water Quality Act, Definitions: ""water" means all water, including water situated wholly or in part within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water."

20.6.4.3 STATUTORY AUTHORITY: This part is adopted by the water quality control commission pursuant to Subsection C of Section 74-6-4 NMSA 1978.
[20.6.4.3 NMAC – Rp 20 NMAC 6.1.1003, 10-12-00]

20.6.4.4 DURATION: Permanent.
[20.6.4.4 NMAC – Rp 20 NMAC 6.1.1004, 10-12-00]

20.6.4.5 EFFECTIVE DATE: October 12, 2000, unless a later date is indicated in the history note at the end of a section.
[20.6.4.5 NMAC – Rp 20 NMAC 6.1.1005, 10-12-00]

20.6.4.6 OBJECTIVE:

A. The purpose of this part is to establish water quality standards that consist of the designated use or uses of surface waters of the state, the water quality criteria necessary to protect the use or uses, and an antidegradation policy.

B. The state of New Mexico is required under the New Mexico Water Quality Act (Subsection C of Section 74-6-4 NMSA 1978) and the federal Clean Water Act, as amended (33 U.S.C. Section 1251 *et seq*.) to adopt water quality standards that protect the public health or welfare, enhance the quality of water, and are consistent with and serve the purposes of the New Mexico Water Quality Act and the federal Clean Water Act. It is the objective of the federal Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the nation's waters, including those in New Mexico. This

part is consistent with Section 101(a)(2) of the federal Clean Water Act, which declares that it is the national goal that wherever attainable, an interim goal of water quality [~~which~~] that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983. Agricultural, municipal, domestic and industrial water supply are other essential uses of New Mexico's surface water; however, water contaminants resulting from these activities will not be permitted to lower the quality of surface waters of the state below that [~~which is~~] required for [~~recreation and maintenance of a fishery and protection of wildlife~~] protection and propagation of fish, shellfish and wildlife, and recreation in and on the water, where practicable.

C. Pursuant to Subsection A of Section 74-6-12 NMSA 1978, this part does not grant to the water quality control commission or to any other entity the power to take away or modify property rights in water.

[20.6.4.6 NMAC – Rp 20 NMAC 6.1.1006, 10-12-00]

NMED's Proposals

NMED proposes to replace the word "that" with "which" because "that" is the proper word to introduce the phrase. PL 20 at 1, PL 27 at Montgomery 2. NMED Closing Argument pp. 9-10.

NMED proposes to delete the words "which is" because the change simplifies the phrase. PL 20 at 1, PL 27 at Montgomery 2. NMED Closing Argument p. 10.

NMED proposes to replace the phrase "recreation and maintenance of a fishery and protection of wildlife" with "protection and propagation of fish, shellfish and wildlife, and recreation in and on the water" because the latter phrase is consistent with CWA Section 101(a)(2). Using consistent phrases eliminates ambiguity since the use of different words generally implies a different meaning. PL 20 at 1, PL 27 at Montgomery 2; PL 27 at Ex 1; TR at 69 l.16 - 70 l.3. NMED Closing Argument p. 10.

Comment: Recommend adoption for the reason stated. The" that/which" change is made at several locations in the proposed amendments below and is shown in legislative format but will not again be specifically called out in the comments.

Amigos Bravos' Proposal

Amigos Bravos (AB) proposes at the end of Section B to replace "where practicable" with "unless the provisions of Section 20.6.4.14 of this Part are fully met." PL 17 at 5, Final Submittal, p. 6. AB asks in support of its proposal "What does practicable mean… and who decides that

attainment of standards is not practicable? The language proposed above would require that before such extreme impacts could occur and that attainment of standards are not practicable a use attainability analysis would have to be performed." Id.

NMED supports adoption of AB's proposal because "where practicable" is subjective and, contrary to the CWA, it appears to sanction the removal or disregard of CWA Section 101(a)(2) uses without the demonstration required by law. This section of the WQS deals with a very specific area in which the WQCC does not have much discretion. With respect to the protection of Section 101(a)(2) uses, the issue of practicability is not relevant. PL 27 at Montgomery 2-3; PL 27 at Ex 1; TR at 496 ll.17-23, 500 ll.12-24, 504 ll.9-12. NMED Closing Legal Argument, p. 10.

The San Juan Water Commission (SJWC) and Elephant Butte Irrigation District (EBID) oppose the adoption of AB's proposal on several grounds: the proposed phrase limits the WQCC's discretion to establish designated use categories and ambient standards. PL 41 at Pitts 2, TR 1064:11-1065:12. As EBID noted, it provides general policy guidance to the Commission and has been in the standards since 1968. TR at 950:7-951:1; 1797:21-1798:3. Retaining the language is important to recognize that the commission does have discretion, in appropriate circumstances, under the federal Clean Water Act and the New Mexico Water Quality Act. It could prevent the Commission from exercising its discretion without conducting an expensive and time-consuming UUA. PL 41 at Pitts 2, TR 1064:16-1065:21. The Commission rejected this very change as part of the 1998 triennial review, finding that it would create "inflexibility and possibly establish a hierarchy of uses." Statement of Reasons for Amendment of Standards at 4, Ex. SJWC B-12 re section 1006A. Failure to refer to section 20.6.4.14 in an "Objective" section does not violate state or federal law. SJWC Closing Argument, pp. 5-6.

<u>Comment:</u> Black's Law Dictionary, 6th Ed. Defines "practicable" as "that which may be done, practiced, or accomplished; that which is performable, feasible, possible."

20.6.4.7 DEFINITIONS: Terms defined in the New Mexico Water Quality Act, but not defined in this part will have the meaning given in the Water Quality Act.

A. "acute toxicity" means toxicity involving a stimulus severe enough to induce a response in 96 hours of exposure or less. Acute toxicity is not always measured in terms of lethality, but may include other toxic effects that occur within a short time period.

NMED Proposal

B. "best management practices or BMPs" [~~means schedules of activities, prohibitions of certain practices, implementation of maintenance procedures, or other measures or practices selected by the state or a designated management agency to achieve control of sources of water pollutants.~~]

(1) for NPDES permitting purposes means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage; or

(2) for non-point-source pollution control purposes means methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters. BMPs for non-point-source pollution control purposes shall not be mandatory except as required by state or federal law.

NMED proposes to insert quotation marks in the title of the definition because the WQS use either the term or the abbreviation, but not the phrase "best management practices or BMPs." PL 20 at 2, PL 27 at Montgomery 3. NMED Closing Argument p. 12.

NMED proposes to replace the definition with the federal definitions to address substantial confusion in the 1998 triennial review. PL 20 at 2. The first paragraph is the exact language from EPA's NPDES regulations, 40 C.F.R. §122.2. The second paragraph is the exact language from EPA's water quality planning regulations, 40 C.F.R. § 130.2(m), and is the term commonly used in non-point source contexts. PL 27 at Montgomery 3; PL 27 at Ex 40, 41; TR at 72 l.7 - 73 l.4. NMED Closing Argument p. 12.

NMED proposes to add the final sentence in the second paragraph to clarify that best management practices are voluntary for nonpoint sources unless required by state or federal law, e.g., WQCC approval of degradation in a Tier 2 water. The sentence addresses concerns that the NMED might require persons to implement best management practices for nonpoint sources. The proposal also reflects the resolution of a dispute among the parties (particularly NMED, SJWC

and EBID), except for Amigos Bravos, regarding the definition. TR at 73 l.5 - 74 l.13, 237 l.8 - 238 l.17, 388 l.12 - 391 l.5. NMED Closing Argument p. 13.

SJWC supports NMED's proposal with the addition of the last sentence, noting as follows: NMED's proposal incorporates federal definitions from EPA's NPDES regulations and water quality planning regulations. PL 27 at 3, TR at 72:7-73:4. SJWC and EBID recommended modifying NMED's proposal to recognize that BMPs for nonpoint sources are voluntary. PL 41 Pitts at 3-4, PL 34 at 1-4, TR at 73:5-10. BMPs for nonpoint sources are voluntary, except in one limited circumstance identified by NMED. PL 40 at 7, TR at 94:13-95:4, 234:2-7, 237:20-238:5, 242:4-10, 1067:11-19, 1075:14-23, PL 34 at 3-4. SJWC Closing Argument, pp. 6-7.

Amigos Bravos Proposal:

Amigos Bravos (AB) proposes an amendment to section B.2 of the definition, as follows:

> (2) for non-point-source pollution means schedules of activities, prohibitions of certain practices in waters with a completed TMDL, implementation of maintenance procedures or other measures or practices approved by the department to prevent or educe the pollution of waters of the state. BMPs include, but are not limited to, structural and nonstructural controls, implementation of or changes to management practices, and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

PL 17 at 6, Final Submittal, p. 6.

In support of its proposal, AB sets out several grounds: the other proposal contains troubling permissive language; the department should have the ability to determine acceptable practices. The Act, the Regulations, the Standards and permitting requirements give the commission ample authority to require enforceable mechanisms to control nonpoint source pollution. The commission may not specify a method, but it may specify a performance standard to be met. Whether by enforcing water quality standards, promulgating regulations or requiring permits, the state can and should prevent and abate significant contamination of New Mexico's waters from nonpoint sources throughout the state. Today, nonpoint source pollution is the number one source of water contamination in the state. Voluntary BMPs have been ineffective in cleaning up our nation's waters. Virginia and Oregon already have a system of enforceable BMPs to control for

nonpoint source pollution. Such enforceability is required for TMDLs, which are enormously resource-intensive, to be effective. AB Final submittal, pp. 7-9.

SJWC opposes AB's proposal, and in particular the suggestion that BMPs be approved by NMED rather than selected by an agency. PL 41 Pitts at 4, TR 1067:20-1068:15, PL 27 at 3, TR 74:21-75:5. SWJC notes as follows: the proposal lacks support in the record. NMED's proposal follows the federal definition and is consistent with the New Mexico Nonpoint Source Management Program; EPA water quality planning regulations (40 CFR 130.2(m)) permit BMPs to be selected by an agency. PL 41 at 4, TR 1067:20-1068:15, PL 27 at 3, TR 72:20-23, 74:14-75:5, NMED Ex. 41. AB's proposal to make BMPS mandatory would violate state law and state policy, for example, state law prohibiting mandatory implementation of BMPs against irrigated agriculture and the Statewide Water Quality Management Plan and Nonpoint Source Management Program, which both call for voluntary implementation of BMPs. PL 41 at 3, TR 1066:2-1067:19, 1075:14-23, PL 34 at 3-4, TR 1328:14-16. SWJC Closing Argument, pp. 7-8.

NMED opposes AB's proposal because (a) it deviates from the federal definitions, creating ambiguity, (b) Amigos Bravos never explained the reason for the deviation, and (c) it is intended to make BMPs enforceable for nonpoint sources, which runs counter to both the WQA and CWA. PL 27 at 3, TR 741.14-751.5. NMED Closing Argument, p. 13.

<u>Comment:</u> Recommend adoption of NMED's proposal for reasons stated. Do not recommend adoption of AB's proposal for the reasons set out by SJWC and NMED.

C. "bioaccumulation" refers to the uptake and retention of a substance by an organism from its surrounding medium and food.

D. "bioaccumulation factor" is the ratio of a substance's concentration in tissue versus its concentration in ambient water, in situations where the organism and the food chain are exposed.

E. "biomonitoring" means the use of living organisms to test the suitability of effluents for discharge into receiving waters or to test the quality of surface waters of the state.

F. "cfs" means cubic feet per second.

G. "chronic toxicity" means toxicity involving a stimulus that lingers or continues for a relatively long period relative to the life span of an organism. Chronic effects include, but are not limited to, lethality, growth impairment, behavioral modifications, disease and reduced reproduction.

H. "classified water of the state" means a surface water of the state, or reach of a surface water of the state, for which the commission has adopted a segment description, and has designated a use or uses and applicable water quality [~~standards. Segment descriptions, designated use or uses, and water quality standards for classified waters of the state are set forth~~] criteria in [~~this part~~] 20.6.4.101 through 20.6.4.899 NMAC.

NMED proposes to delete the word "standards" at the end of the first sentence because "standard" is not the correct word. The correct word is "criterion." PL 20 at 2. "Standard" consists of the uses of water and the supporting criteria. See Section 20.6.4.6.A. "Criterion" describes the concentration of a constituent representing a quality of water supporting the particular use. See Section 20.6.4.7.K. In the definition, the phrase describes a "standard" as being comprised of a "use" and a "standard". In this context, the reference should be "criterion". The change, which occurs throughout the WQS and will not be mentioned again, has no substantive effect. PL 27 at Montgomery 4-5; TR at 46 ll.16-25, 47 ll.1-11. Closing Argument p. 13.

NMED proposes to delete the second sentence to eliminate unnecessary wording. PL 20 at 2, PL 27 at Montgomery 4. Closing Argument p. 14.

NMED proposes to substitute the phrase "criteria [in] 20.6.4.101 through 20.6.4.899 NMAC" for "this part" because "this part" is overbroad. PL 20 at 2. The term refers to the entire document, rather than the segments in Sections 101-899. PL 27 at Montgomery 4. Closing Argument p. 14.

Comment: Recommend adoption for the reasons stated.

NMED's Proposal:

I. "coldwater [~~fishery~~]" in reference to an aquatic life use means a surface water of the state where the water temperature and other characteristics are suitable for the support or propagation or both of coldwater [~~fishes~~] aquatic life.

EBID's Proposal:

I. "coldwater [~~fishery~~] aquatic habitat" means a designated use of ~~means~~ a surface water of the state where the water temperature and other characteristics, such as elevation and hydrologic history, channel modifications and channel characteristics, stream-bed characteristics, flow management and flow regime characteristics, and other characteristics, are suitable for the support or propagation or both of ~~coldwater fishes~~ native coldwater aquatic life.

NMED proposes to change the definition from "fishery" to "aquatic life" to conform the definition to its intended breadth. PL 20 at 2. The objective of the CWA is to "restore and maintain the chemical, physical and biological integrity of the Nation's waters." See 33 U.S.C. § 1251(a)(emphasis added); PL 27 at Ex 1. This objective is achieved by the "protection and propagation of fish, shellfish and wildlife." See 33 U.S.C. §§1251(a)(2) & 1313(c)(2)(a); PL 27 at Ex 1. Both the objective of restoring and maintaining biological integrity and the goal of protecting and propagating fish and shellfish require the consideration of all the organisms comprising the aquatic community, not just the fish and shellfish. See also PL 28 at Ex 19, p.3-3 ("A recent report by the National Research Council recommended that states, territories, and authorized tribes move beyond general categories of 'fishable' and 'swimmable' and adopt refined or detailed uses that better describe the expectations for the water (NRC 2001)...Similarly, the aquatic life use should describe attributes of aquatic communities expected for the water."). EPA is clear that WQS must protect aquatic life, not just fish and shellfish. See PL 27 at Ex 9, Appendix G (an aquatic community consisting of invertebrates and plants must be protected even if fish are not present, and more accurately reflects the use to be protected by CWA Section 101(a)(2)).

NMED also has understood "fishery" to mean "aquatic life." By contrast, the term "fishery" has created confusion among the public for many years. The term creates a false impression that the WQS are concerned only with the protection of fish, and in particular, sport fisheries. The term and the reference to fish (in this and related subcategories) also had the perverse effect of excluding aquatic communities from protection because fish were not present. TR at 401 l.3 - 402 l.6. Finally, EPA's recommended aquatic life criteria are based on the toxicity of pollutants to a variety of non-fish aquatic species. PL 27 at Montgomery 5-6, 16-17; PL 27 at Ex 9, Appendix H; TR at 38 l.24 - 39 l.4, 47 l.12 - 51 l.10, 52 ll.1-7, 511 ll.2-25. See also Section 20.6.4.7.DDD.

NMED proposes to redefine the "fishery" subcategories as "aquatic life" subcategories to shorten and conform the definition consistent with the reasons stated above. PL 20 at 2, PL 27 at Montgomery 5-6; TR at 51 ll.11-21, 55 ll.15-25.

EBID proposes to define "coldwater aquatic habitat," as set out above. PL 16 at 1. The stated basis for the proposal was "to parallel the definition of 'wildlife habitat' and to create a defensible designated use of 'aquatic habitat.'" Id. EBID further states that the current state standards provide for protection for fish only, not for the conditions that make fish life possible such as habitat and the food chain. We need to protect all things that the propagation of fish life a reality. NMED proposes to protect aquatic life. There are all forms of aquatic life in a healthy stream. It is impossible to catalogue all possible forms of aquatic life, including species and subspecies, that may be present in a given water. Each of these forms may proliferate under differing water quality conditions. In North Dakota, one set of criteria may be appropriate for all "cold water aquatic life," but those criteria may not work for high mountain cold water aquatic life in a stream on a south slope in southern New Mexico even when the same average temperature regimes are found. EPA provides technical and scientific criteria for some forms of fish and stream life, but their information is very limited when you think of all the worms, snails, algae and other things that may be found in a given reach. How will NMED or the Commission know what criteria is best for "cold water aquatic life"? Do we have that expertise? EBID recommends that before adopting "aquatic life" as a designated use that the Commission ask an outside panel to review NMED's proposed changes to determine if they are scientifically sound.

EBID continues: Section 101(a)(2) of the Clean Water Act articulates the national goals, where attainable, for the "protection and propagation of fish, shellfish and wildlife" and of recreation in and on the water. Actions to protect wildlife have focused on protecting wildlife habitat and by establishing wildlife habitat as a designated use in New Mexico's Water Quality Standards. The goals of the Clean Water Act are silent with respect to aquatic life; what is to be protected is fish and shellfish. Protection of their habitats is the only rational approach to this goal. The aquatic

life criteria found in 20.6.4.900.M is more applicable to a designated use of aquatic habitat than a designated use of aquatic life. It is irrational to have a designated use of aquatic life and a criteria for aquatic life. We would be defining the conditions for aquatic life in terms of itself. If this is an EPA-requested change, we should know exactly what EPA wants and why. PL 34, pp. 6-7.

NMED opposes EBID's proposal on the following grounds: "Aquatic life" is the term used by EPA for the development of criteria to protect this designated use. PL 27 at Ex 10, pp.6-9. The use of a different term creates ambiguity in the purpose and scope of the designated use. Moreover, the language of the proposed definition is vague and confusing. The list of possible characteristics complicates the definition without adding to the meaning, and it is not clear at what point in time these characteristics must be measured in order to decide whether a water qualifies for protection. PL 27 at Montgomery 6; TR at 54 l.1 - 55 l.6, 56 ll.20-25, 511 ll.17-19. See also Section 20.6.4.7.DDD. NMED Closing Argument, p. 16.

Phelps Dodge Corporation (PD) had proposed alternative language for the term "aquatic life" in its notice of intent to present technical testimony, PL 32 at 4, and in its rebuttal testimony. PL 42 at Parkhurst 2-3. NMED incorporated some of Phelps Dodge's original suggested language and Phelps Dodge did not pursue the matter in its post-hearing submittal.

Comment: Recommend adoption of NMED's proposal for the reasons stated, and do not recommend adoption of EBID's proposal for the reasons stated by NMED.

J. "commission" means the New Mexico water quality control commission.

K. "criteria" are elements of state water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that fully supports a particular use. When criteria are met, water quality will [~~generally~~] protect the designated use. Fully support shall mean that water quality shall not adversely affect the most sensitive life stage of the most sensitive organism which utilizes or inhabits the water.

Amigos Bravos proposes to amend the definition of "criteria" on the grounds that it is necessary to insure that a standard fully protects a use. PL 17 at 6-7, AB Final Submittal p. 9.

SJWC and NMED oppose AB's proposal. SJWC notes that AB provided no testimony, technical or otherwise, in support of its proposal. SJWC and NMED presented technical testimony supporting their opposition to AB's proposal. PL 41 at 4-5; PL 27 at 6-7; TR at 1068:16-1069:15; 75:7-76:11; 97:5-11. AB's proposal to add the word "fully" to the definition of "criteria" is unnecessary and simply editorial in nature. PL 41 at 4. The deletion of the word "generally" from the definition of "criteria" may remove appropriate WQCC discretion, particularly with respect to scientific uncertainties associated with water quality criteria. PL 41 at 5; TR at 1069:10-15. SJWC Closing Argument, p. 9.

SJWC and NMED note that AB's proposed amendment deviates from the federal definition at 40 CFR 131.3(b) and Amigos Bravos gives no reason for such deviation. PL 27 at 6; TR at 75:7-16; 40 C.F.R. § 131.3(b), Ex. NMED-4. Although ideally a criterion would fully support a particular use, there may be occasions when this does not occur. For example, bacterial criteria (fecal coliform or E. coli) define a quality of water using an indicator species and are derived by predicting the statistical likelihood of illness resulting from exposure to pathogens in the water. The statistical illness rate is fundamentally a risk analysis decision; it assumes that some illnesses will occur. As a result, the use may not be fully protected even when the criterion is achieved. In addition, the level of the indicator species in the water may not predict the presence of all pathogens. Accordingly, the criterion will generally provide a level of protection sufficient to achieve the use, but it may not fully protect all users of the water. PL 27 at 6-7; TR at 75:16-76:6. It would be counterproductive to adopt language that conflicts with the federal definition and establishes an impossible threshold. Id., NMED Closing Argument pp. 17-18; see also PL 27 at Montgomery 6-7; PL 27 at Ex 4; TR at 75 l.7 - 76 l.11.

Finally, SJWC notes that AB's proposed definition of "fully support" would require protection of "the most sensitive life stage of the most sensitive organism which utilizes or inhabits the water." PL 17 at 6-7; TR at 1068:22-1069:1. The proposed definition of "fully support" is inconsistent with the manner in which water quality criteria are established. The national water quality criteria published by EPA are not intended to protect the "most sensitive life stage of the most sensitive organism." PL 41 at 4-5; TR at 1068:21-1069:9, SJWC Closing Argument pp. 9-10.

Comment: Do not recommend adoption for the reasons set out by SJWC and NMED.

L. "department" means the New Mexico environment department.

M. "designated use [~~or uses~~]" means [~~those~~] a use[~~s~~] specified in Sections 20.6.4.101 through 20.6.4.899 NMAC for [~~each~~] a surface water of the state whether or not [~~they are~~] it is being attained.

NMED proposes to amend the definition to eliminate the plural form because the Uniform Statute and Rule Construction Act ("USRCA") Section 12-2A-5 provides that the use of the singular includes the plural. PL 20 at 2, PL 27 at Montgomery 7.

Comment: Recommend adoption for the reason stated.

N. "dissolved" means a constituent of a water sample [~~which~~] that will pass through a 0.45-micrometer pore-size membrane filter under a pressure differential not exceeding one atmosphere. The "dissolved" fraction is also termed "filterable residue."

O. "domestic water supply" means a surface water of the state that [~~may~~] could be used for drinking or culinary purposes after disinfection.

NMED proposes to replace the word "may" with "could" to eliminate ambiguity. As written, this phrase could be interpreted to imply that the standards convey authority to use water. The USRCA Section 12-2A-4 states that the word "may" is intended to confer power, authority, privilege or right, but no such intent is inferred here. PL 20 at 3, PL 27 at Montgomery 7; TR at 76 ll.12-16.

EBID originally proposed changes to this section, PL 34 at 20, but withdrew its proposal at hearing. TR at 961.

Comment: Recommend adoption for the reason stated.

P. "ephemeral [~~stream~~]" when used to describe a surface water of the state means [~~a stream or reach of a stream that flows briefly~~] the water body contains water only in direct response to precipitation or snowmelt in the immediate locality; its [~~channel~~] bed is always above the water table of the adjacent region [~~adjoining the stream and does not support a self-sustaining population of fish~~].

NMED PREFERRED CHANGE: DELETE DEFINITION

NMED'S ALTERNATIVE CHANGE: AMEND DEFINITION AS SHOWN ABOVE

NMED proposes to delete the definition for the reasons stated in Section 20.6.4.98 NMAC. Specifically, the term is not necessary because it is contained within the term "nonperennial," which refers to any water that is not "perennial" as defined in the WQS. With respect to protecting the default designated uses in Section 20.6.4.98, there is no reason to distinguish between ephemeral and intermittent waters; the continued presence of this term in the WQS only leads to confusion. NMED Closing Argument, p. 19.

Alternatively, NMED proposes to retain the definition but (a) delete the words "stream" and "channel;" (b) delete the phrases "adjoining the stream" and "and the water does not contain a self sustaining population of fish;" and (c) insert the phrase "the water body." PL 20 at 3; PL 40 at 1. The basis is that "ephemeral" can apply to surface waters other than streams, such as lakes, ponds and playas, and because the final phrase places a biological element in a definition of a hydrologic condition. While the final phrase generally is true of ephemeral waters, it is not a necessary element of the definition. Moreover, the final phrase creates a potential loophole in Section 20.6.4.98, which establishes default designated uses for all unclassified ephemeral waters, and conflicts with Section 20.6.4.99, which establishes default designated uses for all unclassified perennial waters. It is possible that unclassified waters could satisfy the hydrologic portion of the definition, but also support or contain a self-sustaining population of fish (e.g., pupfish in a perennial pool). Such waters would be unclassified ephemeral waters not subject to Section 20.6.4.98, but their perennial pools would be considered unclassified perennial waters under Section 20.6.4.99. To avoid this interpretative problem, the final phrase should be deleted. PL 27 at Montgomery 8; PL 40 at 1; TR at 78 l.8 - 79 l.7. NMED Closing Argument, pp. 19-20.

Comment: The Commission should deliberate on Section 98, below, before making decisions in the other sections implicated, such as this one and the one for "intermittent stream" in Section V.

Q. "existing use" means [~~those uses~~] a use actually attained in a surface water of the state on or after November 28, 1975, whether or not [~~they are included in the water quality standards~~] it is a designated use.

NMED proposes to use the singular form of "use" because the singular form matches the term being defined. PL 20 at 3, PL 27 at Montgomery 8.

NMED proposes to delete the phrase "included in the water quality standards" because the phrase appears to refer to the entire document and it is not clear what "included" means. PL 20 at 3, PL 27 at Montgomery 8.

Comment: Recommend adoption for reasons stated.

R. "fecal coliform bacteria" means the portion of the coliform group [~~which is~~] of bacteria present in the gut or the feces of warmblooded animals. It generally includes organisms [~~which are~~] capable of producing gas from lactose broth in a suitable culture medium within 24 hours at 44.5 ± 0.2°C.

NMED PREFERRED CHANGE: DELETE DEFINITION

NMED'S ALTERNATIVE CHANGE: AMEND DEFINITION

NMED proposes to delete the definition as unnecessary if NMED's proposal for E. coli bacteria is adopted in Section 20.6.4.7.JJJ. PL 20 at 3, PL 27 at Montgomery 8; TR at 67 l.1 - 68 .20.

NMED alternatively proposes to add the phrase "of bacteria" and delete the phrases "which is" and "which are" because the addition clarifies the definition for lay readers and the deleted phrases are not necessary to the meaning of the definition. PL 20 at 3, PL 27 at Montgomery 8.

Comment: Recommend deletion of this definition and adoption of E. coli bacteria in 20.6.4.7.JJJ.

S. "fish culture" means production of coldwater or warmwater fishes in a hatchery or rearing station.

T. [~~**"flow,"** relative to the four definitions of streams herein, means natural flow ensuing from the earth's hydrologic cycle, i.e., atmospheric precipitation resulting in surface and/or ground water runoff. Natural in-stream flow may be interrupted or eliminated by dams and diversions.~~]

NMED proposes to delete the definition because the WQS do not use "the four definitions of streams herein." PL 20 at 3, PL 27 at Montgomery 8; TR at 77 ll.8-25.

Comment: Recommend deletion as unnecessary.

EBID PROPOSAL:

U. "high quality coldwater [~~fishery~~]" aquatic habitat means a designated use of a perennial surface water of the state in a minimally disturbed condition which has considerable aesthetic value and is a superior coldwater fishery habitat. A surface water of the state to be so categorized must have water quality, stream bed characteristics, and other attributes of habitat sufficient to protect and maintain ~~a~~ propagating native coldwater [~~fishery~~] aquatic life.

EBID proposes to amend the definition to parallel the definition of "wildlife habitat" and to create a defensible designated use of "aquatic habitat" for the same reasons as set out above in Section 20.6.4.7.I. PL 16 at 2, PL 34, pp. 6-7.

NMED PROPOSAL:

U. "high quality coldwater [~~fishery~~]" in reference to an aquatic life use means a perennial surface water of the state in a minimally disturbed condition [~~which has~~] with considerable aesthetic value and [~~is a~~] superior coldwater [~~fishery~~] aquatic life habitat. A surface water of the state to be so categorized must have water quality, stream bed characteristics, and other attributes of habitat sufficient to protect and maintain a propagating coldwater [~~fishery~~] aquatic life population.

NMED proposes to change the definition from "fishery" to "aquatic life" for the reasons stated in Section 20.6.4.7.I. PL 20 at 3-4, PL 27 at Montgomery 9.

NMED proposes to replace the phrase "which as" with "with" and delete "is a" to clarify the definition. PL 20 at 3-4, PL 27 at Montgomery 9.

Comment: Recommend adoption of NMED's proposal and do not recommend adoption of EBID's proposal for the same reasons as adoption of proposal in 20.6.4.7.I.

V. "intermittent [~~stream~~]" when used to describe a surface water of the state means [~~a stream or reach of a stream that flows~~] the water body contains water only at certain times of the year, such as when it receives flow from springs, or melting snow~~, or localized precipitation~~.

NMED PREFERRED CHANGE - DELETE DEFINITION

NMED'S ALTERNATIVE CHANGE: AMEND DEFINITION

NMED proposes to delete the definition for the reasons stated in Section 20.6.4.7.P. Moreover, the definition has marginal utility because it is used only once in the WQS and that use is parenthetical. PL 27 at Montgomery 9.

Alternatively, NMED proposes to delete the word "stream" and the phrase "a stream or reach of a stream that flows" because lakes, ponds, and playas also can be intermittent. PL 20 at 4, PL 27 at Montgomery 9; TR at 77 ll.18-24.

Alternatively, NMED proposes to delete the phrase "localized precipitation" because the phrase adds nothing to the definition. Localized precipitation contributes to the flow of all surface waters. Moreover, the response of dry watercourses to localized precipitation is less a defining factor for intermittent waters, which flow in response to events during certain times of the year, than ephemeral waters, which flow in response to random events over the course of a year. Deleting the phrase will eliminate potential confusion between the terms. PL 40 at 2, PL 40 at 2; TR at 78 l.22 - 79 l.3.

Comment: The Commission should deliberate on Section 98 first, and then return to this definition.

W. [~~**"interrupted stream"** means a stream that contains perennial reaches with intervening intermittent or ephemeral reaches.~~]

NMED proposes to delete the definition because the term is not used in the standards. PL 20 at 4, PL 27 at Montgomery 9; TR at 78 ll.1-4.

Comment: Recommend deletion for reason stated.

X. "interstate waters" means all surface waters of the state [~~which~~] that cross or form a part of the border between states, including those surface waters which cross or form part of a border with an Indian Tribe."

Amigos Bravos proposes to add the phrase "including those surface waters which cross or form a part of a border with an Indian Tribe;" its stated basis is "to reflect Tribal authorities." PL 17 at 8-9, Final Submittal, p. 11.

San Juan Water Commission (SJWC) opposes this change because of a lack of support in the record and the complexity of the subject of tribal authority over interstate waters, which should not be addressed in a definition. PL 41 at 5; TR at 1069:16-1070:3, SJWC Closing Argument, pp. 10-11.

NMED opposes this change because there is no need to distinguish between intrastate and interstate waters under NMED's proposal to amend the definition of "surface waters of the state". See Section 20.6.4.7.RR. The term is used only in the title of the WQS and further definition would have no substantive effect. PL 27 at Montgomery 9, Closing Argument, pp. 23-24.

Comment: Do not recommend adoption of AB's proposal for reasons set out by SJWC and NMED. Do accept NMED's grammatical correction "which/that."

Y. "intrastate waters" means all surface waters of the state [~~which~~] that are not interstate waters.

Z. "irrigation" means [~~a water of the state used as a supply of water for crops~~] application of water to land areas to supply the water needs of beneficial plants.

NMED proposes to replace the phrase "a water of the state used as a supply of water for crops" with the phrase "application of water to land areas to supply the water needs of beneficial plants" because irrigation is a use, not a water of the state, and the new phrase more accurately reflects the designated use. PL 20 at 4, PL 27 at Montgomery 10.

NMED proposes to change the subject of the designated use from "crops" to "beneficial plants" because the word "crops" generally implies a product grown and harvested for profit or

subsistence. This interpretation might exclude activities of more recent origin that are understood to constitute irrigation, such as the use of water for golf courses and landscaping and the cultivation of plants not grown for harvest. PL 20 at 4, PL 27 at Montgomery 10.

Comment: Recommend adoption for reasons stated.

AA. "LC-50" means the concentration of a substance that is lethal to 50 percent of the test organisms within a defined time period. The length of the time period, which may vary from 24 hours to one week or more, depends on the test method selected to yield the information desired.

BB. "marginal warmwater fishery"…..

PD (original) Proposal: Delete Definition

Phelps Dodge proposed to delete the definition, but did not pursue the matter in its post-hearing submittal. PL 42 at Parkhurst 2.

NMED opposes deletion because the subcategory is consistent with EPA guidance and provides a meaningful classification for waters with less than ideal conditions for aquatic communities, which exist and must be protected. TR at 59 l.6 - 60 l.3. NMED Closing Argument, p. 26.

EBID Proposal:

BB. "[~~limited~~] marginal warmwater [~~fishery~~] aquatic habitat " means a designated use of a surface water of the state where intermittent or low flow or stream channel characteristics may severely limit the ability of the reach to sustain [~~a natural fish population~~] native aquatic life on a continuous [~~annual~~] basis; or a surface water of the state where historical data indicate that water temperature may routinely exceed 32.2°C (90°F) during July and August.

EBID proposed a different definition based on the concept of "aquatic habitat." PL 16 at 2. The basis for its proposal is that it is designed to parallel the definition of "wildlife habitat" and to create a defensible designated use of "aquatic habitat." PL 34, pp. 6-7.

NMED opposes EBID's proposal for the reasons stated in Section 20.6.4.7.I, as well as its failure to address EPA's concerns regarding the proper assignment of this designated use. PL 27 at Montgomery 10-11. NMED Closing Argument, pp. 25-26.

NMED Proposal:

BB. "[~~limited~~] marginal warmwater [~~fishery~~] " in reference to an aquatic life use means [~~a surface water of the state where~~] natural intermittent or low flow [~~may~~] severely limits the ability of the [~~reach~~] surface water of the state to sustain a natural [~~fish~~] aquatic life population on a continuous annual basis; or [~~a surface water of the state where~~] historical data indicate that natural water temperature [~~may~~] routinely exceeds 32.2°C (90°F).

NMED proposes to change the definition from "fishery" to "aquatic life" for the reasons stated in Section 20.6.4.7.I. PL 20 at 4-5, PL 27 at Montgomery 10.

NMED proposes to change the word "limited" to "marginal" to avoid confusion with the proposed designated use of "limited aquatic life." PL 20 at 4-5, PL 27 at Montgomery 10; TR at 58 ll.7-12.

NMED proposes to delete the phrase "surface water of the state" because a designated use is not a water. PL 20 at 4-5, PL 27 at Montgomery 10.

NMED proposes to replace "reach" with "surface water of the state" because it recognizes that the use may apply to lakes and other waters besides streams. PL 20 at 4-5, PL 27 at Montgomery 10; TR at 58 ll.13-16.

NMED proposes to delete the word "may" in two places to address EPA's concern that the designated use could be assigned to waters without evidence of severely-limiting low flows or routine temperature exceedances . PL 20 at 4-5, PL 27 at Montgomery 10; PL 27 at Ex 25; TR at 58 l.25 - 59 l.5.

NMED proposes to add the word "natural" in two places to address EPA's concern that the designated use could be interpreted to exclude waters by affected by man-made conditions. PL 20 at 4-5, PL 27 at Montgomery 10; PL 27 at Ex 25; TR at 58 ll.17-24.

SJWC opposes the addition of the word "natural" to modify references to flow and temperature such that if a stream is degraded by human-caused conditions it should be listed as impaired rather than classified with a less protective designated use. SJWC Closing Argument, p. 11. SJWC notes that under NMED's proposal, a water body cannot be designated as "marginal warmwater" if water flow or temperature are affected by human-made conditions, unless a UAA shows the conditions cannot be corrected. TR at 223:2-224:10. The only basis identified for the proposal is a letter from EPA indicating that this designated use should be assigned based solely "on natural ephemeral, intermittent or low flow conditions or a finding that attaining a higher use is not feasible based on the conditions described in 40 C.F.R. 131.10 (g)." PL 27 at 10; TR at 58:17-24, 226:6-13, 228:23-229:2; January 23, 2001 EPA Letter to NMED at 11, Ex. NMED-25. NMED interprets the EPA letter to mean that, if a stream is degraded by human-caused conditions, then it should be listed as impaired rather than classified with a less protective designated use. TR at 58:17-24, 224:12-19, 226:6-227:1. But 40 CFR section 131.10(g), which sets out the requirements for a use attainability analysis, concerns the removal of a designated use. Ex. NMED-4; TR at 227:5-8. EPA has not explained why that section applies to the Commission's definition of the marginal warmwater designated use. January 23, 2001 EPA Letter to NMED at 11, Ex. NMED-25; TR at 227:5-229:2. If the marginal warmwater was in existence in or after 1975, no UAA is necessary because the state is not removing a designated use. TR at 1072:10-15. There are waterbodies in New Mexico that are affected by human-caused conditions and sustain only marginal warmwater aquatic life populations, including streams where diversions cause intermittent or low flows and streams affected by mine drainage. PL 41 at 6, TR at 1070:18-20. The Commission needs to have the ability to correctly identify "marginal warmwater" fisheries where they occur, regardless of whether the underlying conditions are natural or caused by human activity, and to recognize that these conditions are "existing uses." PL 41 at 6. If the definition of marginal warmwater is changed to apply only to natural temperature and flow conditions, there will be no designated use category applicable to warmwater streams where the conditions of the stream are caused by human activity. TR at 229:3-230:16. SJWC Closing Argument, pp. 11-12.

SJWC Proposal:

BB. "[~~limited~~] marginal warmwater [~~fishery~~]" in reference to an aquatic life use means that [~~a surface water of the state where~~] intermittent flows, low flows or other habitat conditions [~~may~~] severely limit [~~the ability of the reach to sustain a natural fish~~] maintenance of a self-sustaining, diverse warmwater aquatic life population on a continuous [~~annual~~] basis in waters that would otherwise support a self-sustaining diverse warmwater aquatic life population; or [~~a surface water of the state where~~] historical data indicate that natural water temperature [~~may~~] routinely exceeds 32.2°C (90°F).

SJWC proposes an alternative definition to NMED's in order to focus the definition on biological factors and remove references to natural vs. human-caused conditions. PL 41 at 5-6; TR at 1072:18-1073:5, SJWC Closing Argument, pp. 13-15. Its basis is that it would allow the Commission to apply the "marginal warmwater" designated use to any stream where conditions limit warmwater aquatic life, regardless of the cause. PL 41 at 6; TR at 1072:18-1073:5. NMED conceded that according to EPA it is appropriate for designated use definitions to focus on biological criteria. TR at 59:8-24. The Commission needs to have the ability to correctly identify "marginal warmwater" fisheries where they occur, regardless of whether the underlying conditions are natural or caused by human activity, and to recognize that these conditions are "existing uses." PL 41 at 6. Closing Argument, p. 13.

NMED opposes SJWC's proposal because it allows this use for waters that would be in a more protective category except for man-made conditions. This result contradicts the CWA and EPA guidance, effectively codifying the degraded aquatic community and man-made impacts without the process mandated by the CWA. SJWC's proposal to add the terms "self-sustaining" and "diverse" contradicts the use, which is intended to protect less than ideal aquatic conditions, and creates the curious situation in which the marginal warmwater aquatic communities must meet a higher standard than warmwater aquatic communities. TR at 59 l.25 - 61 l.1. NMED Closing Argument p. 26.

Comment: The Commission should consider the logical consequences of each of the proposals. NMED's merely clarifying changes should be adopted for the reasons stated.

CC. "livestock watering" means the use of a surface water of the state [~~used~~] as a supply of water for consumption by livestock.

NMED proposes to add the term "the use of" and delete the word "used" because it clarifies that "livestock watering" is a use, not a surface water of the state. PL 20 at 5, PL 27 at Montgomery 11.

Comment: Recommend adoption for the reason stated.

DD. "marginal coldwater fishery"….

PD's (original) Proposal: Delete Definition

Phelps Dodge proposed to delete the definition, but did not pursue the matter in its post-hearing submittal. PL 42 at Parkhurst 2.

NMED opposes deletion because the subcategory is consistent with EPA guidance and provides a meaningful classification for waters with less than ideal conditions for aquatic communities, which exist and must be protected. TR at 59 l.6 - 60 l.3, 61 ll.20-25. NMED Closing Argument, p. 27.

EBID Proposal:

DD. "marginal coldwater [~~fishery~~] aquatic habitat" means a designated use of a surface water of the state [~~known to support a coldwater fish population~~] that can support native coldwater aquatic life during at least some portion of the year, even though historical data indicate that the maximum temperature in the surface water of the state may exceed 20°C (68°F).

EBID proposed a different definition based on the concept of "aquatic habitat." PL 16 at 2. The basis for its proposal is that it is designed to parallel the definition of "wildlife habitat" and to create a defensible designated use of "aquatic habitat." PL 34, pp. 6-7.

NMED opposes EBID's proposal for the reasons stated in Section 20.6.4.7.I. PL 27 at Montgomery 10-11. NMED Closing Argument, pp. 27.

NMED Proposal:

DD. "marginal coldwater [~~fishery~~]" in reference to an aquatic life use means [~~a surface water of the state known to support~~] a coldwater [~~fish~~] aquatic life population can be supported during at least some portion of the year, even though historical data indicate that the maximum temperature in the surface water of the state may exceed ~~20~~25°C (68°F).

NMED proposes to change the definition from "fishery" to "aquatic life" for the reasons stated in Section 20.6.4.7.I. PL 20 at 5, PL 27 at Montgomery 11.

NMED proposes to eliminate the reference to "surface water of the state" for the reasons stated in Section 20.6.4.7.BB. PL 20 at 5, PL 27 at Montgomery 11.

NMED proposes to replace the phrase "known to support" with the phrase "can be supported" because the phrase "known to support" appears to preclude the consideration of marginal coldwater as an attainable use. PL 20 at 5, PL 27 at Montgomery 11; TR at 61 ll.9-15.

NMED proposes to change "20" to "25" because it is consistent with the criteria for this use in Section 20.6.4.900.H.3. TR at 735 ll.3-10. NMED Closing Argument, p.27.

SJWC opposes NMED's amendment and notes that it is not parallel to the definition for the "marginal warmwater" designated use proposed by NMED. PL 27 at 11; TR at 1073:6-10, 18-22. Both the current "marginal warmwater" definition and NMED's proposed definition of "marginal warmwater" include habitat limitations and references to sustaining an aquatic life population. However, neither the current "marginal coldwater" definition nor NMED's proposed definition of "marginal coldwater" refer to habitat limitations or the inability to sustain a diverse coldwater population. PL 41 at 7; TR at 1073:6-10. NMED testified that, according to EPA, it is appropriate for designated use definitions to focus on biological criteria. TR at 59:8-24. SJWC Closing Argument, pp. 14-15.

SJWC also opposes the change to 25 degrees Celsius, stating that there is no scientific evidence in the record supporting such a change, particularly since it was not proposed until the post-hearing

submittals. SJWC Closing Argument, p.15, fn. 2. NMED proposes to modify the definition to require only that a coldwater aquatic life population "can be supported" during part of the year. PL 27 at 11; TR at 61:9-15; 1073:11-17. NMED's proposal would incorrectly apply the "marginal coldwater" designated use to any stream in the state where water temperature is below 20º C (68º F) for some portion of the year because the definition would then cover nearly every stream in the state. PL 41 at 7-8. SJWC Closing Argument, pp. 15-16.

SJWC Proposal:

DD. "marginal coldwater [~~fishery~~]" in reference to an aquatic life use means [~~a surface water of the state known to support a coldwater fish population during at least some portion of the year~~] that intermittent flows, low flows, or other habitat conditions severely limit maintenance of a self-sustaining, diverse coldwater aquatic life population, [~~even though~~] or historical data indicate that the maximum temperature in the surface water of the state may exceed 20°C (68°F).

SJWC proposes an alternative definition. PL 41 at 7-8, Closing Argument, p. 15. PL 41 at 7. This is intended to make the "marginal coldwater" definition compatible with the definition of "marginal warmwater" and to recognize that certain waters that would normally support coldwater aquatic life (based on temperature considerations) may have habitat, flow or other factors that limit establishment of self-sustaining, diverse coldwater aquatic life populations. PL 41 at 7-8; TR at 1073:6-22. It is also designed to eliminate the inappropriate application of the marginal coldwater designated use to streams that normally do not support coldwater aquatic life, even though water temperatures may fall below 20º C (68º F) during certain times of the year—which occurs in almost every stream in New Mexico. PL 41 at 8.

NMED opposes SJWC's proposal because it creates uncertainty regarding the type of community that a water might otherwise support. TR at 59 l.25 - 61 l.1, 62 ll.1-17, NMED Closing Argument, p. 27.

Comment: The change to 25 degrees Celsius reflects a correction driven by an error in reflecting the actual criteria set out in Section 900.H.3. TR 733-35.

EE. "micrograms per liter (µg/L)" means micrograms of solute per liter of solution; equivalent to parts per billion when the specific gravity of the solution = 1.000.

FF. "milligrams per liter (mg/L)" means milligrams of solute per liter of solution; equivalent to parts per million when the specific gravity of the solution = 1.000.

GG. "minimum quantification level" means the minimum quantification level for a constituent determined by official published documents of the United States environmental protection agency.

HH. "natural causes" means those causal agents [~~which~~] that would affect water quality and the effect is not caused by human activity but is due to naturally occurring conditions.

II. "nonpoint source" means any source of pollutants not regulated as a point source [~~which~~] that degrades the quality or adversely affects the biological, chemical, or physical integrity of surface waters of the state.

JJ. "NTU" means nephelometric turbidity units based on a standard method using formazin polymer or its equivalent as the standard reference suspension. Nephelometric turbidity measurements expressed in units of NTU are numerically identical to the same measurements expressed in units of FTU (formazin turbidity units).

KK. "perennial [~~stream~~]" when used to describe a surface water of the state means [~~a stream or reach of a stream that flows~~] the water body contains water continuously throughout the year in all years; its upper surface, generally, is lower than the water table of the region adjoining the stream.

NMED proposes to revise the definition to reflect the actual language used in the WQS. The WQS use the terms "perennial surface waters," "perennial tributaries," and "perennial reaches," not "perennial stream." PL 20 at 5, PL 27 at Montgomery 12; TR at 78 ll.5-6.

NMED proposes to delete the phrase "a stream or reach of a stream" because it recognizes that lakes, ponds and reservoirs also can be perennial. PL 20 at 5, PL 27 at Montgomery 12; TR at 77 ll.18-24.

Comment: Recommend adoption for reason stated.

LL. "picocurie (pCi)" means a measure of radioactivity equal to the quantity of a radioactive substance in which the rate of disintegrations is 2.22 per minute.

MM. "point source" means any discernible, confined, and discrete conveyance from which pollutants are or may be discharged into a surface water of the state, but does not include return flows from irrigated agriculture.

NN. "primary contact" means any recreational or other water use in which there is prolonged and intimate contact with the water, such as swimming and water skiing, involving considerable risk of ingesting water in quantities sufficient to pose a significant health hazard. . Primary contact also means any use of surface waters of the state for [~~native American traditional~~] cultural, religious, or ceremonial purposes in which there is intimate contact with the water, including but not limited to ingestion or immersion, that [~~involves considerable risk sufficient to~~] could pose a significant health [~~risk~~] hazard. [~~The contact may include but is not limited to ingestion or immersion~~]

NMED proposes to expand the definition to include cultural, religious, or ceremonial uses by persons other than Native Americans because there is no rational basis for limiting such protection to Native American uses. PL 20 at 5-6, PL 27 at Montgomery 12.

NMED proposes to move the last sentence to avoid confusion because the current reference to "contact" might be construed to refer to the first sentence, rather than the immediately preceding one. PL 20 at 5-6, PL 27 at Montgomery 12.

NMED proposes to change the phrase "involves considerable risk sufficient to" to "could" to clarify the definition. PL 20 at 5-6, PL 27 at Montgomery 12.

NMED proposes to change the word "risk" to "hazard" to parallel the language in the first sentence. PL 20 at 5-6, PL 27 at Montgomery 12.

Comment: Recommend adoption for reasons stated.

OO. "secondary contact" means any recreational or other water use in which contact with the water may occur and in which the probability of ingesting appreciable quantities of water is minimal, such as fishing, wading, commercial and recreational boating and any limited seasonal contact.

PP. "segment" means [~~a water quality standards segment, the surface waters of which~~] a classified surface water of the state described in 20.6.4.101 through 20.6.4.899 NMAC. The water within a segment should have the same uses, [~~have common~~] similar hydrologic characteristics or flow [~~regulation~~] regimes, [~~possess common~~] and natural physical, chemical, and biological characteristics, and exhibit [~~common~~] similar reactions to external stresses, such as the discharge of pollutants.

NMED proposes to eliminate the phrase "a water quality standards segment" because the self-reference is confusing and unnecessary. PL 20 at 6, PL 27 at Montgomery 12.

NMED proposes to change the word "common" to "similar" because "common" could be interpreted to mean "ordinary" rather than "shared." PL 20 at 6, PL 27 at Montgomery 12.

Comment: Recommend adoption for reasons stated.

QQ. "state" means the state of New Mexico.

RR. "surface water(s) of the state" means all [~~interstate~~] surface waters situated wholly or partly within or bordering upon the state, including [~~interstate wetlands, and all intrastate waters, such as intrastate~~] lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, reservoirs or natural ponds [~~the use, degradation, or destruction of which would affect interstate or foreign commerce~~]. Surface waters of the state also means all tributaries of such waters, including adjacent wetlands, [~~and~~] any manmade bodies of water [~~which~~] that were originally created in surface waters of the state or resulted in the impoundment of surface waters of the state, and any "waters of the United States" as defined under the Clean Water Act that are not included in the preceding description. Surface waters of the state does not include private waters that do not combine with other surface or subsurface water or any water under tribal regulatory jurisdiction pursuant to § 518 of the Clean Water Act. Waste treatment systems, including treatment ponds or lagoons, designed and actively used to meet requirements of the Clean Water Act (other than cooling ponds as defined in 40 CFR 423.11(m) [~~which~~] that also meet the criteria of this definition), are not surface waters of the state, unless they were originally created in surface waters of the state or resulted in the impoundment of surface waters of the state.

NMED proposes to amend the definition to reflect New Mexico's plenary power over waters within its borders because the WQCC's authority to adopt WQS is not constrained by the Commerce Clause of the United States Constitution. PL 20 at 6. The interests of the state are critically linked both economically and culturally to good water quality in all of the state's waters, not just waters that can be linked to interstate commerce. NMED Closing Argument, p. 30.

The interstate commerce clause was added to the definition in the 1998 triennial review in order to parallel the CWA definition of "waters of the United States" (e.g., "[a]ll waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce"). The limitation is appropriate at the federal level because the Congress enacted the CWA in part under its authority to regulate interstate commerce. The limitation is misapplied at the state level. In contrast to the federal government, the states have plenary power within their own borders. Amendment X of the Constitution states: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people." As a result, it makes no logical or legal sense to limit New Mexico's authority to interstate waters. NMED Closing Argument, pp. 31-32.

Current events at the federal level also support removal of the interstate commerce clause. In Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)("SWANCC"), the U.S. Supreme Court held that certain waters were not subject to the CWA

based only on the presence of migratory birds. The Court also questioned the jurisdictional status of other isolated intrastate waters. Citing SWANCC, the EPA and Army Corps of Engineers stated their intent to amend the definition of "waters of the United States" to codify the exclusion of isolated intrastate waters. The proposal would strip a significant number of New Mexico's waters, such as playa lakes, of the CWA protection afforded them for more than 30 years. Fulfilling this commitment, the agencies drafted a regulation codifying its narrow view of federal jurisdiction. The draft regulation, which was leaked to the press, excluded from federal jurisdiction all ephemeral and intermittent waters in New Mexico, as well as all isolated, non-navigable waters. Id.

These events threaten the federal protections provided for more than 30 years to isolated intrastate waters across the country. Many states have responded by enacting emergency legislation. The National Governor's Association stated that because governors are unclear which waters are regulated under the CWA, there is a need for strong state policies. Id.

Governor Richardson has expressed his opinion that intrastate waters deserve federal protection. In a letter to New Mexico's congressional delegation, Governor Richardson urged their support for legislation that would reverse SWANCC. Governor Richardson also expressed his concern to the agencies that their proposed interpretation of the CWA threatened the health of many rivers, streams and wetlands in New Mexico, including the Tularosa, Mimbres, Estancia, San Augustine, and Salt Basins, as well as the isolated wetlands in the eastern plains of New Mexico. Id.

Extending the WQS to intrastate waters is consistent with the fundamental message of SWANCC. SWANCC was a case about federalism, the limits of federal powers, and the powers reserved to the states. The U.S. Supreme Court supported the goal of protecting isolated intrastate waters - waters with no relation to interstate commerce - at the state level, rather than federal level.

Absent a commitment by the federal government to protect intrastate waters, the WQCC must take action to delink the WQS from the interstate commerce limitation applicable to the federal government. Id.

NMED also proposes to add an explicit reference to the federal definition of "waters of the United States" because it ensures that the state definition is broad enough to encompass all waters subject to federal jurisdiction as required by the CWA. PL 20 at 6, PL 27 at Montgomery 14. NMED proposes to add a comma and the words "and actively used" to clarify that the exemption for waste treatment systems does not apply after deactivation of the system. PL 20 at 6. This ensures that waters comply with the WQS once they have completed their purpose as waste treatment systems, thereby avoiding the abandonment of large polluted waters throughout the state. The comma is the logical outgrowth of evidence at the hearing, and is intended to ensure that the term is not limited to the nonexclusive list. PL 27 at Montgomery 14; TR at 87 ll.5-20, 578 ll.3-12, 651 l.10 - 652 l.2, 729 l.14 - 730 l.2, 1247 l.17 - 1248 l.11.

Amigos Bravos supports NMED's proposal, particularly as it was originally worded. AB testified at length about the need to protect intrastate waters by removing the interstate commerce clause from the definition, and in its Final Submittal makes many of the same points NMED does about federalism and the importance of state protection of waters. AB notes that other states have already enacted emergency legislation to fill the gap left by SWANCC, including South Carolina, Wisconsin and Ohio. Of the state standards they reviewed, New Mexico is the only one with limiting commerce clause language. This language was added in the last triennial review at the suggestion of the New Mexico Mining Association, presumably to track with the language in the federal Clean Water Act. Non-perennial waters make up over 80% of this state's waters, and should be expressly protected in the standards. AB Final Submittal, pp. 9-11.

EBID also testified that New Mexico should have the authority to regulate intrastate waters:

> *The jurisdiction and regulation of non-navigable, intrastate waters that are not adjacent to a navigable stream should be left to the states.... As a traditional function of a state, the CWA assigns the primary responsibility to prevent, reduce, and eliminate pollution and the right to do so to the states.*

See also PL 34, pp. 15-18.

The State of California ("California") also expressed qualified support for NMED's proposal. PL 27 at Montgomery 12-14; PL 27 at Ex 51, 52, 53, 54, 55; PL 40 at 2-4; PL 17 at 7-8; PL 33 at Bishop 1-4; PL 43 at Bishop 1-2; PL 34 at Hernandez 18-22; PL 41 at Ex SJWC B-12, p.6; TR at 38 ll.1-12, 79 l.23 - 85 l.19, 90 l.17 - 91 l.20, 560 l.16 - 561 l.13, 1245 l.4 - 1247 l.6, 1436 ll.4-25, 1635 l.3 - 1636 l.9, 1722 ll.13-22.

Of the parties, PD alone opposes NMED's proposal to remove the interstate commerce clause in order to protect intrastate waters. PL 32 at Dunster 2; PL 42 at Hall 1-4. PD raises the following objections:

(1) NMED supports its proposal by pointing to the potential narrowing of the federal definition of "waters of the United States" in light of the recent U.S. Supreme Court decision in Solid Waste Agency of Northern Cook County ("SWANCC") v. United States Corps of Engineers, 531 U.S. 159 (2001). This concern, however, has not materialized on either a judicial or regulatory level nor is it likely to materialize in the future. PD Closing Argument, p. 2.

(2) Most federal courts have narrowly interpreted SWANCC to limit federal jurisdiction under the federal Clean Water Act to isolated waters only when the sole basis for regulation is use by migratory birds. (Citing several cases.)

(3) Although EPA and the Army Corps of Engineers proposed to revise the current regulatory definitions of "water of the United States," the Bush administration withdrew this proposal in December 2003. Id., TR at 84:3-5. The Commission should keep the existing negotiated definition of "surface waters of the state" and propose a change in the future if NMED's fears materialize. PD Closing Argument, p. 3.

(4) Both EPA Region 6 and NMED interpret SWANCC narrowly. See NMED Exhibit #53, the March 5, 2003 memorandum from Governor Bill Richardson to EPA regarding the jurisdictional Clean Water Act implications resulting from the SWANCC decision. Id.

(5) Under NMED's interpretation of SWANCC, intrastate and other isolated waters in New Mexico would be subject to federal Clean Water Act jurisdiction for reasons that are much more expansive than migratory bird use. There is no need to expand the definition unless there is some definite opposite movement by the relevant courts, EPA, or the Army Corps of Engineers. PD Closing Argument, p. 4.

(6) Standards must be based on "credible scientific data and other evidence appropriate under the Water Quality Act." NMED has not presented any data that would support its proposal to expand the existing definition of "surface waters of the state." This decision is critical to what will be the scope of the standards and cannot simply be dismissed as a non-scientific issue. PD Closing Argument, pp. 4-5.

(7) The last sentence in NMSA § 74-6-4(C) requires the WQCC, in making standards, to consider all facts and circumstances that it deems appropriate. Several appropriate factors that should be considered by the WQCC are listed in NMSA § 74-6-4(D). For example, the costs and benefits to the state and others of any significant change to the types of waters subject to the standards should be considered. NMED's proposed revisions, if adopted, could impose significant costs to the state and regulated entities without any corresponding environmental benefits. This is especially true given NMED's proposals to extend chronic criteria for aquatic life to all defined "surface waters in the state" (including ephemeral streams), NMED's unsupported position that it will determine compliance with chronic standards based on one grab sample, and the broad scope of the proposed definition of "surface waters of the state" coupled with NMED's reluctance to provide any clear exclusions. PD Closing Argument, p. 6.

(8) In place of clear exclusions from the regulatory definition of surface waters of the state, NMED has offered that it will apply "common sense." TR at 664:5-20. NMED's promise should not be adopted by the WQCC. Id.

(9) New Mexico's water quality criteria are based on federal water quality criteria and guidance for protecting water quality in "waters of the United States." It is inappropriate to expand the

current categories of water bodies subject to the state surface water quality standards when the existing criteria and standards are based on federal Clean Water Act water quality criteria and assumptions. NMED is not proposing to expand the definition of "surface waters of the state" and then adopt appropriate and scientifically defensible standards and designated uses for such newly regulated waters at some later time. In contrast, NMED's proposal would result in newly regulated waters being subject to the designated uses and criteria for unclassified waters. PD Closing Argument, pp. 6-7.

(10) There is no credible scientific data or other appropriate evidence in the record to justify the imposition of the default unclassified water standards to newly regulated waters. Id. It is unclear what types of additional water bodies or features the agency is attempting to regulate by revising the existing definition of "surface waters of the state." Although NMED testified in the hearing that its proposed changes simply were intended to restore its pre-SWANCC jurisdiction (TR 560:16-23), the proposed changes can be interpreted much more broadly. If NMED truly wishes to return to the pre-SWANCC jurisdiction, it would simply need to add language to the existing definition that clarifies that it can assert jurisdiction and apply water quality standards to a water body based solely on the presence of migratory birds. PD Closing Argument, pp. 7-8.

(11) With broader language it is difficult to predict the potential impact on mining or on any other industry or similar regulated entity in New Mexico. Although NMED has suggested that many water features located at industrial sites may qualify for an exclusion from the definition of surface waters of the state, NMED testimony demonstrates that it narrowly construes these exemptions (TR 554:4-10). For instance, NMED has testified that the potential of any impoundment to discharge to groundwater, even if isolated from any actual surface water, would eliminate the potential of the impoundment to qualify as a private water. TR 549:8-25, 550:1-25, 551:6-17. With respect to the waste treatment exclusion, NMED has taken the position, contrary to EPA, that the exclusion will not apply if the system was originally constructed in what it considers to be surface waters of the state. TR 571:5-12. The existing exclusions are inadequate to provide real protection against potential abuses by NMED. PD Closing Argument, p. 8.

(12) NMED also proposes to add additional language to the waste treatment system exclusion that requires that the system be in active use in order to qualify for the exclusion. Although EPA does not include such language in its regulations, NMED believes that the language is necessary to address certain circumstances. The phrase "actively used," however, is problematic because it is subjective and subject to misinterpretation. NMED's proposal to modify the waste treatment system exclusion is further evidence of NMED's attempt to continue to narrow the two existing exclusions from the regulatory definition of "surface waters of the state" while at the same time it is proposing to expand the definition because of unfounded concerns. PD Closing Argument, p. 9.

NMED responds to PD's objections with the following: Phelps Dodge complains that NMED's proposal improperly expands the definition to "waters that would not be subject to regulation under the federal Clean Water Act." The proposal is not an expansion. It is intended to ensure the same level of protection that existed before SWANCC. Phelps Dodge argues that NMED's proposal improperly regulates process units and storm water containment structures. NMED's proposal does not regulate process units or storm water containment structures. Both types of waters are "waste treatment systems," which are exempt as long as they are active. In addition, both types of waters are exempt if they constitute "private waters." TR at 594 l.1 - 595 l.3.

Phelps Dodge argues that the WQCC cannot change the definition without "credible scientific data". WQA Section 74-6-4(C) actually reads "credible scientific data and other evidence appropriate under the [WQA]". PL 27 at Ex 50. Even Phelps Dodge acknowledges that the WQCC can rely on other evidence, particularly for legal and policy decisions for which other considerations are more appropriate than "scientific data." TR 1499 l.14 - 1500 l.2. Phelps Dodge's own witness testified that the definition is based on legal considerations, not scientific ones. TR 1494 ll.5-11. Moreover, the WQCC is not changing the scope of the definition, only avoiding a limitation created by the uncertain scope of federal jurisdiction after SWANCC.

Phelps Dodge argues that the WQCC cannot adopt NMED's proposal without first evaluating the environmental benefits and economic costs. The WQA does not require the WQCC to consider environmental benefits and economic costs when adopting standards under the WQA Section 74-

6-4.C, but when the WQCC adopts regulations under the WQA Section 74-6-4.D. PL 27 at Ex 50; TR at 85 l.20 - 89 l.5, 542 l.4 - 544 l.11.

Finally, Phelps Dodge suggests that NMED could construe the definition to extend to golf course water hazards, landscaping ponds, and other "standing water." It is always possible to imagine "weird outliers" that might fall within the scope of a definition. However, the definition provides adequate guidance to avoid this absurd result. Moreover, NMED will continue to exercise common sense and best professional judgment in the interpretation of the definition, and its decisions will be subject to review and correction by the WQCC as necessary. Indeed, Phelps Dodge acknowledged the need for "common sense" in interpreting the definition, e.g., stating that it was "farfetched" to suggest that Yankee Avenue in Silver City could be a surface water of the state simply because it flowed during rain events. PL 40 at 2-4; PL 43 at Bishop 1-2; TR at 555 l.8 - 560 l.9, 648 l.22 - 650 l.13, 663 l.25 - 666 l.3, 728 l.10 - 729 l.4, 1249 l.8 - 1252 l.6, 1546 l.24 - 1547 l.8.

One public commenter, the Middle Rio Grande Conservancy District, opposed NMED's proposal. However, MRGCD presented no factual or legal argument to support its position. Its testimony exclusively concerned the impracticability of regulating canals and drains, which was never a part of NMED's proposal. TR at 1267 l.7 - 1272 l.20.

Amigos Bravos proposes to add the following sentence to the end of the definition:

<u>All mine pits shall be protected as waters of the State unless the owner and/or operator has effectively precluded the use of these waters by livestock or wildlife.</u>

PL 17 at 7, Final submittal, p. 9.

Phelps Dodge opposes the addition, arguing that mine pits are "private waters that do not combine with other surface or subsurface water." PL 32 at 3-4.

NMED also opposes the addition, although it disagrees with PD's basis for opposition, noting that Amigos Bravos did not present any supporting evidence. Further, the proposal improperly incorporates an implementation requirement into a definition. Finally, the phrase "effectively precluded" is ambiguous and would be difficult to implement because it raises a threshold question regarding the enforceability of WQS. PL 27 at Montgomery 14; TR at 89 ll.6-18.

<u>Comment:</u> This is a fundamentally important policy decision, but a few remarks on the legal arguments are apt: First, legally, NMED's proposal is not an "expansion" of the definition of "surface water of the state" beyond its pre-SWANCC contours. PD acknowledges as much (see para. 10, above) but speculates about the possibility of broader application without substantial basis. Second, the Commission does not need "scientific data" to support lifting the constitutional limitation that applies to the federal government out of the state definition. (The hearing officer for the last triennial review cautioned against importing the federal limitation into the state definition, stating "The boundaries of the term are limited by the state act, not the federal act. Therefore, any proposals to limit the definition to solely the federal definition or to waters that affect interstate commerce should be rejected." 8/6/99 Report on Hearing, p. 12. At that time the Commission incorporated the federal interstate commerce limitation "to respect NMED's current policy of not enforcing the Act beyond waters subject to EPA jurisdiction and to avoid possible improper expansion of EPA jurisdiction. The Commission is mindful of the potentially restrictive nature of this definition based on the vagaries of current federal jurisprudence, but may revisit this definition in the future if the federal courts apply too strict an interstate commerce test in the future." 12/29/99 Statement of Reasons, p. 9)

Additionally, it should be noted that the petition for amendments to the standards submitted by Rio Grande Community Development Corporation (RGCDC) was believed by some to propose that drains and canals be included as "surface waters of the state." This is a mischaracterization of the petition, found at PL 23. Although RGCDC discusses the definition and its exemptions, its "proposed change" is clearly articulated and does not relate to this definition: "We are requesting a change from the current use designation of "secondary contact"

to one of "primary contact" in segments 20.6.4.105, 20.6.4106 and 20.6.4.110 that particularly affect waters of the middle Rio Grande Acequia system." See below.

SS. "TDS" means total dissolved solids, also termed "total filterable residue."

TT. "technology-based [~~controls~~] limitations" means the application of technology-based effluent limitations as required under Section 301(b) of the federal Clean Water Act.

NMED proposes to revise the term being defined to more accurately reflect the term used in the WQS. PL 20 at 6, PL 27 at Montgomery 14.

Comment: Recommend adoption for reason stated.

UU. "total" means a constituent of a water sample [~~which~~] that is analytically determined without filtration.

VV. "toxic pollutant" means those pollutants, or combination of pollutants, including disease-causing agents, [~~which~~] that after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will cause death, shortened life spans, disease, adverse behavioral [~~malfunctions~~] changes , reproductive or physiological impairment or physical deformations in such organisms or their offspring.

Amigos Bravos proposes to amend the definition to clarify the type of effects caused by toxic pollutants. Final Submittal, pp. 11-12. Toxic effects can manifest in many ways other than "death, disease, behavioral malfunctions or physical deformations in such organisms or their offspring" as currently stated in this definition. The added language expands the definition to include other types of toxic effects. NMED supports the proposal. PL 27 at Montgomery 15.

Comment: Recommend adoption for reasons stated.

WW. "turbidity" is an expression of the optical property in water that causes incident light to be scattered or absorbed rather than transmitted in straight lines.

NMED Proposal:

XX. "warmwater [~~fishery~~]" with reference to an aquatic life use means [~~a surface water of the state where the~~] water temperature and other characteristics are suitable for the support or propagation or both of warm water [~~fishes~~] aquatic life.

EBID Proposal:

XX. "warmwater [~~fishery~~] aquatic habitat" means a designated use of a surface water of the state where the water temperature and other characteristics, such as elevation and hydrologic history, channel modifications and channel characteristics, stream bed characteristics, flow management and flow regime characteristics, and other characteristics, are suitable for the support or propagation or both of [~~warm water fishes~~] native warm water aquatic life.

NMED proposes to change the definition from "fishery" to "aquatic life" for the reasons stated in Section 20.6.4.7.I. PL 20 at 7, PL 27 at Montgomery 15.

NMED proposes to eliminate the reference to "surface water of the state" because the defined term is a use, not a water body. PL 20 at 7. See also Section 20.6.4.7.BB. PL 27 at Montgomery 15.

EBID proposes a different definition based on the concept of "aquatic habitat," again, to parallel the definition of "wildlife habitat" and to create a defensible designated use of "aquatic habitat." PL 16 at 3, PL 34 at pp. 6-7.

NMED opposes adoption of EBID's amendments for the reasons stated in Section 20.6.4.7.I, and because the list of possible characteristics complicates the definition, adding vague terms and suggesting that data must be collected and findings made on each element before the designated use can be assigned. PL 27 at Montgomery 15-16. NMED Closing Argument p. 39.

<u>Comment:</u> Recommend adoption of NMED's proposal and do not recommend adoption of EBID's proposal for reasons stated by NMED.

YY. "water contaminant" means any substance that could alter if discharged or spilled the physical, chemical, biological or radiological qualities of water. "Water contaminant" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, but may include all other radioactive materials, including but not limited to radium and accelerator-produced isotopes.

ZZ. "water pollutant" means a water contaminant 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.

NMED proposes to eliminate the word "to" because the word is not necessary to the meaning of the definition. PL 20 at 7, PL 27 at Montgomery 16.

<u>Comment:</u> Recommend adoption for reason stated.

AAA. "water quality-based controls" means effluent limitations, as provided under Section 301(b)(1)(C) of the federal Clean Water Act, [~~which~~] that are developed and imposed on point-source dischargers in order to protect and maintain applicable water quality standards. These controls are more stringent than the technology-based effluent limitations required under other paragraphs of Section 301(b).

NMED/UC Proposal:

BBB. "wetlands" means those areas [~~which~~] that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions in New Mexico. [~~Constructed wetlands used for wastewater treatment purposes~~] Wetlands that are constructed outside of a surface water of the state for the purpose of providing wastewater treatment and that do not impound [~~or discharge into~~] a surface water of the state are not included in this definition.

NMED proposes to replace "constructed wetlands used for wastewater treatment purposes" with the underlined text to address EPA's concerns in the 1998 triennial review that the phrase could be construed to preclude jurisdiction over manmade bodies of water originally created in, or resulting from the impoundment of surface waters of the state. PL 20 at 7, PL 27 at Montgomery 16; PL 27 at Ex 25; TR at 91 l.21 - 92 l.9.

UC proposes to delete the phrase "or discharge into" from NMED's original proposed text because the phrase would undermine the purpose of constructed wetlands. UC Closing Argument, pp. 10-11. Specifically, the phrase would have the effect of making constructed wetlands into surface waters of the state with applicable WQS, even though their purpose is to receive and improve the quality of waste water before it is discharged into a surface water of the state. By definition, treatment wetlands may receive waters that do not meet state water quality standards. Like all other treatment systems, the function of the treatment wetlands is to improve the quality of the water passing though the wetlands until it meets appropriate water quality standards. This result would defeat the purpose of constructing the wetland in the first place and was not the intent of NMED's original proposal. PL 35 at Fisher 5-6; PL 40 at 5, PL 40 at 5; TR at 92 ll.10-22. NMED agreed to UC's proposed change. NMED Rebuttal Testimony at 5. No other party commented on the proposed change.

Comment: Recommend adoption of both proposals for reasons stated.

CCC. "wildlife habitat" means a surface water of the state used by plants and animals not considered as pathogens, vectors for pathogens or intermediate hosts for pathogens for humans or domesticated livestock and plants.
[20.6.4.7 NMAC – Rp 20 NMAC 6.1.1007, 10-12-00; A, 7-19-01]

THE FOLLOWING ARE ALL NEW PROPOSED DEFINITIONS:

DDD.— "aquatic life" means any plant or animal life that uses surface water as primary habitat for at least a portion of its life cycle, but does not include avian or mammalian species.

NMED proposes to replace the designated use of "fishery" with "aquatic life" for the reasons stated in Section 20.6.4.7.I. The definition includes organisms that reside in the water, and are therefore in constant contact with it, as well as organisms that reside in the water during a phase of their life cycle, and are thus exposed to pollutants present in the water. Avian and mammalian species are exempted because they are protected by the wildlife habitat criteria. PL 20 at 7, PL 27 at Montgomery 16-17. NMED incorporated comments from Phelps Dodge for its final proposal. PL 32 at 4, PL 40 at 5-6.

EBID opposes NMED's proposal to change the designated use from "fishery" to "aquatic life." "The goals of the federal Clean Water Act are silent with respect to aquatic life; what is to be protected is fish and shellfish. Protection of their habitats is the only rational approach to this goal." PL 34 at Hernandez 7-8.

EBID asserts that it is "irrational to have a designated use of 'aquatic life' and a criteria for '‘aquatic life'." PL 34, pp. 6-7. NMED responds that this argument does not square with the WQCC's established practice regarding designated uses. The WQS contain the designated use of "irrigation" and criteria for "irrigation"; the designated use of "domestic water supply" and criteria for "domestic water supply;" the designated use of "livestock watering" and criteria for "livestock watering;" and the designated use of "wildlife habitat" and criteria for "wildlife habitat." NMED's proposal is consistent with this practice because it correlates the designated use of "aquatic life" with the criteria for "aquatic life." NMED Closing Argument, pp. 41-42.

EBID further asserts that the WQCC should subject NMED's proposal to scientific review. PL 34, pp. 6-7. NMED responds that its proposal does not involve any changes to the applicable criteria, which are based on EPA's recommendations. To the extent that EBID is suggesting that the WQCC should review EPA's recommended criteria, that request is better addressed to the EPA. The only change proposed by NMED is the definition of "aquatic life," and that definition is supported by and based upon EPA guidance. PL 40 at 5-6. NMED Closing Argument, p. 42.

EBID proposes to replace "aquatic life" with "aquatic habitat." PL 16 at 1-3, 7-8; see also 20.6.4.900.H, below. NMED opposes this proposal for the reasons stated in Section 20.6.4.7.I, and because it is contrary to EPA guidance. The EPA Handbook states: To more fully protect aquatic habitats and provide more comprehensive assessments of aquatic life use attainment/non-attainment, it is EPA's policy that States should designate aquatic life uses that appropriately address biological integrity and adopt biological criteria necessary to protect those uses. PL 27 at Ex 9, pp.2-1 & 2. Clearly, EPA intended for the states to adopt the designated use of "aquatic life" to protect "aquatic habitats," not vice versa. PL 40 at 5-6. NMED Closing Argument, pp. 42-43.

<u>Comment</u>: Recommend adoption of NMED's proposal for the reasons stated, and do not recommend adoption of EBID's proposal for the reasons stated by NMED.

NMED Proposal:

<u>20.6.4.7.EEE. "attainable"</u> <u>means achievable by the imposition of effluent limits required under sections 301(b) and 306 of the Clean Water Act and cost-effective and reasonable best management practices for nonpoint source control.</u>

EBID Proposal:

<u>20.6.4.7.EEE. "attainable"</u> <u>means achievable by the imposition of effluent limits required under sections 301(b) and 306 of the federal Clean Water Act and by the voluntary institution of cost-effective and reasonable best management practices for nonpoint source control subject to the limitations in Section 20.6.4.9C.</u>

SJWC Proposal:

<u>20.6.4.7.EEE. "attainable"</u> <u>means achievable by the imposition of effluent limits required under sections 301(b) and 306 of the Clean Water Act and voluntary implementation of cost-effective and reasonable best management practices for nonpoint source control as set forth in the New Mexico Statewide Water Quality Management Plan and the Nonpoint Source Management Program.</u>

UC Proposal:

20.6.4.7.EEE. "attainable use" means a use achievable in a water body by the imposition of effluent limits required under section 301(b) and 306 of the Clean Water Act and cost-effective and reasonable best management practices for nonpoint source control.

NMED proposes to define a term used throughout the WQS. PL 20 at 7-8. The definition is taken verbatim from the EPA regulations, 40 CFR 131.10(d), which state "At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under sections 301(b) and 306 of the Clean Water Act and cost-effective and reasonable best management practices for nonpoint source control". PL 27 at Montgomery 17; PL 27 at Ex 4; TR at 93 ll.4-13. NMED Closing Argument p. 43.

EBID proposes a modification of NMED's definition, above. PL 16 at 3. In support of its proposal EBID states as follows: The Clean Water Act was designed to control the point-source discharges of pollutants into the waters of the U.S. by imposing effluent limitations. If stream standards are not met when all point source dischargers are in compliance, the state may determine the TMDL of pollutants and may take action to reduce pollution by implementing more stringent performance requirements on point-source controls and/or treatment facilities and by reducing non-point sources of pollution by the voluntary actions of those who contribute to a specific type of pollution. This is typically done by establishing voluntary cost-effective reasonable best management practices. Section 20.6.4.9.C identifies limitations on the attainment posed by non-point sources of pollution. There is no provision in the New Mexico Water Quality Act for the mandatory institution of "best management practices" to control non-point source pollution. EBID Petition, PL 16 at p. 3, PL 34 at 4-5.

NMED opposes the adoption of EBID's proposal because the definition deviates from the federal language without good cause. "Attainable" is a term of art under the CWA and must be used to determine whether a water should be accorded a certain level of protection under the WQS. Accordingly, it is not appropriate for New Mexico to adopt a potentially conflicting definition. To

extent that EBID's proposal is motivated by the possibility of mandatory BMPs for nonpoint sources, its concern is not well-founded. The voluntary nature of BMPs for nonpoint sources already has been addressed in NMED's proposed definition for BMPs. Moreover, EBID's concern involves the implementation of BMPs, and the inclusion of implementation language is not proper in a definition. In fact, even if the WQCC were to find that a use were attainable in a water in part based on BMPs for nonpoint sources, that finding would not compel the imposition of BMPs. Attainability is a goal, that goal should be assigned even though the BMPs to achieve it are voluntary, and the assignment of that goal does not compel the implementation of BMPs by nonpoint sources. PL 27 at Montgomery 17; PL 40 at 6-7; TR at 93 l.23 - 95 l.10. NMED Closing Argument, pp. 43-44.

SJWC proposes another modification of NMED's definition, above. SJWC has proposed to modify the definition to note that BMPs are voluntarily implemented "as set forth in the New Mexico Statewide Water Quality Management Plan and the Nonpoint Source Management Program." PL 41, Pitts Rebuttal at 8; TR at 1075:4-13; 95:11-14. Neither the Clean Water Act nor the Water Quality Act authorizes regulation of nonpoint sources, and BMPs for nonpoint sources are voluntary. PL 40, NMED Rebuttal at 7; TR at 94:13-95:4; 1067:11-17, 1075:14-23. NMED has agreed to recognize the voluntary nature of BMPS in the definition of "BMPs." See section 20.6.4.7(B) NMAC, supra at 7. This modification is consistent with both state and federal law, including the Statewide Water Quality Management Plan and the Nonpoint Source Management Program. PL 41, Pitts Rebuttal at 8-9; TR at 1074:20-1077:2. SJWC Closing Argument, pp. 16-17.

NMED opposes SJWC's proposal to add the phrase "voluntary implementation of BMPs" and references to the Water Quality Management Plan ("WQMP") and Nonpoint Source Management Program ("NSMP") because it is not consistent with the CWA and EPA regulations. The voluntary language would allow nonpoint sources to veto attainability determinations by declaring their refusal to implement BMPs. In addition, the references to the WQMP and NSMP

are not part of the federal definition, and could be construed to preclude attainability determinations in derogation of federal law. TR at 95 l. 11 - 96 l.1. Closing Argument p. 44.

UC states that its proposed definition was taken from the EPA regulations at 40 CFR §131.10(d). SWQB's proposed definition of "attainable," 20.6.4.7.EEE NMAC, is virtually identical with the University's proposed definition; the only difference is the word "use" in the University's term and definition. PL 20 at 7, PL 27 at 17. SWQB's proposed omission of the term "use" in this definition is inconsistent with its proposed definition of "designated use," PL 20 at 2-3, and "existing use," Id. at 3;. Moreover, the term "attainable" is not employed in the standards exclusively in conjunction with the term "use." For example, 20.6.4.10.B NMAC states that "[t]he numeric standards set under [citation omitted] may not be attainable when streamflow is less than the critical low flow of the stream in question." (Emphasis added.) Therefore, the proposed definition, which is intended to apply to "uses," should be defined as "attainable use" to avoid confusion over the use of the term "attainable" in 20.6.4.10.B NMAC, and elsewhere where the term is not referring to a category of use for surface water. UC Closing Argument, pp. 5-6.

NMED opposes adoption of UC's proposal because it contains the "use" in two places, in effect, using a word to define itself. Given the similarity of UC's and NMED's proposal, there is no need to create confusion in the definition. PL 27 at Montgomery 17; TR at 93 ll.16-22. NMED Closing Argument p. 44.

20.6.4.7.FFF. "CAS Number" means an assigned number by Chemical Abstract Service (CAS) to identify a substance. CAS numbers index information published in chemical abstracts by the American Chemical Society.

NMED proposes to define a term used in the WQS, specifically in Section 20.6.4.900.M, as well as the proposed definition of "DDT and derivatives." PL 20 at 8, PL 27 at Montgomery 17-18.

Comment: Recommend adoption of NMED's proposal because the definition is an accurate one.

20.6.4.7.GGG. "cfu" means colony forming units.

NMED proposes to define a term used in conjunction with the proposal to switch from fecal coliform to E. coli criteria, and necessary to implement the WQS. PL 20 at 8, PL 27 at Montgomery 18.

Comment: Recommend adoption of NMED's proposal because the definition is an accurate one.

20.6.4.7.HHH. "DDT and derivatives" means 4,4'-DDT (CAS number 50293), 4,4'-DDE (CAS number 72559), and 4,4'-DDD (CAS number 72548).

NMED proposes to define a term used in the WQS. PL 20 at 8. The language accurately describes the term. DDT has several metabolites or derivatives. The two most frequently found in the environment are DDD (also known as TDE or Rhothane) and DDE. DDD was manufactured and used as an insecticide for many years. DDE is a metabolite of DDT. Although most of the available toxicity data are for DDT, EPA has developed criteria guidance for both DDD and DDE because of their widespread occurrence and toxicities to consumer species. EPA has not developed criteria guidance for other, rarer DDT metabolites, such as DDMU, DDMS, DDNU, DDOH, and DDA. PL 27 at Montgomery 18; PL 27 at Ex 46.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.7.III. "discharge" means the addition of any water contaminant to a surface water of the state from a point source.

NMED proposes to define a term used in the WQS. PL 20 at 8. There has been significant confusion regarding the term in prior hearings. The term has several possible definitions, including a regulatory definition, a hydrologic definition, and several general dictionary definitions. The term also has been used to describe water created by nonpoint sources. The definition describes the regulatory use of the term. PL 27 at Montgomery 18; TR at 96 ll.2-7.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.7.JJJ. "Escherechia coli" or "E. coli" means a bacterial species that inhabits the intestinal tract of humans and other warm-blooded animals, the presence of which indicates the potential presence of pathogenic microorganisms capable of producing disease.

NMED proposes to replace the fecal coliform bacterial criteria with E. coli to conform with current EPA guidance. PL 20 at 8. To achieve this change, a proposed definition of E coli is required, and the one proposed accurately describes the term. Escherechia coli ("E. coli") is the scientific name for a species of bacteria that EPA has determined to be an appropriate indicator of the presence of bacteria that may cause gastrointestinal illness in humans. EPA explained its reasoning and recommended criteria in Ambient Water Quality Criteria for Bacteria – 1986. Studies indicate that there is no direct correlation between concentration of fecal coliform bacteria and occurrence of gastrointestinal illness in swimmers. Conversely, these studies indicate that there is a direct correlation between the concentration of E. coli and occurrence of gastrointestinal illness in swimmers. Further guidance is contained in Implementation Guidance for Ambient Water Quality Criteria for Bacteria (Draft), EPA-823-B-02-003, May 2002. Approved test methods are published in the Federal Register, Vol. 68, No. 139, July 21, 2003, pp. 43272-43283. PL 27 at Montgomery 18-19; PL 27 at NMED Exhibit 12, 13, 14; TR at 39 ll.14-20, 68 ll.1-20.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.7.KKK.— "fish early life stages" means the egg and larval stages of development of fish ending when the fish has its full complement of fin rays and loses larval characteristics.

NMED proposes to define a term used in the WQS. PL 20 at 9. It clarifies the meaning of Sections 20.6.4.900 L and M, and EPA recommends adopting a definition for the term. The distinction between fish early and late life stages is important because early life stages are more sensitive than later life stages to the effects of contaminants that can adversely influence development, growth, function, and form of the individual and the population as a whole. The definition is derived from Biology of Fishes, Bond, Carl E., Saunders College Publishing, 2nd Ed., 1979, pp. 473-475. PL 27 at Montgomery 19.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

NMED Proposal:

20.6.4.7.NNN.- "limited aquatic life" as a designated use, means the surface water is capable of supporting only a limited community of aquatic life. This subcategory includes surface waters that support aquatic species selectively adapted to take advantage of naturally occurring rapid environmental changes, ephemeral or intermittent flow, high turbidity, fluctuating temperature, low dissolved oxygen content, or unique chemical characteristics.

UC Proposal:

20.6.4.7.NNN.- "limited aquatic life" as a designated use, means the surface water is capable of supporting only a limited community of aquatic life, but not fish. This subcategory includes surface waters that support aquatic species selectively adapted to take advantage of naturally occurring rapid environmental changes, ephemeral or intermittent flow, high turbidity, fluctuating temperature, low dissolved oxygen content, or unique chemical characteristics.

EBID Proposal:

20.6.4.7.NNN.- "limited aquatic life" means a designated use of a surface water of the state where the habitat is capable of supporting only a limited community of aquatic life. This designated use includes surface waters that support aquatic species selectively adapted to take advantage of rapid environmental changes, intermittent flow, high turbidity, fluctuating temperature, low dissolved oxygen content, or unique chemical characteristics.

NMED proposes a new use for naturally poor quality waters that may not support a full community of aquatic life. PL 20 at 9. The proposal ensures the proper level of protection for aquatic communities in naturally poor quality waters. A prime example is Sulphur Creek, which has a natural pH range between 2.0 and 4.0, and supports a limited macroinvertebrate community. A key phrase in the definition is "naturally occurring." The phrase clarifies that the use is not used when a more protective use is precluded by anthropogenic effects and no use attainability analysis has been prepared. PL 27 at Montgomery 19; PL 27 at Ex 42; TR at 39 ll.5-13, 63 l.25 - 64 l.25.

California proposes to modify NMED's definition by adding the phrase "but not fish" at the end of the first sentence. PL 22 at 1, UC Closing Argument, pp. 7-10. UC states that its proposal clarifies that the limited aquatic life category applies to waters that naturally do not support an aquatic community that includes fish. It is not intended to include waters where a self-sustaining fishery is existing or attainable. Fisher Direct Testimony, PL 35 at 3. Other states have used categories similar to the University's proposed "limited aquatic life" category for limited aquatic habitats, e.g., Colorado (Class 2 – Warm and Cold Water), Texas (Aquatic Life – Limited), Utah

(Class 3E – Severely habitat-limited waters), Wyoming (Aquatic Life other than Fish), and Arizona (Aquatic Life – Ephemeral). Id. The term "aquatic life" appears to be used more as an indication that all beneficial aquatic life, not just fish, must be protected. Id. at 3-4. See also NMED Revised Proposed Amendments, PL 20 at 85, note 5. However, the natural absence of fish is an important indicator that there is some natural deficiency in the habitat that makes it unsuitable for fish. Fisher Direct Testimony, PL 35 at 4.

UC continues: UC's "limited aquatic life" category is similar to the NMED's proposal; however, UC's proposal does not change any of the existing fisheries categories. In contrast, NMED's proposal incorporates all existing fisheries categories into aquatic life categories. This creates a number of difficulties: (1) NMED's proposal deletes all references to fish, and as a result, it would no longer be clear where to draw the line between various aquatic life categories, e.g., between the coldwater aquatic life and limited aquatic life categories. If coldwater aquatic life is defined by temperature alone, it no longer matters what kind of aquatic life is present, and a limited aquatic life category is unnecessary. (2) NMED's change creates problems elsewhere in 20.6.4 NMAC. Specifically, extending the former fisheries categories to waters without fish creates a problem when applying the acute and chronic criteria for protection of aquatic life. These criteria have been developed to protect a diverse community of aquatic life including fish. See PL 28, UC Exhibits 16 & 17. Recently developed criteria, such as the ammonia criteria, have become more specific, often specifying fish life stages. PL 28, UC Exhibit 18. Some of these criteria are not technically or scientifically applicable if the use category includes water bodies without fish. In UC's proposals, these water bodies without fish fall into the new "limited aquatic life" category, which specifically recognizes that site-specific criteria may be appropriate. Fisher Direct Testimony, PL 35 at 5.

(3) As an unintended consequence, extending the former fisheries categories to waters without fish also extends all the human health criteria to most, if not all waters, in New Mexico. Under NMED's proposal, the limited aquatic life use would only apply on a segment-specific basis or where specifically provided in the standards; aquatic life would be the default. NMED Revised Proposed Amendments, PL 20 at 16. Currently, all the human health criteria are applicable only

to waters with a fishery use; the persistent toxic pollutant criteria apply to waters that do not support fish, i.e., ephemeral and intermittent tributaries of fisheries. 20.6.4.10.G NMAC. See NMED Revised Proposed Amendments, PL 20 at 16. There is no support in the record for extending all the human health criteria to all surface waters of the state. Moreover, such a result would be contrary to the NMED's testimony supporting the Commission's adoption of the persistent toxic pollutant criteria.

NMED opposes adoption of UC's proposal because it would exclude those waters with naturally poor water quality that support fish that are tolerant of one or more of the listed conditions. The proposal is problematic for other reasons. First, the proposal creates a loophole in the standards. A water with a designated use of limited aquatic life would no longer qualify for the use - and would be left without protection - if a fish population were subsequently established. Second, the proposal establishes a species requirement for one subcategory of the aquatic life use. The subcategories should not depend on the presence or absence of specific life forms. They are intended to protect different types of aquatic communities. Fish are only one component of those communities. For instance, coldwater aquatic life is intended to protect shellfish as well as fish. (For example, the USFWS recommends coldwater aquatic life for new segments in the Rio Grande watershed because shellfish, but not fish, are present.) See Section 20.6.4.121a. Third, limited aquatic life is intended to protect communities adapted to stressful environments, which may include fish in some circumstances. The presence or absence of fish should not be determinative of whether the subcategory is appropriate. Fourth, it is appropriate to apply the full range of aquatic life criteria to limited aquatic life waters regardless whether fish are present. These criteria were developed to protect a diverse aquatic community, not just fish. The USFWS testified that in fact these criteria are not stringent enough to protect non-fish aquatic life, such as amphibians, which have lower tolerances to some pollutants. TR at 822 ll.14-23. Finally, it is not necessary to delete "fish" to resolve a conflict with the human health criteria in Section 20.6.4.10.G. NMED proposes to revise that section to generally exempt limited aquatic life waters. Therefore, even if such water contained fish, the human health criteria would not be

applicable, except when the water is a tributary to a water with an aquatic life use, in which case only the human health criteria for the persistent toxic pollutants would be applicable. PL 27 at Montgomery 20; PL 40 at 7-8; TR at 65 l.1 - 66 l.6. NMED Closing Argument, pp. 48-49.

EBID proposes a different definition based on the concept of "aquatic habitat." PL 16 at 3. In support of its proposal EBID states that there are many waters of the state that fit the conditions described where an ideal aquatic habitat does not prevail during most of the year, if in total, at any time of the year. This definition parallels the designated use of "wildlife habitat" and is defensible as a designated use. Id.

NMED opposes adoption of EBID's proposal for the reasons stated in Section 20.6.4.7.I. PL 27 at Montgomery 20.

Comment: Consider the relationship between this section and Section 20.6.4.10.G in deliberations.

20.6.4.7.PPP. "organoleptic" means the capability to produce a detectable sensory stimulus such as odor or taste.

NMED proposes to define a term used in the proposed revisions to Section 20.6.4.12.D. PL 20 at 9. The definition is derived from several dictionary definitions which define the term as "affecting or employing one or more of the organs of special sense." See Webster's New Collegiate Dictionary, G & C Merriam Co, 1973, p. 809. Section 20.6.4.12.D limits the application of the definition to the senses of taste and smell. PL 27 at Montgomery 20.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.7.SSS. "playa" means a shallow closed basin lake typically found in the high plains and deserts.

NMED proposes to define a term used in the WQS. PL 20 at 10. It accurately reflects the meaning of the term. PL 27 at Montgomery 21.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.7.TTT. "specific conductance" means conductivity adjusted to 25 degrees **C.**

NMED proposes to define a term used throughout the WQS. PL 20 at 10. Conductivity varies with temperature and should be referenced to a standard temperature. The proper term for describing conductivity adjusted to a standard temperature is "specific conductance". When a temperature is referenced in the current standards, NMED has understood it to mean 25 degrees C. PL 27 at Montgomery 21.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.7.UUU. "total PCBs" means the sum of all homolog, all isomer, all congener, or all Aroclor analyses.

NMED proposes to define a term used in the WQS. PL 20 at 10. The definition is derived from EPA guidance. PL 27 at Montgomery 21; PL 27 at Ex 10.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

"Fully support" shall mean that water quality will not adversely effect the most sensitive life stage of the most sensitive organism which utilizes or inhabits the water.

Amigos Bravos proposes to define the phrase "fully support." PL 17 at 7.

NMED opposes this proposal because the phrase is not used in the WQS with the exception of Amigos Bravos' proposal to amend Section 20.6.4.7.K. PL 27 at Montgomery 21-22; TR at 97 ll. 5-11. NMED Closing Argument, p. 50.

Comment: Do not recommend adoption for the reason stated by NMED.

"Reasonable operation" of irrigation and flood control facilities shall mean an operation in which Department approved BMPs are implemented that are adequate, on a site-specific basis, to fully protect all attainable, designated or existing uses in the receiving water. Any operation which results in an adverse impact to such uses is not reasonable and is subject to enforcement under the provisions of the Water Quality Act and these standards.

Amigos Bravos proposes to define the phrase "reasonable operation of irrigation and flood control facilities." PL 17 at 11. AB Final Submittal, p. 14. In support of its proposal, AB states

as follows: This definition is necessary to enable the department to know when to implement this exception. If the actions of irrigation and flood control facilities are the only anthropogenic source of high water temperature, and the standard no longer applies, how do we protect the fish the criterion was supposed to protect? Do the standards apply if the facilities contribute 51% of the heat load? Why does the agricultural community get an exemption when any other source may be held accountable? Does this action set a precedent for other sources to seek similar exemptions? Preferential treatment destroys the credibility of a system in which everyone is supposed to be equal under the law. AB Final Submittal at 14.

NMED opposes adoption of AB's proposal because it is not consistent with the WQCC's previous interpretation of this language. The WQCC previously interpreted the language in correspondence to the EPA. The WQCC stated that the language is intended to preclude enforcement of the specified numerical standards against listed activities, essentially non-point sources associated with the reasonable operation and maintenance of irrigation and flood control facilities. However, New Mexico measures, and will continue to measure, these numeric criteria for the purpose of assessing water quality in surface waters of the State affected by such activities. Any exceedances of these numeric criteria will be fully considered in assessing and reporting water quality. New Mexico will continue to assess the water quality of the surface waters of the State and will list all impaired waters, no matter what the cause, on the State's CWA § 303(d) list. There is no other way to interpret this provision. However, this provision does not preclude any rights enjoyed by any public entity or private citizen as expressed in Section 74-6-13 of the New Mexico Water Quality Act regarding abatement of public nuisances and pollution. This interpretation was approved by EPA, and upheld by the federal district court in Defenders of Wildlife v. USEPA, No. CIV 02-150 (D.N.M. May 21, 2004). The WQCC can take administrative notice of this decision. PL 27 at Montgomery 22; PL 27 at Ex 31, 32, 50; TR at 97 l.12 - 98 l.13.

SJWC also opposes AB's proposed definition. PL 41, Pitts Rebuttal at 17-19; TR at 1079:20-1081:5. SJWC states as follows:

(1) AB provided no testimony, technical or otherwise, in support of its proposal. TR at 1331:4-10. The Commission previously has interpreted the irrigation and flood control exemption in correspondence to EPA, and EPA approved the Commission's interpretation. PL 27, NMED Direct at 22; Leavitt Direct at 8; TR Pitts at 1080:25-1081:3; TR Montgomery at 97:15-98:3; April 19, 2001 Letter from NMED to EPA, Ex. NMED-31; November 6, 2001 Letter from EPA to NMED, Ex. NMED-32.

(2) The proposed definition of "reasonable operation of irrigation and flood control facilities" would impose NMED-defined BMPs on irrigated agriculture and flood control facilities. PL 41 Pitts Rebuttal at 18; TR Pitts at 1080:8-13. However, BMPs for nonpoint sources are voluntary in nature. PL 41, Pitts Rebuttal at 18; TR, Pitts at 1067:11-17, 1075:14-23, 1080:8-19; Montgomery at 94:13-95:4.

(3) The apparent purpose of AB's proposal is to regulate irrigation and flood control facilities as point sources. PL 41, Pitts Rebuttal at 18; TR Pitts at 1080:14-24. However, both state law (N.M. Stat. Ann. § 74-6-12(H)) and federal law (33 U.S.C. § 1342(l)(1)) exempt such nonpoint sources from regulation. PL 41, Pitts Rebuttal at 18-19; TR Pitts at 1080:17-24, 1081:4-5; 33 U.S.C. § 1342(l)(1), Ex. SJWC B-13; N.M. Stat. Ann. § 74-6-12(H), Ex. SJWC B-14. SJWC Closing Argument, pp. 17-18.

EBID also opposes AB's proposal. EBID urges the Commission to define the term as a rule rather than as a standard. TR at 951.

Comment: Do not recommend adoption for the reasons stated by NMED and SJWC.

NMED Proposal:

"tributary" means a stream, whether perennial, intermittent or ephemeral, that flows into a larger stream, or into a lake or reservoir, and includes a tributary of a tributary.

EBID Proposal:

"tributary" means a stream, whether perennial, intermittent or ephemeral, that flows into a larger stream, or into a lake or reservoir, and includes a tributary of a tributary, this last being at least an intermittent or ephemeral stream.

NMED proposes to define a term used in the standards. Questions have arisen in the past regarding whether the term is limited to direct tributaries to a stream. NMED proposes to clarify the term. TR at 96.

EBID proposes to add a last clause, a limiting one, stating that it is necessary to exclude rills. PL 34 at 19. EBID states that not every natural channel that carries runoff as a result of precipitation is a tributary. Over the years, the scope of the Clean Water Act has grown to include every rivulet that forms during a rainstorm to join another as these tiny flows make their way down hill in dry arroyos from the furthest reaches of a watershed to the first real ephemeral tributary of an ephemeral stream. It is time to redefine the term "waters of the U.S." Navigable waters, and thus waters of the state would seem to include the perennial reaches of interstate waters and man-made and natural, intrastate water-bodies capable of the routine practice of boating and not much else. PL 34 at 19. People have to be able to know whether they're in a water of the state or not. TR at 941-2.

NMED opposes EBID's additional clause because it adds ambiguity to the definition. All waters subject to regulation are at least ephemeral or intermittent, and it is not necessary to adopt an exclusion meant to cover rills, which no one seeks to regulate. TR at 96-97.

Comment: The definitions appear to be legally equivalent, if all waters subject to regulation are at least ephemeral or intermittent.

"Unusually high ambient air temperatures" shall mean a period of time in which the weekly mean maximum air temperature, for the location being evaluated, is more than 2.7°C (5°F) above the ten-year running average for the corresponding calendar period.

Amigos Bravos proposes to define "unusually high ambient temperatures." PL 17 at 11-12. AB Final Submittal at 15.

NMED supports the proposal because the phrase, which is used in Section 20.6.4.12.I, is inherently vague and ambiguous. Defining a specific temperature deviation and the period of

record to be examined will remove this ambiguity. PL 27 at Montgomery 22; TR at 98 ll.14-22. NMED Closing Argument pp. 51-52.

SJWC opposes this proposal. PL 41, Pitts Rebuttal at 19. AB provided no testimony concerning its proposed definition. AB provided no scientific basis for its proposal that air temperature is unusually high only during "a period of time in which the weekly mean maximum air temperature . . . is more than 2.7° C (5° F) above the ten-year running average for the corresponding calendar period." PL 41, Pitts Rebuttal at 19; TR Pitts at 1081:22-23. Although NMED does not oppose the proposal, NMED provided no scientific basis for the definition. PL 27, NMED Direct at 22; TR Montgomery at 98:14-22. NMED testified that the term "unusually high ambient air temperature" should be defined in assessment protocols rather than in the water quality standards. TR Montgomery at 98:16-22. SJWC Closing Argument, p.18.

The proposed definition would restrict both NMED's and the Commission's discretion in determining what constitutes an unusually high ambient air temperature. As a result, the proposal would restrict both NMED's and the Commission's discretion in determining whether high water temperature does or does not violate water quality standards because of high ambient air temperature. PL 41, Pitts Rebuttal at 19; TR Pitts at 1081:16-21. SJWC Closing Argument, p. 18.

Comment: SJWC's observation that no particular scientific basis appears in the record for this change is correct. Do not recommend adoption for reasons stated by SJWC.

UC Proposal:

"gross alpha" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample, including radium-226, but excluding radon-222 and uranium. Also excluded are source, special nuclear and by-product material as defined by the Atomic Energy Act of 1954.

NMED Proposal:

"**adjusted gross alpha**" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample, including radium-226, but excluding radon-222 and uranium. Also excluded are source, special nuclear and by-product material as defined by the Atomic Energy Act of 1954.

UC proposes to define "gross alpha." PL 22 at 1. The "proposed definition clarifies the use of this term by combining [the] discussion in 20.6.4.7.YY and 20.6.4.900 [NMAC] into a single location." Fisher Direct Testimony, PL 35 at 3. SWQB conditionally supported the proposal, but suggested that the term be defined as "adjusted gross alpha." NMED Direct Testimony, PL 27 at 23. Either approach reaches the same conclusion; however, the University's proposal is consistent with the current language in the standards and would require the least textual changes. UC Closing Argument, pp. 6-7.

NMED supports adoption of the definition with one change. The term "gross alpha" is used only in Section 20.6.4.900 and it is adequately defined in the text itself. See also Sections 20.6.4.900.B and F. However, because "gross" literally means "all," a definition that includes less-than-all alpha should not be called "gross." As a result, the term being defined should be "adjusted gross alpha." PL 27 at Montgomery 22-23; PL 40 at 8; TR at 98 l.23 - 99 l.14. NMED Closing Argument, p. 52.

Comment: The definitions appear to be legally equivalent.

20.6.4.8 ANTIDEGRADATION POLICY AND IMPLEMENTATION PLAN:

A. Antidegradation Policy: This antidegradation policy applies to all surface waters of the state.

NMED and SJWC Proposal: Leave this section as is, with exception of subsection (3), as below.

AB Proposal:

(1) Tier One: Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected in all surface waters of the state. Where the quality of a surface water of the state does not meet an applicable criterion or meets but is not more protective than an applicable criterion no degradation shall be allowed with respect to that criterion.

(2) Tier Two: Where the quality of a surface water of the state [~~exceeds levels necessary to support the propagation of fish, shellfish, and wildlife, and recreation in and on the water, that~~] is meeting some or all applicable water quality criterion the existing quality shall be maintained and protected unless the commission finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic and social development in the area in which the water is located. In allowing such degradation or lower water quality, the state shall assure water quality adequate to protect existing uses fully. Further, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable BMPs for nonpoint source control. Additionally, the state shall encourage the use of watershed planning as a further means to protect surface waters of the state.

(3) Tier Three: No degradation shall be allowed in high quality waters designated by the commission as outstanding national resource waters (ONRWs). ONRWs may include, but are not limited to, surface waters of the state within national and state monuments, parks, wildlife refuges, waters of exceptional recreational or ecological significance, and waters identified under the Wild and Scenic Rivers Act.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, this antidegradation policy and implementing method shall be consistent with Section 316 of the federal Clean Water Act.

(5) In implementing this section, the [~~commission~~] department through the appropriate regional offices of the United States environmental protection agency will keep the administrator advised and provided with such information concerning the surface waters of the state as he or she will need to discharge his or her responsibilities under the federal Clean Water Act.

Amigos Bravos proposes significant amendments to Section 20.6.4.8.A. PL 17 at 3-4. AB Final Submittal at pp. 3-4. The amendments are similar to NMED's February 21, 2003 public discussion draft. AB states in support that identifying the tiers makes it easier to understand the policy. The proposed language in subsection 1 makes it clear that waters impaired for a particular criterion are not further impaired for that criterion. The proposed language in subsection 2 better protects existing uses on a criterion-by-criterion basis. Subsection 5 relates to the NPDES process, and the antidegradation policy is supposed to be a critical component of each NPDES permit. Since the state implements the antidegradation policy and EPA implements the

NPDES program there must be a clearly defined process of communication and implementation on degradation as it relates to permits. AB Final Submittal, p. 4.

NMED opposes adoption of AB's proposal because it varies widely from the EPA regulations, 40 C.F.R. §131.12. While the amendments provide a clearer distinction between the tiers of waters subject to antidegradation review, their deviation from the well-established federal language creates the possibility of confusion in their application. Accordingly, it is better to retain the existing language which more closely tracks the federal provision. PL 27 at Montgomery 24-25; TR at 100 l.21 - 101 l.4. NMED Closing Argument p. 53.

SJWC also opposes AB's proposed changes for Section A, stating as follows: AB presented no testimony, technical or otherwise, in support of its proposal for the state's antidegradation policy, 20.6.4.8(A) NMAC. The AB proposals are unnecessary to protect existing uses, may be unmanageable from a regulatory standpoint, and may greatly increase the work load of the Surface Water Quality Bureau. PL 41, Pitts Rebuttal at 14; TR Pitts at 1077:5-10. The existing antidegradation policy set out in 20.6.4.8(A) NMAC mimics EPA regulations at 40 C.F.R. section 131.12. PL 27, NMED Direct at 24; PL 41, Pitts Rebuttal at 14; TR Pitts at 1077:11-14; Montgomery at 100:21-101:4; Killam Direct at 2; 40 C.F.R. § 131.12, Ex. NMED-4.

SJWC also specifically opposes the AB proposal to modify section 20.6.4.8(A)(2) NMAC to permit NMED, rather than the Commission, to determine whether water quality may be lowered based on a finding that "allowing lower water quality is necessary to accommodate important economic and social development in the area in which the water is located." This decision, which involves the consideration of important economic and social development issues, is properly left to the Commission, which is a policy-making body. PL 41, Pitts Rebuttal at 14-15: TR Pitts at 1077:18-1078:14. SJWC Closing Argument, p. 31.

SJWC Proposal:

(3) No degradation shall be allowed in high quality waters designated by the commission as outstanding national resource waters (ONRWs). ~~ONRWs may include, but are not limited to, surface waters of the state within national and state monuments, parks, wildlife refuges, waters of exceptional recreational or ecological significance, and waters identified under the Wild and Scenic Rivers Act.~~

SJWC proposes to move the last sentence of Section 20.6.4.8.A(3) to NMED's new proposed Section 20.6.4.8a. PL 21 at 2. SJWC Closing Argument, p. 19.

NMED supports this proposal because it describes a nonexclusive list of waters that may qualify for ONRW nomination. As such, the phrase is more appropriately located in the new section specifically addressing ONRWs, below. PL 27 at Montgomery 25; TR at 101 l.25 - 102 l.8. NMED Closing Argument, p. 53.

<u>Comment:</u> Do not recommend adoption of AB's proposal for the reasons stated by NMED and SJWC. Do recommend SJWC's proposed change for reason stated.

AB Proposal:

B. Procedures for nominating an ONRW: Any person may nominate a surface water of the state for designation as an ONRW by filing a petition with the commission pursuant to the *Guidelines for water quality control commission regulation hearings*. A petition to classify a surface water of the state as an ONRW shall include:

(1) a map of the surface water of the state, including the location and proposed [~~upstream and downstream~~] boundaries;

(2) a written statement based on scientific principles in support of the nomination, including specific reference to [~~the applicable criteria for ONRW~~] <u>one or more applicable characteristics listed in paragraph 3 of subsection A of 20.6.4.8 NMAC for ONRW has been met</u>;

(3) [~~supporting scientific evidence demonstrating that one or more of the applicable ONRW criteria listed in Subsection C of this section has been met;~~]

(4) [~~water quality data to establish a baseline for the proposed ONRW;~~]

(5) a discussion of activities that might contribute to the reduction of water quality in the proposed ONRW;

(6) any additional evidence to substantiate such a designation, [~~including an analysis of the economic impact of the designation on the local and regional economy within the state of New Mexico~~]; and

(7) affidavit of publication of notice of the petition in a newspaper of general circulation in the affected counties and in a newspaper of general statewide circulation.

Amigos Bravos proposes to make the ONRW process more accessible to the general public. Although AB was able to fulfill the requirements to support the nomination for the Rio Santa

Barbara, they had to devote considerable time and effort and found the process unduly onerous. Members of the general public typically do not have the technical expertise or the resources to hire expertise to establish baseline water quality data or complete an economic analysis of the designation. These were the most time-and-resource consuming aspects of the nomination petition. Further, high water quality data is not a Clean Water Act requirement for ONRW nomination, nor is baseline data on water quality or economic analysis a requirement for designation. AB Final submittal, p. 2.

AB further states that their proposals are supported by a number of EPA documents. In its assessment of the last triennial review the EPA commented on the nomination procedures: "Support for such a petition requires baseline water quality data and an economic impact analysis. Although we agree that developing baseline data can be important in establishing a benchmark to maintain water quality, we are concerned that the process laid out here may effectively bar the general public from nominating any waters from being designated an ONRW. Although high water quality is the thrust of 131.12(a) (3), ONRW designation is also intended to offer protection to those waters of exceptional ecological or recreational significance that may have little to do with water quality." (EPA Record of Decision For EPA Review of Water Quality Standards, Jan 23, 2001 p.12) EPA goes on to say that they will be closely monitoring the 2003 triennial review to make sure that the nomination procedures are not too onerous for the public: "EPA will monitor the implementation of this provision over the next triennial review. If in fact no waters are nominated, EPA will review the circumstances and consider whether to exercise its 303(c)(4)(B) authority to amend the nominating process." (EPA, 2001 p.12) AB Final Submittal, pp. 2-3.

In EPA's recent comments on this triennial review they again make the point that requiring an economic analysis is too cumbersome for the general public: " Providing an accurate local and regional economic impact analyses as part of a petition for ONRW nomination is likely beyond the capability of the general public. EPA believes that the requirement will, in most cases, have the effect of deterring or preventing citizens from petitioning for the protection of the State's most significant waters." (EPA Comments on Existing and Proposed Changes to the 2003 New Mexico

Water Quality Standards Public Discussion Draft, Aug. 14 2003 p. 7) The EPA reinforces this opinion elsewhere in their comment document: "In addition, EPA is concerned that several of the pieces of documentation to support a petition to classify a water as an ONRW are vague, and require resources and/or expertise that are unreasonable to expect from the general public. In effect, this may make it difficult to impossible for the public to nominate ONRWs" (EPA, 2003 p. 6), Id.

AB further notes that the only qualifications that are required by the Clean Water Act and by associated regulations for determining what constitutes an ONRW are outlined in 40 C.F.R. 131.12 (3) which state that "[w]here high quality waters constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained." Notice that the EPA does not outline that waters must be in a national or state park or that they must be of exceptional recreational or ecological significance, the EPA gives these two examples as categories of waters that are Outstanding National Resource waters but does not limit ONRWs to these waters alone, nor do they say that ONRWs must meet both of these definitions. Id.

Aside from portions of NMED's proposal included within AB's proposal, Amigos Bravos opposes all other parties' proposed changes to the ONRW nomination process. AB Final Submittal, pp. 2-3. See TR pp. 1188-1207, AB Direct, Conn at pp. 1-4, and AB Rebuttal, Bishop at p. 3.

NMED opposes AB's proposal to revise the ONRW nomination process by deleting the water quality data requirement in Paragraph 3, PL 17 at 2-3, because it is important to collect and submit this data - if available - to assist NMED in establishing a water quality baseline. Id.

SJWC opposes AB's proposal to eliminate several existing requirements for an ONRW petition, including the requirement that a petitioner provide an economic impact analysis of the proposed ONRW designation. SJWC asserts that the Commission is required to consider the "economic reasonableness" of an ONRW designation. At the very least, the Commission has significant

discretion to consider the economic impact of the designation and should use its discretion to do so.

First, the WQCC is required to consider the "economic reasonableness" of any proposed modification to an existing water quality standard, including an ONRW designation, pursuant to N.M. Stat. Ann. § 74-6-4(D). That statute states:

> *. . . .*
> *In making regulations, the commission shall give weight it deems appropriate to all relevant facts and circumstances, including:*
> *. . . .*
> *(3) technical practicability and economic reasonableness of reducing or eliminating water contaminants from the sources involved . . ."*
> *. . . .*

In Bokum Resources Corp., the New Mexico Supreme Court determined there is no distinction between the term "standard" and the term "regulation" as used in the Water Quality Act—both are rules "designed to have the force and effect of law and to control the actions of persons who are being regulated by the agency . . . ." 93 N.M. at 553, 603 P.2d at 292. More specifically, water quality "standards" adopted by the Commission are "rules;" otherwise, "they would have no efficacy, validity or enforceability." Id. Thus, because both water quality "standards" and water quality "regulations" constitute enforceable rules, the "economic reasonableness" criterion of § 74-6-4(D)(3) is applicable to ONRW designations. See Tenneco Oil Co., 107 N.M. at 472-73, 760 P.2d at 164-65 (applying the "economic reasonableness" requirement of section 74-6-4(D)(3) to "regulations" establishing numerical standards for 14 organic compounds in water).

The conclusion that the Commission must consider the economic impact of any proposed water quality standard finds additional support in N.M. Stat. Ann. section 74-6-10(A) (1967, as amended through 1993). In 1993, the Legislature amended that statute to provide for expanded enforcement powers of constituent agencies by mandating the enforcement of water quality "standards" in addition to the enforcement of water quality "regulations" previously permitted under the statute. Further, the statute now provides for equivalent penalties for the violation of water quality standards and water quality regulations. Because there is no legal difference

between standards and regulations for either enforcement, penalty or appeals purposes, § 74-6-4(D)(3) mandates the consideration of the economic reasonableness of any ONRW designation.

Second, even if the Commission rejects this argument, the Commission clearly has discretion to consider the economic impact of an ONRW designation under section 74-6-4(C). That statute permits the Commission to "give weight it deems appropriate to all facts and circumstances" when considering a water quality standard proposal. As recognized by numerous courts, economic considerations are important in adopting standards:

> *[A] standard connotes a legal entity for a particular reach of waterway or for an effluent. A water quality standard may use a water quality criterion as a basis for regulation or enforcement, but the standard may differ from a criterion because of prevailing local natural conditions . . . or because of the importance of a particular waterway, economic considerations, or the degree of safety to a particular ecosystem that may be desired.*

NRDC v. EPA, 770 F. Supp. 1093, 1100 (E.D. Va. 1991) (emphasis added); accord National Wildlife Fed'n v. Browner, 127 F.3d 1126, 1127 (D.C. Cir. 1997) (allowing reduction in water quality under antidegradation policy if "necessary to accommodate important economic or social development") (emphasis added). Further, courts have interpreted the Clean Water Act to allow a state (and thus the Commission) to both consider and give particular weight to economic or social factors when adopting standards. Homestake Mining Co. v. EPA, 477 F. Supp. 1279, 1283 (D. S.D. 1979). Therefore, the Commission has discretion to require an economic impact analysis from an ONRW petitioner, and it should retain that requirement in the water quality standards.

Regarding the proposed deletion of scientific evidence demonstrating the existence of one or more ONRW criteria, AB provided no testimony, expert or otherwise, supporting its proposal. Rather, AB only presented testimony concerning the water quality data and economic impact analysis requirements. TR Conn Direct at 2; Conn at 1203:23-1208:11.

SJWC continues that New Mexico law (N.M. Stat. Ann. § 74-6-4(C)) requires that water quality standards be based on "credible scientific data." TR Leavitt at 541:22-542:8. The burden of providing scientific evidence demonstrating that one or more ONRW criteria is met is best placed on the ONRW petitioner. PL 41, Pitts Rebuttal at 12-13; TR Pitts at 1043:19-23. AB was able to

fully comply with the scientific evidence requirement when submitting its petition to designate the Rio Santa Barbara as an ONRW. TR Conn at 1189:18-1195:7, 1433:20-24.

Regarding the elimination of the water quality data requirement, AB was able to fully comply with the water quality data requirement when submitting its petition to designate the Rio Santa Barbara as an ONRW by providing water quality data gathered by NMED. TR Conn at 1356:10-1357:9, 1433:20-24.

Applicable EPA regulations (40 C.F.R. § 131.12(a)(3)) state that ONRW water quality shall be maintained and protected. In other words, ONRW water quality cannot be degraded. TR Conn at 1367:3-17; PL 41, Pitts Rebuttal at 10-12; TR Pitts at 1039:21-1040:2, 1041:13-15, 1042:6-7; 40 C.F.R. § 131.12(a)(3), Ex. SJWC B-1.

Water quality data is important for developing a baseline to maintain water quality. TR Montgomery at 326:20-327:10, 376:19-22; Pitts at 1041:16-20; Conn at 1321:10-18, 1413: 5-12; Abeyta at 1808:8-14. In order to protect ONRW water quality, the Commission needs evidence of existing water quality at the time an ONRW petition is filed. The burden of providing water quality data is best placed on the ONRW petitioner. PL 41, Pitts Rebuttal at 12-13; TR Pitts at 1043:19-23.

With respect to the economic impact analysis requirement, AB was able to fully comply with the economic impact analysis requirement when submitting its petition to designate the Rio Santa Barbara as an ONRW. TR Conn at 1433:20-24, 1188:10-1189:1; Starbuck Direct at 1-8.

No one petitioned the Commission to designate an ONRW before the economic impact analysis requirement was adopted during the last triennial review. TR Saums at 334:10-335:1, 335:10-22. Thus, there is no evidence that the adoption of the economic analysis regulation at the last triennial review has stopped the pubic from filing ONRW petitions.

Designation of a water of the state as an ONRW should not be taken lightly because federal regulations (40 C.F.R. § 131.12(a)(3)) require that ONRW "water quality shall be maintained and protected." In other words, ONRW water quality cannot be degraded. TR Conn at 1367:3-17; PL 41, Pitts Rebuttal at 10-12; TR Pitts at 1039:21-1040:2, 1041:13-15, 1042:6-7; 40 C.F.R. § 131.12(a)(3), Ex. SJWC B-1.

Because ONRWs cannot be degraded, nor can a tributary contribute to degradation of an ONRW, an ONRW designation may result in substantial regulatory and economic impacts to the state of New Mexico and its citizens. PL 41, Pitts Rebuttal at 10, 12; TR Pitts at 1041:7-9, 1042:6-11, 1043:2-7, 1044:25-1045:15; PL 31, Kirkpatrick Direct at 3; TR Kirkpatrick at 978:9-19; Montgomery at 333:4-8.

Neither state nor federal law prohibits the Commission from considering the economic impact of an ONRW designation. TR Montgomery at 113:1-18, 114:2-5; PL 41, Pitts Rebuttal at 11-12; TR Pitts at 1042:12-16. [SJWC also proposed alternative findings relating to the issues above, SJWC Closing Argument pp. 24-30.]

AB Proposal:

C. Pursuant to a petition filed under Subsection B of this section, the commission may classify a surface water of the state as an ONRW.

D. [~~**Reserved:** This subsection is reserved for a list of waters classified as ONRWs.~~] Waters classified as ONRWs:

(1) Rio Santa Barbara, including the West, Middle and East Forks from their headwaters downstream to the boundary of the Pecos Wilderness.

Amigos Bravos nominates a portion of the Rio Santa Barbara for ONRW designation. PL 17 at 1-2. AB has fulfilled all the current ONRW requirements in its Nomination for the Rio Santa Barbara as New Mexico's First Outstanding National Resource Water. The Rio Santa Barbara is a water of both exceptional ecological and recreational significance and deserves protection. AB Final Submittal p. 2.

NMED supports the designation because the petition satisfies the ONRW designation requirements. NMED's Aquatic Biology and Physical Habitat Team reviewed the water chemistry, habitat, and macroinvertebrate data in the petition and concluded that it was collected and analyzed using consistent procedures. The data demonstrates that the Rio Santa Barbara exceeds the criteria for the designated use of High Quality Cold Water Fishery. Indeed, the data indicate that the upper watershed of the Rio Santa Barbara is as good or better than the other regional reference sites, and should be used in future studies as a regional reference site because of its exceptional quality. Moreover, the proposal is supported by a wide range of state and

national officials, including the Governor of Picuris Pueblo, Senator Bingaman, and Representative Udall. Amigos Bravos Presentation Slide, "Rio Santa Barbara"; Letter from the Honorable Jeff Bingaman to WQCC, February 25, 2004; Letter from the Honorable Tom Udall to WQCC, February 26, 2004; PL 27 at Montgomery 28-29; PL 33 at Conn 1-3; PL 33 at Starbuck 1-8; TR at 114 l.11-115 l.8, 828 ll.8-10, 1062 ll.16-19, 1187 l.23 - 1203 l.17, 1261 ll.2-15, 1291 l.13 - 1294 l.19. NMED Closing Argument pp. 61-62.

Comment: The nomination does appear to meet requirements. Please review the nomination packet which is part of PL 17. AB was unable to present one of its witnesses, Megan Starbuck, for cross-examination; she had moved out of state. The Commission may weigh her written testimony considering that, but no party objected to the admission of the written testimony regardless, and the Commission may give her written testimony full weight if they choose. Hearsay is admissible in an administrative proceeding. There must be a residuum of legally competent evidence in the record to support a decision, but not all evidence considered by an administrative agency must be legally admissible. Anaya v. NM Personnel Board, 107 N.M. 622, 762 P.2d 909 (Ct. App. 1988).

NMED Proposal: Delete sections B, C and D, and move to new section 20.6.4.8a

~~**B. Procedures for nominating an ONRW**: Any person may nominate a surface water of the state for designation as an ONRW by filing a petition with the commission pursuant to the Guidelines for water quality control commission regulation hearings. A petition to classify a surface water of the state as an ONRW shall include:~~

~~**(1)** a map of the surface water of the state, including the location and proposed upstream and downstream boundaries;~~

~~**(2)** a written statement based on scientific principles in support of the nomination, including specific reference to the applicable criteria for ONRW;~~

~~**(3)** supporting scientific evidence demonstrating that one or more of the applicable ONRW criteria listed in Subsection C of this section has been met;~~

~~**(4)** water quality data to establish a baseline for the proposed ONRW;~~

~~**(5)** a discussion of activities that might contribute to the reduction of water quality in the proposed ONRW;~~

~~**(6)** any additional evidence to substantiate such a designation, including an analysis of the economic impact of the designation on the local and regional economy within the state of New Mexico; and~~

~~**(7)** affidavit of publication of notice of the petition in a newspaper of general circulation in the affected counties and in a newspaper of general statewide circulation.~~

~~**C.** Pursuant to a petition filed under Subsection B of this section, the commission may classify a surface water of the state as an ONRW.~~

~~**D. Reserved:** This subsection is reserved for a list of waters classified as ONRWs.~~

NMED proposes to move Sections 20.6.4.B, C, and D to a new section designated Section 20.6.4.8a, and to reletter the remaining paragraphs accordingly. PL 20 at 10-11. The antidegradation policy and implementation plan relate to all classes of water, not just ONRWs. Conversely, because ONRWs receive special treatment under the antidegradation policy and implementation plan, the procedures for nominating and adopting ONRWs should be contained in a separate section. PL 27 at Montgomery 23; TR at 105 ll.7-12. NMED Closing Argument, pp. 55-56.

SJWC agrees with the proposal to move and reletter. SJWC Closing Argument, p. 19.

20.6.4.8a Outstanding National Resource Waters

A. Procedures for nominating an ONRW: Any person may nominate a surface water of the state or a portion of a surface water of the state for designation as an ONRW by filing a petition with the commission pursuant to the Guidelines for water quality control commission regulation hearings. A petition to classify a surface water of the state as an ONRW shall include:

(1) a map of the surface water of the state, including the location and proposed boundaries;

(2) a written statement and evidence based on scientific principles in support of the nomination, including specific reference to one or more applicable characteristics listed in Paragraph (3) of Subsection A of 20.6.4.8 NMAC for ONRW has been met;

(3) water quality data including chemical, physical or biological parameters, if available, to establish a baseline condition for the proposed ONRW;

(4) a discussion of activities that might contribute to the reduction of water quality in the proposed ONRW;

(5) any additional evidence to substantiate such a designation, including an analysis of the economic impact of the designation on the local and regional economy within the state of New Mexico; and

(6) affidavit of publication of notice of the petition in a newspaper of general circulation in the affected counties and in a newspaper of general statewide circulation.

In addition to relocation, NMED proposes to revise the nomination process. PL 20 at 12-13. In Paragraph 1, NMED proposes to delete the phrase "upstream and downstream boundaries." The existing language excludes lakes and other non-flowing bodies from ONRW designation. PL 27 at Montgomery 27-28; TR at 106 ll.8-11. NMED proposes to combine existing Paragraphs 2 and 3, and renumber as Paragraph 2. PL 20 at 12-13. This simplifies the nomination process. PL 27 at Montgomery 27-28; TR at 106 ll.11-13.

NMED proposes to add the phrase "if available" regarding water quality data in renumbered Paragraph 3 and to delete the economic benefit analysis in existing Paragraph 6. PL 20 at 12-13. This proposal revises language which burdens the ONRW nomination process and bears no rational relationship to ONRW designation under federal law. Following the 1998 triennial review, the EPA commented that the requirements for baseline water quality data and economic impact analysis could "effectively bar the general public from nominating any waters." The EPA also stated, "ONRW designation is also intended to offer protection to those waters of exceptional ecological or recreational significance that may have little to do with water quality." The EPA cautioned that if no waters were nominated for ONRW status, "EPA [would] review the circumstances and consider whether to exercise its 303(c)(4)(B) authority to amend the nominating process." Since 1998, there has been only one ONRW nomination, and the organization nominating that ONRW - Amigos Bravos - has stated that the process is burdensome, costly, and difficult to navigate precisely because of these requirements.

Adding the phrase "if available" clarifies that water quality data is not required unless available. Id. This change is consistent with EPA's comment regarding the potential irrelevance of water quality to ONRW designation. Even the federal government, with its vast resources, has been unable to determine baseline conditions for areas within its jurisdiction. To require citizen groups to achieve what the federal government cannot imposes a nearly impossible burden on the ONRW process. Of course, the water quality baseline is important to protect the ONRW, but the data could be collected after designation by the WQCC as part of NMED's ongoing assessment program.

The economic benefit analysis should be deleted because the requirement imposes a significant obstacle to nominating an ONRW. As stated above, the requirement has no rational relationship to the purpose and intent of ONRW designation. Petitioners cannot rely on federal environmental analysis documents, because they rarely contain sufficient information to conduct an ONRW-specific economic analysis. Accordingly, the economic impact analysis requirement serves no particular function except to hinder ONRW designation. PL 27 at 27-28; Amigos Bravos Presentation Slide, "Process is Unnecessarily Cumbersome to the Public"; TR at 38 ll.13-23, 105

l.7 - 107 l.1, 328 ll.5-13, 1203 l.23 - 1204 l.2, 1204 l.24 - 1208 l.11, 1282 ll.5-19, 1288 l.8- 1289 l.4, 1299 l.2 - 1300 l.4, 1322 ll.2-18, 1380 l.15 - 1383 l.8, 1413 l.5 - 1414 l.1, 1434 ll.3-13.

SJWC Proposal:

SJWC supports NMED's proposal above, with one change to paragraph 2:

(2) a written statement and evidence based on scientific principles in support of the nomination, including specific reference to one or more applicable ~~characteristics listed in Paragraph (3) of Subsection A of 20.6.4.8 NMAC for ONRW has been met~~ ONRW criteria listed in Subsection B of this section;

SJWC Proposal:

SJWC proposes to revise the ONRW criteria in new Paragraph 20.6.4.8.B.

B. Criteria for ONRWs: A surface water of the state, or a portion of a surface water of the state, may be designated as an ONRW where the commission determines that the designation is beneficial to the State of New Mexico, and:

(1) the water is a significant attribute of a state gold medal trout fishery, national or state park, national or state monument, national or state wildlife refuge or designated wilderness area, or is part of a designated wild river under the federal Wild and Scenic Rivers Act; or

(2) the water has exceptional recreational or ecological significance; or

(3) the existing water quality is equal to or better than the numeric criteria for protection of aquatic life uses, recreational uses, and human health uses, and the water has not been significantly modified by human activities in a manner that substantially detracts from its value as a natural resource.

[~~B~~]C. Pursuant to a petition filed under Subsection ~~B~~ A of this section, the commission may classify a surface water of the state or a portion of a surface water of the state as an ONRW if the criteria set out in Subsection B of this section are met.

cf. PL 21 at 4.

This new section would outline criteria for ONRWs. Pl 31, Pitts Direct at 2-6. SJWC provided lay and expert technical testimony in support of its proposal. Pl 31, Pitts Direct at 2-6; TR Pitts at 1039:12-1048:11; Kirkpatrick Direct at 2-3; TR Kirkpatrick at 978:9-979:21. Currently, the surface water quality standards contain limited guidance about waters that may be designated as ONRWs. PL 31, Pitts Direct at 4; TR Pitts at 1039:14-20. This proposal will aid the public and the Commission by identifying the procedures required for nominating an ONRW and the criteria for designating an ONRW. PL 31, Kirkpatrick Direct at 2-3; Pitts Direct at 4; TR Kirkpatrick at 978:20-24, 979:2-11.

The criteria proposed accurately reflect EPA regulations concerning ONRWs (40 C.F.R. § 131.12(a)(3)) and the ONRW characteristics referred to in the existing surface water quality

standards (20.6.4.8(A) and (B) NMAC). PL 31, Pitts Direct at 5-6; TR Pitts at 1039:21-1040:14; 40 C.F.R. § 131.12(a)(3), Ex. SJWC B-1.

The proposal, which is supported by NMED and Amigos Bravos, and not opposed by any party, reflects compromise language regarding the criteria that waters must satisfy to be designated as ONRWs. The criteria are consistent with EPA regulations because it is understood that (1) the criteria are stated in the disjunctive, and (2) a designation is beneficial if it satisfies any one of the criteria in subsections 1-3. The WQCC can consider other factors, but there is no requirement to show an economic benefit, which would be inconsistent with EPA regulations. PL 27 at Montgomery 29-30; PL 40 at 9; TR at 107 l.5 - 114 l.9, 1045 l.19 - 1048 l.11, 1097 l.15 - 1098 l.21, 1100 l.23 - 1101 l.4, 1303 l.25 - 1306 l.16. SJWC Closing Argument, pp. 19-32.

<u>Comment:</u> Legally, the Commission has the <u>discretion</u>, but is not <u>required</u> to consider economic impact. In referring to the statute during deliberations on the standards, please refer to 74-6-4.C, not 74-6-4.D.

Recommend adoption of NMED's proposal for Section B (i.e., as a new section 20.6.4.8.a), with SJWC's change to paragraph 2, for reasons stated, and do not recommend adoption of AB's proposal for Section B for reasons stated by NMED and SJWC. However, NMED's proposal replaces only current section B, not current sections C or D of the original provision, although they propose to delete and replace all three. Recommend adoption of SJWC's proposal for sections B and C in the new 20.6.4.8.a, and AB's proposal for current section D as Section D of the new 20.6.4.8a.

E. Implementation Plan: The department, acting under authority delegated by the commission, implements the water quality standards, including the antidegradation policy, by describing specific methods and procedures in the continuing planning process and by establishing and maintaining controls on the discharge of pollutants to surface waters of the state. The steps summarized in the following paragraphs, which may not all be applicable in every water pollution control action, list the implementation activities of the department. These implementation activities are supplemented by detailed antidegradation review procedures developed under the state's continuing planning process. The department:

(1) obtains information pertinent to the impact of the effluent on the receiving water and advises the prospective discharger of requirements for obtaining a permit to discharge;

(2) reviews the adequacy of the existing data base, and if additional information is needed, conducts a water quality survey of the receiving water in accordance with an annually reviewed, ranked

priority list of surface waters of the state requiring total maximum daily loads pursuant to Section 303(d) of the federal Clean Water Act;

(3) assesses the probable impact of the effluent on the receiving water relative to its attainable or designated uses and numeric and narrative standards;

(4) requires the highest and best degree of wastewater treatment practicable and commensurate with protecting and maintaining the designated uses and existing water quality of surface waters of the state;

(5) develops water quality based effluent limitations and comments on technology based effluent limitations, as appropriate, for inclusion in any federal permit issued to a discharger pursuant to Section 402 of the federal Clean Water Act;

(6) requires that these effluent limitations be included in any such permit as a condition for state certification pursuant to Section 401 of the federal Clean Water Act;

(7) coordinates its water pollution control activities with other constituent agencies of the commission, and with local, state and federal agencies, as appropriate;

(8) develops and pursues inspection and enforcement programs to ensure that dischargers comply with state regulations and standards, and complements EPA's enforcement of federal permits;

(9) ensures that the provisions for public participation required by the New Mexico Water Quality Act and the federal Clean Water Act are followed;

(10) provides continuing technical training for wastewater treatment facility operators through the utility operators training and certification programs;

(11) provides funds to assist the construction of publicly owned wastewater treatment facilities through the wastewater construction program authorized by Section 601 of the federal Clean Water Act, and through funds appropriated by the New Mexico legislature;

(12) conducts water quality surveillance of the surface waters of the state to assess the effectiveness of water pollution controls, determines whether water quality standards are being attained, and proposes amendments to improve water quality standards;

(13) encourages, in conjunction with other state agencies, voluntary implementation of the best management practices set forth in the New Mexico statewide water quality management plan and the nonpoint source management program;

(14) evaluates the effectiveness of BMPs selected to prevent, reduce or abate sources of water pollutants;

(15) develops procedures for assessing use attainment as required by 20.6.4.14 NMAC and establishing site-specific standards; and

(**16)** develops list of surface waters of the state not attaining designated uses, pursuant to Sections 305(b) and 303(d) of the federal Clean Water Act.

[20.6.4.8 NMAC – Rp 20 NMAC 6.1.1101, 10-12-00]

Amigos Bravos Proposal:

Amigos Bravos proposes to replace Section E entirely with a procedure to implement the antidegradation policy, and to incorporate the following material into Section 20.6.4.8.A. PL 17 at 4-5.

(1) <u>Activities that will be subject to antidegradation review include, but are not limited to, the following:</u>

a. <u>all NPDES permits for a new or increased discharge</u>

b. <u>all NPDES permit renewals for which no antidegradation review has ever occurred</u>

c. <u>404 permits, as part of the 401 certification</u>

(2) <u>To prevent harm to existing uses, the department must determine through available information or investigation: [formerly (1)-(3)]</u>

a. <u>what uses are existing,</u>

b. <u>what uses have existed since November 28, 1975 and</u>

c. disallow or restrict activities that would harm those uses or the level of water quality necessary to protect them.

(3) To prevent degradation in high quality waters designated as ONRWs, the department must disallow or restrict activities that would

a. degrade the quality of the water in a designated ONRW and

b. degrade the quality of the water upstream from a designated ONRW.

(4) To maintain and protect the existing quality of water that exceeds levels necessary to support the propagation of fish, shellfish, and wildlife, and recreation in and on the water (water quality standards), the department must:

a. Evaluate alternatives to proposed activities that might degrade water quality;

b. review the social and economic impacts of the proposed activity,

c. consult with other local, state and federal agencies as appropriate; [formerly(7)

d. allow for public input into the evaluation and ensure that the provisions for public participation required by the New Mexico Water Quality Act and the federal Clean Water Act are followed [formerly (9)];

e. assure no harm to existing uses;

f. assure the highest statutory and regulatory requirements for all new and existing point sources have been assigned in water quality-based effluent limits as a condition for state certification pursuant to Section 401 of the federal Clean Water Act ; [formerly (4)-(6)]

g. assure all cost-effective and reasonable BMPs for non point source control are in place; and

h. encourage watershed planning to prevent degradation.

In support of its proposal, AB states that it had agreed to withdraw its proposal for Section E on the condition that the department would present to the commission its proposal to add an antidegradation implementation procedure to the Continuing Planning Process document before deliberation on the triennial review, and that the process would include an opportunity for public participation. The department has not yet come forward, so AB is pressing its proposal. AB final submittal, pp. 4-5. The proposed language reflects the antidegradation implementation process as described in the federal regulations, New Mexico regulations and the EPA water quality standards handbook. The proposed plan represents a clear process for the department rather than simply a list of activities that would cover all activities that could harm or degrade waters, and not only point sources. AB Final Submittal, pp. 4-5.

NMED opposes adoption of AB's proposal for several reasons. First, the proposal falls short of the detailed procedures required to implement the antidegradation policy. NMED testified that, based on its discussions with EPA Region VI, as well as the decision in Ohio Valley Environmental Coalition v. Horinko, 279 F.Supp.2d 732 (S.D.W.Va. 2003), the states must adopt detailed procedures with well-defined thresholds. Because the proposal does not satisfy the

probable standard of review, the WQCC would have to adopt a second set of procedures. Such duplication is not a prudent use of resources. Second, the proposal is premature. In November 2003, NMED drafted a fully developed set of implementation procedures that would satisfy the current standard of review. The procedures were released for a 60-day public comment period, and will be brought to the WQCC for its review and approval. This process ensures a broader range of public participation and a longer period for public review and comment than was possible in the 2003 triennial review. Third, it is more appropriate and consistent with the WQCC's policy to adopt the implementation procedures into the CPP. In the 1998 triennial review, the WQCC adopted language into the WQS specifying that the implementation procedures would be incorporated into the CPP. The CPP also provides a more flexible process for adoption than the 2003 triennial review. Finally, the type of detailed procedures required for implementation fit better into the CPP than the WQS. NMED's draft procedures run about 20 pages of single-spaced narrative text with two full page flowcharts. It would be a tremendous task to redraft the procedures into regulatory format without fundamentally altering their meaning. Amigos Bravos has indicated its willingness to withdraw this proposal given NMED's initiation of this separate process. PL 27 at Montgomery 25-27; TR at 36 l.22 - 37 l.19, 103 l.1 - 105 l.5, 1221 l.3 - 1222 l.6, 1309 l.20 - 1310 l.1. NMED Closing Argument, pp. 54-55.

SJWC also opposes AB's proposal to replace Section E. AB did present technical testimony in support of its implementation plan proposals for 20.6.4.8(E) NMAC. PL 33, Killam Direct at 2-3; TR Killam at 1221:17-1222:22. However, that testimony does not outweigh the evidence provided by NMED and SJWC in opposition to AB's proposals. PL 27, NMED Direct at 26-27; PL 41, Pitts Rebuttal at 14; TR Pitts at 1077:14-17; Montgomery at 103:16-25; Leavitt at 37:3-16.

The AB implementation plan proposals for 20.6.4.8(E) NMAC fall short of the detailed procedures required to implement the antidegradation policy. Via separate public participation process, NMED has drafted (and the public has commented on) antidegradation policy implementation procedures. The Commission will consider NMED's draft antidegradation policy implementation procedures in the near future, and it would be a duplication of effort and waste of resources to

consider changes to 20.6.4.8(E) NMAC as part of this triennial review. PL 27, NMED Direct at 26-27; PL 41, Pitts Rebuttal at 14; TR Pitts at 1077:14-17; Montgomery at 103:16-25; Leavitt at 37:3-16. SJWC Closing Argument, p. 32. Antidegradation policy implementation procedures should be adopted as part of the continuing planning process rather than as part of the water quality standards. TR Montgomery at 104:1-18.

Comment: Do not recommend adoption of AB's proposal for Section E. The antidegradation policy implementation procedures are expected to be presented for approval at the Commission's November 2004 meeting, immediately prior to its deliberations on the triennial review. The commission should take up the matter at that time and not on this record.

NMED Proposal:

> **[~~E~~] B. Implementation Plan**: The department, acting under authority delegated by the commission, implements the water quality standards, including the antidegradation policy, by describing specific methods and procedures in the continuing planning process and by establishing and maintaining controls on the discharge of pollutants to surface waters of the state. The steps summarized in the following paragraphs, which may not all be applicable in every water pollution control action, list the implementation activities of the department. These implementation activities are supplemented by detailed antidegradation review procedures developed under the state's continuing planning process. The department:
>
> **….**
>
> **(2)** reviews the adequacy of [~~the~~] existing data [~~base~~], and [~~if additional information is needed,~~] conducts a water quality survey of the receiving water in accordance with an annually reviewed, ranked priority list of surface waters of the state requiring total maximum daily loads pursuant to Section 303(d) of the federal Clean Water Act;
>
> **(3)** assesses the probable impact of the effluent on the receiving water relative to its attainable or designated uses and numeric and narrative [~~standards~~] criteria,

NMED proposes to reletter Section 20.6.4.8.E to reflect the removal of the preceding sections, with minor changes to the Paragraphs 2 and 3. PL 20 at 11-12. Paragraph 2 would more accurately reflect the procedure used to conduct a water quality survey. NMED proposes the change for Paragraph 3 for the reasons stated in Section 20.6.4.7.H. PL 27 at Montgomery 24; TR at 102 ll.10-13.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

UC Proposal:

California proposes to amend Section E. Paragraph 16. PL 22 at 2.

> **(16)** prepares [~~develops~~] list of surface waters of the state not attaining designated uses, pursuant to Sections 305(b) and 303(d) of the federal Clean Water Act. The Department assess data collected during intensive surveys for listing on the 303(d) list using applicable data collection and assessment protocols. Additions or deletions to the list are fully explained by the Department in the proposed Record of Decision (ROD) document. The Commission reviews the updated list, proposed ROD document, public comment on the proposed list and other relevant information and may approve, approve with changes or reject the list and ROD document in compliance with EPA imposed deadlines for submission. Upon approval by the Commission, the Commission formally submits the updated 303(d) list to EPA for formal approval.

In support of its proposal, UC states that the listing of a stream or stream segment on the 303(d) list could have a major impact on dischargers. Fisher Direct Testimony, PL 35 at 7. The listing process "should be conducted in an open and transparent manner, subject to review by the public and the regulated community." Id. For the most part, the current process for development and approval of the 303(d) list meets those goals. However, the current language of this section only generally reflects a portion of the process. UC's proposed amendments more precisely outline the steps involved in the process and more clearly advise the public and regulated entities of how, and by whom, the list is developed and proposed. UC Closing Argument, pp. 11-13.

NMED opposes adoption of the UC proposal because the WQCC already considered and rejected a similar proposal. The WQCC decided that the proposed change was not necessary because the WQCC already planned to approve and submit future 305(b) and 303(d) reports as a combined document. Because nothing has changed since the WQCC's decision, there is no need to adopt the proposal. PL 27 at Montgomery 27; TR at 102 ll.16-25.

UC replies that the Commission never held a public hearing on the proposed language. The Commission decided not to proceed to hearing because NMED advised them that the 303(d) process would be combined with the 305(b) report, which required review and approval by the Commission prior to submission to EPA, and thus, would require Commission review and approval of the list prior to submittal. (The Commission can take administrative notice of its prior proceedings on the review and submittal of the 303(d) list.) Given the prior debate concerning the

Commission's role in reviewing and approving the 303(d) report prior to submittal to EPA and the importance of that list in determining program priorities, such as development of TMDLs, and the potential stigma attached to the impairment listing of a water, UC believes that this issue is not moot and should be resolved by the Commission. UC's proposed changes accurately reflect the 303(d) listing process and should be adopted by the Commission. UC Closing Argument, pp. 11-13.

20.6.4.9 REVIEW OF STANDARDS; NEED FOR ADDITIONAL STUDIES:

A. Section 303(c)(1) of the federal Clean Water Act requires that the state hold public hearings at least once every three years for the purpose of reviewing water quality standards and proposing, as appropriate, necessary revisions to water quality standards.

NMED Proposal:

B. It is recognized that, in some cases, numeric [~~standards~~] criteria have been adopted [~~which~~] that reflect use designations rather than existing conditions of surface waters of the state. Narrative [~~standards~~] criteria are required for many constituents because accurate data on background levels are lacking. More intensive water quality monitoring may identify surface waters of the state where existing quality is considerably better than the established [~~standards~~] criteria. When justified by sufficient data and information, the water quality [~~standards~~] criteria will be modified to protect the [~~designated~~] attainable uses [~~which are attainable~~].

NMED proposes to replace the phrase "designated uses which are attainable" with "attainable uses," PL 20 at 13, because it simplifies the section. PL 27 at Montgomery 30; TR at 116 ll.8-11.

Comment: Recommend adoption for reason stated.

NMED Proposal:

C. It is also recognized that contributions of water contaminants by diffuse nonpoint sources of water pollution may make attainment of certain [~~standards~~] criteria difficult. Revision of these [~~standards~~] criteria may be [~~required~~] necessary as new information is obtained on nonpoint sources and other problems unique to semi-arid regions.
[20.6.4.9 NMAC – Rp 20 NMAC 6.1.1102, 10-12-00]

NMED proposes to change the word "required" to "necessary," PL 20 at 13, because the word "required" raises questions as to who or what will require the changes. PL 27 at Montgomery 30; TR at 116 ll.8-11.

EBID Proposal:

C. It is also recognized that [contributions] of water contaminants by diffuse non-point sources of pollution make attainment of certain [~~standards~~] designated uses and their associated criteria difficult. Revisions of [~~these standards~~] designated uses and their associated criteria may be required as new information is obtained on non-point sources

and other problems unique to semi-arid regions. Designated uses and associated criteria may be modified when attainment is precluded by the presence of naturally occurring pollutant concentrations, and by anthropogenic conditions that cannot be corrected, by dams, diversions, or other hydrologic modifications, by physical conditions associated with natural features of the water-body, or by substantial and widespread economic impact, if more stringent pollution control measures are imposed.

PL 34 at 4, TR Hernandez at 428.

EBID proposes to replace the word "standards" with the phrase "designated uses and their associated criteria." PL 16 at 4. EBID also proposes to revise these "designated uses and their associated criteria" when precluded by natural conditions or man-made modifications. In support of its proposal, EBID states that water quality criteria are largely provided by EPA for each type of designated use. On the basis of scientific information a state may choose to use non-EPA criteria. Typically a designated use will be associated with a large number of criteria. The combination of one or more criteria with a designated use is a "water quality standard." A designated use may exist or be attained without meeting all of the EPA or state-derived criteria. The proposed phrase meets the EPA definition of "criteria." See Sections II and III of Introduction to Water Quality Standards, EPA-823-B 95-004, September 1994.

NMED opposes EBID's first proposal because it is duplicative and unnecessary. The proposal appears to be a response to NMED's proposal to change "standards" to "criteria." EBID's proposal merely reinserts the term "standards" back into the section. EBID supports the change by arguing that the phrase "designated uses and their associated criteria" satisfies the EPA definition of "criteria", citing an EPA document entitled Introduction to Water Quality Standards. This argument fails because criteria are a component of a standard, not the standard itself. See 40 C.F.R. §§ 131.10, 131.11 and 131.12. Moreover, "criteria" is a term of art, and it is not defined as itself plus something else. Finally, the EPA document referenced by EBID was prepared by EPA for general public use. It is not a definitive reference, it does not constitute official EPA guidance, and to the extent that it conflicts with the Code of Federal Regulations it is not controlling.

NMED also opposes the second proposal because it is duplicative and unnecessary. The second proposal merely repeats language from another section of the WQS in order to justify the first

proposal. Specifically, the second proposal repeats the process for changing a designated use. That process is already addressed in Section 20.6.4.14.D.3, which incorporates the EPA regulations, 40 CFR 131.10(g). The second proposal also suggests that the WQS should be revised whenever nonpoint source pollution causes a problem, rather than addressing the nonpoint source pollution itself. PL 27 at Montgomery 30-31; PL 40 at 9-10; PL 27 at Ex 4; TR at 116 l.11 - 117 l.14. NMED Closing Argument, pp. 63-65.

Comment: Recommend adoption of NMED's proposals for reasons stated, and do not recommend adoption of EBID's proposed changes for reasons stated by NMED.

NMED Proposal:

20.6.4.10 APPLICABILITY OF WATER QUALITY STANDARDS:

A. [~~Livestock Watering and Wildlife Habitat Uses~~] Waters Created by Discharge

~~**(1)**~~ When a discharge [~~creates a water which could be used by livestock and/or wildlife in a non-classified~~,] to an otherwise ephemeral surface water of the state[~~, such water shall be protected for the uses of livestock watering and/or wildlife habitat by the standards applicable to these uses as set forth in 20.6.4.900 NMAC.~~

~~**(2)** Designated uses of such water will be limited to livestock watering and/or wildlife habitat only when such a water does not enter a classified surface water of the state with criteria which are more restrictive than those necessary to protect livestock watering and/or wildlife habitat, except in direct response to precipitation or runoff. The commission shall adopt any additional designated uses for such surface waters of the state by rulemaking proceedings.~~

~~**(3)** When such a water, except in direct response to precipitation or runoff~~,] causes water to enter a [~~enters a classified~~] surface water of the state with criteria [~~which~~] that are more restrictive than [~~those~~ [~~necessary to protect secondary contact, livestock watering and or wildlife habitat, the numeric standards~~] the criteria listed in 20.6.4.98 NMAC, the more restrictive criteria [~~established for the classified surface water of the state~~] shall apply at the point such a water enters the [~~classified~~] surface water of the state with the more restrictive criteria. If discharge to such otherwise ephemeral water of the state ceases or is diverted elsewhere[~~, all uses adopted under this section or subsequently under additional rulemaking proceedings for such waters of the state shall be deemed no longer designated, existing, or attainable~~] the criteria listed in 20.6.4.98 NMAC shall apply.

NMED proposes to conform this section to proposed Section 20.6.4.98 and the established requirements for use attainability analyses. PL 20 at 13-14. NMED supports its proposal as follows:

This section serves two purposes. First, the section defines the default uses of livestock watering and wildlife habitat for all unclassified ephemeral waters. It is appropriate to remove these

default uses after the adoption of NMED's proposed Section 20.6.4.98, which explicitly assigns livestock watering and wildlife habitat to all unclassified ephemeral and intermittent waters. Second, the section establishes the applicable requirements for effluent-dependent waters. It is appropriate to clarify that the criteria in NMED's proposed Section 20.6.4.98 apply to ephemeral streams, while more stringent criteria apply whenever ephemeral streams enter classified waters. NMED's proposal to delete the last sentence also is appropriate because the sentence is not consistent with the UAA requirements for removing existing, attainable, or designated uses as provided in Section 20.6.4.14.D.3. PL 27 at Montgomery 31-32.

Amigos Bravos proposes that the criteria outlined in section 20.6.4.98 referred to in this section be amended to include an aquatic life use. AB Final Submittal, p. 12. NMED's proposed amendatory language would change the use designation of livestock watering and wildlife habitat to waters created by a discharge that could be used by wildlife or livestock watering, to livestock watering, wildlife habitat, limited aquatic life and secondary contact automatic designation to all waters created by a discharge. This is a major step in the right direction and will better protect livestock, wildlife and aquatic life than the existing language as well as better represent the intentions of the Clean Water Act which states that all waters should support aquatic life, wildlife habitat and recreation (40 CFR 131.2). However, it falls one step short by not designating an appropriate aquatic life use for these waters. Any water source that is created by a discharge will be used by those organisms that can reach it. If these waters are at any time connected to other surface waters of the state it is reasonable to assume that aquatic life will exploit this available habitat. If these waters hold water for a period as long as the life span of aquatic organisms - which is likely in some ephemeral streams (including ephemeral waters created by a discharge) in the state- they should be protected for such a use and therefore chronic aquatic life standards should be applied to such waters. AB Final Submittal , p. 12.

UC supports NMED's proposed changes to Section A, stating as follows: NMED's proposed changes simplify, but do not change, the requirements of the existing paragraph. UC believes that

the approach reflected in this paragraph for applying standards to effluent-created waters is appropriate and should be continued by the Commission. Fisher Direct Testimony, PL 35 at 7-8. There was no testimony in opposition to the changes. UC Closing Argument, pp. 13-14.

Comment: Recommend adoption of NMED's proposed changes for reasons stated by NMED if the Commission adopts NMED's proposal in Section 98. If not, recommend adoption for the reasons stated by UC.

B. Critical Low Flow: The numeric standards set under Subsection F of 20.6.4.12 NMAC, 20.6.4.101 through 20.6.4.899 NMAC and 20.6.4.900 NMAC may not be attainable when streamflow is less than the critical low flow [~~of the stream in question~~], but narrative criteria in 20.6.4.12 NMAC will continue to apply. The critical low flow of a stream at a particular site shall be:

NMED proposes to delete the phrase "of the stream in question" because the phrase is superfluous. PL 20 at 14. By definition, the critical low flow is specific to "the stream in question," as well as the location on the stream where it is established. PL 27 at Montgomery 32. NMED proposes to add a reference to narrative criteria because the narrative criteria apply at all times, including below critical low flow. PL 20 at 14, PL 27 at Montgomery 32; TR at 117 ll.16-19.

Comment: Recommend adoption of NMED's proposed changes for reasons stated.

(1) for human health criteria, the harmonic mean flow. "Harmonic mean flow" is the number of daily flow measurements divided by the sum of the reciprocals of the flows. That is, it is the reciprocal of the mean of reciprocals. For ephemeral waters the calculation shall be based upon the nonzero flow intervals and modified by including a factor to adjust for the proportion of intervals with zero flow.

$$\text{Harmonic Mean} = \frac{n}{\sum 1/x}$$

$$\text{Modified Harmonic Mean} = \left[\frac{\sum_{i=1}^{Nt-No} \frac{1}{Qi}}{Nt - No}\right]^{-1} x \left[\frac{Nt - No}{Nt}\right]$$

where, Qi = nonzero flow
Nt = total number of flow values
No = number of zero flow values

NMED proposes to substitute "Q" for "x" in the harmonic mean equation because it is consistent with the modified harmonic mean formula. PL 20 at 14-15, PL 27 at Montgomery 33.

NMED proposes to define "n" and "Q" because the definitions are accurate and clarify the harmonic mean equation. PL 20 at 14-15, PL 27 at Montgomery 33.

Comment: Recommend adoption of NMED's proposed changes for reason stated.

(2) for all other narrative and numeric criteria, the minimum average four consecutive day flow [~~which~~] that occurs with a frequency of once in three years (4Q3). Critical low-flow numeric values may be determined on an annual, a seasonal or a monthly basis, as appropriate, after due consideration of site-specific conditions.

C. Guaranteed Minimum Flow: [~~On a case-by-case basis and upon consultation with the interstate stream commission,~~] The commission may allow the use of a contractually guaranteed minimum streamflow in lieu of a critical low flow determined under Subsection B of this section on a case-by-case basis and upon consultation with the interstate stream commission. Should drought, litigation or any other reason interrupt or interfere with minimum flows under a guaranteed minimum flow contract for a period of at least thirty consecutive days, such permission, at the sole discretion of the commission, may then be revoked. Any minimum flow specified under such revoked permission shall be superseded by a critical low flow determined under Subsection B of this section. A public notice of the request for a guaranteed minimum flow shall be published in a newspaper of general circulation by the department at least 30 days prior to scheduled action by the commission. These water quality standards do not grant to the commission or any other entity the power to create, take away or modify property rights in water.

NMED proposes to restructure the first sentence because it clarifies the shared responsibility to determine guaranteed minimum flows. PL 20 at 15, PL 27 at Montgomery 33.

Comment: Recommend adoption of NMED's proposed changes for reasons stated.

NMED Proposal:

D. Mixing Zones: A limited mixing zone, contiguous to a point source wastewater discharge, may be allowed in any stream receiving such a discharge. Mixing zones serve as regions of initial dilution [~~which~~] that allow the application of a dilution factor in calculations of effluent limitations. Effluent limitations shall be developed [~~which~~] that will protect the most sensitive existing, designated or attainable use of the receiving water.

E. Mixing Zone Limitations: Wastewater mixing zones, in which the numeric [~~standards~~] criteria set under Subsection F of 20.6.4.12 NMAC, 20.6.4.101 through 20.6.4.899 NMAC or 20.6.4.900 NMAC may be exceeded, shall be subject to the following limitations:

(1) Mixing zones are not allowed for discharges to publicly owned lakes, reservoirs, or playas; these effluents shall meet all applicable [~~standards~~] criteria set under Subsection F of 20.6.4.12 NMAC, 20.6.4.101 through 20.6.4.899 NMAC and 20.6.4.900 NMAC at the point of discharge.

(2) The acute numeric [~~standards~~] criteria, as set out in Paragraph (1) of Subsection [~~J~~] I, Subsection [~~M~~] J, [~~Paragraph (1) of Subsection N, and Paragraph (1) of~~] and Subsection [~~O~~] K of 20.6.4.900 NMAC, shall be attained at the point of discharge for any discharge to a surface water of the state with a designated [~~fishery~~] aquatic life use.

(3) The general [~~standards~~] criteria set out in Subsections A, B, C, D, E, G, H, J of 20.6.4.12 NMAC, and the provision set out in Subsection D of 20.6.4.13 NMAC are applicable within mixing zones.

….

(5) All applicable water quality [~~standards~~] criteria set under Subsection F of 20.6.4.12 NMAC, 20.6.4.101 through 20.6.4.899 NMAC and 20.6.4.900 NMAC, except Paragraph (1) of Subsection [~~J~~] I, acute aquatic life criteria of Subsection [~~M~~] J, [~~Paragraph (1) of Subsection N, and Paragraph (1) of~~

~~Subsection O~~] and Subsection K of 20.6.4.900 NMAC, shall be attained at the boundaries of mixing zones. A continuous zone of passage through or around the mixing zone shall be maintained in which the water quality meets all applicable [~~standards~~] criteria and allows the migration of aquatic life presently common in surface waters of the state with no effect on their populations.

NMED proposes changes for the same reasons stated in Sections 20.6.4.6.B, 7.H, and 7.I, and because they revise internal references to conform to changes in Section 20.6.4.900. PL 20 at 15-16; PL 27 at Montgomery 33-34; TR at 120 ll.3-5.

AB Alternative Proposal:

Amigos Bravos proposes to replace Sections 20.6.4.10.D and E with the following language.

20.6.4.10 D. Water Quality in Surface Water at Point of Discharge: To ensure the protection of all attainable, designated or existing uses of the States surface waters, no discharge shall cause or contribute to the violation of any water quality standard including chronic aquatic life criteria under Sections 20.6.4.900 I. 2., 20.6.4.900 J., 20.6.4.900 L. or M and Section 20.6.4.12 of NMAC.

Alternatively, Amigos Bravos proposes to support the Department's proposal with some changes, including inserting a new section precluding mixing zones in surface waters with the designated use of domestic water supply absent a showing that the mixing zones do not include a domestic water intake. Id.

[**(1) and (2)** as proposed by department.]

(3) The criteria set forth under Section 20.6.4.900. B. NMAC shall be attained at the point of discharge for any discharge to a surface water of the state with a designated domestic water supply use unless it can be proven by the discharger that the mixing zone will not extend to any domestic water intake.

(4) The general [~~standards~~] criteria set out in Subsections A, B, C, D, E, F, G, H, J of 20.6.4.12 NMAC, and the provision set out in Subsection D of 20.6.4.13 NMAC are applicable within mixing zones.

(5) The areal extent and concentration of isopleths of a particular mixing zone will depend on site-specific conditions, including, but not limited to, wastewater flow, receiving water critical low flow, receiving water conditions, outfall design, channel characteristics and climatic conditions and [~~if needed~~], shall be determined on a case-by-case basis.

….

(6) All applicable water quality [~~standards~~] criteria set under Subsection F of 20.6.4.12 NMAC, 20.6.4.101 through 20.6.4.899 NMAC and 20.6.4.900 NMAC, ~~except Paragraph (1) of Subsection [J] I, acute aquatic life criteria of Subsection [M] J, [Paragraph (1) of Subsection N, and Paragraph (1) of Subsection O] and Subsection K of 20.6.4.900 NMAC,~~ shall be attained at the boundaries of mixing zones. A continuous zone of passage through or around the mixing zone shall be maintained in which the water quality meets all applicable [~~standards~~] criteria and allows the migration of aquatic life presently common in surface waters of the state with no effect on their populations.

AB supports its alternative proposal with the following: The State already precludes the application of mixing zones in discharges to lakes and reservoirs. Amigos Bravos believes that the Clean Water Act national policy that the discharge of toxic pollutants in toxic amounts be

prohibited [CWA Section 101(a)(3)] speaks not just to Acute Aquatic Life Criteria but to all toxic pollutants. AB strongly endorses the language in option 1.

AB recognizes that the Commission may not be willing to take such an immediate action. AB therefore proposes an alternative (Option 2) which is designed to better protect human health and state wildlife.

General criteria for toxic substances as outlined in subsection F should be added to list of general criteria that are met inside mixing zones. Toxic contaminants, especially bioaccumulative and persistent toxic contaminants can be so harmful that even a small amount is very harmful and people and other organisms often can't assimilate or break these substances down. Case by case mixing zones are recommended by the EPA in its Water Quality Standards Handbook.

Amigos Bravos holds that, if, in certain cases, the commission insists on maintaining mixing zones, all applicable water quality standards should be met at the boundaries of these mixing zones. The current language for mixing zones allows mixing zone boundaries for certain pollutants, listed as a long of exceptions in the current language found at 20.6.4.10 E (5). As the language stands now an upstream discharger could have a mixing zone that extends indefinitely downstream potentially having harmful economic and ecological impacts on downstream uses. Having a mixing zone that is the whole river or a whole segment of river is very much contrary to the intents and purposes of the Clean Water Act. See TR pp. 1223-1234. AB Final Submittal, pp. 13-14.

NMED opposes AB's proposal to replace Sections 20.6.4.D and E because mixing zones are expressly allowed under EPA regulations, 40 CFR 131.13. PL 27 at Ex 4. EPA's Handbook states:

> *It is not always necessary to meet all water quality criteria within the discharge pipe to protect the integrity of the water body as a whole. Sometimes it is appropriate to allow for ambient concentrations above the criteria in small areas near outfalls. These areas are called mixing zones. Whether to establish a mixing zone policy is a matter of State discretion, but any State policy allowing for mixing zones must be consistent with the Clean Water Act and is subject to approval of the Regional Administrator.*

PL 27 at Ex 9, p. 5-1. Accordingly, the WQCC has exercised its discretion and provided for mixing zones, and these mixing zones have been approved by EPA. By definition, these mixing

zones are consistent with the CWA, including use attainability analyses, antidegradation reviews, and NPDES permits. Stated differently, EPA-approved mixing zones constitute a narrow exception to use attainability analyses, antidegradation reviews, and NPDES permits. Further, mixing zones do not violate the WQS because they are expressly authorized by the WQS. Regardless whether mixing zones are good public policy, they do not violate state or federal law. NMED Closing Argument, pp. 70-71.

NMED further opposes Amigos Bravos' proposal to preclude mixing zones in surface waters with the designated use of domestic water supply absent a showing that the mixing zones do not extend to a domestic water intake for two reasons. First, it is not clear why mixing zones should be excluded in these waters. Second, the preclusion is not required because a discharger cannot violate the water quality standards for domestic water supply in a mixing zone. Amigos Bravos has not provided any testimony to clarify these significant problems with its proposal. PL 27 at Montgomery 34-35; PL 40 at 11; TR at 120 l.5 - TR 120 ll.3-5, 121 l.21. NMED Closing Argument, p. 71.

SJWC also opposes AB's proposed changes to the state's mixing zone policy, 20.6.4.10(D) and (E) NMAC. Pl 17, AB Petition at 10-11; PL 43, Conn Rebuttal at 1. AB's proposal is based on the position that "[t]he concept of mixing zones in general is in conflict with the purposes and goals of the CWA . . . [and] [m]ixing zones represent a loophole for polluters that make achieving the CWA's goals nearly impossible." PL 33, Killam Direct at 4; TR Killam at 1224:6-13.

SJWC, NMED and Phelps Dodge ("PD") opposed AB's proposal. PL 27, NMED Direct at 34-35; TR Montgomery at 120:3-121:21; PL 41, Pitts Rebuttal at 15-16; TR Pitts at 1078:15-1079:19; PL 42, Hall Rebuttal at 7. EPA regulations (40 C.F.R. § 131.13) provide the Commission with discretion in adopting policies affecting the application and implementation of standards, including mixing zones. TR Montgomery at 120:13-25; PL 41, Pitts Rebuttal at 14-15; TR Pitts at 1078:18-20; PL 40, NMED Rebuttal at 11; TR Killam at 1223:25-1224:1; 40 C.F.R. § 131.13, Ex. SJWC B-2.

The existing mixing zone policy is authorized by, and satisfies the requirements of, the Clean Water Act and EPA regulations. Further, the mixing zones currently adopted by the Commission

allow reasonable implementation of the water quality standards. PL 27, NMED Direct at 34-35; PL 40, NMED Rebuttal at 11; PL 41, Pitts Rebuttal at 16; TR Montgomery at 120:3-12, 121:1-7. AB's assertions that mixing zones are inconsistent with the purposes, goals and requirements of the Clean Water Act, and therefore should be eliminated, are erroneous and unfounded. PL 41, Pitts Rebuttal at 16; PL 40, Montgomery at 13-25; PL 42, Hall Rebuttal at 7; PL 40, NMED Rebuttal at 11. EPA has fully approved New Mexico's mixing zone policy. TR Montgomery at 121:1-7; PL 40, NMED Rebuttal at 11. SJWC Closing Argument, pp. 32-33.

Comment: Recommend adoption of NMED's proposed changes for reasons stated, and do not recommend adoption of AB's proposal for reasons stated by NMED and SJWC.

F. **Multiple Uses**: When a classified water of the state has more than a single designated use, the applicable numeric [~~standards~~] criteria shall be the most stringent of those established for such classified water.

NMED proposes this change for the reasons stated in Section 20.6.4.7.H.

PL 20 at 16; PL 27 at Montgomery 35; TR at 120 ll.3-5.

Comment: Recommend adoption of NMED's proposed changes for reasons stated.

NMED Proposal:

G. Human health [~~standards~~] criteria in Subsection J of Section 20.6.4.900 NMAC shall apply to those waters with a designated, existing or attainable [~~fishery~~] aquatic life use, except that when limited aquatic life is a designated use, the human health criteria shall apply only if adopted on a segment-specific basis; except that~~. T~~the human health [~~standards~~] criteria for persistent toxic pollutants, as identified in Subsection [~~M~~] J of Section 20.6.4.900 NMAC, shall also apply to all tributaries of waters with a designated, existing or attainable [~~fishery~~] aquatic life use.
[20.6.4.10 NMAC – Rp 20 NMAC 6.1.1103, 10-12-00; A, 10-11-02]

NMED proposes to change the word "standards" to "criteria" for the reasons stated in Section 20.6.4.7.H. PL 20 at 16; PL 27 at Montgomery 35. NMED proposes to revise internal references to conform to Section 20.6.4.900 to correct the internal references. PL 20 at 16; PL 27 at Montgomery 35.

NMED proposes to change the term "fishery" to aquatic life" for the reasons stated in Section 20.6.4.7.I. To ensure that this change does not affect the WQCC's intent to apply only a subset of the human health criteria (e.g., the human health criteria for priority toxic pollutants) to

tributaries of fishery waters, NMED proposes to add an exception. PL 27a. The exception states that the human health criteria do not apply to waters with the designated use of limited aquatic life, except that the human health criteria for priority toxic pollutants apply in waters which are tributaries to waters with another subcategory of the aquatic life use. In sum, the proposal reflects the WQCC's original intent in adopting this section. For the record, both the EPA and the New Mexico Court of Appeals affirmed the WQCC's adoption of this section. Regents of the University of California v. WQCC, NM Ct. App., Docket No. 23,498 (April 28, 2004). PL 27 at Montgomery 35; PL 27 at 43, 49; PL 27a; PL 40 at 11-12.

UC originally proposed changes different from NMED's to this section, but, noting the post-triennial review hearing decision in the Court of Appeals, withdrew its requested changes in its post-hearing submittal. UC Closing Argument, pp. 14-15.

Comment: Recommend adoption of NMED's proposed changes for reasons stated.

NMED Proposal:

H. Aquatic Life: Aquatic life criteria shall apply to all surface waters of the state containing an aquatic life community. Except when a limited aquatic life use and specific criteria have been designated on a segment-specific basis, or when otherwise provided in this part, chronic aquatic life criteria listed in 20.6.4.900 M are applicable to all perennial surface waters of the state, and acute aquatic life criteria listed in 20.6.4.900 M are applicable to all surface waters of the state.

NMED proposes to add a section clarifying the circumstances in which the aquatic life criteria are applicable because it reflects the fact that unlike other uses, aquatic life has separate criteria for acute and chronic exposure. PL 20 at 16. NMED proposes to apply the criteria to all surface waters for the reasons stated in Sections 20.6.4.98 and 99, except in two circumstances: (1) when the "limited aquatic life" subcategory has been designated with specific criteria developed on a site-specific basis; and (2) when the WQS specifically provide that the chronic criteria do not apply, such as in mixing zones. PL 27 at Montgomery 36; TR at 121 l.23 - 122 l.11.

UC opposes NMED's proposal, stating as follows: UC supports the concept of protecting all aquatic life. However, it believes that the approach chosen by NMED, extending criteria designed to protect fish to other aquatic life, is inappropriate. This is more appropriately done by retaining the existing fisheries categories and creating a new limited aquatic life category for those waters that do not support fish and adopting criteria appropriate for that category. Fisher Direct Testimony, PL 35 at 8. It is not scientifically or technically appropriate to apply criteria designed to protect fish, to waters that are not capable of supporting fish. Id. Moreover, there is no evidence that criteria designed to protect fish will be protective of aquatic communities that do not support fish. The criteria should be tailored to the aquatic communities they are designed to protect. Thus, NMED's proposed language extending the existing criteria for fisheries to water that does not contain fish is inappropriate and is not supported by credible scientific information, and should be rejected. The Commission should direct that criteria be developed to protect those aquatic communities that do not contain or support fish populations. UC Closing Argument, pp. 15-17.

EBID Proposal:

EBID proposes a parallel provision to implement its proposed designated use of "aquatic habitat."

Expected Aquatic Life: With respect to any stream segment with an "expected aquatic life" designated use, the aquatic life criteria in 20.6.4.900M shall apply. Except where the designated use is a "limited aquatic habitat", or when otherwise provided, chronic aquatic life criteria shall apply to all stream segments with perennial flows, and acute criteria apply to all other stream segments with an "expected aquatic life" designated use.

EBID notes that it wants to include a limiting or constraining word in the provision, but that it has concerns with "native," "indigenous," and "natural." TR at 944.

NMED opposes EBID's proposal because it contains two designated uses, the first of which - "expected aquatic life" - has not been defined. Further, it is not clear how EBID intends the word "expected" to be applied in the context of the "aquatic life" use. To the extent that the proposal relies on EBID's proposed designated use of "aquatic habitat," that proposal should not be

adopted, and the provision would lack the necessary predicate. PL 27 at Montgomery 36-37; TR at 122 l.25 - 126 l.7, 961 l.19 - 962 1.6. NMED Closing Argument p. 74.

I. Exceptions: Numeric criteria for temperature, dissolved solids, dissolved oxygen, sediment or turbidity adopted under the Water Quality Act do not apply when changes in temperature, dissolved solids, dissolved oxygen, sediment or turbidity in a surface water of the state are attributable to:

(1) natural causes (Discharges from municipal separate storm sewers are not covered by this exception.); or

(2) the reasonable operation of irrigation and flood control facilities that are not subject to federal or state water pollution control permitting. Major reconstruction of storage dams or diversion dams except for emergency actions necessary to protect health and safety of the public are not covered by this exception.

NMED proposes to move this language from Section 20.6.4.12 and restructure it for clarity. PL 20 at 16-17. The proposal improves the WQS without making any substantive change. PL 27 at Montgomery 37.

UC supports the proposed changes; they merely reflect a relocation and restructuring of language currently in 20.6.4.12 NMAC. UC Closing Argument, p. 17.

Comment: Recommend adoption for reasons stated.

NMED Proposal:

20.6.4.11 COMPLIANCE WITH WATER QUALITY STANDARDS:
The following provisions apply to determining compliance for purposes of enforcement of ambient water quality standards; they do not apply for purposes of determining attainment of uses. Assessment protocols for the purpose of determining attainment of uses have been developed by the department and are available for review.

SJWC Proposal:

20.6.4.11 COMPLIANCE WITH WATER QUALITY STANDARDS:
The following provisions apply to determining compliance for purposes of enforcement of ambient water quality standards; they do not apply for purposes of determining attainment of uses. Water quality samples taken when streamflow is less than the critical low flow (20.6.4.10(B) NMAC) shall not result in a determination that a water quality standard has been exceeded for assessment purposes.

NMED proposes to add a preamble to clarify that the section is used only to guide enforcement determinations. PL 40 at 12. In support of its proposal, NMED states as follows: It clarifies the misperception expressed by at least two parties in this hearing that the section also governs assessment determinations for the purpose of CWA Section 303(d) lists and TMDL development. This confusion had led the parties, SJWC and California, to propose substantial changes. The

SJWC and California changes are intended to "raise the bar" for assessment determinations by imposing onerous sampling and analysis requirements allegedly derived from EPA assessment guidance documents. The SJWC and California changes are misplaced because this section concerns enforcement determinations, which the changes would render virtually impossible. This result is plainly inconsistent with the legislature's clear intent to make the WQS directly enforceable. The parties' concerns about NMED assessment determinations also are misplaced. NMED's assessment protocols are consistent with EPA guidance; they were presented for public review and comment; and they have been approved by both the WQCC and EPA. PL 40 at 12; TR at 40 l.12 - 41 l.2, 123 ll.15-21.

SJWC proposes to change the sentence at the end of NMED's proposal. TR at 971 (SJWC Ex B-21). SJWC has proposed that the Commission adopt a new water quality standard recognizing that water quality samples taken when streamflow is less than the critical low flow shall not be used to determine that a waterbody is impaired. PL 31, Pitts Direct at 7-9; Kirkpatrick Direct at 3-4. SJWC states that it presented both technical testimony and lay testimony in support of its proposal. PL 31, Kirkpatrick Direct at 3-4; TR Kirkpatrick at 979:22-982:5; PL 31, Pitts Direct at 7-9; TR Pitts at 1048:17-1054:20. SJWC Closing Argument, pp. 34-37. SJWC states as follows:

(1) Under 40 C.F.R. § 131.13, the Commission has discretion to adopt a policy concerning the application and implementation of water quality standards during low flows, and EPA guidance recognizes that the Commission has discretion to determine that numeric water quality criteria do not apply when stream flow is below the critical low flow. PL 31, Pitts Direct at 7; TR Pitts at 1048:20-1049:8; 40 C.F.R. § 131.13, Ex. SJWC B-2; EPA Water Quality Standards Handbook (2d ed.), § 5.2, Ex. SJWC B-3.

(2) In the existing water quality standards (20.6.4.10(B) NMAC), the Commission already has recognized that "numeric standards . . . may not be attainable when streamflow is less than the critical low flow of the stream in question." PL 31, Pitts Direct at 7-8; TR Pitts at 1049:9-17; Montgomery at 352:11-15. Currently, NMED uses water quality data collected when streamflow is less than the critical low flow to determine that a stream is impaired and place it on the state's

section 303(d) list. PL 31, Pitts Direct at 8; TR Pitts at 1049:18-1051:18, 1126:2-19, 1145:12-17; PL 31, Kirkpatrick Direct at 3; TR Kirkpatrick at 979:22-981:13; Hogge at 354:18-355:8; March 19, 2003 Letter from NMED to SJWC at 2-3, Ex. SJWC C-1; NMED Assessment Protocol at 4, Ex. SJWC B-22.

(3) Impaired streams that are placed on the state's section 303(d) list are subject to TMDL development. PL 31, Pitts Direct at 9-10. It is adverse to the public welfare of the state to assess a stream as impaired and place it on the section 303(d) list based on data collected during drought conditions or at other times when streamflow is less than the critical low flow. The TMDL process is long, complex and expensive and should not be undertaken based on drought data. TR Pitts at 1051:11-25; PL 31, Kirkpatrick Direct at 4; TR Kirkpatrick at 981:21-982:5. Federal regulations do not require that streams be listed as impaired based on water quality data taken when streamflow is less than the critical low flow. So doing will unnecessarily subject the state to expensive and burdensome TMDL requirements on streams that otherwise meet water quality standards at critical low flows and higher flows. PL 31, Pitts Direct at 9; TR Pitts at 1051:19-25.

(4) Given the evidence in the record that NMED, in applying current assessment protocols, may place a stream on the section 303(d) list based on the results of water quality data taken when streamflow is less than the critical low flow, the Commission should adopt a policy statement explicitly recognizing that water quality samples taken when streamflow is less than the critical low flow shall not be used to determine that a water is impaired. See TR Hogge at 356:21-357:4. NMED agrees that the Commission may designate a critical low flow below which numeric criteria do not apply and that the Commission has acknowledged that low flows may result in exceedances of the numeric criteria. PL 27, NMED Direct at 32, 38; TR Montgomery at 118:4-6, 130:1-3, 349:20-350:4, 351:7-13.

(5) Further, NMED agrees that SJWC's proposal is "perhaps appropriate in the assessment context . . . ." PL 40, NMED Rebuttal at 12; TR Montgomery at 118:4-6, 348:15-21. However, NMED opposes SJWC's proposal because of its concern that it needs authority to enforce numeric criteria when a stream is below critical low flow to protect public health. PL 27, NMED Direct at

32, 38; PL 40, NMED Rebuttal at 10-11; TR Leavitt at 40:12-41:2; Montgomery at 117:23-120:1, 129:14-25, 348:15-21, 349:16-21.

(6) The purpose of SJWC's proposal is to recognize that water quality data taken below critical low flow may not be used to assess waters as impaired. TR Pitts at 1049:18-25, 1053:2-11; Kirkpatrick at 979:22-980:2. Based on evidence presented by SJWC in written technical testimony, NMED proposed adding introductory language to 20.6.4.11 NMAC clarifying that this section applies to enforcement of water quality standards rather than assessment of stream impairment under section 303(d). PL 40, Montgomery Rebuttal at 12; TR Leavitt at 40:12-41:2. Because neither NMED assessment protocols nor the section 303(d) list are subject to public hearing, and the current assessment protocol allows the Department to determine that a stream is impaired based on water quality data taken when streamflow is less than the critical low flow, NMED's proposal does not alleviate the concern raised by SJWC. TR Kirkpatrick at 1010:18-1011:2; Pitts at 1088:12-1089:5, 1054:8-20, 1145:22-1146:16; Meyerhoff at 1856:8-18.

(7) Considering NMED's testimony and proposed introductory language for 20.6.4.11 NMAC, SJWC amended its original proposal at the hearing to incorporate NMED's language recognizing that section 20.6.4.11 applies to compliance rather than assessment. Ex. SJWC B-21; TR Pitts at 1053:2-1054:20. SJWC Closing Argument, pp. 34-37.

NMED opposes SJWC's proposal for two reasons. First, the WQCC must be able to assess impairment based on all available data, including data from samples collected during low flow conditions. EPA has stated that the states, in assessing impairment, must "balance data quality requirements with common sense. States...must consider all existing and readily available data when making WQS attainment/impairment decisions." PL 28 at Ex 19, p.4-9 (emphasis added). It would run counter to this direction, as well as exclude large quantities of data, for the WQS to exclude all data collected during low flow conditions. These data do not skew impairment decisions because NMED reviews it in conjunction with all available data before making a determination. TR at 529 ll.11-20, 980 l.19 - 981 l.13, 1050 ll.13-21, TR at 971 (SJWC Ex B-22). Moreover, the data collected during low flow conditions is probative because they are collected at

the time when the aquatic community is most stressed by pollution. Accordingly, there is no minimum low flow requirement for determining whether a water is impaired. As a result, it is both contrary to EPA direction and bad policy to exclude these data on basis of flow. PL 27 at Montgomery 38; PL 40 at 12; TR at 123 l.9 - 124 l.20, 353 l.23 - 357 l.4, 374 l.4 - 375 l.2, 1236 ll.6-11.

Second, the proposal would be virtually impossible to implement. Without knowing the critical low flow, it would be impossible to determine whether data could be used or whether the stream was impaired. NMED has not calculated critical low flow for most of the streams in New Mexico. Moreover, NMED does not maintain a network of gages to collect critical low flow data on the thousands of miles of waters in the state. To find impairment on any reach in those thousands of miles of waters, NMED would require this data, as well as data on all withdrawals. Such data requirements would require a virtual blanket of gages across the state. Amigos Bravos Presentation Slide, "Critical Low Flow", TR at 988 ll.5-9, 1127 l.25 - 1128 l.4, 1130 ll.5-16, 1130 l.24 - 1131 l.6, 1139 l.23 - 1140 l.9, 1140 l.21 - 1143 l.15, 1162 l.18 - 1163 l.1.

Amigos Bravos also opposes SJWC's proposal, stating that uses must be supported below critical low flows. The uses are still occurring when there are low flows. If a case were to be made not to apply standards to waters when flowing at critical low flows, a use attainability analysis must be conducted. See TR pp. 1234-1237. AB Final submittal, p. 12.

Section 20.6.4.11 continued:

NMED Proposals:

A. Compliance with acute water quality [~~standards~~] criteria shall be determined from the analytical results of a single grab sample. Acute [~~standards~~] criteria shall not be exceeded.

B. Compliance with chronic water quality [~~standards~~] criteria shall be determined from the arithmetic mean of the analytical results of samples collected using applicable protocols. Chronic [~~standards~~] criteria shall not be exceeded more than once every three years.

C. Compliance with water quality [~~standards~~] criteria for total ammonia shall be determined by performing the biomonitoring procedures set out in Subsections D and E of

20.6.4.13 NMAC, or by attainment of applicable ammonia [~~standards~~] criteria set out in Subsections [~~N and O~~] K, L and M of 20.6.4.900 NMAC.

D. Compliance with water quality [~~standards~~] criteria for the protection of human health shall be determined from the analytical results of representative grab samples, as defined in the Water Quality Management Plan. Human health [~~standards~~] criteria shall not be exceeded.

E. The commission may establish a numeric water quality [~~standard~~] criterion at a concentration that is below the minimum quantification level. In such cases, the water quality [~~standard~~] criterion is enforceable at the minimum quantification level.

F. In determining compliance with [~~standards~~] criteria for chromium an analysis [~~which~~] that measures both the trivalent and hexavalent ions shall be used.

G. For compliance with hardness-dependent numeric [~~standards dependent on hardness~~] criteria, hardness (as mg $CaCO_3$/L) shall be determined from a sample taken at the same time that the sample for the water contaminant is taken[~~, or from available verifiable data sources including, but not limited to, the U.S. environmental protection agency's STORET water quality database~~].

H. The hardness-dependent formulae for metals shall be valid only for hardness values of 0-400 mg/L. For values above 400 mg/L, the value for 400 mg/L shall apply.

I. The total ammonia tables shall be valid only for temperatures of 0 to 30°C and for pH values of 6.5 to 9.0. For temperatures below 0°C, the total ammonia [~~standards~~] criteria for 0°C shall apply; for temperatures above 30°C, the total ammonia [~~standards~~] criteria for 30°C shall apply. For pH values below 6.5, the total ammonia [~~standards~~] criteria for 6.5 shall apply; for pH values above 9.0, the total ammonia [~~standards~~] criteria for 9.0 shall apply.

J. **Compliance Schedules**: It shall be the policy of the commission to allow on a case-by-case basis the inclusion of a schedule of compliance in a national pollutant discharge elimination system (NPDES) permit issued to an existing facility. Such schedule of compliance will be for the purpose of providing a permittee with adequate time to make treatment facility modifications necessary to comply with water quality based permit limitations determined to be necessary to implement new or revised water quality standards. Compliance schedules may be included in NPDES permits at the time of permit renewal or modification and shall be written to require compliance at the earliest practicable time. Compliance schedules shall also specify milestone dates so as to measure progress towards final project completion (e.g., design completion, construction start, construction completion, date of compliance).

[20.6.4.11 NMAC – Rp 20 NMAC 6.1.1104, 10-12-00; A, 10-11-02]

NMED's proposes to revise internal references in subsection C. PL 20 at 17. It would conform the section with Section 20.6.4.900. PL 27 at Montgomery 37-38.

NMED proposes to change "standards dependent on hardness" to "hardness-dependent" in subsection G to simplify the section. PL 20 at 17, PL 27 at Montgomery 37-38.

NMED proposes to delete the last phrase in subsection G to ensure that the hardness determination is based on sampling data. PL 20 at 17. Water quality is variable; therefore, data sources will contain a range of data for hardness as well as other parameters. The choice of a data value from that range of values may not be accurate for a particular sampling event. As a result, the calculation of a hardness-dependent criterion using a hardness of unknown accuracy will produce a result that is also of unknown accuracy. PL 27 at Montgomery 37-38.

UC Proposals:

General discussion: UC has proposed extensive changes to 20.6.4.11 NMAC that are intended to conform the provision to applicable EPA guidance on the implementation of water quality criteria. Meyerhoff Direct Testimony, PL 28 at 3. Currently, 20.6.4.11 NMAC is not consistent with that guidance. NMED's proposed changes to this section also are inconsistent with that guidance. PL 22 at 3-7. UC Closing Argument, pp. 17-32.

(1) In EPA parlance, "criteria" are "elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use." 40 CFR §131.3(b).

> *[C]riteria are specifications of water quality designed to ensure protection of the designated use. EPA criteria are developed as national recommendations to assist States in developing their standards and to assist in interpreting narrative standards. EPA criteria or guidance consist of three components:*
>
> - *Magnitude – How much of a pollutant (or pollutant parameter such as toxicity), expressed as a concentration, is allowable.*
> - *Duration – The period of time (averaging period) over which the instream concentration is averaged for comparison with criteria concentrations. This specification limits the duration of concentration above the criteria.*
> - *Frequency – How often criteria can be exceeded.*

University Exhibit 16, PL 28 at 31-32. See University Exhibit 19, PL 28 at 4-6.

(2) The Commission has adopted EPA's recommended concentrations (magnitude) for most pollutants. See 20.6.4.900 NMAC. For the most part, the Commission's current approach to duration and frequency, contained in 20.6.4.11 NMAC, do not adopt EPA's recommendations. For acute standards, the duration is a single grab sample and the frequency is "shall not be exceeded," 20.6.4.11.A NMAC: for chronic standards, the duration is not specified; the frequency is once every three years, 20.6.4.11.B NMAC.

EPA guidance on duration and frequency provides:

> *Because of variation in the flows of the effluent and the upstream receiving water as well as variation in the concentrations of pollutants in the effluent and in the upstream receiving water, <u>a simple format, such as specifying a concentration that must not be exceeded at any time or place, is not realistic</u>. Furthermore, such a simple format does not take into account the fact that aquatic organisms can tolerate higher concentrations of pollutants for short periods of time than they can tolerate throughout a complete life cycle. The format that was selected [by EPA] for expressing water quality criteria for aquatic life consists of recommendations concerning concentrations, durations of*

> *averaging periods, and average frequencies of allowed excursions. Use of this concentration-duration-frequency format allows water quality criteria for aquatic life to be adequately protective without being as overprotective as would be necessary if criteria were expressed using a simpler format. In addition, this format can be applied directly to hydrological data and to the flow of, and concentrations of pollutants in, effluents using both dynamic and steady-state modeling.*

(Emphasis added.) UC Exhibit 16, PL 28 at D-1.

(3) For aquatic life, EPA recommends that the duration be one (1) hour for acute criteria and four (4) days for chronic criteria. UC Exhibits 16, PL 28 at D-2 & 3, and 17, at 3-3. EPA guidance allows shorter or longer averaging periods "[w]ith adequate justification."[1] *UC Exhibit 16, at D-3.*

(4) Further, for aquatic life, EPA recommends that a frequency of not to exceed once in three years be used for both acute and chronic criteria. UC Exhibit 17, PL 28 at 3-3. EPA's recommended frequency was developed based on a literature review that showed that recovery of aquatic life from excursions was normally complete in three years.

> *EPA selected the 3-year average frequency of criteria exceedance with the intent of providing for ecological recovery from a variety of severe stresses. This return interval is roughly equivalent to a 7Q10 design flow condition. Because of the nature of the ecological recovery studies available, the severity of criteria excursions could not be rigorously related to the resulting ecological impacts. Nevertheless, EPA derives its criteria intending that a single marginal criteria excursion . . . would require little or no time for recovery. If the frequency of marginal criteria is not high, it can be shown that the frequency of severe stresses, requiring measurable recovery periods, would be extremely small. EPA thus expects the 3-year return interval to provide a very high degree of protection.*

Id.

(5) The Commission's current approach to the duration and frequency of acute and chronic standards is not consistent with EPA's science-based guidance and should be revised. By adopting a different approach to the duration and frequency, the Commission, in effect, has changed the adopted concentrations. In most cases, the changes, which generally consist of a shorter duration or frequency, make the concentrations more stringent than EPA's

[1] EPA notes that a possible site-specific justification increasing the averaging time of the chronic criteria "would be that the variation in the concentration of the pollutant in the receiving water is low. Where variation is demonstrated to be consistently low, a longer [chronic criteria averaging would be acceptable because the magnitudes and durations of exceedances above the [chronic criteria] would be limited." UC Exhibit 16, at D-3.

recommendations.[2] *There is no evidence to support making the concentrations more stringent than EPA recommendations.*

(6) NMED has attempted to justify these modifications on their apparent lack of resources available to implement the standards in a manner consistent with EPA guidance. While UC concedes that economics may be weighed by the Commission in the standards-setting process, the Water Quality Act requires that any standards adopted must be supported by credible scientific data and information. There is no credible scientific data in the record to support making the criteria more stringent than EPA recommended levels; the only credible scientific evidence in the record supports adoption of the EPA recommended criteria for magnitude, duration and frequency.

NMED opposes the adoption of UC's proposals because it imposes onerous requirements for multiple samples over lengthy periods of time, rendering impossible the enforcement of the WQS. NMED must have reasonable, straightforward, and achievable requirements for collecting compliance data. Otherwise, NMED may not be able to collect enough data to bring an enforcement action, a result that would be harmful to public health and the environment and contrary to legislative intent.

There is little likelihood that the existing threshold would result in numerous unjustified enforcement actions. NMED has never filed an action to directly enforce the WQS. Indeed, NMED has repeatedly testified that if it detected a violation of the WQS, it would collect more samples if possible before taking enforcement action.

To the extent that UC is attempting to revise the rules governing assessment determinations, its proposal should not be adopted. As noted above, NMED's assessment protocols are consistent with EPA guidance documents and have been approved by the WQCC and EPA. Equally

[2] For example, if the adopted chronic aquatic concentration for pollutant X is 10 mg/L and sampling results show 2 days at 8 mg/L and 2 days at 11/mg/L, the 4-day average would be 9.5 mg/L. If EPA's guidance (and the University's proposal) on duration and frequency were used, there would be no violations of the standard (the 4-day average is 9.5 mg/L). However, if NMED's proposal for duration and frequency were used, there would 2 violations (2 days greater than 10 mg/L). Using NMED's proposed duration and EPA's (and UC's) recommended frequency, there would be 1 violation (one exceedance more than the once every three years).

important, Section 20.6.4.11 as written is consistent with those EPA guidance documents. As a result, it is not necessary to change anything in this section.

UC's proposed data requirements pose a serious obstacle to assessment determinations. EPA's assessment guidance states "[a]n assessment methodology should take into account the balance between desired data requirements and the practical realities affecting the availability of information and the strength of the available evidence". PL 22 at Ex 19, p.4-15. UC's proposal upsets this balance by imposing an artificially high threshold on the data that can be used.

UC's proposal is based in part on its position that more data means a lower probability of erroneous assessment determinations. EPA's assessment guidance does not support this position. In fact, EPA indicates that a small data set poses a greater risk of an erroneous finding of attainment than an erroneous finding of impairment.

Figure 4-1 shows the probability of detecting very low exceedances with small data sets, unless the actual rate of exceedance in the water is very high or common. Larger data sets have a greater probability of detecting less frequent exceedances. If a small data set detects an exceedance, the waterbody is likely experiencing a higher frequency of exceedances. However, if a small data set does not detect an exceedance, it is difficult to say with statistical confidence that the water is attaining WQS. Larger data sets are more powerful in terms of supporting decisions that a water is attaining WQS. PL 22 at Ex 19, p.4-12.

Clearly, EPA wants the states to make assessment determinations on the available data, even if more data would be better. This is true even for small data sets collected during low flow conditions. PL 22 at Ex 19, Table 4-2 (table showing the hierarchy of data levels for evaluating use impairment, including, inter alia, Level 1 - "limited data during key periods or at high or low flows (critical hydrological regimes); "even a short period of record can indicate a high confidence of impairment based on chemical data...However, long-term monitoring may be needed to established full attainment.") (emphasis in original).

Finally, UC suggests that there should be no difference in the methodology and data requirements for enforcement and assessment determinations. This suggestion disregards the very real differences between the activities. A traffic analogy clarifies the situation.

First consider the enforcement perspective. Assume a person is driving on Interstate 25 and a highway patrolman clocks him at 85 mph. The patrolman can enforce the speed limit by writing a ticket. It is not necessary for the patrolman to obtain multiple readings above the speed limit at the same location on multiple days. Nor can the ticket be undone by showing that previously the person complied with the speed limit or would comply in the future. Nonetheless, the ticket can be challenged on the ground that the patrolman did not use the radar gun properly or that the radar gun was not calibrated. These challenges go to the weight of the evidence, not whether the evidence showed a violation of the speed limit. Similarly, NMED can bring an enforcement action based on the available evidence, but a discharger can challenge the sampling methodology and handling and data analysis. Multiple samples at the same location on other days before and after the alleged violation do not negate the violation.

Next consider the assessment perspective. To assess water quality for purpose of CWA Section 303(d), multiple samples at the same location on multiple days are needed. Applying the traffic analogy, the level of sampling is similar to a traffic survey on a stretch of highway. The traffic survey is designed to determine whether the highway is safe, and how to correct problems that may exist, not to identify speeders. PL 27 at Montgomery 38, 40-42; PL 40 at 12; TR at 123 l.9 - 126 l.23.

UC Proposals, cont'd:

[Specific support for each section follows that section, below.]

A. Compliance with acute water quality standards for protection of aquatic life shall be determined from the average (median, arithmetic mean, or geometric mean, as appropriate) of the analytical results of a minimum of three individual grab samples, separated in time by no less than 15 minutes each, taken during the same sampling event from the same location [~~single grab sample~~]. Results and collection times of all grab samples shall be recorded and reported. Acute standards shall not be exceeded by the one-hour average more than once every three years.

UC states that the acute criteria for aquatic life at 20.6.4.900.M NMAC adopt EPA-recommended concentrations, which are based on short-term exposures to a toxicant, generally 48 to 96 hour tests of lethality or immobilization. UC Exhibit 17, PL 28 at 3-3; Meyerhoff Direct Testimony at 6-7. As discussed above, EPA recommends an averaging period of 1 hour for these levels and a frequency of exceedance of one time in three years. PL 28, UC Exhibits 16, 17 & 19.

UC's proposal incorporates the EPA recommendations. UC proposes that the duration for acute aquatic life criteria be a 1-hour average and that the frequency be no more than once every three years. UC's proposal also retains the currently-authorized use of grab samples and conforms the language of this paragraph to that adopted by the Commission for the human health standards.[3]

As discussed above, EPA allows "the frequency provisions of EPA's water quality criteria [to] be modified to account for site-specific conditions." PL 28, UC Exhibit 16 at 36. Accordingly, the "no-exceedance" frequency in the current standards should only be retained if supported by credible scientific data showing that aquatic communities in New Mexico will never recover from a single exceedance of an acute criterion. In fact, the opposite is likely true. Meyerhoff Direct Testimony, PL 28 at 8. The natural variability in hydrology of southwestern waterbodies means that the aquatic communities recover quickly from disturbance just as they must recover quickly from rapid and large changes in flow. Therefore, there is no credible scientific basis to retain the current language as proposed by SWQB. NMED Revised Proposed Amendments, PL 20 at 17.

NMED opposes UC's proposal for Paragraph A for additional reasons. Specifically, the proposal is based on an erroneous premise, is not supported by EPA guidance, and would make enforcement difficult, if not impossible, in critical situations. The proposal would require NMED to demonstrate acute toxicity in a water more than once in a three year period before bringing an enforcement action. UC mistakenly bases its proposal on EPA guidance regarding mixing zone toxicity. Mixing zones are small areas where acute toxicity may occur, but UC's proposal would apply the concept statewide, essentially making the entire state into a mixing zone. UC cannot explain how the "triennial poisoning" concept, which was written for states using a 7Q10 design

[3] The language is in both 20.6.4 NMAC and the Water Quality Management Plan. The Commission may take administrative notice of its proceedings on the use of single grab sample to determine compliance with the human health standards.

interval, would apply in New Mexico, which uses a 4Q3 design interval. UC also relies on the theory that aquatic communities can rebound from perturbations occurring once every three years, but it cannot define "perturbation" nor explain whether its theory applied to toxic pollutants. Finally, UC cannot explain how the "once in three years" concept would affect NMED's ability to enforce the WQS and to protect waters from acute toxicity occurring less frequently, such as illegal discharges or spills. TR at 1754 l.5 - 1759 l.18.

> **B.** Compliance with chronic water quality standards for protection of aquatic life shall be determined from the [~~arithmetic mean~~] average (median, arithmetic mean, or geometric mean, as appropriate) of the analytical results of all samples [~~collected using applicable protocols~~], with at least one sample collected during each of four consecutive days from the same location and with a similar or identical number of samples collected each day. Results and collection date and time of all samples shall be recorded and reported. Chronic standards shall not be exceeded by the four consecutive-day average more than once every three years.

UC states that for the most part, the Commission's chronic criteria for aquatic life at 20.6.4.900.M NMAC adopt EPA-recommended concentrations, which are based on long-term exposures to a toxicant, often 28 days or longer. PL 28, UC Exhibit 17 at 3-3. See PL 28, Meyerhoff Direct Testimony at 8-11. As discussed above, EPA recommends a 4-day averaging period and a frequency of exceedance of one time in three years for these criteria.[4] *PL 28, UC Exhibits 16, 17 & 19.*

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[4] EPA's recommended 4-day averaging period for chronic criteria is based on a number of factors.

> a 4-day averaging period is recommended for application of the [chronic criterion] in aquatic-life criteria for both individual pollutants and whole effluents:
>
> - It is substantially shorter than the 20- to 30-day duration of most chronic tests and is somewhat shorter than the 7-day duration of the *Ceriodaphnia* life-cycle test.
> - The results of some chronic tests apparently are due to an acute effect on a sensitive life stage that occurs at some time during the test, rather than being caused by either long-term stress or long-term accumulation of the test material in the organisms. Horning and Neiheisel…documented one such situation, and others are probably the cause of at least some of the acute-chronic ratios that are not much greater than unity.
> - For both endrin and fenvalerate, Jarvinen et al…found that a 72-hour exposure caused about the same amount of effect on the growth of fathead minnows in early life-stage tests as did a 30-day exposure to the same concentration.
> - In some life-cycle tests on effluents with ceriodaphnids, concentrations of effluents that were a factor of 1.8 greater than the [chronic criteria] caused unacceptable effects in 4 or 5 days…

UC's proposed changes provide an express link to the aquatic life chronic criteria[5] *and are consistent with EPA guidance. The University's proposal modifies the existing duration component to be consistent with the EPA-recommended use of a 4-day average for evaluating compliance. In addition, the University's proposed 4-day averaging period is consistent with recent EPA rulemakings involving chronic water quality criteria. See, e.g., the National Toxics Rule (1992), PL 28, UC Exhibit 13; Great Lakes Water Quality Standards (1995), UC Exhibit 9; and the California Toxics Rule (2000), UC Exhibit 5.*

NMED's proposal retains the current language, which does not specify an averaging period. The absence of a stated averaging time is inconsistent with EPA guidance and should be rejected. Moreover, the absence of a stated averaging time could lead to disputes between EPA, NMED and regulated entities over how the criteria should be applied in permits or directly enforced, and disparate treatment of regulated entities by EPA and NMED. The Commission should clarify how these criteria should be applied and adopt appropriate duration and frequency language.

C. Compliance with water quality standards for total ammonia shall be determined by performing the biomonitoring procedures set out in Subsections D and E of 20.6.4.13 NMAC, or by attainment of applicable ammonia standards set out in Subsections N, O and O2 of 20.6.4.900 NMAC. Compliance with acute ammonia criteria in 20.6.4.900.N NMAC shall be determined as described in 20.6.4.11.A NMAC. Compliance with chronic ammonia criteria in 20.6.4.900.O, and 20.6.4.900.O2 NMAC shall be determined from the average (median, arithmetic mean, or geometric mean, as appropriate) of the analytical results of all grab samples collected during a 30-day period, but no less than 5 samples collected at approximately evenly spaced intervals.

UC proposed that compliance with acute ammonia criteria be determined in the same manner as proposed for the acute aquatic life criteria in 20.6.4.11.A NMAC. UC also proposed that compliance with the chronic ammonia criteria be determined in the same manner as proposed for the chronic aquatic life criteria in 20.6.4.11.B NMAC, except that the University proposed a 30-day average instead of the 4-day average. EPA recommends a 30-day averaging period for the

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- It is not so short as to effectively defeat the purpose of the concept of the averaging period.

UC Exhibit 16 at D-2.

[5] Because other criteria are also based on chronic exposure, the University proposed to add new sections to 20.6.4.11 NMAC to provide explicitly linking those criteria and compliance language. *See discussion* below regarding human health, domestic water supply, livestock watering and irrigation criteria.

chronic ammonia criteria. PL 28, UC Exhibits 18 at 83 & 20 at 33. While not specified, UC recommends that the Commission adopt a once every three year frequency for both the acute and chronic criteria.[6]

NMED's proposed retention of the existing paragraph does not identify the frequency and duration component for ammonia. UC understands that absent specific language, compliance with acute ammonia criteria would be determined in accordance with 20.6.4.11.A NMAC and compliance with chronic ammonia criteria would be determined in accordance with 20.6.4.11.B NMAC. As discussed above, the existing language in those paragraphs is inconsistent with EPA guidance, not supported by evidence in the record, and incomplete. Therefore, NMED's proposal to retain the existing language should be rejected.

D. Compliance with water quality standards for the protection of domestic water supply and human health shall be determined from the average (median, arithmetic mean, or geometric mean, as appropriate) of the analytical results of all [~~representative~~] grab samples collected during a one-year period, but no less than 12 samples collected during at least three of the months during the year with similar numbers of samples from each month[~~, as defined in the water quality management plan~~]. Domestic water supply and human health standards shall not be exceeded by the annual average.

UC states that the human health criteria developed by EPA are chronic criteria designed to protect against daily exposure to contaminants from the consumption of fish or shellfish, or by drinking water for a long period of time. Meyerhoff Direct Testimony, PL 28 at 11. The drinking water criteria are based on the federal safe drinking water maximum contaminant levels ("MCL"), which use a 70-year lifetime consumption rate of 2 liters per day. Id. at 12. UC believes that the compliance determinations for the human health and domestic water supply criteria should take into account the long-term exposure assumptions built into the development of the criteria.

UC's proposed changes require a collection of 12 samples throughout the year as a minimum for determining compliance with domestic water supply and human health criteria. The minimum number of samples could be collected a number of ways, including monthly grab samples, bimonthly duplicate samples, quarterly triplicate samples, or 4 samples every three months.

[6] The language should be consistent with the frequency language in proposed 20.6.4.11.A & B NMAC.

Meyerhoff Direct Testimony, PL 28 at 13. This allows flexible sampling schedules while adequately characterizing the water quality on an annual basis.

UC's proposal is consistent with EPA recommendations for assessing water quality criteria based on long-term exposure assumptions. Id. For example, EPA recommends that the assessment of such standards be based on a comparison of the criterion to the annual arithmetic or geometric mean, or the median. PL 28, UC Exhibit 19.

D2. Compliance with wildlife habitat standards shall be determined as specified for chronic standards in 20.6.4.11.B NMAC.

UC states that the language of 20.6.4.900.L NMAC indicates that the wildlife habitat standards are chronic standards. To date the Commission has adopted wildlife habitat criteria for chlorine, cyanide, mercury, selenium, PCBs, and DDT & metabolites. The adopted criteria are the same as the EPA recommended chronic criteria to protect aquatic life. Meyerhoff Direct Testimony, PL 28 at 13-14. Since the wildlife habitat criteria are the same as NMED's proposed aquatic life chronic criteria, compliance with the criteria should be determined in the same manner as 20.6.4.11.B NMAC for the aquatic life chronic criteria. UC's proposal for determining compliance with the wildlife habitat criteria adopts the approach for determining compliance with the chronic aquatic life criteria.

D3. Compliance with water quality standards for the protection of livestock watering shall be determined from the average (median, arithmetic mean, or geometric mean, as appropriate) of the analytical results of all grab samples collected during a one-year period, but no less than 6 samples collected during at least three of the months during the year. Livestock watering standards shall not be exceeded by the annual average. For the purpose of calculating averages for intermittent and ephemeral waters, the average resulting above will be assigned to each day during the year where water was present for livestock to drink, and a value of 0 will be assigned to each day when there was no water. A final annual average will be calculated by averaging the values for each day during the year with and without water. Livestock watering standards shall not be exceeded by the final annual average.

UC states that the previously adopted livestock watering criteria and those proposed by NMED are derived from a mixture of sources, including MCLs. Meyerhoff Direct Testimony, PL 28 at 14. MCLs are established to protect against long-term exposure to pollutants in drinking water, generally a 70-year period. Id. Since many of these criteria are either identical to, or have been

derived in a similar way to, domestic water supply criteria, compliance should be assessed in the same manner as proposed in 20.6.4.D NMAC. Moreover, because the livestock watering criteria are designed to protect domestic livestock grazing, which is often a seasonal use, UC's recommended number of samples was reduced from the 12 proposed for human health and domestic water supply to 6. Id.

For intermittent and ephemeral waterbodies, the calculation of means or medians should be adjusted for the potential exposure of the livestock, taking into account when the waterbodies are dry and it is impossible for livestock to ingest contaminants in drinking water.[7] *Id. at 15. This approach is consistent with well-established scientifically-based risk assessment methodologies and consistent with the principle that the livestock watering criteria are designed to protect for long term daily exposure to pollutants. Id.*

NMED opposes UC's proposal for Paragraph D.3 for an additional reason. Specifically, the proposal renders impossible the determination of compliance. The proposal requires zeros in the livestock watering calculations. However, the values being averaged are concentrations, in mass per unit volume. In the absence of flow, there is no mass and no volume. As a result, the calculation results in division by zero, which is undefined. Because undefined amounts cannot be averaged, if one or more samples are undefined, the average concentration cannot be calculated and compliance cannot be determined.

Even if undefined samples were assumed to be zero, the proposal would allow significant exceedances of criteria when water is present. For example, assume an ephemeral stream that flows only 10% of the time, about 36 days. The stream has no flow for 90% of the time, about 329 days. Using the proposed nitrate criterion of 132 mg/L as the enforcement target, the stream could comply with the criterion even if it averaged 1320 mg/l on days when flow is present. Of course, an average of 1320 mg/l means that some days could exceed that amount. PL 27 at Ex 19 contains a table of nitrate concentrations and the expected effect on livestock. At concentrations

[7] For example, for days when the waterbody is dry, the level of the contaminant is zero. If an ephemeral stream flows only 4 days in a year, then the average concentration of the contaminant that can be consumed by livestock for the year is only about 4/365 of the average of the samples. Alternatively, if samples are available for all four days with flow, then the four sample values for the days with flow would be averaged with 361 zeros. Meyerhoff Direct Testimony at 15.

between 221 and 660 mg/L, the water is unsafe, with possible death losses. Between 661 and 800 mg/L, the water is unsafe with high probability of death losses. Over 800 mg/L, the water is unsafe and should not be used. In effect, the proposal would allow lethal levels of nitrate when water is present without violating the criterion. As a result, the proposal does not protect New Mexico's livestock and is unacceptable. PL 27 at Montgomery 42; TR at 126 l.25 - 129 l.12, 1728 l.1 - 1735 l.22, 1736 ll.18-22, 1738 ll.4-12, 1738 l.20 - 1740 l.12, 1741 l.2 - 1742 l.7, 1743 l.6 - 1744 l.12, 1746 ll.14-19.

D4. Compliance with water quality standards for the protection of irrigation and irrigation storage shall be determined from the average (median, arithmetic mean, or geometric mean, as appropriate) of the analytical results of all grab samples collected during a one-year period, but no less than 6 samples collected during at least three of the months during the year. Irrigation and irrigation storage standards shall not be exceeded by the annual average.

UC states that EPA guidance on the adoption of water quality criteria to protect the irrigation and irrigation storage use is limited. Meyerhoff Direct Testimony, PL 28 at 15. EPA recommended the criteria to protect against damage to plants and soils during an entire growing season, or to protect against excessive accumulations that may be passed on to humans or animals as a result of consumption. Id. UC's proposal uses an annual average as the basis for comparing sample results to the appropriate criterion. Because irrigation, like livestock watering, is a seasonal use, UC proposed that compliance with the criterion be based on the average of a minimum of 6 samples, instead of 12 recommended for human health and domestic water supply beneficial uses. Id.

……

G. For compliance with numeric standards dependent on hardness, hardness (as mg $CaCO_3$/L) shall be determined from a sample taken at the same time that the sample for the water contaminant is taken[~~, or from available verifiable data sources including, but not limited to, the U.S. environmental protection agency's STORET water quality database~~].

NMED opposes UC's proposal in paragraph G. because it falls short of NMED's proposal. Specifically, the proposal does not change the word "standards" to "criterion" and does not delete

the awkward phrasing "numeric [criteria] dependent on hardness, hardness." PL 27 at Montgomery 42.

Comment: The EPA guidance documents being discussed at length here can be found as UC exhibits 16-20 at PL 28. As to UC's legal argument, as UC notes, NMED did not propose substantive changes to this section. I am unaware of any court's interpretation of the law requiring the Bureau to provide scientific data to defend existing provisions in the standards. The Commission should consider whether UC's proposals have sufficient basis in the record, not whether NMED provided sufficient basis to refrain from proposing substantive changes.

SJWC's Proposal:

20.6.4.11 COMPLIANCE WITH WATER QUALITY STANDARDS:

[New] K. Variances from Water Quality Standards

1. The commission may grant a temporary variance from a particular water quality standard for a specific water body if one of the following conditions is shown to exist:

a. the standard is not being met because of human-induced conditions and those conditions cannot be corrected, correction will cause more environmental damage, and correction will impose an unreasonable burden upon a lawful business, occupation or activity or otherwise result in substantial and widespread adverse economic and social impact;

b. the standard is not being met and naturally occurring pollutant concentrations prevent compliance with the standard without imposing an unreasonable burden upon a lawful business, occupation or activity or are deemed not correctable within three years;

c. the standard is being met at the present time, but it is necessary to temporarily exceed the standard and introduce a pollutant for the protection of human health (*e.g.*, application of a pesticide to reduce mosquito populations);

d. the standard is being met at the present time, but it is necessary to temporarily exceed the standard and introduce a pollutant to obtain another lawful objective, such as fisheries management or reintroduction of a native aquatic species for purposes of the Endangered Species Act; or

e. for any other reason specified in 40 CFR §131.10(g).

2. Any person who seeks a variance from a water quality standard shall submit a written petition to the commission that contains the following information: (i) petitioner's name and address; (ii) the date of the petition; (iii) identification of the specific pollutant and water quality standard for which the variance is sought; (iv)

identification of the specific water body for which the variance is sought; (v) identification of the facility or activity for which the variance is sought, if applicable; (vi) the reasons why compliance with the water quality standard cannot be achieved; (vii) a discussion of the technologies that are available, if any, for achieving compliance with the water quality standard for which a variance is sought; (viii) documentation that one of the conditions set out in paragraph K(1) exists; (ix) the interim water quality standard sought by petitioner, along with evidence that the interim standard will not impair or otherwise negatively impact existing water quality; (x) the period of time for which the variance is requested; and (xi) evidence that reasonable progress is being made toward meeting the standards.

3. The commission shall review the petition and require a public hearing in the locality affected by the proposed variance in accordance with Adjudicatory Procedures, 20.1.3 NMAC. After public hearing, the commission may grant the petition in whole or in part, may grant the petition subject to conditions, or may deny the petition.

4. Any variance granted by the commission shall have a specific expiration date and shall be reviewed at least every three years.

5. Any variance granted by the commission shall identify the interim water quality standard for the pollutant for which the variance is granted. The interim standard may not be set at a level that would impair or otherwise negatively impact existing water quality.

6. Each variance granted by the commission shall be identified in the State's surface water quality standards by adding the words "variance granted" to the underlying numeric standard and noting the variance in a corresponding footnote or endnote reference.

7. An order of the commission is final and bars the petitioner from petitioning for the same variance without special permission from the commission. The commission may consider, among other things, the development of new information and techniques to be sufficient justification for a second petition.

SJWC proposes that the Commission adopt a variance procedure into the water quality standards. SJWC Closing Argument, pp. 37-45. In support of its proposal, SJWC states as follows: The Commission previously has recognized that a variance procedure would be useful, and EPA regulations indicate that the Commission has significant discretion to adopt and implement a variance policy. 40 C.F.R. § 131.13. Further, state law recognizes the Commission's authority to adopt a variance procedure:

> *[The Commission] may grant an individual variance from any regulation of the commission whenever it is found that compliance with the regulation will impose an unreasonable burden upon any lawful business, occupation or activity. 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 may be granted.*

N.M. Stat. Ann. § 74-6-4(G).

Although N.M. Stat. Ann. § 74-6-4(G) refers specifically only to the granting of a variance from a "regulation," the statute also clearly provides authority for the Commission to grant a variance from a water quality "standard." First, although the Water Quality Act itself does not define the term "regulation," the Commission previously has concluded that "standards" and "regulations" are equivalent. For example, the relevant portion of the New Mexico Administrative Code setting forth the rules governing adjudicatory proceedings of the Commission (including variance proceedings) defines the term "regulation" as including "any rules or standards promulgated by the Commission to implement the [Water Quality] Act." 20.1.3.7(A)(15) NMAC (emphasis added). In addition, the Guidelines for Water Quality Control Commission Regulation Hearings, section 103(M) (1993), defines "regulation" as "any rule, regulation or standard promulgated by the Commission . . . ." (Emphasis added.) The Commission's conclusion that standards and regulations are equivalent has merit given the fact that there is no current legal policy or reason to treat them differently: pursuant to section 74-6-10 of the Water Quality Act, both regulations and water quality standards adopted pursuant to the Act are enforceable, and significant equivalent penalties attach to the violation of each.

Second, and more importantly, the New Mexico Supreme Court, in interpreting the Water Quality Act, has held that there is no distinction between a "standard" and a "regulation" because both are "rules" under the State Rules Act. See Bokum Resources Corp., 93 N.M. at 553, 603 P.2d at 292. In Bokum, the Court held that, although section 74-6-7 of the Water Quality Act provides only for the appeal of the Commission's adoption of water pollution regulations, an appeal also may be taken from the Commission's adoption of water quality standards because

> *[t]he statutory designation for an enactment by an agency designed to have the force and effect of law and to control the actions of persons who are being regulated by the agency is a "rule." In Section 14-4-2(C), the State Rules Act defines "rule" as meaning any "rule, Regulation, order, Standard, statement of policy . . . ." . . . Thus, it is clear that the standards . . . adopted by the Commission, after the required notice, hearing and filing, are exactly what the Legislature calls them: "rules." A standard is a rule, if the proper procedure has*

> *been followed in promulgating it . . . and [is] appealable to the Court of Appeals.*

Id. The Legislature is presumed to be aware of reported New Mexico court decisions when it enacts legislation. State v. Trujillo, 1999-NMCA-003, ¶ 12, 126 N.M. 603. Thus, it is clear that section 74-6-4(G) similarly provides for the Commission's granting of a variance from both WQCC regulations and WQCC standards. The legal equivalency of standards and regulations also is evidenced by section 74-6-10, which was amended in 1993 to permit any constituent agency of the Commission to bring an enforcement action whenever a standard or regulation is violated.

Third, adoption of the argument against variances for water quality standards raised by NMED and AB would undermine NMED's ability to provide technical or other services to the Commission. NMED and AB argue that by referring only to "regulations" in section 74-6-4(G), the Legislature specifically intended to deny the Commission authority to grant variances from water quality standards. The thrust of their argument is that the Legislature's use of two different terms, "standards" and "regulations," evidences a specific intent to distinguish between the two despite existing law equating the two. However, application of this statutory construction would wreak havoc on the Commission. For example, section 74-6-4(E) specifically grants the Commission authority to assign responsibility for administering "regulations" to constituent agencies (including NMED), and section 74-6-8 gives constituent agencies (including NMED) authority to administer "regulations" adopted pursuant to the Water Quality Act. A review of the Water Quality Act shows that there is no corresponding specific grant of authority with respect to "standards." Applying NMED and AB's interpretation, then, by specifically granting such authority with regard to "regulations," the Legislature has both denied the Commission the authority to delegate water quality standards administration to NMED and denied NMED any authority to administer water quality standards.

Finally, the Legislature has elected to specifically limit the Commission's authority to implement the Clean Water Act. Those limitations are set out in section 74-6-12, titled "Limitations." A review of that statute shows that the Legislature has in no way limited the Commission's authority to grant a variance. Thus, although section 74-6-4(G) specifically recognizes the Commission's

authority to adopt a variance procedure for regulations, that recognition in no way restricts the Commission's authority to adopt variance procedures for standards under the Clean Water Act. Actual restrictions on Commission authority have been specifically addressed by the Legislature in section 74-6-12, and section 74-6-3(E) permits the Commission to "take all action necessary and appropriate to secure to this state . . . the benefits of [the federal Clean Water Act] . . . ."

More specifically, SJWC bases its proposal on the following record: SJWC presented lay and technical testimony in support of its proposal. PL 31, Pitts Direct at 10-14; TR Pitts at 1054:23-1059:2; PL 31, Kirkpatrick Direct at 4-6; TR Kirkpatrick at 982:6-983:7.

The primary argument raised against the adoption of SJWC's variance proposal is a legal one. NMED and AB argue that the Commission has no authority to adopt a variance procedure because state law (N.M. Stat. Ann. § 74-6-4(G)) expressly grants the Commission authority only to adopt a variance procedure for "regulations." PL 27, NMED Direct at 40; TR Montgomery at 130:7-131:6; PL 40, NMED Rebuttal at 12-13; PL 43, Killam Rebuttal at 2-4.

The New Mexico Supreme Court established in Bokum Resources Corp. v. New Mexico Water Quality Control Comm'n, 93 N.M. 546, 553, 603 P.2d 285, 292 (1979), that standards and regulations are equivalent. The New Mexico Administrative Code (20.1.3.7(A)(15) NMAC) equates "standards" and "regulations."

In its Guidelines for Water Quality Control Commission Regulation Hearings, section 103(M), the Commission has defined the term "regulation" to include "any rule, regulation or standard promulgated by the Commission . . . ." Because water quality standards are equivalent to regulations, the Commission has authority under N.M. Stat. Ann. §74-6-4(G) to adopt a variance procedure. The Legislature's specific authorization of Commission variances from regulations does not limit the Commission's authority to adopt variances for standards under the Clean Water Act. Specific limitations on the Commission's authority are set out in section 74-6-12, and the Legislature did not limit the Commission's variance authority in that statute. [Leavitt at 198:1-200:18]

Pursuant to EPA regulations (40 C.F.R. § 131.13), the Commission has significant discretion to adopt and implement a variance policy. PL 31, Pitts Direct at 11; TR Pitts at 1055:6-14; Killam at 1237:14-20; Hall Rebuttal at 5; Meyerhoff Direct at 17; 40 C.F.R. § 131.13, Ex. SJWC B-2.

The Legislature, in N.M. Stat. Ann. § 74-6-3(E), has given the Commission express authority to "take all action necessary and appropriate to secure to this state . . . the benefits of [the federal Clean Water Act]," which would include the adoption of a variance procedure.

EPA's Water Quality Standards Handbook recognizes the efficacy of a variance procedure, which, when used instead of removing a designated use, will assure that further progress is made in improving water quality and attaining the water quality standard for which the variance is granted. PL 31, Pitts Direct at 12; TR Pitts at 1055:17-25; Hall Rebuttal at 5; EPA Water Quality Standards Handbook (2d ed.), § 5.3, Ex. SJWC B-3.

An effective variance procedure provides flexibility for effective environmental problem solving and would be beneficial for the state. PL 31, Kirkpatrick Direct at 4-5; TR Kirkpatrick at 982:6-18; Hall Rebuttal at 5; Bowen at 794:6-12; Hall at 1461:22-1462:4.

As of 1990, approximately 32 states had variance policies in their standards, and SJWC's proposal should be acceptable to EPA. PL 31, Pitts Direct at 14; TR Pitts at 1055:15-16; Kirkpatrick at 982:19-21; EPA National Assessment of State Variance Procedures at 4, Ex. SJWC B-8.

The adoption of a variance procedure will be beneficial to the state as a whole, and to the Commission in particular, because it will alleviate the need to amend the water quality standards each time it is necessary to add a pollutant to surface water for public health, endangered species or other reasons. A variance procedure also will permit the Commission to grant a variance to a particular water quality standard for a limited period of time when necessary to alleviate adverse economic and social impacts that would result from enforcement of the standard. PL 31, Kirkpatrick Direct at 5; TR Kirkpatrick at 982:6-18.

The Commission previously has recognized the efficacy of a variance procedure. PL 31, Kirkpatrick Direct at 5-6; TR Kirkpatrick at 982:22-983:1; Minutes of December 7-8, 1999 WQCC Meeting, Item No. 4, Ex. SJWC C-2.

Several parties testified that SJWC's variance proposal meets all EPA requirements identified in the Water Quality Standards Handbook. PL 31, Pitts Direct at 13; TR Pitts at 1056:8-9, 1056:18-1057:11; Kirkpatrick Direct at 6; Hall Rebuttal at 5; Meyerhoff Direct at 17.

However, NMED testified that SJWC's variance proposal is not completely consistent with EPA's Water Quality Standards Handbook. TR Montgomery at 133:2-136:3; PL 40, NMED Rebuttal at 13-14.

SJWC rebutted most of NMED's concerns about the technical aspects of the variance proposal and, based on evidence presented at the triennial review, revised its original proposal to meet the other concerns raised by NMED. PL 40, NMED Rebuttal at 13-14; TR Montgomery at 133:2-136:3; Pitts at 1057:6-1059:2; Ex. SJWC B-21.

SJWC's variance proposal, as amended, incorporates all of the requirements of 20.6.2.1210 NMAC, which establishes the procedure for obtaining a variance to Commission regulations, as permitted by N.M. Stat. Ann. § 74-6-4(G). PL 31, Pitts Direct at 13-14.

SJWC's proposal contains provisions that will ensure the public's ability to fully participate in the variance process, including local notice and local participation provisions. PL 31, Kirkpatrick Direct at 6; Hall Rebuttal at 6.

NMED opposes UC's proposal for several reasons. First, the proposal violates the WQA. On its face, Section 74-6-4.G, the provision authorizing the WQCC to grant variances, is limited to regulations. The provision is clear and unambiguous, and its plain meaning must be applied. Regents, ¶18; Sims v. Sims, 1996-NMSC-078, ¶17.

Under Section 74-6-4.G, "regulations" do not include "standards". The WQA clearly distinguishes between the two. Pueblo of Picuris v. New Mexico Energy, Minerals, and Natural Resources Department, 2001-NMCA-084, ¶14 (absent contrary evidence, the legislature is assumed to use specific language for a purpose and that it had a purpose in preferring a specific course of action with regard to an issue or remedy). The WQA authorizes the WQCC to adopt standards under Section 74-6-4.C and regulations under Section 74-6-4.D. The WQA authorizes the WQCC to adopt variances from regulations, but not standards. PL 27 at Ex 50.

Consistent with the rule of statutory construction in Pueblo of Picuris, the courts have recognized the legislature's distinction between standards and regulations. In Regents, the Court of Appeals explicitly recognized that the WQA distinguished between standards and regulations. Regents, ¶25-26. Standards and regulations serve different purposes under the WQA, and the legislature has prescribed different criteria for their adoption and authorized variances from one but not the other. Id.

Ordinarily, the inquiry would end here. "If the meaning of the statute is plain, we give effect to the language as written and refrain from further statutory interpretation." Garcia v. Jeanette, 2004-NMCA-004, ¶17. As a result, it is not necessary to examine other parts of the statute. "In interpreting a statute, we are guided by statutory sections which focus specifically on a particular subject, and we look only secondarily to more general references elsewhere in the same statute." Id. Even when other sections are considered, "[w]e indulge in the assumption that when the legislature has before it all sections of a statute at the same time, it intends to give equal weight to each section so as to produce a harmonious product free from internal contradictions and inconsistencies." Id.

To the extent that there is any ambiguity in Section 74-6-4.G, the legislative history of the WQA demonstrates that the legislature intended to limit variances to regulations. In 1993, concurrently with the changes to Sections 74-6-4.C and D, the legislature amended other provisions to account for the difference between standards and regulations. For example, the legislature amended Section 74-6-6 to subject standards to the public participation requirements. The legislature also amended Section 74-6-8 to expand the scope of judicial review to include standards. The legislature also amended Section 74-6-4.G, the variance provision, but did not include standards. Taken together, these amendments reflect the legislature's understanding of the difference between standards and regulations, the need to amend various sections of the WQA to reflect that difference, and its conscious decision not to expand the WQCC's variance authority to include standards.

SJWC attempts to evade the plain meaning of the statute by pointing to alleged discrepancies in the legislature's effort to distinguish between standards and regulations. Specifically, it points to

three sections of the WQA that it says support an inference that the WQCC can grant variances from standards. TR at 199 l.13 - 200 l.13, 203 l.17 - 206 l.6. The argument is not persuasive.

The statutory history of the first section clearly reflects the legislature's intent to distinguish between standards and regulations. Section 74-6-7 governs judicial review. Before 1993, the section was entitled "Validity of Regulations", and Subsection C authorized the court of appeals to set aside the "regulation" being challenged if arbitrary, capricious, not supported by substantial evidence, or otherwise not in accordance with law. In 1993, when the legislature distinguished between standards and regulations, it also amended this section. First, it changed the title to "Administrative Action". This change reflected the legislature's intent to provide judicial review for all WQCC's actions, including standards. Second, it redesignated Subsection C as Subsection B, and substituted "commission's action" for "regulation". This change again reflected the legislature's intent to expand the scope of judicial review to include standards. Finally, it added a new Subsection C allowing the appellant to seek a stay of "the action". As before, this language included standards.

Despite the legislature's clear intent to conform this section, the drafting effort was not comprehensive. In Subsection A, the legislature neglected to explicitly expand the appellate right to include standards. However, in Regents, the WQCC did not challenge the court's jurisdiction to hear California's appeal of Section 20.6.4.10.G, reflecting both its and California's understanding that the section authorized the appeal of standards. Similarly, the Court of Appeals did not question its jurisdiction to hear the appeal. Regents, supra; Collier v. Pennington, 2003-NMCA-064, ¶7 (raising sua sponte the court's jurisdiction to hear an appeal). In this light, a minor drafting error cannot negate the legislature's intent clearly expressed throughout the rest of the provision. Pueblo of Picuris, supra.

The other sections cited by SJWC do not support an inference that standards and regulations are identical under the WQA. Eldridge v. Circle K Corp., 1997-NMCA-022, ¶12 (the court will not infer a strained reading of the statute when separate provisions can be read consistently with the legislative intent). It is true that the legislature did not refer to standards in Sections 74-6-4.E and 74-6-8. However, it is erroneous to infer from this fact that the legislature intended to equate

standards and regulations. It is equally plausible to infer, consistent with the legislative intent, that the legislature saw no reason to mention standards in these sections.

The sections cited by SJWC are mirror images: Section 74-6-4.E directs the WQCC to "assign responsibility for administering its regulations" to constituent agencies. Section 74-6-8 authorizes the constituent agencies to "administer regulations adopted pursuant to the [WQA] responsibility for the administration of which has been assigned to it by the [WQCC]." SJWC suggests that "regulations" must include standards in order for the WQCC to lawfully delegate authority to NMED to "administer" the standards.

This argument hinges on the assumption that the legislature understood NMED to "administer" the standards. TR at 203 l.23 - 204 l.3. SJWC does not explain why this assumption is true. "Administer" means "to manage or supervise the execution, use or conduct of". Merriam-Webster Online Dictionary, http://www.m-w.com/cgi_bin/_dictionary?book=Dictionary&va=administer&x=18&y=14 *(last visited June 23, 2004). Here, the agencies "manage" and "supervise" the execution of the regulations. As a result, Sections 74-6-4.E and 74-6-8 make sense as written. On the other hand, the legislature may have believed that the agencies do not "manage" and "supervise" the standards because they are self-executing. The standards define acceptable ambient conditions, and describe the rules for determining compliance and protecting water quality. Regents, supra. The standards are implemented through the external processes of permitting, certification, enforcement, and assessment. Id.; Section 20.6.4.8.E (WQS are implemented through external methods and procedures). In this light, the legislature might not have seen any need to amend the sections.*

There is simply nothing in the plain meaning or legislative history of the WQA to suggest that the legislature intended to equate standards and regulations or that the legislature intended to authorize the WQCC to grant variances from standards. There is no dispute that the variance provision refers only to regulations. The provision's plain meaning cannot be ignored, and a contrary intent cannot be inferred, simply because the legislature neglected to make every conceivable conforming change in the statute. In essence, SJWC asks the WQCC to exceed its statutory authority on the strength of a single extraneous drafting error in an unrelated provision

and an unsupported inference from legislative silence in two other provisions. The WQCC should decline to do so.

SJWC also points to three administrative rules as evidence that the legislature did not intend to distinguish between standards and regulation. Specifically, it cites the piscicide procedure in the WQS, the alternative abatement standard procedure in the ground water regulations, and a definition in the adjudicatory rules. TR at 207 l.4 - 210 l.17. This argument is not persuasive.

It is axiomatic that an administrative agency like the WQCC cannot adopt rules that exceed the authority granted by the legislature. Public Service Company of New Mexico v. Environmental Improvement Board, 89 N.M. 223, 227, 549 P.2d 638, 642 (Ct. App. 1976). By the same token, an administrative agency like the WQCC cannot amend or enlarge its authority by adopting rules and regulations. Chalamidas v. Environmental Improvement Board, 102 N.M. 63, 66, 691 P.2d 64, 67 (Ct. App. 1984); New Mexico Board of Pharmacy v. New Mexico Board of Osteopathic Medical Examiners, 95 N.M. 780, 782, 626 P.2d 854, 856 (Ct. App. 1981). Applying these principles, the WQCC cannot, through the adoption of rules and regulations, amend or enlarge its statutory power to grant variances from standards.

There is no evidence that the WQCC attempted to amend or enlarge its authority in derogation of the plain meaning of Section 74-6-4.E. The piscicide procedure, Section 20.6.4.12.F, was proposed and adopted directly into the WQS precisely because the WQCC understood that it could not grant variances from standards. TR at 215 l.1 - 217 l.1. The definition, Section 20.1.3.7.A.15, is not applicable in this proceeding, and it does not equate standards and regulations, but rather defines "regulations" to include standards for the purpose of applying the adjudicatory rules. There would no need for the WQCC to mention standards in the definition if "regulations" were understood to include standards per se. Finally, with respect to the alternative abatement standard procedure, Section 20.6.2.4103.F, NMED recognizes that the procedure may not be consistent with the WQA. TR at 209 l.22 - 210 l.11. (For the record, the WQCC notes that the WQCC's ground water variance provision, 20.6.2.1210 NMAC, is expressly limited to regulations. Subsection A prescribes the procedure for persons "seeking a variance pursuant to Section 74-6-4(G) NMSA 1978". The subsequent list of petition requirements refers to "the

regulation of the commission from which the variance is sought" and "the extent to which the petitioner wishes to vary from the regulation".)

The WQCC recognizes that the WQA does not authorize variances from standards. During deliberations on the piscicide procedure, two commissioners acknowledged that the WQA must be changed to allow the WQCC to grant variances from standards. PL 31 at Ex SJWC C-2. One of these commissioners, Ms. Lynn Brandvold, opined that the legislature should clearly state that a variance could be granted from a standard. Id.; TR at 394 l.17 - 396 l.16. SJWC acknowledges that when it made its proposal, it knew the WQCC's position, and that the WQCC's counsel had advised the WQCC that it did not have the authority to grant variances from standards. TR at 990 ll.2-20.

Second, the CWA does not authorize the WQCC to grant variances from standards. It is true that the EPA regulations authorize the states to adopt variance procedures. PL 27 at Ex 4 (40 CFR 131.13). However, the WQCC is a creature of state law and cannot act beyond the authority granted by the state legislature. Public Service Company of New Mexico, supra. The legislature did not authorize the WQCC to grant variances from standards. Even SJWC acknowledges that the WQCC cannot adopt variances if prohibited by state law, regardless what federal law may allow. TR at 1109 l.23 - 1110 l.1.

Third, the proposal is not consistent with EPA's Handbook. The Handbook states that EPA will approve state-adopted variance procedures only if nine listed conditions are satisfied. The proposal does not satisfy four conditions, conflicts with another condition, imposes additional conditions that are not listed and that weaken the WQS, and contains internal inconsistencies.

The four conditions that are not included are:

- *Documentation that treatment more advanced than required by Clean Water Act Sections 303(c)(2)(A) and (B) has been carefully considered, and alternative effluent control strategies have been evaluated*

- *The more stringent state criterion is maintained and is binding upon all other dischargers on the stream or stream segment*

- *The discharger being given the variance for one particular constituent is required to meet the applicable criteria for other constituents*

- *Reasonable progress is being made toward meeting the standards*

The conflict involves the duration condition. The proposal limits the duration of variances to 3 years as required by the Handbook. However, it omits the requirement at the end of 3 years for the discharger to "meet the standard upon the expiration of this time period or [ ] make a new demonstration of unattainability".

The proposal establishes two improper conditions. These conditions are vague and subjective. They interject the concept of economic feasibility into the standard-setting process and establish new and more cumbersome procedures without a showing that the existing procedures are flawed. Specifically, the proposal allows a variance if:

- *the standard imposes an unreasonable burden on a lawful business , occupation or activity*
- *the protection of human health or some other lawful objective requires the temporary exceedance of the standard*

The first condition allows a variance based on economic feasibility even though the WQA does not require such consideration in setting WQS. Further, the key term in the first condition - "unreasonable burden" - is not defined. Amigos Bravos Presentation Slide, "Variance". The second condition allows a variance when "the protection of human health or some other lawful objective requiring the temporary exceedance of a standard". SJWC does not explain why the variance process would be any better than the existing process for obtaining site-specific criteria, e.g., filing a petition with the WQCC. In fact, it is hard to imagine any reason why filing a variance would be better, since both variances and site-specific criteria would be subject to a public process, including an opportunity for a hearing. The real difference may be in the criteria for approving a variance under SWJC's proposal, which allows the consideration of economic feasibility, a consideration not allowed for the adoption of water quality standards under the WQA.

Finally, the proposal is internally inconsistent. For example, Paragraph 1(a) states:

> *The standard is not being met because of human-induced conditions and those conditions cannot be corrected, correction will cause more environmental damage, and correction will impose an unreasonable burden upon a lawful business, occupation or activity or otherwise result in substantial and widespread adverse economic and social impact.*

The italicized phrase contains three conditions linked by the word "and". "And" is conjunctive; it requires the occurrence of all three conditions. Stevenson v. Louis Dreyfus Corp., 112 N.M. 97,

100, 811 P.2d 1308, 1311 (1991). The first italicized clause indicates that correction must not be possible, followed by two clauses that require the correction to cause more damage and impose an unreasonable burden. It is not possible to satisfy all three conditions simultaneously. PL 27 at Montgomery 38-40; PL 27 at Ex 9; PL 40 at 12-14; TR at 130 l.7 - 132 l.3, 132 l.16 - 136 l.3, 196 ll.16-21, 201 ll.2-17, 1109 l.23 - 1110 l.1, 1237 l.21 - 1238 l.11, 1255 l.2 - 1256 l.2. NMED Closing Argument, pp. 86-95.

Amigos Bravos also opposes SJWC's proposal. AB believes that variances represent a significant step away from the goals outlined in the Clean Water Act to "restore and maintain the chemical, physical and biological integrity of the nation's waters." See TR pp. 1237-1242, PL 43, AB Rebuttal Killam at 2-4, Bishop at 1-3. AB Final Submittal, pp. 14-15.

<u>Comment:</u> Regarding just the legal arguments, although I would defer to Commission counsel, I believe NMED's observations regarding the standards/regulations language in the statute are more consistent than SJWC's with ordinary statutory construction in New Mexico case law. The fact that the statutory construction analysis is so intricate is an indication in itself that the statute must be changed for the Commission to allow for variances from water quality standards. See, for example, Kennecott Copper Corp. v. Employment Sec. Comm'n, 78 N.M. 398, 432 P.2d 109 (1967)(A power not expressly granted is implied only where it is necessary to carry into effect powers expressly granted.)

20.6.4.12 GENERAL STANDARDS: GENERAL [~~STANDARDS~~] CRITERIA: General [~~standards~~] criteria are established to sustain and protect existing or attainable uses of surface waters of the state. These general [~~standards~~] criteria apply to all surface waters of the state at all times, unless a specified [~~standard~~] criterion is provided elsewhere in this part. Surface waters of the state shall be free of any water contaminant in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or unreasonably interfere with the public welfare or the use of property. [~~When changes in dissolved oxygen, temperature, dissolved solids, sediment or turbidity in a water of the state is attributable to natural causes or the reasonable operation of irrigation and flood control facilities that are not subject to federal or state water pollution control permitting, numerical standards for temperature, dissolved solids content, dissolved oxygen, sediment or turbidity adopted under the Water Quality Act do not apply. The foregoing provision does not include major reconstruction of storage dams or diversion dams except for emergency actions necessary to protect health and safety of the public, or discharges from municipal separate storm sewers.~~]

NMED makes the same proposal as above regarding the words "standards" and "criteria" for the reasons stated in Section 20.6.4.7.H. PL 20 at 18; PL 27 at Montgomery 42-43; TR at 136 ll.5-8. NMED proposes to move the last two sentences to Section 20.6.4.10.J because it makes more sense for the sentences to be in that section. PL 20 at 18, PL 27 at Montgomery 42-43; TR at 136 ll.5-8.

Comment: Recommend adoption for the reasons stated.

A. Bottom Deposits, and Suspended or Settleable Solids:

(1) Surface waters of the state shall be free of water contaminants including fine sediment particles (less than two millimeters in diameter), precipitates, or organic or inorganic solids from other than natural causes that [~~will settle and~~] have settled to form layers on or fill the interstices of the natural or dominant substrate in quantities that damage or impair the normal growth, function, or reproduction of aquatic life or significantly alter the physical or chemical properties of the bottom.

(2) Suspended or settleable solids from other than natural causes shall not be present in surface waters of the state in quantities that damage or impair the normal growth, function, or reproduction of aquatic life or adversely affect other designated uses.

NMED proposes to restructure the section because it more accurately reflects the difference between materials that have settled and those that have not. PL 20 at 18. Generally speaking, a "bottom deposit" implies a material that has settled to the bottom of a water body, but the current language refers to a material that "will settle". The use of the future tense causes ambiguity. Because both settled material and to-be-settled material affect the integrity of surface waters, the language should be clarified and restructured to ensure comprehensive regulation. PL 27 at Montgomery 43; TR at 136 ll.5-8.

Comment: Recommend adoption for the reasons stated.

B. Floating Solids, Oil and Grease: Surface waters of the state shall be free of oils, scum, grease and other floating materials resulting from other than natural causes that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

C. Color: Color-producing materials resulting from other than natural causes shall not create an aesthetically undesirable condition nor shall color impair the use of the water by desirable aquatic life presently common in surface waters of the state.

D. [~~**Odor and Taste of Fish**~~**]** **Organoleptic Quality**:

(1) Flavor of Fish: Water contaminants from other than natural causes shall be limited to concentrations that will not impart unpalatable flavor to fish.

(2) Odor and taste of water:, Water contaminants from other than natural causes shall be limited to concentrations that will not result in offensive odor or taste arising in a surface water of the state or otherwise interfere with the reasonable use of the water.

NMED proposes to change the title and restructure this section and insert subsection titles because it more accurately reflects the terms and subject matter used to describe effects registered by the human senses of taste and smell. PL 20 at 18, PL 27 at Montgomery 43; TR at 136 ll.5-8.

Comment: Recommend adoption for the reasons stated.

E. Plant Nutrients: Plant nutrients from other than natural causes shall not be present in concentrations *[~~which~~] that* will produce undesirable aquatic life or result in a dominance of nuisance species in surface waters of the state.

F. Toxic Pollutants:

(1) Except as provided in 20.6.4.15 or 20.6.4.16 NMAC, surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations [~~which~~] that affect the propagation of fish or [~~which~~] that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or [~~which~~] that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels [~~which~~] that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms.

(2) Pursuant to this section, the human health criteria shall be as set out in 20.6.4.900 NMAC. For a toxic pollutant for human health not listed in 20.6.4.900 NMAC, the following provisions shall be applied in accordance with 20.6.4.10, 20.6.4.11 and 20.6.4.13 NMAC.

(a) The human health criterion shall be the recommended human health criterion for "consumption of organisms only" published by the U.S. environmental protection agency pursuant to Section 304(a) of the federal Clean Water Act. In determining such criterion for a cancer-causing toxic pollutant, a cancer risk of 10^{-5} (one cancer per 100,000 exposed persons) shall be used.

(b) When a numeric criterion for the protection of human health has not been published by the U.S. environmental protection agency, a quantifiable criterion may be derived from data available in the U.S. environmental protection agency's Integrated Risk Information System (IRIS) using the appropriate formula specified in [~~the Water Quality Management Plan~~] Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000), EPA-822-B-00-004.

(3) Pursuant to this section, the chronic aquatic life criteria shall be as set out in 20.6.4.900 NMAC. For a toxic pollutant for aquatic life with no chronic criterion listed in

20.6.4.900 NMAC, the following provisions shall be applied in sequential order in accordance with 20.6.4.10, 20.6.4.11 and 20.6.4.13 NMAC.

(a) The chronic aquatic life criterion shall be the "freshwater criterion continuous concentration" published by the U.S. environmental protection agency pursuant to Section 304(a) of the federal Clean Water Act;

(b) If the U.S. environmental protection agency has not published a chronic aquatic life criterion, a geometric mean LC-50 value shall be calculated for the particular species, genus or group[~~, which~~] <u>that</u> is representative of the form of life to be preserved, using the results of toxicological studies published in scientific journals.

(i) The chronic aquatic life criterion for a toxic pollutant [~~which~~] <u>that</u> does not bioaccumulate shall be 10 percent of the calculated geometric mean LC-50 value; and

(ii) The chronic aquatic life criterion for a toxic pollutant [~~which~~] <u>that</u> does bioaccumulate shall be: the calculated geometric mean LC-50 adjusted by a bioaccumulation factor for the particular species, genus or group representative of the form of life to be preserved, but when such bioaccumulation factor has not been published, the criterion shall be one percent of the calculated geometric mean LC-50 value.

(4) Pursuant to this section, the acute aquatic life criteria shall be as set out in 20.6.4.900 NMAC. For a toxic pollutant for aquatic life with no acute criterion listed in 20.6.4.900 NMAC, the acute aquatic life criterion shall be the "freshwater criterion maximum concentration" published by the U.S. environmental protection agency pursuant to Section 304(a) of the federal Clean Water Act.

(5) Within 90 days of the issuance of a final NPDES permit containing a numeric criterion selected or calculated pursuant to Paragraph 2, Paragraph 3 or Paragraph 4 of Subsection F of this section, the Department shall petition the Commission to adopt such criterion into these standards.

(6) [~~The use of a piscicide registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 *et seq*., and under the New Mexico Pesticide Control Act (NMPCA), Section 76-4-1 *et seq*. NMSA 1978 (1973), shall not be a violation of Subsection F of this section when such use has been approved by the commission. Any person seeking commission approval of the use of a piscicide shall file a written petition with the commission. The petition shall contain, at a minimum, the following information: (1) petitioner's name and address; (2) identity of the piscicide; (3) documentation of registration under FIFRA and NMPCA; (4) target and potential non-target species, including threatened or endangered species; (5) potential environmental consequences and protocols for limiting such impacts; (6) affected surface water of the state; (7) results of pre-treatment survey; (8) evaluation of available alternatives and justification for selecting piscicide use; (9) post-treatment assessment monitoring protocol; and (10) any other information required by the commission. The commission shall review the petition and require a public hearing in the locality affected by the proposed use in accordance with Adjudicatory Procedures, 20.1.3 NMAC. In addition to the public notice requirements in Adjudicatory Procedures, 20.1.3 NMAC, the petitioner shall provide written notice to (1) local political subdivisions; (2) local water planning entities; (3) local conservancy and irrigation districts; and (4) local media outlets, except that the petitioner shall only be required to publish notice in a newspaper of circulation in the locality affected by the proposed use. After a public hearing, the commission may grant the petition in whole or in part, may grant the petition subject to conditions, or may deny the petition. In granting any petition in whole or part or subject to conditions, the commission shall require the petitioner to implement post-treatment assessment monitoring.~~]

NMED proposes to correct an inadvertent error in Paragraph F(2). PL 20 at 19. On August 13, 2002, the WQCC adopted the human health criteria, including language referring to the placement of EPA-approved formulae in the WQMP. However, this language was not included in the text filed with the State Records Center and Archives. Rather than placing the formulae in the WQMP, as originally intended, the paragraph is amended to reference the EPA methodology

document containing the formulae, as well as information describing the use and derivation of the formulae. PL 27 at Montgomery 44; PL 27 at Ex 16; TR at 136 ll.5-8.

NMED proposes to move Paragraph F(6) to Section 20.6.4.15 because the proposed revisions to Paragraph F(6) are substantial. PL 20 at 20-21, PL 27 at Montgomery 45; TR at 136 ll.5-8.

Comment: Recommend adoption for the reasons stated.

SJWC Proposal:

> **F. Toxic Pollutants:**
>
> **. . . .**
>
> **[NEW](7) Ambient Standards.** For a surface water of the state where the natural or irreversible human-induced ambient water quality exceeds a specific standard for a naturally occurring substance contained in 20.6.4.12 NMAC, 20.6.4.101 through 20.6.4.899 NMAC, or 20.6.4.900 NMAC, but is determined adequate to protect designated uses, the commission may adopt site-specific chronic standards based on the available representative data and consistent with 20.6.4.13 NMAC. Acute standards shall be based on the values set out in 20.6.4.900 NMAC or on site-specific-criteria-based standards, and in no case may an ambient chronic standard be more lenient than the acute standard.

SJWC has proposed that the Commission explicitly acknowledge the efficacy of site-specific ambient standards by adopting a policy statement recognizing that such standards may be adopted under certain circumstances. SJWC Closing Argument, pp. 46-49. PL 31, Pitts Direct at 14; Kirkpatrick Direct at 6-7. SJWC presented lay and technical testimony in support of its proposal. PL 31, Pitts Direct at 14; TR Pitts at 1059:5-1061:2; Kirkpatrick Direct at 6-7; TR Kirkpatrick at 983:8-21. SJWC states as follows:

(1) EPA's water quality standard regulations (40 C.F.R. § 131.11(b)(1)(ii)) and Water Quality Standards Handbook recognize the Commission's ability to adopt water quality criteria modified to reflect site-specific conditions. Parkhurst Rebuttal at 4; EPA Water Quality Standards Handbook (2d ed.), § 3.7, Ex. PD-4; 40 C.F.R. § 131.11(b)(1)(ii), Ex. NMED-4. NMED agrees that the Commission has authority to adopt site-specific standards. TR Saums at 646:11-18.

(2) EPA has issued a policy statement recognizing that naturally occurring concentrations of pollutants may exceed national criteria and that, in such cases, site specific criteria are allowed

by regulation. PL 31, Pitts Direct at 14; TR Pitts at 1059:8-13; Parkhurst Rebuttal at 4; November 5, 1997 EPA Memorandum re Establishing Site Specific Aquatic Life Criteria Equal to Natural Background at 1-2, Ex. SJWC B-9.

(3) Some surface waters of the state, such as Sulphur Creek, have naturally occurring concentrations of pollutants that currently exceed, or may in the future exceed, state surface water quality standards. PL 31, Kirkpatrick Direct at 6; Pitts Direct at 15; TR Montgomery at 64:5-11. As noted by EPA, "[f]or aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans." Parkhurst Rebuttal at 4; November 5, 1997 EPA Memorandum re Establishing Site Specific Aquatic Life Criteria Equal to Natural Background at 2, Ex. SJWC B-9.

(4) Significant adverse economic and social impacts may result from imposition of a statewide water quality standard, and in such circumstances the Commission should have discretion to adopt a site-specific ambient standard. PL 31, Kirkpatrick Direct at 6-7; TR Kirkpatrick at 983:16-19; Hall at 1462:5-19.

(5) The Commission has authority to adopt a policy statement recognizing that site-specific ambient standards are appropriate where naturally occurring concentrations of pollutants exceed a water quality standard, and it is in the best interest of the state to do so. EPA has indicated that, where irreversible human-caused conditions exist, ambient standards may be adopted based on 40 C.F.R. § 131.10(g)(3) because ambient-based criteria "can be preferable to a 'downgrade of a use' . . . ." PL 31, Pitts Direct at 16; TR Pitts at 1059:23-1060:4; 63 Fed. Reg. 36761 (July 7, 1998), Ex. SJWC B-10. Some surface waters of the state may exceed current or future surface water quality standards because of irreversible human-caused conditions. PL 31, Pitts Direct at 15.

(6) The Commission has authority to adopt a policy statement recognizing that site-specific standards are appropriate where irreversible human-caused conditions exist, and it is in the best interest of the state to do so. TR Bowen at 794:13-795:3.

(7) SJWC's ambient standards proposal allows for the adoption of ambient standards either when naturally occurring concentrations of pollutants exceed water quality standards or when irreversible human-caused conditions cause a surface water to exceed water quality standards. PL 31, Pitts Direct at 14-16.

(8) NMED agrees that the Commission has authority to develop segment-specific criteria that protect existing uses and supports the development of such criteria. TR Montgomery at 136:19-24, 361:15-20, 364:14-18; Leavitt at 645:25-646:6. However, NMED opposes SJWC's proposal to the extent it "could be construed to circumvent the UAA process if it were used to adopt criteria that do not protect an existing or designated use." TR Montgomery at 136:23-137:3. The Commission should reject NMED's position that, when a designated use or water quality standard cannot be met because of natural or human-induced water quality problems, those uses or criteria should be adjusted by means of the use attainability analysis process." PL 27, NMED Direct at 46; TR Montgomery at 136:11-19.

(9) The use attainability analysis process is complicated and lengthy and often is not suitable for addressing problems caused by the application of default water quality criteria to surface waters that may be impacted by natural or irreversible human-induced conditions. Many other states routinely develop site-specific standards for water bodies affected by natural background conditions and/or legacy pollutants. Parkhurst Rebuttal at 4; TR Parkhurst at 1556:22-1557:19. The Commission should also reject NMED's use attainability analysis argument because SJWC's proposal includes a provision that an ambient standard must protect designated uses. TR Pitts at 1059:14-22; PL 31, Kirkpatrick Direct at 7; Pitts Direct at 16.

(10) NMED also opposes SJWC's proposal to the extent it would authorize site-specific criteria for human-made toxic pollutants. TR Montgomery at 137:16-22, 363:24-364:18. Based on evidence presented during the triennial review, SJWC modified its original ambient standards proposal. The modification provides that an ambient standard may be adopted only if the water quality standard being exceeded is a standard for a naturally occurring substance. TR Pitts at 1060:14-1061:4; Ex. SJWC B-21.

NMED opposes SJWC's proposal for several reasons. NMED Closing Argument, pp. 101-102. First, the proposal duplicates existing authority and is not needed. When uses or criteria cannot be met because of natural or human-induced water quality problems, there are other methods to adjust them. For example, uses can be adjusted through UAAs. Criteria can be adjusted to reflect site-specific conditions.

Second, the proposal could be construed to authorize an unlawful circumvention of UAAs. Federal regulations establish specific requirements for changing uses to accommodate "human-induced" causes. SJWC acknowledges that EPA does not recognize site-specific criteria for human-caused conditions. The proposal circumvents these requirements by establishing a less stringent alternative process.

Third, the proposal is located in the wrong place. The proposal concerns the development of site-specific numeric criteria, but it is located in the general standards section of the WQS. In addition, the proposal is inserted into the general standard for toxic pollutants. As a result, the proposal applies only to site-specific criteria for toxic pollutants, which is bad policy because ambient criteria are not appropriate for toxic pollutants which (with the exception of metals) are man-made organic substances. There is no data or policy to justify the development of site-specific criteria for substances like PCBs and DDT.

Fourth, the proposal conflicts with the goal-forcing nature of the CWA, which requires controls to reduce the discharge and impact of toxic pollutants, rather than codifying the status quo by adopting criteria that accommodate existing pollution. SJWC attempts to correct this problem by limiting the scope of the provision to "naturally occurring substances", but the correction is not effective because the provision is still located in the general standard for toxic pollutants.

Finally, the proposal contains the phrase "available representative data" which is ambiguous and conflicts with the WQCC's obligation to make decisions based on substantial and credible evidence. PL 27 at Montgomery 46; PL 40 at 15; TR at 136 l.11 - 138 l.6, 1009 ll.11-14, 1059 ll.23-24.

G. Radioactivity: The radioactivity of surface waters of the state shall be maintained at the lowest practical level and shall in no case exceed the [~~standards~~] criteria set forth in the New Mexico Radiation Protection Regulations, [~~20.3.1.400 through 20.3.1.499 NMAC (5-3-95)~~] Effluent Concentrations (Table II, Column 2) in 20.3.4.461 NMAC.

NMED makes the same proposal regarding the words "standards" and "criteria" are adopted for the reasons stated in Section 20.6.4.7.H. PL 20 at 21; PL 27 at Montgomery 46; TR at 136 ll.5-8. NMED proposes to revise the reference because it provides greater specificity and does not contain the effective date of the current regulation in order to avoid having to amend the standards whenever the radiation regulations are updated. PL 20 at 21, PL 27 at Montgomery 46; TR at 136 ll.5-8.

Comment: UC filed a Motion to Reopen the Hearing Record for supplemental testimony on September 10, 2004. After allowing the other parties an opportunity to respond, I have denied that motion. The stated basis for the request is that NMED is making a significant change by its proposal in this section that is not apparent except by reference to outside documentation. Briefly, NMED is either proposing a significant change or it is not. If it is, the Commission does not have before it much of a record to weigh the proposal. If it is not, NMED's position will not be compromised by a refusal to make the change proposed at this time, and a plan to take up the matter in another, later proceeding. Do not recommend adoption.

H. Pathogens: Surface waters of the state shall be [~~virtually~~] free of pathogens from other than natural sources in sufficient quantity to impair public health or the designated, existing or attainable uses of a surface water of the state. [~~In particular, surface waters of the state used for irrigation of table crops such as lettuce shall be virtually free of Salmonella and Shigella species.~~]

NMED proposes to delete the phrase "virtually free" because the phrase renders the section vague and unenforceable. PL 20 at 21, PL 27 at Montgomery 46; TR at 136 ll.5-8. NMED proposes to delete the second sentence because the sentence appears to exceed the WQCC's authority to regulate water quality in surface waters and impinges on the authority of federal and state agencies charged with the regulation of food safety. PL 20 at 21, PL 27 at Montgomery 46; TR at 136 ll.5-8.

Comment: Recommend adoption for reasons stated.

I. Temperature: Maximum temperatures for each classified water of the state have been specified in 20.6.4.101 through 20.6.4.899 NMAC. However, the introduction of heat by other than natural causes shall not increase the temperature, as measured from above the point of introduction, by more than 2.7°C (5°F) in a stream, or more than 1.7°C (3°F) in a lake or reservoir. In no case will the introduction of heat be permitted when the maximum temperature specified for the reach [~~(generally 20°C (68°F) for coldwater fisheries and 32.2°C (90°F) for warmwater fisheries)~~] would thereby be exceeded. These temperature [~~standards~~] criteria shall not apply to impoundments constructed offstream for the purpose of heat disposal. High water temperatures caused by unusually high ambient air temperatures are not violations of these standards.

NMED proposes the same changes as above regarding the words "standards" and "criteria" for the reasons stated in Section 20.6.4.7.H. PL 20 at 21; PL 27 at Montgomery 46-47; TR at 136 ll.5-8.

NMED proposes to delete the parenthetical phrase in the third sentence because the reference to temperatures that are "generally" the maximum value is not relevant when the segments specify the applicable temperature criterion. PL 20 at 21. PL 27 at Montgomery 46-47; TR at 136 ll.5-8.

Comment: Recommend adoption for reasons stated.

J. Turbidity: Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the normal growth, function, or reproduction of aquatic life is impaired or that will cause substantial visible contrast with the natural appearance of the water. Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or increase more than 20 percent when the background turbidity is more than 50 NTU. Background turbidity shall be measured at a point immediately upstream of the turbidity-causing activity. However, limited-duration activities necessary to accommodate dredging, construction or other similar activities and that cause the criterion to be exceeded may be authorized provided all practicable turbidity control techniques have been applied and all appropriate permits and approvals have been obtained.

NMED proposes to replace the numeric turbidity criteria with a uniform requirement applicable to all surface waters because the uniform requirement protects waters from activities that cause turbidity to exceed background levels, while avoiding an inappropriate impairment determination during periods of naturally caused sediment transport, such as runoff. PL 20 at 21-22. The revised narrative criterion reflects the findings of David Rosgen concerning the geomorphology of flowing waters. The criterion provides a mechanism for authorizing activities that create a short-term increase in turbidity subject to the implementation of appropriate BMPs, as well as ensuring that short-term increases in turbidity will not cause degradation of water quality. The proposal

requires revisions in 30 segments (102, 104, 107, 108, 109, 112, 113, 114, 115, 119, 120, 121, 122, 123, 203, 209, 210, 214, 20.6.4.215, 217, 302, 304, 309, 405, 406, 503, 603, 802, 804 805) and in Section 20.6.4.900.C (redesignated as Section 20.6.4.900.H(1)). PL 27 at Montgomery 47; TR at 138 ll.8-16.

Phelps Dodge proposed to delete the requirement that turbidity increases be of "limited duration." PL 32 at 4. Phelps Dodge did not present any supporting evidence and did not pursue the matter in its post-hearing submittal. Further, the proposal would defeat NMED's intent to craft a narrow exception to the narrative criterion. NMED intended only to exempt de minimis turbidity increases. Longer duration increases exceed this de minimis threshold and should be subject to antidegradation review. PL 40 at 16; TR at 138 ll.17-24.

Phelps Dodge proposed to add a sentence requiring a base flow and exempting compliance after precipitation events. PL 32 at 4. Phelps Dodge did not explain the key terms "base flow" and "soon after a precipitation event" and did not pursue the matter in its post-hearing submittal. NMED states that the precipitation exemption is not needed because the criterion already exempts turbidity caused by "natural causes" and takes into account background turbidity caused by natural causes. PL 40 at 16; TR at 138 l.25 - 139 l.13.

Comment: Recommend adoption of NMED's proposed changes for reasons stated.

NMED Proposal:

K. **[~~Salinity:~~** ~~Where existing information is sufficient, numerical standards for TDS (or conductivity), chlorides and sulfates, have been adopted in 20.6.4.101 through 20.6.4.899 NMAC. The following standards apply at the downstream point of the reach in which they are set:~~] **Total Dissolved Solids (TDS)**: TDS attributable to other than natural causes shall not damage or impair the normal growth, function or reproduction of animal, plant or aquatic life. TDS shall be measured by either the "calculation method" (sum of constituents) or the filterable residue method. Approved test procedures for these determinations are as set forth in 20.6.4.13 NMAC.

~~**(1)** **Colorado River System:** For the tributaries of the Colorado river system, the state of New Mexico will cooperate with the Colorado river basin states and the federal government to support and implement the salinity policy and program outlined in the report "1999 Review, water quality standards for salinity, Colorado river system."~~

~~**(2)** **(a)** Numeric criteria for salinity are established at three points in the Colorado river basin as follows: below Hoover dam, 723 mg/L; below Parker dam, 747 mg/L; and at Imperial dam, 879 mg/L.~~

~~**(3)** **(b)** As a part of the program, objectives for New Mexico shall include the elimination of discharges of water containing solids in solution as a result of the use of water to control or convey fly ash from coal-fired electric generators, wherever practicable.~~

~~**(4)** In determining compliance with the numeric criteria hereby adopted, salinity (TDS) shall be determined by either the "calculation method" (sum of constituents) or the filterable residue method. Approved test procedures for these determinations are as set forth in 20.6.4.13 NMAC.~~

NMED proposes to establish a narrative criterion in Section K because the current section, while in the narrative standards, does not establish a narrative standard, but rather acknowledges the existence of numeric criteria in some segments. PL 20 at 22-23. The proposed standard is TDS, which is the constituent being measured, rather than salinity, which is a subset of TDS. PL 27 at Montgomery 47-48; TR at 139 ll.15-22.

NMED proposes to move Sections K.1, 2, and 3 to new Section 20.6.4.54 because the restructuring separates the narrative standards from the Colorado River Basin provisions. PL 20 at 22-23, PL 27 at Montgomery 47-48.

EBID Proposal:

EBID proposes to retain the existing language and to add a sentence to Section K:

> **K. Salinity:** Where existing information is sufficient, numerical standards for TDS, (or conductivity), chlorides and sulfates, have been adopted in 20.6.4.101 through 20.6.4.899 NMAC. The following standards apply at the downstream point of the reach in which they are set. <u>Dissolved solids concentrations attributable to natural causes or to the reasonable operation of irrigation and flood control facilities shall not damage or impair the normal growth, function or reproduction of native animal, plant, or aquatic life.</u>

In support of its proposal, EBID states as follows: The existing language in the standard is essential to the narrative description of the point of applicability of various salinity-related stream standards, at the end of the reach for which they are set. The criteria proposed by NMED does not comply with the 1995 amendments to the Water Quality Act with respect to dissolved solids, unless the phrase "reasonable operation of irrigation systems" is added. The inclusion of "native" as in "native plant and native aquatic life" is essential as there are many plants whose "normal growth" may be impaired at dissolved solids concentrations that are considered suitable for municipal drinking water supplies. If a plant or aquatic life is found in or native to the reach of a stream, then within that context of it being an existing use, its normal growth and reproduction would not be considered impaired. PL 16 at 5, PL 34 at 10.

NMED opposes EBID's proposal, stating as follows: EBID argues that the first and second sentences describe the point of applicability for WQS as the end of the reach to which they apply. In fact, the phrase "the following standards" refers only to the Colorado River salinity control provisions. If the WQCC intended to apply all criteria at the downstream point, it would not have buried this language in the salinity narrative standard. This interpretation is supported by the history of Section 20.6.4.12.K. NMED reviewed previous versions of the WQS and concluded that the criteria for TDS, chloride and sulfate in specific segments were based upon the relationship between concentration and flow at specific locations. See e.g., The Pecos River in New Mexico Water Quality Standards, New Mexico Water Quality Control Commission, June 1967, at p.S-15 ("Special standards for this purpose apply only to samples collected at the station indicated and for periods during which the flow in the stream is within the range used to establish the relationship".) Until 1995, the WQS contained similar statements. In 1995, the WQCC revised this language to state "[t]hese standards apply at the downstream point of the reach in which they are set." In 2000, the WQCC changed the language again to state "[t]he following standards apply at the downstream point of the reach in which they are set." The language never was expanded beyond the Colorado River salinity provisions. PL 27 at Montgomery 48-49.

By proposing to add a sentence at the end of the section, EBID apparently seeks to exempt irrigation and flood control projects from the narrative standard for TDS. The WQA only exempts irrigation and flood control projects only from numeric criteria. In addition, the phrase "natural causes" cannot be implemented. The term "native" is not defined, but EBID's testimony suggests that the term means "found in". Applied literally, the term could mean that water quality is adequate if an organism is surviving under present conditions. The effect would be protection for nuisance species. Many harmful plants that are not indigenous to New Mexico thrive under present conditions. It would not be appropriate to construe the salinity criterion to protect them, since that result would undermine the CWA's goal to restore the biological integrity of surface waters and to achieve attainable uses. PL 27 at Montgomery 49; PL 40 at 16; TR at 139 l.23 - 141 l.23. NMED Closing Argument, pp. 106-108.

L. Dissolved Gases: Surface waters of the state shall be free of nitrogen and other dissolved gases at levels above 110 percent saturation when this supersaturation is attributable to municipal, industrial or other discharges.

[20.6.4.12 NMAC – Rp 20 NMAC 6.1.1105, 10-12-00; A, 10-11-02]

NMED Proposal:

20.6.4.13 SAMPLING AND ANALYSIS:

A. [~~All methods of sample collection, preservation and analysis used in determining water quality and maintenance of these standards shall be in accordance with approved or accepted test procedures published in "Guidelines establishing test procedures for the analysis of pollutants under the Clean Water Act," 40 CFR Part 136 or any test procedure approved or accepted by EPA using procedures provided in 40 CFR Parts 136.3(d), 136.4, and 136.5. Test procedures approved or accepted under 40 CFR Part 136 are published in the references cited herein and in other references~~.

~~**(1)** "Standard methods for the examination of water and wastewater," American public health association.~~

~~**(2)** "Methods for chemical analysis of water and wastes," U.S. environmental protection agency.~~

~~**(3)** "Methods for determination of inorganic substances in water and fluvial sediments," techniques of water resource investigations of the U.S. geological survey.~~

~~**(4)** "Methods for the determination of organic substances in water and fluvial sediments," techniques of water resource investigations of the U.S. geological survey~~.]

Sampling and analytical techniques shall conform with methods described in the following references unless otherwise specified by the secretary of the environment department:

(1) "Guidelines establishing test procedures for the analysis of pollutants under the Clean Water Act," 40 CFR Part 136 or any test procedure approved or accepted by EPA using procedures provided in 40 CFR Parts 136.3(d), 136.4, and 136.5.

(2) Standard Methods for the Examination of Water and Wastewater, latest edition, American Public Health Association; or

(3) Methods for Chemical Analysis of Water and Waste, and other methods published by EPA Office of Research and Development or Office of Water; or

(4) Techniques of Water Resource Investigations of the U.S. Geological Survey; or

(5) Annual Book of ASTM Standards. Volumes 11.01 and 11.02, Water (1) and (II), latest edition, ASTM International; or

(6) Federal Register, latest methods published for monitoring pursuant to Resource Conservation and Recovery Act regulations; or

(7) National Handbook of Recommended Methods for Water-Data Acquisition, latest edition, prepared cooperatively by agencies of the United States Government under the sponsorship of the U.S. Geological Survey; or

(8) Federal Register, latest methods published for monitoring pursuant to the Safe Drinking Water Act regulations.

NMED proposes to clarify the authority of the environment secretary to approve additional methods. PL 20 at 23-24. The secretary is best-situated to approve new methods on the advice of his professional staff, which provides technical services to the WQCC. Moreover, the environment secretary already has this same authority under the WQCC's ground water standards, and there is no rational basis to deny him the same authority for surface water standards. This authority is consistent with other states, such as Arizona, whose Director of the

Department of Health Services can approve analytical methods for water quality sampling without a formal review process. PL 27 at Montgomery 49-50; PL 40 at 17; TR at 143 ll.6-15, 730 ll.4-16, 1767 l.23 - 1768 l.17, 1769 ll.2-11.

NMED proposes to restructure the section because the restructuring allows the listing of more test procedures. PL 20 at 23-24. The current list includes only four of the forty-three references listed in 40 CFR 136.3. PL 27 at Montgomery 49-50.

NMED proposes to delete the phrase "or in other references" because it is vague and open-ended. PL 20 at 23-24, PL 27 at Montgomery 49-50; PL 40 at 17.

NMED proposes to expand the list of test methods. PL 20 at 23-24. The procedures in Paragraph 1 apply specifically to NPDES applications and permits and other requests for effluent data. The procedures is Paragraphs 2-7 are derived from the list adopted by the WQCC for the ground water standards, see Section 20.6.2.3107.B, and NMED's recent proposal regarding methods published under the Safe Drinking Water Act. The proposal would conform the test methods used by the NMED bureaus responsible for regulating water quality in New Mexico. PL 27 at Montgomery 49-50; PL 27 at Ex 33; PL 40 at 17.

UC objected to the latter proposal, arguing that the only appropriate methods are contained in 40 CFR 136, UC Closing Argument pp. 32-37, stating as follows: The changes are inconsistent with EPA requirements, 40 CFR Part 136, and delegate the Commission's approval authority to the Secretary of Environment without substantive criteria for his approval of sampling and analytical methods, a process for affected parties to participate in the approval process or challenge any such approval, or any peer review of proposed methods. Fisher Direct Testimony, PL 35 at 9-10. As proposed, the Secretary would have complete discretion to decide when and how to approve sampling and analytical methods. No public process is required before he makes such a decision. Moreover, by giving this authority to the Secretary, the Commission is authorizing the Secretary

to modify the approved criteria without seeking Commission approval or a public hearing.[8] *Such a delegation is contrary to law and should be rejected.*

UC continues: NMED attempted to justify the proposal, in part, on the basis that it merely imports the process already used in the ground water regulations. Tr. 143. However, the ground water standards implementation process differs substantially from the surface water standards implementation process. The Commission's ground water standards are implemented through discharge permits issued by NMED or OCD, or abatement plans approved NMED or OCD. In either case, the determination of the required sampling and analytical methods, if they differ from the listed methods, are subject to a public before NMED or OCD, and their decisions are reviewable, de novo, by the Commission. No such review process is applicable to the determination of required methods for surface waters. For the most part, the surface water standards are implemented through permits issued by EPA. In addition, under the Water Quality Act, the surface water standards may be enforced directly against discharger. There is no process available under the SWQB's proposal for the target of an enforcement action to challenge the Secretary's adoption of new or revised analytical method. The lack of process prior to enforcement raises fundamental fairness and due process questions.

Given the lack of criteria and effective process for the Secretary's approval of alternative methods and availability for disparate treatment, NMED's proposed changes should be rejected. Moreover, they should be rejected because they are inconsistent with 40 CFR Part 136. Under 40 CFR Part 136, EPA has adopted a process for updating approved methods, involving peer review of any proposed new or revised method. If the Commission determines that delegating this authority to the Secretary is appropriate, it should send the proposal back to NMED for the development of a revised proposal including the appropriate decision-making criteria and process, peer review and oversight process.

NMED responds to UC's objections that the methods in 40 CFR 136 are used only for the analysis of wastewater. However, the methods in this section also are used for the analysis of ambient

[8] Currently, if the minimum quantification level of the approved analytical method is greater than the approved criteria, the minimum quantification level becomes the criteria. 20.6.4.11.E NMAC (2002).

water. NMED needs a broader list of methods to satisfy this broader purpose. Nonetheless, NMED is aware that it cannot use methods not listed in 40 CFR 136 for wastewater analysis, and NPDES permittees have other remedies to address NMED's improper use of wastewater analysis methods besides excluding ambient water test methods. Indeed, California acknowledges that the WQCC has the authority to expand the list to address the need for ambient water test methods. PL 27 at Montgomery 49-50; PL 27 at 33; PL 40 at 17; TR at 142 l.3 - 143 l.5, 1760 l.22 - 1762 .14. NMED Closing Argument, p. 111.

B. Bacteriological Surveys: The monthly geometric mean shall be used in assessing attainment of [~~standards~~] criteria when a minimum of five samples is collected in a 30-day period.

NMED makes the same proposal regarding the words "standards" and "criteria" for the reasons stated in Section 20.6.4.7.H. PL 20 at 24; PL 27 at Montgomery 50.

C. Sampling Procedures:

(1) Streams: Stream monitoring stations below [~~waste~~] discharges shall be located a sufficient distance downstream to ensure adequate vertical and lateral mixing.

(2) Lakes: Sampling stations in lakes shall be located at least 250 feet from a [~~waste~~] discharge.

(3) Lakes: Except for the restriction specified in Paragraph (2) of this subsection, lake sampling stations shall be located at any site where the attainment of a water quality standard is to be assessed. Water quality measurements taken at intervals in the entire water column at a sampling station shall be averaged for the epilimnion, or in the absence of an epilimnion, for the upper one-third of the water column of the lake to determine attainment of [~~standards~~] criteria, except that attainment of [~~standards~~] criteria for toxic pollutants shall be assessed during periods of complete vertical mixing, e.g., during spring or fall turnover, or by taking depth-integrated composite samples of the water column.

NMED proposes to delete the word "waste" in Sections C(1) and (2) because the defined word is "discharge," and the term "waste discharge" has no regulatory meaning. PL 20 at 24-25, PL 27 at Montgomery 50-51.

NMED makes the same proposal regarding the words "standards" and "criteria" in Section C(3) for the reasons stated in Section 20.6.4.7.H. PL 20 at 24-25; PL 27 at Montgomery 50-51.

Comment: Recommend adoption of changes proposed for reasons stated.

NMED Proposal:

D. Acute toxicity of effluent to aquatic life shall be determined using the procedures specified in U.S. environmental protection agency "Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms" [~~(4th Ed., 1991, EPA/600/4-90/027)~~] (5th Ed., 2002, EPA 821-R-02-012), or latest edition

thereof, which is incorporated herein by reference. Acute toxicities of substances shall be determined using at least two species tested in whole effluent and a series of effluent dilutions. Acute toxicity due to discharges shall not occur within the wastewater mixing zone in any surface water of the state with an existing or designated [~~fishery~~] aquatic life use.

NMED makes the same proposal regarding "fishery" and "aquatic life" for the reasons stated in Section 20.6.4.7.I. PL 20 at 25; PL 27 at Montgomery 51.

NMED proposes to change the reference because it reflects the updated version. PL 20 at 25, PL 27 at Montgomery 51.

E. Chronic toxicity of effluent or ambient surface waters of the state to aquatic life shall be determined using the procedures specified in U.S. environmental protection agency "Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms" [~~(2nd Ed., 1989, EPA 600/4-89/001)~~] (4th Ed., 2002,EPA 821-R-02-013), or latest edition thereof, which is incorporated herein by reference. Chronic toxicities of substances shall be determined using at least two species tested in ambient surface water or whole effluent and a series of effluent dilutions. Chronic toxicity due to discharges shall not occur at the critical low flow, or any flow greater than the critical low flow, in any surface water of the state with an existing or designated [~~fishery~~] aquatic life use more than once every three years.
[20.6.4.13 NMAC – Rp 20 NMAC 6.1.1106, 10-12-00]

NMED makes the same proposal regarding "fishery" and "aquatic life" for the reasons stated in Section 20.6.4.7.I. PL 20 at 25; PL 27 at Montgomery 51-52.

NMED proposes to change the reference because it reflects the updated version. PL 20 at 25, PL 27 at Montgomery 51-52.

UC Proposal:

D. Acute toxicity of effluent to aquatic life shall be determined using the procedures specified in U.S. environmental protection agency "Methods for measuring the acute toxicity of effluents to freshwater and marine organisms" ([~~4th Ed., 1991, EPA/600/4-90/027~~] 5th Ed., 2002 EPA-821-R-02-012), or latest edition thereof, which is incorporated herein by reference. Acute toxicities of substances shall be determined using at least two species tested in whole effluent and a series of effluent dilutions. Acute toxicity due to discharges shall not occur within the wastewater mixing zone in any surface water of the state with an existing or designated fishery use more than once every three years.

E. Chronic toxicity of effluent or ambient surface waters of the state to aquatic life shall be determined using the procedures specified in U.S. environmental protection agency "Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms" ([~~2nd Ed., 1989, EPA 600/4-89/001~~] 4th Ed., 2002, EPA-821-R-02-013), or latest edition thereof, which is incorporated herein by reference. Chronic toxicities of substances shall be determined using at least two species tested in ambient surface water or whole effluent and a series of effluent dilutions. Chronic toxicity due to discharges shall not occur at the critical low flow, or any flow greater than the critical low flow, in any surface water of the state with an existing or designated fishery use more than once every three years.

PL 22 at 7.

UC states as follows: the proposed changes merely update the references in 20.6.4.13.D & E NMAC and incorporate EPA's recommended frequency in 20.6.4.13.D NMAC. Fisher Direct Testimony, PL 35 at 16. Although NMED opposed the addition of the "once every three years" frequency language in 20.6.4.13.D NMAC on the grounds that EPA does not recognize the once every three years frequency for acute criteria, NMED Direct Testimony at 51, NMED's assertion is incorrect. EPA has long recommended an average frequency for exceedances for both acute and chronic criteria of not to exceed once in every three years. PL 28, University Exhibit 16 at D-5; Exhibit 17 at 3-3 ("EPA recommends an average frequency for excursions of both acute and chronic criteria not to exceed once in 3 years.").

NMED opposes UC's proposal to add the phrase "more than once every three years" at the end of the section. PL 22 at 7. NMED states: This proposal would allow recurring acute toxicity. EPA recognizes a once-every-three-years threshold for chronic criteria, but not acute criteria. By definition, acute criteria must protect against immediate adverse effects. Allowing acute toxicity every three years is tantamount to allowing a fish kill every three years. The effect of such a practice would be both immediate and long-term. UC justifies "triennial poisoning" on the basis that "the recovery of aquatic life from perturbation [is] normally complete in three years." However, it does not explain the "normal" situation nor the consequences for aquatic communities in the "abnormal" situation. Nor does it explain whether the recovery period differs in the arid west, where drought and other environmental factors intervene in the recovery process, nor how a "perturbed" aquatic community will respond to repeated "pertubations." Recurring perturbations could be devastating to the long-term viability of the aquatic community. As a matter of policy and sound science, the WQCC does not support an endless cycle of routine acute toxic poisonings of aquatic communities. PL 27 at Montgomery 51; PL 40 at 17; TR at 143 l.19 - 145 l.3.

20.6.4.14 USE ATTAINABILITY ANALYSIS:

A. A use attainability analysis is a scientific study [~~which~~] that shall be conducted only for the purpose of assessing the factors affecting the attainment of a use. Whenever a use attainability analysis is conducted, it shall be subject to the requirements and limitations set forth in 40 CFR Part 131, Water Quality Standards; specifically, Subsections 131.3(g), 131.10(g), 131.10(h) and 131.10(j) shall be applicable [~~as follows~~].

(1) [~~The department must conduct a use attainability analysis whenever it~~] Any person who proposes to classify or reclassify a surface water of the state with designated uses [~~which~~] that do not include the uses specified in Section 101(a)(2) of the federal Clean Water Act must conduct a use attainability analysis. Section 101(a)(2) uses are also specified in Subsection B of 20.6.4.6 NMAC.

(2) A designated use cannot be removed if it is an existing use.

(3) A use attainability analysis or an equivalent study approved by the department and the regional administrator must be conducted to remove any non-existing designated use from any classified waters of the state.

B. [~~Any person proposing to conduct a use attainability analysis or equivalent study shall publish notice of this intent in a newspaper of local and statewide circulation. The cost of publication shall be the responsibility of the person proposing such action. The notice shall describe the surface water of the state and uses to be assessed, identify the persons to contact for complete information, and describe how interested persons can participate in the use attainability analysis or equivalent study.~~]

[~~**D**~~**] B.** Physical, chemical and biological evaluations of surface waters of the state other than lakes and reservoirs for purposes of use attainability analyses or equivalent studies shall be conducted according to the procedures outlined in the "Technical support manual: waterbody surveys and assessments for conducting use attainability analyses," United States environmental protection agency, office of water, regulations and standards, Washington, D.C., November 1983, or latest edition thereof, which is incorporated herein by reference, or an alternative equivalent study methodology approved by the department.

[~~E~~] C. Physical, chemical and biological evaluations of lakes and reservoirs for purposes of use attainability analyses or equivalent studies shall be conducted according to the procedures outlined in the "Technical support manual: waterbody surveys and assessments for conducting use attainability analyses, volume III: lake systems," United States environmental protection agency, office of water, regulations and standards, Washington, D.C., November 1984, or latest edition thereof, which is incorporated herein by reference, or an alternative equivalent study methodology approved by the department.

[~~**F**~~**] D.** A use attainability analysis or equivalent study should include [~~any applicable information concerning the following~~]:

(1) identification of existing uses of the surface water of the state to be reviewed [~~which~~] that have existed since 1975;

(2) an evaluation of the best water quality attained in the surface water of the state to be reviewed [~~which~~] that has existed since 1975;

(3) [~~a technological analysis which identifies available treatment options for point and nonpoint sources to meet applicable water quality [standards] criteria for the designated uses;~~ an analysis of appropriate factors demonstrating that attaining the designated use is not feasible because of a condition listed in 40 CFR Subsection 131.10(g).

~~**(4)** an economic analysis which evaluates social and economic impacts associated with available treatment options;~~]

(~~5~~ 4) a physical [~~and biological~~] evaluation of the surface water of the state to be reviewed to identify [~~any~~] factors [~~unrelated to water quality which~~] that impair attainment of designated uses and to determine which designated uses are feasible to attain in such surface water of the state [~~given existing physical limitations~~];

(~~6~~ 5) an evaluation of the water chemistry of the surface water of the state to be reviewed to identify chemical constituents [~~which~~] that impair the designated uses [~~which~~] that are feasible to attain in such water; and

(~~7~~ 6) an evaluation of the aquatic and terrestrial biota utilizing the surface water of the state to determine resident species and which species could potentially exist in such water if physical and chemical factors impairing a designated use are corrected.

[~~C~~] **E.** Any person may submit [~~a petition~~] notice to the department stating that they intend to conduct a use attainability analysis or equivalent study. [~~At a minimum, the department, the New Mexico game and fish department, the state engineer and the U.S. fish and wildlife service shall be consulted during the development of a work plan for such analysis or equivalent study.~~] The [~~petitioner~~] proponent shall develop a work plan to conduct the use attainability analysis or equivalent study and shall submit the work plan to the department and the regional [~~administrator of the~~] EPA staff for review [~~and approval~~] and comment. The work plan should identify the scope of data currently available and proposed to be gathered, the factors affecting use attainment that will be analyzed, and must contain provisions for public notice and consultation with appropriate state and federal agencies. A copy of the [~~petition~~] notice and the work plan must be submitted concurrently to the commission. Upon approval of the work plan by the department [~~and the regional administrator~~], the [~~petitioner~~] proponent shall conduct the use attainability analysis or equivalent study in accordance with the approved work plan. The cost of such analysis or equivalent study shall be the responsibility of the [~~petitioner~~] proponent. Upon completion of the use attainability analysis or equivalent study, the proponent shall submit the data, findings and conclusions to the department and the commission .

...

(**F.** see below, Piscicides)

G. [~~Upon completion of the use attainability analysis or equivalent study, the petitioner shall submit to the department and the commission the data and their findings and conclusions.~~] If the department determines that the analysis or equivalent study was conducted in accordance with the approved work plan and the findings and conclusions are based upon sound scientific rationale, and demonstrates that it is not feasible to attain the designated use, the department [~~shall~~] or the proponent may request [~~authority from~~] the commission to initiate rulemaking proceedings to modify the designated use for the surface water of the state that was reviewed.

[20.6.4.14 NMAC – Rp 20 NMAC 6.1.1107, 10-12-00]

NMED proposes to restructure the entire section because it clarifies the UAA process. PL 20 at 25-28, PL 27 at Montgomery 52-55.

NMED proposes to delete the phrase "as follows" in Section A because the phrase is unnecessary. PL 20 at 25, PL 27 at Montgomery 52.

NMED proposes to expand the category of persons who may conduct a use attainability analysis (UAA) in Section A(1) because neither the CWA nor EPA regulations limit the category of persons who may conduct a UAA. PL 20 at 25, PL 27 at Montgomery 52; PL 27 at Ex 4, 50.

NMED proposes to delete Section B because the notice of intent requirement is burdensome and unproductive. PL 20 at 26. UAAs already are subject to public notice and comment, as well as a hearing before the WQCC if the standards will be revised. Additional notice requirements serve no purpose at a significant cost to the UAA proponent. PL 27 at Montgomery 52.

NMED proposes to eliminate the phrase "any applicable information concerning the following" in relettered Section D because the phrase is unnecessary. PL 20 at 26-27, PL 27 at Montgomery 53.

NMED proposes to revise relettered Section D(3) and to delete relettered Section D(4) because technological and economic analyses are not required or appropriate for all UAAs. PL 20 at 26-27. For example, if a UAA is based on naturally occurring pollutant concentrations, the technological and economic analyses are not relevant. Conversely, if the UAA is based on economic or technological factors, NMED's proposed language in new Paragraph F(3) would require analysis of those issues. PL 27 at Montgomery 53; PL 27 at Ex 4.

NMED proposes to delete the phrases "and biological," ""unrelated to water quality," and "given existing physical limitations," and the word "any" in relettered Section D(4) because the first phrase duplicates relettered Section D(6), the second phrase is ambiguous, and the third phrase and the word "any" are unnecessary. PL 27 at Montgomery 53-54.

NMED proposes to change the words "petition" to "notice" and "petitioner" to "proponent" in relettered Section E because the new words better reflect the intended meaning in context. PL 20 at 27. A petition may be submitted to the WQCC if the UAA determines that a change to the standards is appropriate, but the notice and work plan do not constitute a petition. PL 27 at Montgomery 54.

NMED proposes a new sentence concerning consultation in relettered Section E because the sentence should be in the work plan provisions because not all UAAs involve fish and wildlife issues. PL 20 at 27. For example, a UAA to determine the attainability of a recreational use generally would not require consultation with the New Mexico Game and Fish Department (NMGFD). As a result, it is more appropriate to require consultations in the work plan approval section on a proposal-specific basis. PL 27 at Montgomery 54.

NMED proposes to substitute EPA staff for the EPA administrator regarding work plan review in relettered Section E because it better reflects the actual review process at EPA. PL 20 at 27. PL 27 at Montgomery 54.

NMED proposes to add new language regarding work plans in relettered Section E because it clarifies the work plan requirements. PL 27 at Montgomery 54.

NMED proposes to move the first sentence in Section G because the sentence is more appropriate in the previous section. PL 20 at 28, PL 27 at Montgomery 55.

NMED proposes to delete the phrase "authority from" in Section G because the phrase is unnecessary and inappropriate. PL 20 at 28. A proponent does not request authority "from" the WQCC, but rather requests that the WQCC initiate a rulemaking proceeding pursuant to existing authority. See WQA Section 74-6-6(B)(providing that "any person may petition in writing to have the commission adopt, amend or repeal a regulation or water quality standard"). PL 27 at Montgomery 55; PL 27 at Ex 50.

Comment: Recommend adoption for reasons stated.

20.6.4.15 Planned Use of a Piscicide: The use of a piscicide registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 et seq., and under the New Mexico Pesticide Control Act (NMPCA), Section 76-4-1 et seq. NMSA 1978 (1973) in a surface water of the state, shall not be a violation of Subsection F of 20.6.4.12 NMAC when such use has been approved by the commission under procedures provided in this Section. The commission may approve the reasonable use of a piscicide under this Section to further a federal Clean Water Act objective to restore and maintain the physical or biological integrity of surface waters of the state, including restoration of native species or removal of invasive or nuisance aquatic plant or animal species. The commission may approve the use of a piscicide under Subsection A of this Section. If approved, the approval shall be for a period of five years, subject to Subsection C of Section 20.6.4.15. Following the general approval of a piscicide by the commission under Subsection A of this Section, consideration of requests for specific applications or projects using an approved piscicide shall be delegated to the department for administrative approval under Subsection B of this Section.

A. Any person seeking commission approval of the use of a piscicide in a surface water of the state shall file a written petition concurrently with the commission and with the department.

(1). Petition Contents: The petition shall contain the following information:

(a) petitioner's name and address;

(b) identity of the piscicide;

(c) documentation of registration under FIFRA and NMPCA;

(d) the period of time or number applications for which approval is requested;

(e) any other information required by the commission.

(2) Department Review: Within thirty days after receipt of the petition the department shall review the petition and within 30 days file a recommendation with the commission to grant, grant with conditions, or deny the petition. The recommendation shall include reasons, and a copy shall be provided to the petitioner by certified mail.

(3) Hearing requirement: If the department recommends granting the petition in whole or in part, with or without conditions, the commission shall hold a public hearing. If the department recommends denial of the petition, the commission shall only hold a hearing if the petitioner files a request for hearing within fifteen days after receipt of the department's recommendation. The public hearing shall be held in the region directly affected by the proposed use, except that a public hearing regarding statewide piscicide application shall be held in Santa Fe.

(4) Scheduling the hearing: If a hearing is required, the hearing shall be held within ninety days after the later of the filing of the department recommendation to grant or the filing of a request for hearing by the Petitioner, as applicable. The ninety day deadline may be waived upon the filing of a stipulated or unopposed motion prior to the

expiration of the deadline. A scheduling order shall be issued as provided in Subsection B of 20.1.3.200 NMAC, and public notice shall be given as provided in Subsection C of 20.1.3.200 NMAC.

(5). Effect of FIFRA and NMPCA Registration: In a hearing provided for in this Section, registration of a piscicide under FIFRA and NMPCA shall provide a rebuttable presumption that the determinations of the EPA Administrator in registering the piscicide, as outlined in 7 U.S.C. Section 136a(c)(5), are valid. For purposes of this Section the rebuttable presumptions regarding the piscicide include:

(a). Its composition is such as to warrant the proposed claims for it;

(b). Its labeling and other material submitted for registration comply with the requirements of FIFRA and NMPCA;

(c). It will perform its intended function without unreasonable adverse effects on the environment; and

(d). When used in accordance with all FIFRA label requirements it will not generally cause unreasonable adverse effects on the environment.

(e). "Unreasonable adverse effects on the environment" has the meaning provided in FIFRA, 7 U.S.C. Section 136(bb): "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."

(6) Additional Procedures: Procedures for statements of intent to present technical evidence , for participation by persons other than parties, for discovery and for the burden of persuasion shall follow the procedures in Subsection E to Subsection H of 20.1.3.200 NMAC.

(7) Post-hearing provisions: After a public hearing, the commission may grant the petition in whole or in part, may grant the petition subject to conditions, or may deny the petition. In granting any petition in whole or in part or subject to conditions, the commission shall require the petitioner to implement post-treatment assessment monitoring and provide notice to the public prior to and during application.

B. Procedure for Use Following Piscicide Approval. Findings of the Commission following a hearing under Subsection A of this section shall be conclusive for purposes of this subsection. A person who has received approval of the use of a piscicide from the commission under Subsection A of this section, shall file a written request with the department for approval of a site-specific application. Prior to filing the written request the petitioner shall provide public information regarding the proposed piscicide application through a public meeting to be held in the locality most directly affected by the proposed use. provide notice of the public meeting to local political subdivisions, local water planning entities, local conservancy and irrigation districts, and local media outlets at least thirty days prior to the public meeting. The public meeting may be combined with a public meeting to satisfy the requirements of NEPA if such a meeting is held.

(1). Contents: The request shall contain:

(a) petitioner's name and address;

(b) identity of the piscicide;

(c) the date of commission approval for use of the piscicide and any information required by the commission as a condition of that approval;

(d) documentation of current registration under FIFRA and NMPCA;

(e) verification that the petitioner intends to use the piscicide according to the label directions, for its intended function, and in accordance with widespread and commonly recognized practice.

(f) target and potential non-target species in the treated waters and the adjacent riparian area, including threatened or endangered species;

(g) potential environmental consequences to the treated waters and the adjacent riparian area and protocols for limiting such impacts;

(h) surface water of the state proposed for treatment; (i) post-treatment assessment monitoring protocol; and

(j) information obtained in the public involvement process;

(k) any other information required by the department.

(2) Department Review: Within thirty days after receipt of the request the department shall review the request and issue a recommendation to grant, grant with conditions, or deny the request. The recommendation shall include reasons and a description of the matters, data, and information reviewed, and a copy shall be provided to the petitioner by certified mail. If the department recommends granting the request in whole or in part, with or without conditions, the petitioner shall provide public information of the proposed piscicide application and the recommendations of the department through notice to local political subdivisions, local water planning entities, local conservancy and irrigation districts, and local media outlets within ten days following receipt of the department's recommendations. Additionally, the petitioner shall provide notice to all participants in the public involvement process who have requested such notice in writing and have provided the petitioner with a mailing address.

(3) Public Hearing: Within ten days of giving notice under paragraph (2), any person objecting to the recommendation of the department may request in writing that the commission conduct a hearing to consider only those matters considered by the department in its recommendation to grant, with or without conditions, the written request of the petitioner. The commission shall grant a hearing only if it finds that there significant public interest and that there is credible new scientific information that was not considered by the department in granting the request in whole or in part. If the department recommends denial of the request or imposes conditions deemed unacceptable to the petitioner, the commission shall only hold a hearing if the petitioner files a request for hearing within fifteen days after receipt of the department's recommendation. If a written request for hearing is not timely made the recommendations of the department shall become final by commission order and not subject to collateral attack and the petitioner shall be entitled to act, subject to conditions imposed in the granting of the request and as imposed by the commission under Subsection A. A hearing held under this paragraph shall not include a hearing de novo of the findings of the commission under Subsection A, and testimony concerning the issues determined in those findings shall not be heard. For purposes of this paragraph and Subsections C(1) and (2), "credible scientific evidence" shall not include evidence of the effects or results of FIFRA and NMPCA registered piscicides, or their components, in amounts, quantities, or concentrations greater than those approved by the Commission under Subsection A provided the petitioner has deployed the piscicide in accordance with the approved petition.

(4) Scheduling the hearing: If a hearing is held, the hearing shall be held within ninety days after the filing of a request for hearing. The ninety day deadline may be waived upon the filing of a stipulated or unopposed motion prior to the expiration of the deadline. A scheduling order shall be issued as provided in Subsection B of 20.1.3.200 NMAC, and public notice shall be given as provided in Subsection C of 20.1.3.200 NMAC.

(5) Additional Procedures: Procedures for statements of intent to present technical evidence , for participation by persons other than parties, for discovery and for the burden of persuasion shall follow the procedures in Subsection E to Subsection H of 20.1.3.200 NMAC.

(6) Post-hearing Procedures: After a public hearing, the commission may affirm, affirm with revisions, or revoke the department's decision.

C. Renewal, Modification or Revocation of Approval:

(1) Renewal: When the use of a piscicide has been approved under this Section, the original petitioner may request extension of the approval for additional periods of up to five years by filing a petition for renewal. The petition for renewal shall be filed concurrently with the commission and the department at least ninety days prior to expiration of the current approval, and shall include the items listed under Paragraph 1 of Subsection A of this Section. In addition the petitioner shall provide a report summarizing the results of its piscicide applications during the current approval period.

Within thirty days, the department shall review and recommend that the petition be granted, granted with conditions or denied. The recommendation shall include reasons and a description of the matters, data, and information reviewed, and a copy shall be provided to the petitioner by certified mail. If the department recommends that the petition be granted or granted with conditions, the petitioner shall provide public notice of the request for renewal of approval by publication in at least one newspaper of general circulation in the state of New Mexico within thirty days after the date of the department recommendation. Any person may request that the commission hold a hearing regarding the renewal of approval based upon new credible scientific information concerning the product or its registration not previously considered by the commission. The commission may hold a hearing if it determines that there is a significant public interest and new credible scientific evidence not considered by the department.

(2) Modification or Revocation: The commission may review the approval of a piscicide on its own motion, or any person may request the commission to hold a hearing to modify or revoke general approval of a piscicide previously approved under Subsection A of this section based upon new credible scientific information concerning the product or its registration not previously considered by the commission, or based upon failure to comply with the conditions of the approval. A hearing held under this paragraph shall not include a hearing de novo of the findings of the Commission under Subsection A, and testimony concerning the issues determined in those findings shall not be heard. The person requesting modification or revocation, or the commission when acting on its own motion, shall serve notice on the department and any person who has received approval or has a pending request for approval of the use of the piscicide under provisions of Subsection A or B of this Section. The commission may hold a hearing if it determines that there is a significant public interest. Hearing procedures shall be as described in Subsection A of this Section.

NMED proposes a new section regarding piscicides. In support of its proposal, NMED states as follows: References to the term "piscicide" are shaded in light gray to reflect a change from NMED's original proposal which used the term "pesticide". PL 20 at 28-33. The terms shaded in dark gray reflect proposals by the NMGFD to improve the process. TR at 1693 (Wilkinson Ex 1). NMGFD has been the only proponent of piscicide use since the WQCC adopted this procedure.

All shaded material is the logical outgrowth of evidence at the hearing. The change from "pesticide" to "piscicide" reflects an agreement between the proponent, NMED, and the opponents, SJWC and EBID. As part of this agreement, SJWC and EBID withdrew their proposals for this section. PL 41 at 23; PL 16 at 5.

NMED's proposal improves the process for approving the piscicide use in surface waters. Currently, Section 20.6.4.12.F.6 provides a "safe harbor" for piscicide use. Piscicides are toxic, and without the "safe harbor," their use would be prohibited by the general standard for toxic pollutants in Section 20.6.4.12.F. The proposal builds on the existing "safe harbor" procedure by clarifying the process and addressing issues that have recurred during hearings over the previous 5 years. Currently, the procedures allow parties to present the same evidence and arguments at

successive hearings. The proposal allows the WQCC to hear the evidence and approve the piscicide use during one hearing. The WQCC 's approval would be effective for a limited period of time, during which the piscicide user could apply to NMED for administrative approval of specific projects. Each application to NMED would require a public notice and meeting to explain the project, but would not entail a full-scale hearing like the original proceeding before the WQCC. PL 27 at 55-59; TR 40 17-18; TR at 145 l.5 - 146 l.5, 147 l.3 - 148 l.1, 149 ll.1-22, 1816 l.8 - 1827 l.1. NMED Closing Argument, pp. 125-126.

SJWC supports the proposal, SJWC Closing Argument, pp. 49-57, and states as follows: NMED proposed adding a new section, 20.6.4.15 NMAC, to the water quality standards establishing procedures for approving the use of pesticides. PL 27, NMED Direct at 55-59; TR Montgomery at 145:5-148:1. SJWC and EBID opposed NMED's proposal. Among the reasons for the opposition were:

- *EPA has issued guidance stating that the use of an aquatic herbicide to ensure passage of irrigation return flow, the use of pesticides to control pests such as mosquitoes, or the use of pesticides for silviculture activities does not require an NPDES permit as long as a pesticide applicator follows label instructions under the Federal Insecticide, Fungicide and Rodenticide Act ("FIFRA"). PL 41, Pitts Rebuttal at 21-22; TR Pitts at 1034:15-1035:23; Rabe at 1577:2-1578:8; EPA Memorandum Re Interpretive Statement and Regional Guidance on the Clean Water Act's Exemption for Return Flows for Irrigated Agriculture at 1, 4, Ex. SJWC B-15; July 11, 2003 EPA Memorandum Re Interim Statement and Guidance on Application of Pesticides to Waters of the United States in Compliance with FIFRA ("EPA Interim Guidance") at 1-2, Ex. SJWC B-16; PL 34, Hernandez Direct at 16; TR Hernandez at 939:7-940:2]*
- *Pesticide registration, distribution and use is regulated at the federal level by EPA under FIFRA and at the state level by the New Mexico Department of Agriculture under the New Mexico Pesticide Control Act (NMPCA). PL 34, Hernandez Direct at 15; TR Rabe at 1567:9-19; Baca at 886:18-892:6.*

- *EPA has determined that a pesticide applied consistent with FIFRA is not a pollutant. PL 41, Pitts Rebuttal at 22-23; PL 34, Hernandez Direct at 16; TR Pitts at 1036:3-5; Rabe at 1577:2-1578:8, 1611:24-1612:4; EPA Interim Guidance at 1-2, Ex. SJWC B-16.*
- *The New Mexico Department of Agriculture regulates pesticides in the state, and NMED's proposal will interfere with the work of the Department. PL 34, Hernandez Direct at 14, 15.*
- *The Commission has authority under state law to determine that the use of FIFRA- and state-approved pesticides, in accordance with label directions, does not constitute a violation of state water quality standards. PL 41, Pitts Rebuttal at 22-23; TR Pitts at 1035:24-1036:10.*
- *The procedures proposed by NMED would be expensive, time-consuming and burdensome and would inundate the Commission with petitions and lengthy hearings, significantly delaying the needed use of pesticides and perhaps exposing the public to unnecessary health risks. PL 41, Pitts Rebuttal at 23; PL 34, Hernandez Direct at 14; TR Baca at 899:1-900:11, 902:19-20; Hernandez at 940:7-14; Kirkpatrick at 985:16-18; Pitts at 1037:4-15; Rabe at 1574:11-1576:23, 1614:6-25, 1625:7-1626:20.*

In response to NMED's proposal, SJWC and EBID proposed adoption of a water quality standard recognizing that the use of a pesticide registered under FIFRA and NMPCA does not constitute a violation of a water quality standard under the New Mexico Water Quality Act if the pesticide is used in compliance with FIFRA label instructions. PL 41, Pitts Rebuttal at 23; Ex. SJWC B-21; PL 34, Hernandez Direct at 17; TR Pitts at 1037:16-19, 1038:10-1039:7.

SJWC and EBID testified that there are important policy reasons to continue requiring Commission approval of the application of piscicides directly to surface waters of the state. TR Hernandez at 958:15-959:1; Kirkpatrick at 990:21-993:16, 996:1-997:3, 998:16-1003:21, 1012:3-18, 1016:20-25.

Considering the evidence presented at the hearing concerning NMED's proposal, NMED, SJWC and EBID have reached a consensus on the issue and proposed adoption of language which restricts NMED's proposal to piscicides and also incorporates language changes proposed by the New Mexico Game & Fish Department.

NMED also proposed adding a new section to the water quality standards establishing procedures for emergency approval of the use of pesticides to stop the "spread of a disease vector, noxious weed, pest or harmful plant." PL 27, NMED Direct at 60-61; TR Montgomery at 153:1-17.

Because the compromise proposal applies only to piscicides, NMED's proposed emergency procedure for pesticide use is no longer necessary, and NMED has withdrawn its proposal.

SJWC Closing Argument, pp. 49-57.

<u>Comment:</u> I do not recommend adoption of the "compromise proposal" set out above, for several reasons: First, although one of the stated objectives is to reduce the number of "full-scale" hearings that would be held on petitions to use a piscicide, such as those filed by the Department of Game and Fish, I believe the proposal would result in more hearings, not fewer. Following a hearing on the approval of the piscicide generally, subsequent hearings on specific application of the piscicide are supposed to limited to those times when there is "new credible scientific information" under subsection C(1), but there is no obvious way of ascertaining that without a hearing. Second, as proposed, the notice to be given with the approval of subsequent applications is not likely to reach those most interested in the fact that the applications are taking place, insofar as it will be published in the newspapers and sent to political subdivisions and entities rather than distributed to the Commission mailing list. A person may expressly ask to be put on the mailing list, but renewals would only be sent to a single newspaper. Currently, WQCC interested parties would have at least two opportunities to see that a specific application of a piscicide is being proposed, once when the petitioner requests a hearing, and once when the hearing is held. Third, although changes to the current process are warranted to reduce the overlap with the matters already addressed as part of the federal registration process, and to obviate the need for the Department of Game and Fish to present a risk-assessment expert and witnesses from the Department of Agriculture at every hearing, I was struck by the absence of hearing opportunities at the state level as part of the Department of Agriculture's registration process. See the testimony of Bonnie Rabe, pp. 1566-1633, and of EBID witness Steve Baca, pp. 874-930. Certain evidence in past hearings meant to invite the Commission to look behind a

product's federal registration may not have been helpful to the Commission in implementing its role under Subsection F, and may have been burdensome for the Department of Game and Fish, but there have been some beneficial changes to the protocols in particular made as a result of the hearing process. (The Commission may take administrative notice of its discussion and prior orders in piscicide matters if it chooses.)

For all of these reasons I believe the current provision is preferable to the proposed provision. Preferable still would be the following, which does have the necessary support in the record (changes are shown to the existing provision in section 20.6.4.12.F(6), not to the proposed provision):

Hearing Officer Proposal:

20.6.4.15 Planned Use of a Piscicide: The use of a piscicide registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 *et seq*., and under the New Mexico Pesticide Control Act (NMPCA), Section 76-4-1 *et seq*. NMSA 1978 (1973) in a surface water of the state, shall not be a violation of Subsection F of [~~this section~~] 20.6.4.12 NMAC when such use has been approved by the commission under procedures provided in this section. The commission may approve the reasonable use of a piscicide under this section to further a Clean Water Act objective to restore and maintain the physical or biological integrity of surface waters of the state, including restoration of native species or removal of invasive or nuisance aquatic plant or animal species.

A. Any person seeking commission approval of the use of a piscicide shall file a written petition concurrently with the commission and the surface water bureau of the department. The petition shall contain, at a minimum, the following information: (1) petitioner's name and address; (2) identity of the piscicide and the period of time (not to exceed five years) or number of applications for which approval is requested; (3) documentation of registration under FIFRA and NMPCA and certification that the petitioner intends to use the piscicide according to the label directions, for its intended function; (4) target and potential non-target species in the treated waters and adjacent riparian area, including threatened or endangered species; (5) potential environmental consequences to the treated waters and the adjacent riparian area, and protocols for limiting such impacts; (6) [~~affected~~] surface water of the state proposed for treatment; (7) results of pre-treatment survey; (8) evaluation of available alternatives and justification for selecting piscicide use; (9) post-treatment assessment monitoring protocol; and (10) any other information required by the commission.

B. Within thirty days of receipt of the petition, the department shall review the petition and file a recommendation with the commission to grant, grant with conditions, or deny the petition. The recommendation shall include reasons, and a copy shall be sent to the petitioner by certified mail.

C. The commission shall review the petition and the department's recommendation and shall within 90 days of receipt of the department's recommendation hold a public hearing in the locality affected by the proposed use in accordance with Adjudicatory Procedures, 20.1.3 NMAC. In addition to the public notice requirements in Adjudicatory Procedures, 20.1.3 NMAC, the petitioner shall provide written notice to (1) local political subdivisions; (2) local water planning entities; (3) local conservancy and irrigation districts; and (4) local media outlets, except that the petitioner shall only be required to publish notice in a newspaper of circulation in the locality affected by the proposed use.

D. In a hearing provided for in this Section, registration of a piscicide under FIFRA and NMPCA shall provide a rebuttable presumption that the determinations of the EPA Administrator in registering the piscicide, as outlined in 7 U.S.C. Section 136a(c)(5), are valid. For purposes of this Section the rebuttable presumptions regarding the piscicide include:

(1). Its composition is such as to warrant the proposed claims for it;

(2). Its labeling and other material submitted for registration comply with the requirements of FIFRA and NMPCA;

(3). It will perform its intended function without unreasonable adverse effects on the environment; and

(4). When used in accordance with all FIFRA label requirements it will not generally cause unreasonable adverse effects on the environment.

(5). "Unreasonable adverse effects on the environment" has the meaning provided in FIFRA, 7 U.S.C. Section 136(bb): "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."

E. After a public hearing, the commission may grant the petition in whole or in part, may grant the petition subject to conditions, or may deny the petition. In granting any petition in whole or part or subject to conditions, the commission shall require the petitioner to implement post-treatment assessment monitoring and provide notice to the public in the immediate and near downstream vicinity of the application prior to and during the application.

20.6.4.50 BASINWIDE PROVISIONS – Special provisions arising from interstate compacts, international treaties or court decrees or that otherwise apply to a basin are contained in 20.6.4.51 through 20.6.4.59.

NMED proposes to reserve these sections for basin-specific standards because it is appropriate to plan for future expansion of the WQS. PL 20 at 33. The final digit of the section number will be the same as the first digit of segments in the basin. For example, the segments in the Rio Grande basin are numbered beginning with Section 101, so any basin-specific standards would be codified in 51. Currently, the only basin-specific standards apply to the San Juan River Basin under the Colorado River Basin Salinity Control Act. PL 27 at Montgomery 61; TR at 46 ll.5-14.

Comment: Recommend adoption for the reason stated.

20.6.4.54 COLORADO RIVER BASIN

A. For the tributaries of the Colorado river system, the state of New Mexico will cooperate with the Colorado river basin states and the federal government to support and implement the salinity policy and program outlined in the [~~report "1999~~] most current "Review, water quality standards for salinity, Colorado river system" or equivalent report by the Colorado river salinity control forum.

(1) Numeric criteria expressed as the flow-weighted annual average concentration for salinity are established at three points in the Colorado river basin as follows: below Hoover dam, 723 mg/L; below Parker dam, 747 mg/L; and at Imperial dam, 879 mg/L.

(2) As a part of the program, objectives for New Mexico shall include the elimination of discharges of water containing solids in solution as a result of the use of water to control or convey fly ash from coal-fired electric generators, wherever practicable.

NMED proposes to move the basin-specific standards for the San Juan River Basin to Section A because the San Juan Basin contain the only basin-specific standards. PL 20 at 33, PL 27 at Montgomery 61.

NMED proposes to replace the year with the phrases "most current" and "equivalent report by the Colorado river salinity control forum" because it simplifies the rulemaking process to automatically update the section without having to initiate a rulemaking every time a new report is issued. PL 20 at 33. The most recent report was published in 2002. PL 27 at Montgomery 61.

NMED proposes to amend Section A(1) to conform the section to the language used by the Salinity Control Forum and its member states. PL 20 at 34, PL at Montgomery 61-62.

Comment: Recommend adoption for the reasons stated.

20.6.4.98 NON-PERENNIAL WATERS – All non-perennial surface waters of the state that are not included in a classified water of the state in 20.6.4.101 through 20.6.4.899 NMAC.

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life, and secondary contact.

B. Criteria:

(1) The use-specific criteria in 20.6.4.900 NMAC, except the chronic criteria for aquatic life are applicable for the designated uses listed in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria shall not exceed 548/100 mL, no single sample shall exceed 2507/100 mL (see Subsection B of 20.6.4.13 NMAC).

Given the confusion and irrelevant distinctions caused by the terms "ephemeral" and "intermittent," NMED proposes to replace these terms with "nonperennial" to define waters characterized by the temporary presence of water. The proposal is a logical outgrowth of evidence at the hearing. The terms "ephemeral" and "intermittent" in the title of Section 20.6.4.98 suggests a relevant difference. However, the evidence indicates that the only difference between the terms is hydrological, e.g., the source of water and the relationship between the channel and the water table. Even then, the distinction is not clear, and the data required to draw that distinction is difficult, if not impossible, to obtain. Moreover, for the purpose of protecting aquatic communities in these waters, there is no relevant difference. Both types of waters are temporary, and give rise to and support aquatic communities adapted to this characteristic. The term "nonperennial" encompasses both ephemeral and intermittent waters, as opposed to

perennial waters, and applies the same criteria in order to protect their aquatic communities. As a result, the two sections for unclassified waters work in tandem and ensure full coverage and protection. TR at 601 l.21 - 602 l.25, 603 l.13 - 604 l.13, 605 l.23 - 606 l.11, 629 l.23 - 631 l.25, 652 ll.7 - 24, 831 ll.18-25.

NMED proposes to create a provision containing default designated uses for unclassified nonperennial waters. PL 20 at 34. The proposal would ensure that all unclassified nonperennial waters are protected in compliance with the CWA. The default designated uses are livestock watering, wildlife habitat, secondary contact, and limited aquatic life. Each use is appropriate for the following reasons:

(1) The section formalizes the WQCC's presumption that livestock watering and wildlife habitat are default uses for all unclassified waters. See Section 20.6.4.10.A. Of these two uses, wildlife habitat is required by the CWA. CWA Section 101(a)(2) and EPA's regulations, 40 CFR 131.2, require WQS to provide for the protection of wildlife. PL 27 at Ex 1, 3. While livestock watering is not a use required by the CWA, in an arid region like New Mexico, water is a scarce resource that is sought out by livestock and wildlife. Livestock watering should be protected because of its importance to New Mexico and the likelihood that livestock will use these waters when available.

(2) Recreation and aquatic life are required uses under the CWA. EPA has taken the position that standards for all surface waters, including unclassified nonperennial waters, must have recreation and aquatic life uses unless the state has prepared a UAA. Kansas Natural Resource Council v. Whitman, 255 F. Supp. 2d 1208 (D. Kan. 2003); PL 40 at 18 (discussing EPA's promulgation of WQS for Kansas imposing primary contact and aquatic life uses and associated criteria on ephemeral and intermittent waters). EPA has informed NMED that it is prepared to take similar action in New Mexico unless these waters are protected in a similar manner.

(3) Regarding the primary contact use, the CWA and EPA regulations require the protection of recreation in and on the water. Although this goal could be met by designating primary contact use and criteria for all surface waters, NMED testified that this was not appropriate for nonperennial waters. EPA recognizes another option: the state can designate secondary contact and establish criteria that protect for primary contact. PL 27 at Ex 9, pp.2-2 and 2-3. Primary

contact criteria for E. coli bacteria are calculated using the specified formulae based upon an illness rate and the extent of anticipated use. PL 27 at Ex 12, 14. In the case of nonperennial waters, both the likelihood of exposure by ingestion and the frequency of use for recreation are low. According to EPA guidance, an illness rate between eight and fourteen illnesses per thousand exposed persons is approvable. Therefore, NMED proposes criteria that protect primary contact at the rate of 14 illnesses per thousand (assuming infrequent use). The resulting criteria are a monthly geometric mean of 548/100 mL, and a single sample criterion 2507/100 mL. These criteria are adopted because they satisfy EPA's goal of protecting primary contact while taking into consideration the less frequent use of these waters.

(4) Regarding the aquatic life use, the CWA and EPA regulations require the protection and propagation of fish and shellfish. All surface waters must include an aquatic life use unless a UAA has determined that the use is not attainable. The limited aquatic life subcategory is appropriate for nonperennial waters because the other subcategories are temperature-specific. Moreover, the limited aquatic life subcategory "fits" the type of aquatic communities likely to be found in nonperennial waters. Finally, the limited aquatic life subcategory is appropriate because it satisfies the CWA and EPA regulations while avoiding the substantial burden on the state of preparing UAAs to justify not designating another subcategory of the aquatic life use for nonperennial waters. PL 27 at Montgomery 62-63; TR at 156 l.16 - 158 l.12.

(5) NMED proposes to apply the acute and chronic aquatic life criteria to unclassified nonperennial waters. The proposal should be adopted because the evidence indicates that the aquatic communities in these waters require the protection afforded by both sets of criteria. TR at 161 ll.8-14; Amigos Bravos Presentation Slide, "Ephemeral and Intermittent Waters."

(6) NMED originally proposed only the acute criteria for these waters. However, it stated that it would reevaluate its position based on evidence presented in the triennial review. PL 27 at Montgomery 62-63; TR at 158 l.9 - 159 l.8. The USFWS provided such evidence. The USFWS was represented at the hearing by experts in aquatic biology. In the opinion of its experts, "by adoption and maintenance of chronic aquatic life criteria, aquatic life in intermittent and ephemeral waters can be protected." These waters "maintain New Mexico's biological integrity

and served as vital fresh water oases." They provide habitat to a wide variety of arthropods, shellfish, crustaceans, amphibians, fish, and birds, and food to even more species of animals. PL 29 at 2, 4; TR at 813 ll.7-18; 815 l.13 - 817 l.9, 821-17 - 822 l.3. The species that inhabit intermittent and ephemeral waters possess unique adaptations. Intermittent and ephemeral waters are transient. In response, many species have developed the ability to survive harsh environments, including rapid multiplication, diapause, and estivation. Many organisms that inhabit intermittent and ephemeral waters have short life stages. Some amphibian egg masses are laid and hatched within 36 hours. PL 29 at 5-13; TR at 817 l.10 - 820 14, 822 ll.4-12, 832 ll2-19. Toxic pollutants are a different matter. "[These] climatic adaptations do not necessarily translate into a selective advantage during pollutant exposure". Indeed, pollutant exposure is probably worse for organisms in intermittent and ephemeral waters precisely because they are adapted to harsh environmental conditions but not toxic pollutants. Taken together with the fact that some amphibians are more sensitive to toxic pollutants than the species used to set the chronic criteria, the consequences to aquatic biodiversity of chronic exposure to toxic pollutants is potentially far more harmful than the transient presence of water. As a result, it is necessary to protect these aquatic communities by applying both the acute and chronic criteria. PL 29 at 14, 21-22; TR at 813 ll.7-18; 821 l.21, 822 l.14 - 823 l.13, 827 l.11 - 828 l.7, 828 l.25 - 829 l.5, 832 l.2 - 834 l.6, 863 ll.9-14.

After a thorough review of the USFWS evidence, NMED, through its experts on the Aquatic Biology and Physical Habitat Team, concluded that the chronic criteria are appropriate and necessary to protect aquatic communities in these waters. These waters have the potential to support a wide variety of plant and animal life that require water for some portion of their life cycles. In addition, these waters may be subject to higher concentrations of chemical contaminants than perennial waters due to the concentrating effect of water loss from evaporation and soil absorption. As a result, organisms inhabiting these waters may be at a higher risk of stress from anthropogenic pollution than those in perennial waters. TR at 66 l.22 - 67 l.23, 155 l.16 - 159 l.8. NMED Closing Argument, pp. 129-142.

UC opposes NMED's proposed changes, UC Closing Argument, pp. 37-42, and states as follows:

In its rebuttal testimony, NMED proposed to strike the exception for chronic aquatic life criteria "because the reference to 20.6.4.900 NMAC did not incorporate any criteria, [and therefore] the exclusion was meaningless." NMED Rebuttal Testimony, PL 40 at 18. NMED stated that it would amend its proposed 20.6.4.900.H NMAC to exclude the application of chronic criteria to such waters. NMED further stated that "[a]fter reviewing [the USFWS] information, NMED believes that it is appropriate to apply the chronic criteria to Section 98 waters." NMED Rebuttal Testimony, PL 40 at 23.

At the hearing, John Montgomery testified that, after reviewing the testimony of USFWS, NMED reconsidered its position and decided that the chronic aquatic life criteria should be applied to ephemeral and intermittent waters. Tr. at 158-9. Without the application of such criteria, he stated, species would not be protected. Id. at 159

Under applicable law, the Commission may only adopt changes to NMED's proposed 20.6.4.98 or 20.6.4.900 NMAC if the changes are included in one of the regulatory change proposals before the Commission submitted by other parties or is a "logical outgrowth" of such proposals. While UC has found no cases applying the federal "logical outgrowth" test to rulemaking in New Mexico,[9] *it believes that the test is an appropriate approach to evaluate the propriety of the Commission's adoption of changes to pending rulemaking proposals after public notice has been given. See NM AG Op. No. 87-59 (September 28, 1987) discussing application of the "logical outgrowth" test to EIB rulemaking under the Environmental Improvement Act. In a recent case, the DC Circuit Court of Appeals described the "logical outgrowth" test as follows:*

> *EPA undoubtedly has the authority to promulgate a final rule that differs in some particulars from its proposed rule. As we noted in International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 632 n. 51 (D.C.Cir. 1973), "[a] contrary rule would lead to the absurdity that . . . the agency can learn from the comments on its proposals only at the peril of starting a new procedural round of commentary." However, if the rule deviates too sharply from the proposal, affected parties will be deprived of notice and an opportunity to respond to the proposal.*
>
> *Courts have devised various verbal formulas for the extent to which an agency can make changes in the final rule that were not clearly presaged by the notice of proposed*

[9] In other administrative proceedings, New Mexico case law does address the adequacy of notice to allow changes to zoning proposals, *St. Bede's Episcopal Church v. Santa Fe,* 85 N.M. 109, 509 P.2d 876 (1973) and *Nesbit v. Albuquerque,* 91 N.M. 455, 575 P.2d 1340 (1977), and solid waste permits, *Martinez v. Maggiore,* 2003-NMCA-43, 133 N.M. 472, 64 P.3d 499.

> *rulemaking. This court has held, both under the APA and under the Clean Air Act §307(d), that the final rule must be a "logical outgrowth" of the proposed rule.*

City of Waukesha v. EPA, 320 F.3d 228, 244-45 (D.C. Cir. 2003), quoting Small Refiner Lead Phase-Down Task Force v. EPA, 705 F.2d 506, 546-47 (D.C. Cir. 1983). See National Mining Ass'n v. MSHA, 116 F.3d 520, 531 (D.C. Cir 1997); see also 1 Richard J. Pierce, Jr. Administrative Law Treatise, §7.3 (4th ed. 2002). Under the "logical outgrowth" test, the relevant inquiry is whether affected persons were given an opportunity to participate in the hearing on the proposed change.

In this case, the hearing notice specified that the Commission would "consider proposed amendments to 20.6.4 NMAC—Standards for Interstate and Intrastate Surface Waters" by various parties.

> *The [SWQB] proposes amendments as part of the triennial review of New Mexico's surface water quality standards required by Section 303(c) of the Federal Clean Water Act, 33 U.S.C. Section 1313(c), which requires each state to hold a public hearing every three years for the purpose of reviewing, and, as appropriate, modifying the state's surface water quality standards. The Department proposes substantial amendments in many sections of the standards. Several other petitioners are proposing amendments to the standards as well, all of which will be considered in the hearing, including, among others, Amigos Bravos, University of California, San Juan Water Commission, Elephant Butte Irrigation District, and Los Placitas Association.*

Pleading Log 46. None of the amendments referenced in the notice[10] proposed to apply chronic aquatic life criteria to all ephemeral waters. Only Amigos Bravos proposed to apply the chronic aquatic life criteria to certain intermittent and ephemeral streams, and then only "when water flows for more than 30 continuous days and the requirements and procedures for testing toxicity found in 20.6.4.13.E can be met." Amigos Bravos Proposed Amendments (September 5, 2003), PL 17 at 9. It was not until the filing of NMED's rebuttal testimony that any party proposed applying the chronic aquatic life criteria to all ephemeral and intermittent waters. (USFWS did not file pre-filed technical testimony, as such, but a copy of a PowerPoint presentation.)

Nothing in the Commission's public notices presage that the application of the chronic aquatic life criteria to all ephemeral and intermittent waters would be an issue in these proceedings. No

[10] The public notice was given in December 2003 after the proposed amendments to the standards were filed with the Commission. Pursuant to the Scheduling Order, NMED filed its proposed amendments on August 15, 2003, other parties filed their proposed amendments on September 5, 2003, NMED filed its revised proposed amendments on September 30, 2003, and other parties filed their revised amendments on October 15, 2003.

person potentially affected by the change could have identified that such a proposal would be considered by the Commission. In fact, those most directly affected, municipal dischargers, did not participate in the hearing. The Commission's consideration of USFWS's suggested change would deprive affected persons of their opportunity to effectively participate in these proceedings. Therefore, absent additional notice and hearing, the Commission may not consider regulatory changes that would apply the chronic aquatic life criteria to all ephemeral and intermittent waters.

Even if the Commission can consider the suggested change, the evidence in the record does not support the application of the chronic aquatic life criteria to all intermittent and ephemeral waters in New Mexico, as proposed by NMED. At most, it would support the application of those criteria to some intermittent and ephemeral waters, as proposed by Amigos Bravos (waters flowing for more than 30 continuous days).

UC, Phelps Dodge and the San Juan Water Commission opposed the proposed application of the criteria to all intermittent and ephemeral waters and submitted expert testimony in support of their position. See Testimony of Fred Fisher, Tr. 1671; Testimony of Benjamin Parkhurst, Tr. 1485-86; Testimony of Tom Pitts, Tr. 1063. Dr. Fisher testified that chronic criteria may be appropriate for intermittent waters, but not ephemeral streams. Tr. 1672. However, the application of such criteria should be determined by the aquatic life expected in such waters. Id.

Phelps Dodge also opposes NMED's proposal to extend chronic aquatic life criteria to all surface waters in the state, including ephemeral streams, on several grounds, PD Closing Argument, pp. 9-21, and states as follows: NMED originally proposed only acute aquatic life criteria for intermittent and ephemeral waters, but "changed its mind" (TR 23:7-14) shortly before the hearing based solely on testimony submitted by the U.S. Fish and Wildlife Service (USFWS). In NMED's pre-filed direct testimony (PL 27, p. 36) NMED proposed that chronic aquatic life criteria would apply to all classified waters except the limited aquatic life category. NMED also clarified that if a determination were made on a case-by-case basis that water was present for a sufficient time in a limited aquatic life water, then the chronic aquatic life criteria would apply to

such water (Id.). NMED also proposed in its pre-filed direct testimony that only acute aquatic life criteria would apply to ephemeral and intermittent waters because it did not have sufficient information upon which to extend chronic aquatic life criteria to ephemeral and intermittent waters (PL 27, pp. 62-63). NMED also proposed confusing language in its pre-filed direct testimony (PL 27, p. 110, lines 4-5) that appeared to exempt the limited aquatic life category from both acute and chronic aquatic life criteria. NMED's pre-filed rebuttal testimony is somewhat confusing on the acute versus chronic issue (PL 40, p. 18, lines 27-34) (implying that NMED intends to apply only the acute aquatic life criteria to ephemeral waters)), but in the end NMED appears to take the position that chronic aquatic life criteria should apply to all surface waters, including ephemeral streams, based solely on direct testimony provided by the USFWS (PL 40, p. 23, lines 6-24). NMED's pre-filed rebuttal testimony characterized the USFWS testimony as providing evidence to include chronic criteria for intermittent and ephemeral water bodies.

PD continues:

(1) The WQCC's ability to adopt water quality standards is limited by express legislative language in the New Mexico Water Quality Act (NMSA § 74-6-4(C)) that provides that surface water quality standards may be adopted for surface waters of the state only when based on credible scientific data and other appropriate evidence. Because of the lack of direct evidence regarding the presence of sustainable aquatic life in ephemeral streams in New Mexico, the WQCC does not have the legal authority or the technical justification to extend chronic aquatic life criteria to such streams.

NMED's proposal to extend chronic aquatic life criteria to ephemeral streams in New Mexico was based solely on pre-filed direct testimony provided by the USFWS. However, all of the testimony and evidence presented by the USFWS related to intermittent or perennial streams or playa lakes. None of the evidence offered by USFWS in its pre-filed direct testimony related to ephemeral streams. For instance, the USFWS admitted in its testimony at the hearing that it provided its testimony based on combining intermittent waters with ephemeral waters (Hearing Transcript, Vol. 4, page 830 (lines 2-13)). The USFWS made the assumption that if it showed the presence of

aquatic life in intermittent waters (such as the stream segments associated with the Los Alamos Laboratory or certain playa lakes), that this would support extension of the same criteria to ephemeral streams. In fact, during its direct testimony at the hearing, the USFWS mentioned over and over the need to protect aquatic habitats in intermittent and ephemeral waters, wetlands, and riparian habitats in New Mexico, and then cited its studies on intermittent streams and playa lakes in New Mexico to support this assertion (Hearing Transcript, Vol. 4, pages 813-818).

At a late stage in the hearing, the USFWS recognized that it had not presented evidence to support extension of chronic aquatic life standards to ephemeral streams. Because of this, the USFWS introduced new evidence during cross-examination of Dr. Benjamin R. Parkhurst, expert witness for Phelps Dodge, that the USFWS claimed showed the presence of aquatic life in ephemeral streams. Specifically, the USFWS asked if Dr. Parkhurst was familiar with an article entitled "Winter Stoneflies in Seasonal Habitats in New Mexico," (North American Benthological Society (1996) (Hearing Transcript, Vol 7, page 1522 (lines 14-17)). In defending why the report should be submitted into the record, the USFWS counsel argued that the report was a study "in New Mexico about aquatic species that thrive in ephemeral waters" (Hearing Transcript, Vol. 7, page 1525 (lines 7-9)). Contrary to the USFWS assertion, however, the testimony provided in the hearing confirmed that the 1996 report on "Winter Stoneflies in Seasonal Habitats in New Mexico" focused on high mountain streams during snow melt and that the streams in the study did not meet the definition of ephemeral waters as defined in New Mexico's surface water quality standards. (Hearing Transcript, Vol. 7, page 1565 (lines 10-20) & Vol. 8, page 1859 (lines 18-25) and page 1860 (lines 1-15)). The USFWS' last-ditch attempt to provide evidence towards the end of the hearing did not provide any credible scientific data or other evidence regarding the presence of aquatic life in ephemeral streams. In fact, the attempt underscored the fact that there was a lack of data in the record that would provide support in any way for extension of chronic aquatic life standards to ephemeral streams.

During NMED's testimony at the hearing, NMED initially took the position that the USFWS testimony included evidence regarding the presence of aquatic life in ephemeral streams in New Mexico (Hearing Transcript, Vol. 3, page 588 (lines 14-18)). At a later point in the hearing, after

a series of questions regarding the evidence specifically applicable to ephemeral streams, NMED admitted that the USFWS testimony did not explicitly apply to ephemeral streams (Hearing Transcript, Vol. 3, page 605 (lines 10-19)). In connection with the USFWS' late attempt in the hearing to introduce evidence that it originally believed demonstrated the presence of aquatic life in ephemeral streams, NMED's admission that the USFWS data did not apply to ephemeral streams clearly demonstrates that the decision to apply chronic standards to ephemeral streams was and is not based on any credible scientific data and was and is being arbitrarily applied to such streams.

The lack of credible scientific data to support application of chronic aquatic life criteria to ephemeral streams was confirmed during the hearing by Dr. Fred M. Fisher of Los Alamos (Hearing Transcript, Vol. 7, page 1676 (lines 5-9)); Dr. Richard Meyerhoff, expert witness for Los Alamos (Hearing Transcript, Vol. 8, page 1859 (lines 6-13)); and Dr. Benjamin R. Parkhurst, expert witness for Phelps Dodge (Hearing Transcript, Vol. 7, page 1465 (lines 14-25), page 1466 (lines 1-23)). The USFWS also admitted in its testimony that there is a paucity of evidence worldwide on the potential presence of aquatic life in ephemeral streams (Hearing Transcript, Vol. 4, page 829 (lines 23-25), page 830 (line 1), page 870 (lines 9-25), and page 871 (lines 1-2)), and that it was not aware of any specific New Mexico evidence. As noted in the record in several locations, the reason for this paucity of evidence is the lack of aquatic life in ephemeral streams – there is simply nothing to investigate.

In summary, any party that supports in any way the application of chronic standards to ephemeral streams in New Mexico has submitted no data or evidence to support this assertion. While evidence has been submitted that would appear to potentially support application of chronic aquatic life criteria to intermittent streams and playa lakes, this evidence cannot arbitrarily be used to extend such criteria to ephemeral streams. See Idaho Mining Association v. Browner, 90 F. Supp. 2d 1078, 1107-08 (D. Idaho 2000) (holding that application of aquatic life criteria to stream segment, when record indicated that there was no water in the stream segment to support aquatic life, was arbitrary and capricious).

(2) One of the major reasons for the disagreement related to extending chronic aquatic life criteria to ephemeral streams is that NMED proposed and continues to propose to lump intermittent and ephemeral streams into the same category for standard setting purposes (see proposed 20.6.4.98 NMAC, Pleading Log #27, page 62; Pleading Log #40, page 18). More recently, NMED has proposed to lump intermittent and ephemeral streams into a broader category that it calls non-perennial waters. Phelps Dodge opposes these efforts and believes that the more appropriate and scientifically-defensible approach with respect to the application of aquatic life criteria is to separate ephemeral streams on the one hand from all other types of water bodies on the other (Rebuttal Testimony of Dr. Benjamin R. Parkhurst on behalf of Phelps Dodge, Pleading Log #42, pages 4-5 and 6-7). As noted above, NMED's approach has the inappropriate effect of sweeping ephemeral streams into the same category as other types of waters and subjecting ephemeral waters to the same standards applied to such other types of waters. This approach is arbitrary, is unsupported by general hydrologic or biologic principles, and is not based on any scientific or other credible evidence in the record.

Ephemeral streams are clearly defined in New Mexico's water quality standards as streams that contain water only in "direct response" to precipitation or snowmelt in the immediate locality and whose bed is "always" above the water table of the adjacent region. In fact, NMED agreed that the existing and proposed definition of "ephemeral" is clear (Hearing Transcript, Vol. 3, page 630 (lines 12-14)). This definition accurately describes the numerous dry washes and arroyos that can be found throughout New Mexico that do not have the potential to sustain aquatic life. Other unique characteristics of ephemeral streams include that the streambed is often highly permeable, which means that water from precipitation events will rapidly infiltrate into the subsurface (Hearing Transcript, Vol. 7, page 1468 (line 1) and page 1469 (lines 1-12)). Because of all of these characteristics, surface water is present in ephemeral streams for short periods, and when surface water is only present for short periods, no aquatic life is present in such streams (Hearing Transcript, Vol 7, page 1469 (lines 9-12)).

In contrast, there are stream segments throughout the arid Southwest, including New Mexico, in which the water table intersects the streambed for some period of time during the year (i.e.,

intermittent or perennial streams). Such stream segments do not meet the definition of ephemeral and have the capability to sustain aquatic life because of the sustained presence of water. Substantial testimony was presented in the hearing that identified the clear distinctions between ephemeral streams on the one hand and other types of streams, including intermittent streams on the other. For example, NMED admitted in its hearing testimony that there is a clearly hydrological distinction between ephemeral streams (as defined in New Mexico's water quality standards) and intermittent streams (Hearing Transcript, Vol 3, page 658). Dr. Benjamin Parkhurst, expert witness for Phelps Dodge and Dr. Fred Fisher of Los Alamos elaborated in substantial detail on the distinctions and potential ramifications if these distinctions are ignored by combing ephemeral streams and intermittent streams into the same classifications (Hearing Transcript, Vol. 7, pages 1467-80 (Dr. Parkhurst testimony) and Vol. 7, pages 1670-77 (Dr. Fisher testimony).

As recommended by Phelps Dodge in its rebuttal testimony and reemphasized during the hearing, the more scientifically sound approach, especially given the lack of any credible evidence on aquatic life in ephemeral streams in New Mexico in the record, would be to separate ephemeral streams from all other types of water bodies (Rebuttal Testimony of Dr. Benjamin R. Parkhurst on behalf of Phelps Dodge, Pleading Log #42, pages 4-5 and 6-7; Hearing Transcript, Vol 7, page 1467 (lines 3-21)) (this approach also was support by Los Alamos (Hearing Transcript, Vol. 7, pages 1670-77)). Under this approach, only acute criteria would apply to ephemeral streams, except on a case-by-case basis when chronic criteria are deemed necessary.

(3) As noted above, NMED has not accounted for or considered other unique issues raised by the overly broad and unsupported proposal to extend chronic aquatic life criteria to ephemeral drainage features. For example, NMED has not accounted for the fact that water quality impacts of stormwater discharges to ephemeral streams likely will be more related to physical effects such as bank erosion, streambed scouring, and lack of water than to the type and amount of pollutants that may be present in stormwater discharges. NMED also has no clear policy or rationale on when or how it will sample for compliance with chronic aquatic life criteria in stormwater runoff or how it will ensure that such sampling is actually representative. The application of chronic

aquatic life criteria to stormwater discharges is counterintuitive. However, NMED's proposal to apply chronic aquatic life criteria to ephemeral streams means that stormwater discharges (the source of water for ephemeral streams) will be subject to chronic aquatic life criteria. NMED's proposal to extend chronic aquatic life criteria to ephemeral streams should be rejected.

(4) As noted in several locations throughout the record, because of the short-term presence of water in ephemeral streams, acute aquatic life criteria are protective of ephemeral streams. For example, Dr. Parkhurst testified that because only short-term exposures occur in ephemeral streams, acute criteria alone would be protective of aquatic life in such streams (Hearing Transcript, Vol 7, page 1474 (lines 8-12), page 1477 (lines 19-23), page 1528 (lines 13-25), and page 1529 (lines 1-14)). Dr. Meyerhoff, expert witness for Los Alamos, testified of his extensive experience with the adoption and implementation of surface water quality standards in the arid Southwest and then agreed that acute aquatic life criteria alone would be protective of aquatic life that may be found in ephemeral waters for the short periods of time when water may be present (Hearing Transcript, Vol. 8, page 1858 (lines 8-19)). Dr. Fred Fisher of Los Alamos provided the same testimony (Hearing Transcript, Vol. 7, page 1677 (lines 24-25)) after explaining the hydrologic and biological differences between ephemeral streams and other types of surface waters (such as intermittent streams and playa ponds or lakes) (Hearing Transcript, Vol. 7, pages 1672-1677).

Acute criteria, by their very nature and definition, are designed to protect aquatic life against short-term exposures that may be present in ephemeral streams. Application of chronic aquatic life criteria to such streams is overprotective and not supported by any credible scientific data in the record.

(5) As testified during the hearing, Arizona has considered the application of aquatic life criteria to ephemeral streams and only applies acute aquatic life criteria to such ephemeral drainage features (Hearing Transcript, Vol. 8, pages 1863-64). Arizona's rationale for this decision is summarized as follows:

> *Water quality criteria to protect aquatic life contain two expressions of allowable magnitude. Acute criteria are established to protect against short-term effects and chronic criteria are established to protect against long-term effects of pollutants. In*

general, EPA derives chronic criteria from longer-term toxicity tests (often greater than 28-days) that measure survival, growth, and reproduction of test organisms. The term of these toxicity tests is often greater than the length of time that ephemeral waters typically flow in Arizona.

The surface water quality standard rules currently include an aquatic and wildlife designated use that applies to ephemeral waters (A&We). . . . ADEQ has determined that chronic A&We criteria are unnecessary to protect the designated use. ADEQ defines an ephemeral water as a surface water that flows only in direct response to precipitation and that is at all times above the water table. Surface waters that flow continuously for 30 days or more are considered to be intermittent waters that are protected by [aquatic and wildlife (cold) (A&Wc)] or [aquatic and wildlife (warm (A&Ww)] designated uses. The A&Wc and A&Ww designated uses have both acute and chronic criteria. ADEQ has determined that chronic criteria are unnecessary for ephemeral waters because they flow for less than 30 days at a time and the duration of exposure of organisms to pollutants is short term. ADEQ therefore proposes to repeal all of the current chronic criteria for the A&We designated use.

8 Ariz. Admin. Reg. 1335 (March 29, 2002).

Colorado's surface water quality standards designated aquatic life classifications as "Class I – Cold Water Aquatic Life," "Class 1 – Warm Water Aquatic Life," and "Class 2 – Cold and Warm Water Aquatic Life." 5 Colo. Code Regs. § 1002-31.13. Although the aquatic life uses are held to both acute and chronic toxicity standards, a specific water use classification or designation may be downgraded by showing that natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the specific use. 5 Colo. Code Regs. § 1002-31.6. As applied to ephemeral streams in general, however, Colorado does not specifically apply its water quality standards to ephemeral waters and has no ephemeral stream designations. Colorado typically categorizes waters by each basin. However, if there are streams in a basin that are dry, or periodically dry during certain times of the year, then Colorado will not apply its numeric standards at all to those streams.

Texas' surface water quality standards require in general that surface water will not be toxic to man, terrestrial life or aquatic life. Texas Admin. Code 30-1-307.4. In protecting aquatic life from toxic substances, total chronic toxicity restrictions and numerical chronic criteria for toxic material do not apply to waters that have below seven-day, two-year low flows. Texas Admin. Code 30-1-307.8. Numerical acute criteria for toxic materials and preclusion of total acute toxicity are applicable at stream flows, which are equal to or greater than one-fourth of seven-day, two-year low-flows. Texas Admin. Code 30-1-307.8. The seven-day, two-year low-flows are

calculated from historical U.S. Geological Survey daily streamflow records. Texas Admin. Code 30-1-307.8. Based on these criteria, chronic aquatic life criteria are not applicable to ephemeral streams, although they would be applicable to most intermittent and all perennial streams.

As discussed immediately above, states adjacent to New Mexico have considered application of chronic aquatic life criteria to ephemeral waters and have rejected such application on various grounds, most notably that chronic criteria are based on long-term exposures to pollutants that simply are not present in ephemeral waters and that ephemeral waters are sufficiently protected through application of only acute aquatic life criteria. New Mexico should follow the lead of these states and not impose overprotective criteria on ephemeral streams that will result in significant costs and other negative implications.

(6) The potential negative costs and other implications from NMED's unsupported proposal to extend chronic aquatic life criteria are substantial. In the first place, it is important to realize that NMED's proposal will impact approximately 90,000 miles of ephemeral drainage features in New Mexico, which constitute approximately 90 percent of all stream miles in New Mexico (Hearing Transcript, Vol. 3, page 591 (lines 14-15) and Vol 7, page 1478 (lines 8-13)). Consequently, although there is no credible scientific data in the record to support it, NMED's proposal would nevertheless extend chronic aquatic life criteria to such expansive drainage features because of the inaccurate and inappropriate association with intermittent waters.

Other potential implications and costs include the possibility that ephemeral streams could be placed on the state's impaired waters list for failure to meet chronic standards during stormwater discharges with attendant total maximum daily load (TMDL), best management practices, and permitting implications (see Hearing Transcript, Vol. 7, pages 1478-80). In sharp contrast, there are no potential benefits from NMED's proposal because ephemeral streams do not have self-sustaining aquatic life communities for the short periods when water is present and would in any event be fully protected by acute aquatic life criteria.

NMED responds:

(1) PD argues that "some types of ephemeral or intermittent waters have no potential to support aquatic life," but at the hearing it conceded that intermittent waters and some ephemeral waters, such as playas, had the potential to support aquatic life and should be protected by the chronic criteria. TR at 1485 l.4 - 1486 l.13. Nonetheless, PD contends that ephemeral streams - a subset of ephemeral waters - do not support "significant" aquatic communities and therefore do not require protection under the chronic criteria. This argument is not supported by the evidence.

The UFWS testified that any ephemeral stream has the potential to support an aquatic community. In fact, the USFWS testified that "[i]f you went to an ephemeral stream and you did a scientifically valid study, and you did not find any aquatic invertebrates, something is wrong with your study design." TR at 857 ll.3-23. NMED similarly testified that "[t]he potential [for aquatic communities] exists in all [ephemeral streams]." These communities could be present any time of the year, depending on the presence of water in the stream. TR at 592 ll.2 - 20. No person at the hearing identified a single ephemeral stream in New Mexico that did not support an aquatic community. TR at 857 l.24 - 858 l.2.

(2) Even PD admitted that ephemeral streams have aquatic communities. PD's witness testified "I never denied that ephemeral streams cannot, under some circumstances, develop aquatic communities," adding "I have studied ephemeral streams myself, and I found aquatic communities in them under certain circumstances." TR at 1487 ll.20-22, 1487 l.23 - 1488 l.6. He made similar concessions throughout his testimony, stating that "most ephemeral waters in New Mexico do not have hyporheic zones with aquatic life," and that "[w]hen flow appears in ephemeral streams, diverse aquatic communities do not instantly appear." Parkhurst Powerpoint Slide, "Characteristics of Ephemeral Waters" (emphasis added). He also explained how aquatic communities are established in ephemeral streams: "Flying insects need to fly to the water and lay eggs in it; benthic invertebrates need to drift downstream from upstream sources, if present; invertebrates may migrate upstream from downstream sources, if present; amphibians need to find water, mate, and lay eggs".

(3) Despite these admissions, PD challenges the record evidence of aquatic communities in ephemeral streams, arguing that these aquatic communities are not "significant." PD also tried to

distinguish between intermittent and ephemeral streams, apparently to justify not applying the chronic criteria to ephemeral streams. None of these arguments have merit.

First, Phelps Dodge contended that the record evidence did not concern aquatic communities in ephemeral streams in New Mexico. In fact, both the USFWS and Jacobi studies were conducted in New Mexico. PL 29 at Disc 1; PL 27 at Ex 23, TR at 1446 (USFWS Ex 43). The Jacobi study identified a variety of stonefly species in 49 ephemeral waters across New Mexico. These waters, which spanned 13 counties from northern to southern New Mexico, included both montane and desert ephemeral streams. TR at 654 l.21 - 655 l.20. The study noted the adaptation of these species to survival in conditions ranging from flash floods to no flow at all and dessication. These adaptations include size, speed of development, diapause during egg and larval stages, and the ability to colonize newly emerging habitats.

> *Aquatic macroinvertebrates are known to colonize new habitats through flight by adults, drift by immatures, and upstream movement by larvae. (Williams and Haynes 1976). After all, many study area streams have a perennial section (Type P) between the upstream (Type M) and downstream (Type L) ephemeral reaches that could serve as a continual source of new introductions.*

PL 27 at 23, p.695. Of course, some species never leave their ephemeral environments, instead responding to favorable conditions to complete their life cycles: "Now we believe winter-emerging Plecoptera have lived and completed their life cycles in these ahyporheic environments since the wetter Pleistocene (Stewart et al. 1974, Jacobi and Cary 1986)." Id.

(4) PD did not present any peer-reviewed research to contradict the USFWS and Jacobi studies. PD's witness, who claimed to have studied ephemeral streams, could not point to a single piece of research, including his own, to disprove the USFWS and Jacobi findings. Parkhurst Powerpoint Slide, "Education & Experience;" TR at 1518 ll.20-22, 1522 ll.2-7 (the witness never conducted research on aquatic communities in ephemeral streams in New Mexico). In fact, the witness claimed to have conducted a literature search regarding aquatic communities in ephemeral streams in New Mexico, but failed to turn up any information, including the Jacobi study. TR at 1524 l.22 - 1525 l.1. Apparently the witness also overlooked his own exhibit, a study performed by the Arid West Water Quality Research Project (Arid West Project), which recognized the presence of aquatic communities in ephemeral streams.

The input of a continuous stream of effluent at a discrete point along an intermittent or ephemeral stream significantly changes the aquatic habitat of the natural system. Thus, expectations associated with the natural community of the natural system are different from expectations associated with the effluent-dependent system. Naturally intermittent or ephemeral streams have a biota that is adapted to the harsh, unpredictable flow regime associated with these streams.

PL 42 at Parkhurst Ex 6, p.3-28 (emphasis added).

(5) PD next attempts to undermine the record evidence by posing two polar-opposite questions: "Are ephemeral streams in New Mexico teeming with aquatic life, but no one has yet discovered it"? "Or, are most ephemeral streams in New Mexico lacking aquatic life virtually all of the time?" Parkhurst Powerpoint Slide, "Why the Lack of Data for Ephemeral Streams in New Mexico?" As PD admits, however, the answer lies in between: aquatic communities exist when water is present in ephemeral streams. "Many ephemeral ones do not support any significant aquatic communities." PL 42 at Parkhurst 5 (emphasis added).

PD's rhetorical device is revealing. From its perspective, the issue is not whether ephemeral streams support aquatic communities, but whether these aquatic communities are "significant." TR at 655 l.21 - 656 l.13. This is a value judgment rather than a scientific distinction. TR at 656 ll.6-13.

(6) No person at the hearing agreed with PD's value judgment. In fact, not even the Arid West Project (on whose scientific advisory board PD's witness sits, TR 1464 ll.12-14) endorsed this value judgment. The Arid West Project acknowledges the existence of different types of aquatic communities in ephemeral streams ranging from naturally transient to artificially permanent as the result of effluent discharges. In ephemeral streams, "the naturally existing aquatic community would be somewhat limited in species richness and have varying abundance." However, the same may be true for artificially permanent streams: effluent-dependent streams "that are dominated by exotic and invasive species usually have limited diversity and abundance of terrestrial vertebrate species." This analysis reflects an acknowledgement by the scientific community that ephemeral streams span a continuum of environments, each with a value to be protected. Intermittent and ephemeral waters are "not necessarily poor habitat for [ ] aquatic life," and actually may be better in some respects. TR at 822, l.25 - 823 l.2.

(7) PD also tries to draw a distinction between intermittent and ephemeral streams. TR at 160 ll.12-24. Yet PD did not propose to apply the aquatic life criteria differently on the basis of this distinction, so the argument has no practical effect. TR at 1483 ll.2-7. Even if the distinction were probative, however, PD failed to identify a principled basis for the distinction.

The evidence does not support a distinction between intermittent and ephemeral streams on the basis of their aquatic communities. The terms "intermittent" and "ephemeral" are defined hydrologically, by reference to their location relative to the water table, not biologically, by reference to their aquatic communities. TR at 1779 ll.9-13. In fact, PD concurs in this approach, arguing that the terms should be based on hydrological factors, and any references to biology should be purged from the definitions. PL 32 at 4; PL 32 at Dunster 1; TR at 160 ll.20-24.

NMED and USFWS agree that there is no biological basis for a distinction between intermittent and ephemeral streams. NMED testified that "in many instances, [intermittent and ephemeral streams] would share similar biological characteristics". TR at 586 ll.7-18; 587 l.7-21, 590 l.5 - 591 l.2. Dr. Marilyn Myers, the USFWS aquatic entomologist, concurred that there was no reason to distinguish between aquatic communities when applying the chronic aquatic life criteria. TR at 830 l.14 - 831 l.4. In sum, the state and federal agencies agreed that any distinction between intermittent and ephemeral streams would be irrelevant to the aquatic communities using those habitats. TR at 629 ll.4-21, 658 ll.21-25, 1783 ll.5-15.

Nor did PD explain how this distinction would be implemented as a practical matter. The definitions of "intermittent" and "ephemeral" overlap, much as the stream types overlap in the field. TR at 1779 ll.9-19. The imprecision in defining these stream types is evident in PD's own testimony: intermittent streams are "often below water table seasonally or spatially," their beds are often relatively permeable, at least in places, and that sometimes "surface water is present for longer periods of time than in ephemeral waters." Parkhurst Powerpoint Slide, "Characteristics of Intermittent Waters." In fact, the same stream may contain intermittent and ephemeral reaches, and these reaches may switch character over time as a result of climatic conditions (e.g., the amount of precipitation). TR at 661 ll.21-23, 830 l.18 - 831 l.3, 1781 ll.22-25. This is because the character of a particular reach is related to its subsurface hydrogeology, for which there is no

simple method of determination. TR at 831 ll.9-17 ("There is no shovel method to determine the proximity to groundwater to say one stream is intermittent or ephemeral"), TR at 1776 ll.8-20.

(8) Finally, PD argues that aquatic communities in ephemeral streams do not require protection from chronic exposure to toxic pollutants because they are transient and will not be exposed long enough to experience adverse effects. However, the USFWS testified that the exposure of aquatic organisms to chronic levels of toxic pollutants for as little as four days can adversely effect their behavior, metabolism, maturation, and ability to respond to predation. TR at 845 ll.10-17. Given the short life cycles of aquatic organisms in ephemeral streams, the chronic criteria would be necessary. NMED testified that aquatic communities develop in ephemeral streams when water is present in the channel (and not even constant flow) in as little as two weeks. TR at 586 l.19 - 587 l.2, TR 1776 ll.3-7, 1779 ll.9-13 (if the residence time of water were the test for applying the chronic criteria, it would not matter whether the stream was above or below the water table, e.g., intermittent or ephemeral). UC testified that "[the c]hronic criteria would be appropriate" if water were present less than 30 days, but it could not put a lower bound on the exposure threshold. TR at 1774 l.21 - 1775 l.23.

PD did not rebut this testimony. To the contrary, it admitted that some aquatic insects and amphibians have life cycles as short as 7 days. Parkhurst Powerpoint Slide, "Characteristics of Ephemeral Waters." PD also admitted that it had no evidence that the acute criteria were adequate to protect these organisms. TR at 1483 ll.8-23. PD's witness asserted that the Arid West Project had concluded that acute criteria were adequate, but he could not identify where, in his own exhibit, prepared by a project on which he served as scientific advisor, this conclusion was stated. TR at 1491 l.4 - 1492 l.14, 1496 l.23 - 1497 l.21. PD later contradicted itself on this issue, first asserting that the chronic criteria were not necessary because when water is present in an ephemeral stream "reproduction is not going to be going on, animals are not going to be putting on significant growth," TR at 1534 ll.14-18, then admitting that some aquatic organisms live their entire lives - from emergence to mating to laying eggs - during that same period of transient water. TR at 1535 l.22 - 1536 l.5. In the end, PD could only cite "common sense" to support its theory that aquatic communities in ephemeral streams do not require protection by the chronic

criteria, TR at 1532 ll.11 - 24, an argument that contradicted its rejection of "common sense" and its demand for credible scientific data in the context of NMED's proposal to amend the surface water definition. See Section 20.6.4.7.RR.

Amigos Bravos Proposal:

Section 20.6.4.98 Ephemeral And Intermittent Waters:

A Designated Uses: livestock watering aquatic life, [~~limited aquatic life~~] wildlife habitat, and secondary contact.
B. Criteria:
(1) The use specific criteria in 20.6.4.900 NMAC are applicable for the designated uses listed in Subsection A of this section, except for the human criteria in Subsection J of Section 20.6.4.900 NMAC unless adopted on a segment-specific basis.
(2)The monthly geometric mean of E.coli bacteria shall not exceed 548/100 mL., no single sample shall exceed 2507/100 mL (see Subsection B of 20.6.4.13)

AB, Final Submittal, p. 15, supports its proposal as follows: This proposal does not change the actual protections that have been outlined under the Department's current proposal. What this proposed language does do is eliminate the need for creating a whole new use simply to apply a couple specific protections to 2 segments of water (this segment and the Sulpher Creek segment). Amigos Bravos holds that now that the Department is proposing that chronic aquatic life criteria should apply to ephemeral and intermittent waters the only difference that exists between the limited aquatic life and aquatic life is that the human health criteria in subsection J of 20.6.4.900 only applies to the limited aquatic life use on a segment-by-segment basis. The same end can be met by simply exempting certain segments from these criteria on a segment-by-segment basis.

NMED opposes AB's proposal, stating: Amigos Bravos proposes to assign the default use of "aquatic life" rather than "limited aquatic life" to these unclassified waters. PL 17 at 9. The proposal is not adopted because it is unnecessary. NMED's proposal already applies the acute and chronic criteria to these waters unless site-specific criteria are adopted. Assigning "aquatic life" would provide no greater protection. Amigos Bravos acknowledges that the assignment of "aquatic life" may not be necessary, but rather serves only a philosophical objective. In addition, Amigos Bravos was not aware that NMED's proposal ensured the proper implementation of the human health criteria for priority toxic pollutants, a result that would not occur if Amigos Bravos'

proposal were adopted. PL 27 at Montgomery 63, 111; TR at 159 l.24 - 160 l.5, 1312 l.21 - 1313 l.18.

EBID proposes "aquatic habitat" as the designated use. PL 16 at 6. (See above.)

NMED opposes adoption of EBID's proposal for the reasons stated in Section 20.6.4.7.I. PL 27 at Montgomery 64; TR at 160 ll.6-11.

Comment: I will limit my comments to the assertion that the Commission cannot take up NMED's proposal for deliberation because NMED did not include the application of chronic criteria in its original petition or its pre-filed direct testimony. The opponents to NMED's proposal do accurately describe the timeline for NMED's ultimate proposal: NMED did not propose the application of chronic criteria until it filed its pre-hearing rebuttal testimony, following its review of technical materials submitted by USFWS. AB, however, had proposed such a change from the beginning, with the qualifier that water must be flowing for 30 continuous days, and I do not believe the Commission is legally precluded from considering NMED's or AB's proposal on the merits.

UC cited to AG Opinion 87-59 but it does not support UC's argument in this matter. The question there was whether the EIB could make minor, nonsubstantive corrections, such as typographical and grammatical corrections, after a public hearing and prior to filing. (The answer was "yes, otherwise the legislative purposes would be frustrated.") NMED is not changing its position after the hearing. The change in NMED's position on the application of chronic criteria came before the hearing was actually held (approximately 3 months), and the parties had plentiful opportunity to address the matter during the hearing and, obviously, to argue their positions after the hearing and before a decision is made. There is no question in this matter that the parties had notice before the hearing and an opportunity to respond during the hearing to NMED's proposal as it stands, which is what the case law cited requires.

The Commission may decide that it desires more input before making such a change, particularly from municipal dischargers, but I do not believe there is a legal barrier to consideration of NMED's proposal, and no one suggested that there is a legal barrier to consideration of the proposal with AB's qualifier of flow for 30 continuous days. Incidentally, although it may not be apparent why we did not have more participation from municipalities or the League, it is not for lack of public notice of the triennial review, in mailings and on the Commission and Bureau's web site.

After the Commission has weighed the evidence and made its decisions in this section, it should return to the definitions of "ephemeral" and "intermittent," above.

20.6.4.99 PERENNIAL WATERS – All perennial surface waters of the state that are not included in a classified water of the state in 20.6.4.101 through 20.6.4.899 NMAC.

A. Designated Uses: aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. Criteria:

(1) Temperature shall not exceed 34°C (93.2°F). The use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses listed in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria shall not exceed 548/100 mL, no single sample shall exceed 2507/100 mL (see Subsection B of 20.6.4.13 NMAC).

NMED proposes to create a provision containing default designated uses for unclassified perennial waters because it parallels Section 20.6.4.98, and ensures that all unclassified perennial waters are protected in compliance with the CWA. PL 20 at 34. Both Sections 20.6.4.98 and 20.6.4.99 have the same default uses for the reasons stated above, except that Section 20.6.4.99 is assigned the use of "aquatic life." When an unclassified perennial water is placed in a segment, one of the subcategories will be assigned. NMED testified that the majority of perennial waters are classified. As unclassified perennial waters are studied, they will be moved to existing or new segments with more specific criteria. PL 27 at Montgomery 64-65.

EBID proposes "aquatic habitat" as the designated use. PL 16 at 6.

NMED opposes the proposal for the reasons stated in Section 20.6.4.7.I. PL 27 at Montgomery 65.

20.6.4.15 – 20.6.4.100: [RESERVED]

20.6.4.101 RIO GRANDE BASIN - The main stem of the Rio Grande from the international boundary [~~and water commission sampling station above American dam~~] <u>with Mexico</u> upstream to one mile below Percha dam. [~~(Sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.)~~]

A. Designated Uses: irrigation, [~~limited~~] <u>marginal</u> warmwater [~~fishery~~] <u>aquatic life</u>, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]<u>Criteria</u>:

(1) In any single sample: pH [~~shall be~~]<u>:</u> within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 34°C (93.2°F) <u>or less</u>. The use-specific numeric [~~standards~~] <u>criteria</u> set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] <u>The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL</u> (see Subsection B of 20.6.4.13 NMAC).

(3) At mean monthly flows above 350 cfs, the monthly average concentration for: TDS [~~shall not exceed~~] 2,000 mg/L <u>or less</u>, and sulfate [~~shall not exceed~~] 500 mg/L. <u>or less</u>, and chlorides [~~shall not exceed~~] 400 mg/L <u>or less</u>.

<u>**(C) Remarks:** [Sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.]</u>

[20.6.4.101 NMAC – Rp 20 NMAC 6.1.2101, 10-12-00; A, 12-15-01]

NMED proposes to change the segment because including the reach between the IBWC sampling station above American Dam and the International Boundary ensures that this reach has designated uses and criteria. PL 20 at 34-35, PL 27 at Montgomery 65-66; PL 27 at Ex 38a.

NMED proposes to move the comments to a separate section because the restructuring makes the segment easier to read. PL 20 at 34-35, L 27 at Montgomery 65-66. This change is made below in several other sections and is not again specifically called out.

NMED proposes to change the bacterial criteria type and values. PL 20 at 34-35. The changes are based on EPA guidance. The segment currently has a secondary contact designated use and criteria for fecal coliform bacteria of 200/100 mL (geometric mean) and 400/100 mL (single sample). These criteria translate to E. coli criteria of 126/100 mL (geometric mean) and 410/100 mL (single sample maximum). EPA recommends the single sample criterion for waters lightly used for full body contact with a 90% confidence limit. NMED's also proposes to make similar

changes in other segments (Sections 106, 110, 111, 118, 201, 202, 208, 211, 301, 303, 305, 306, 307, 401, 402, 403, 404, 504, 601, and 805). PL 27 at Montgomery 65-66; PL 27 at Ex 12, 14. NMED proposes to delete imperative phrases such as "shall be", "shall not exceed", and "shall be less than" throughout these sections. PL 20 at 34-65. These imperative phrases cause potential conflicts with implementation provisions. The criteria should be a simple statement of the applicable numbers. The effect of exceeding the criteria is explicitly addressed in Section 20.6.4.11, which describe when criteria are exceeded for compliance purposes, and in the assessment protocols, which describe when criteria are exceeded for assessment purposes. PL 27 at Montgomery 107; TR at 44 l.22 - 45 l.19.

Comment: Recommend adoption for reasons stated.

20.6.4.102 RIO GRANDE BASIN - The main stem of the Rio Grande from one mile below Percha dam upstream to [~~the headwaters of~~] Caballo [~~reservoir~~] dam [~~including Caballo reservoir~~]. [~~(Sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.)~~]

A. Designated Uses: irrigation, livestock watering, wildlife habitat, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less, [~~and turbidity shall not exceed 50 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(C) Remarks: [Sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.] [20.6.4.102 NMAC – Rp 20 NMAC 6.1.2102, 10-12-00]

NMED proposes to amend the segment description because it moves the Rio Grande above the Caballo Dam (e.g., the Caballo Reservoir) into Section 20.6.4.104. PL 20 at 35-36, PL 27 at Montgomery 66-67.

NMED proposes to replace the segment-specific numeric turbidity criterion with the narrative criterion in Section 20.6.4.12.J for the reasons stated in Section 20.6.4.12.J. PL 20 at 35-36.

NMED proposes to make similar changes in other segments for the reasons stated above (Sections

102, 104, 107, 108, 109, 112, 113, 114, 115, 119, 120, 121, 122, 123, 203, 209, 210, 214, 215, 217, 302, 304, 309, 405, 406, 503, 603, 802, 804 and 805). PL 27 at Montgomery 66-67.

NMED proposes to change the bacterial criteria type and values based on EPA guidance. PL 20 at 35-36. The segment currently has a primary contact designated use and criteria for fecal coliform bacteria of 100/100 mL (geometric mean) and 200/100 mL (single sample). These criteria translate to E. coli criteria of 126/100 mL (geometric mean), based upon an assumed illness rate of 8 illnesses per 1000 exposed persons, and 235/100 mL (single sample maximum), based upon beach area full body contact with an 75% confidence limit. NMED proposes to make similar changes in other segments for these reasons (Sections 104, 109, 112, 117, 120, 121, 122, 202, 210, 214, 302, 304, 406, and 804). PL 27 at Montgomery 66-67; PL 27 at Ex 12, 14.

Comment: Recommend adoption for reasons stated.

20.6.4.103 RIO GRANDE BASIN - The main stem of the Rio Grande from the headwaters of Caballo [~~lake~~] reservoir upstream to Elephant Butte dam and perennial reaches of tributaries to the Rio Grande in Sierra and Socorro counties. [~~(Flow in this reach of the Rio Grande main stem is dependent upon release from Elephant Butte dam.)~~]

A. Designated Uses: fish culture, irrigation, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, secondary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH ~~[shall be]~~ within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

C. Remarks: [Flow in this reach of the Rio Grande main stem is dependent upon release from Elephant Butte dam.] [20.6.4.103 NMAC – Rp 20 NMAC 6.1.2103, 10-12-00]

NMED proposes to amend the segment description because it moves Caballo Reservoir to a more appropriate section. PL 20 at 36, PL 27 at Montgomery 67-68.

NMED proposes to change the bacterial criteria type and values based on EPA guidance. PL 20 at 36. The segment currently has a secondary contact designated use and criteria for fecal coliform bacteria of 1000/100 mL (geometric mean) and 2000/100 mL (single sample). EPA guidance states that a secondary contact criterion five times the primary contact criterion is

acceptable. Recent EPA guidance continues to recommend a secondary contact criterion five times the primary contact criterion for the geometric mean, but does not make a similar recommendation for a single sample maximum. Translating from fecal coliform to E. coli criteria, EPA guidance provides a range of acceptable values for E. coli based on projected illness rates. From this range, it is appropriate to select a geometric mean density of 548/100 mL, which is associated with an illness rate of 14 per 1000 persons exposed to bacteria in water by ingestion as a result of immersion, and a single sample maximum of 2507/100 mL for waters infrequently used for full body contact at a 95% confidence limit. NMED proposes to make similar changes in other segments for these reasons (Sections 105, 113, 116, 204, 206, 207, 213, and 308). PL 27 at Montgomery 67-68; PL 27 at Ex 12, 14.

Comment: Recommend adoption for reasons stated.

20.6.4.104 RIO GRANDE BASIN – – Caballo and Elephant Butte reservoirs.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less[~~, and turbidity shall not exceed 50 NTU~~]. The use-specific numeric [~~standards~~] criteria[4] set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.104 NMAC – Rp 20 NMAC 6.1.2104, 10-12-00]

NMED proposes to amend the segment description because this segment properly includes Caballo Reservoir. PL 20 at 36. The change does not affect the designated uses and criteria, except that the designated use of irrigation becomes irrigation storage, which is more appropriate given the reservoir's purpose. PL 27 at Montgomery 68.

Comment: Recommend adoption for reasons stated.

20.6.4.105 RIO GRANDE BASIN - The main stem of the Rio Grande from the headwaters of Elephant Butte reservoir upstream to Alameda bridge (Corrales bridge), [~~the Jemez river from the Jemez pueblo boundary upstream to the Rio Guadalupe,~~] and intermittent flow below the perennial reaches of the Rio Puerco [~~and Jemez river which~~] that enters the main stem of the Rio Grande.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less; single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS [~~shall not exceed~~] 1,500 mg/L or less, sulfate [~~shall not exceed~~] 500 mg/L or less, and chloride [~~shall not exceed~~] 250 mg/L or less.

[20.6.4.105 NMAC – Rp 20 NMAC 6.1.2105, 10-12-00]

NMED proposes to move the reach of the Jemez River from the north boundary of Jemez Pueblo to the Rio Guadalupe from this section to Section 20.6.4.107. PL 20 at 36-37. This 20-mile reach is 30 miles from Section 20.6.4.105 and contiguous to two reaches in Section 20.6.4.107. The segment change will upgrade the designated uses for this reach from secondary contact to primary contact and limited warmwater to coldwater aquatic life. PL 27 at Montgomery 68-69; PL 27 at Ex 38c.

NMED proposes to move the move the Jemez River's intermittent flow into the Rio Grande to Section 20.6.4.106 because this reach enters the Rio Grande in Section 20.6.4.106 and is 15 miles from the upstream end of Section 20.6.4.105. PL 20 at 36-37. The reach is short, consisting only of those portions of the Jemez River that lie outside of the Jemez Pueblo boundaries. The change will not affect any designated uses, but will result in an upgrade in bacterial criteria from secondary contact to primary contact. PL 27 at Montgomery 68-69; PL 27 at Ex 38d.

The Rio Grande Community Development Corporation and South Valley Partners for Environmental Justice (collectively "RGCDC") propose to change the designated use and criteria to primary contact. PL 23. NMED supports this proposal because the evidence demonstrates that swimming is an existing use, and existing uses must be protected. PL 47; TR at 428 (RGCDC Exhibits A, B, C); PL 27 at Montgomery 68-69; TR at 161 ll17-25, 297 l.23 - 299 l.9, 620 ll.18-20, 624 l.19 - 625 l.1.

Comment: Alternatively, the Commission may want to retain the current designated use of secondary contact but adopt primary contact criteria. The Commission has adopted this approach for numerous segments in the past, most recently the lower Rio Grande in segment 101, and EPA has approved this approach. See Montgomery, TR at p. 162.

20.6.4.106 RIO GRANDE BASIN - The main stem of the Rio Grande from Alameda bridge (Corrales bridge) upstream to the Angostura diversion works, and intermittent flow in the Jemez river below the Jemez pueblo boundary that enters the main stem of the Rio Grande.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: dissolved oxygen [~~shall be~~] greater than 5.0 mg/L, pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall be~~] less than 32.2°C (90°F). The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS [~~shall be less than~~] 1,500 mg/L or less, sulfate [~~shall be less than~~] 500 mg/L or less, and chloride [~~shall be less than~~] 250 mg/L or less.

[20.6.4.106 NMAC – Rp 20 NMAC 6.1.2105.1, 10-12-00]

NMED proposes to amend the segment description for the reasons described in Section 20.6.4.105. PL 20 at 37; PL 27 at Montgomery 69-70; PL 27 at Ex 38c.

RGCDC proposes to change the designated use and criteria to primary contact. PL 23. NMED supports the proposal because the evidence demonstrates that swimming is an existing use, and existing uses must be protected. PL 47; TR at 428 (RGCDC Exhibits A, B, C); PL 27 at Montgomery 69-70; TR at 161 ll17-25, 620 ll.18-20, 624 l.19 - 625 l.1.

Comment: Alternatively, the Commission may want to retain the current designated use of secondary contact but adopt primary contact criteria. The Commission has adopted this approach for numerous segments in the past, most recently the lower Rio Grande in segment 101, and EPA has approved this approach. See Montgomery, TR at p. 162.

20.6.4.107 RIO GRANDE BASIN - The Jemez river from [~~its confluence with the Rio Guadalupe~~] the Jemez pueblo boundary upstream to [~~state highway 4~~] Soda dam near the town of Jemez Springs and perennial reaches of Vallecito creek.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, primary contact, irrigation, livestock watering, and wildlife habitat.

B. [~~Standards~~]Criteria:

(1) In any single sample: temperature [~~shall not exceed~~] 25°C (77°F), and pH [~~shall be~~] within the range of 6.6 to 8.8[~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.107 NMAC – Rp 20 NMAC 6.1.2105.5, 10-12-00]

NMED proposes to amend the segment description to include the Jemez River from the boundary of Jemez Pueblo upstream to the Rio Guadalupe because this segment is more appropriate here than Segment 20.6.4.105. PL 20 at 37-38, PL 27 at Montgomery 70-71; PL 27 at Ex 38d.

NMED proposes to change the division point from "State highway 4" to "Soda dam" because it relies on a geologic rather than a cultural feature. PL 20 at 37-38. Soda Dam is approximately 3/8 mile above the highway crossing. Division points between segments that use cultural features were generally designated based upon convenience of identification rather than an actual change in stream conditions. The use of highway crossings, although convenient, can cause ambiguity when highways are rerouted or renumbered. Because Soda Dam is less than 1/2 mile above the highway crossing, the changed segment is de minimis. In this segment, the change to the aquatic life use would result in a change of the temperature criterion from 20 degrees C to 25 degrees C. Considering the contributions of hot springs to the river at Soda Dam, this change appears to be reasonable. PL 27 at Montgomery 70-71; PL 27 at Ex 38e.

NMED proposes to change the bacterial criteria type and values. PL 20 at 37-38. The proposed changes are based on EPA guidance. This segment currently has a designated use of primary contact and criteria based upon EPA prior recommendations for fecal coliform bacteria of 200/100 mL (geometric mean) and 400/100 mL (single sample). The EPA primary contact recommendation for E. coli criteria is a geometric mean of 126/100 mL based upon an assumed illness rate of 8 illnesses per 1000 exposed persons. EPA guidance suggests a single sample maximum of 410/100 mL based upon lightly used full body contact with an upper 90% confidence

limit. This criterion provides approximately the same level of protection provided by the existing fecal coliform criteria. NMED proposes to make similar changes in other segments for these reasons (Sections 114, 205, 212, 501, 502, and 602). PL 27 at Montgomery 70-71; PL 27 at Ex 12, 14.

Comment: Recommend adoption for reasons stated.

20.6.4.108 RIO GRANDE BASIN - [~~The~~] Perennial reaches of the Jemez river and all its tributaries above [~~state highway 4~~] Soda Dam near the town of Jemez Springs, except Sulphur creek above its confluence with Redondo creek, and perennial reaches of the Guadalupe river and all its tributaries.

A. Designated Uses: domestic water supply, fish culture, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 400 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.108 NMAC – Rp 20 NMAC 6.1.2106, 10-12-00]

NMED proposes to amend the segment description because it applies the designated uses to perennial reaches and changes the reference from "state highway 4" to "Soda dam" to use a geologic rather than a cultural feature. PL 20 at 38. Currently, this segment includes all tributaries in the Jemez and Guadalupe River watersheds, instead of just perennial waters. Nonperennial reaches will be covered by new Section 20.6.4.98. PL 27 at Montgomery 71-72; PL 27 at Ex 38e.

NMED proposes to move Sulphur Creek to a new section to reflect its unique conditions for the reasons stated in Section 20.6.4.108a. PL 20 at 38, PL 27 at Montgomery 71-72; PL 27 at Ex 38f.

NMED proposes to change the bacterial criteria type and values. PL 20 at 38. The proposed changes are based on EPA guidance. The segment currently has a secondary contact designated use and more stringent primary contact criteria for fecal coliform bacteria of 100/100 mL (geometric mean) and 200/100 mL (single sample). These criteria translate to E. coli criteria of

126/100 mL (geometric mean) and 235/100 mL (single sample). NMED's proposal to make similar changes in other segments is adopted for these reasons (Section 115, 119, 123, 209, 215, 219, 309, 405, 407, 503, 603, 702, 801, 802, 803, and 804). PL 27 at Montgomery 71-72; PL 27 at Ex 12, 14.

Comment: Recommend adoption for reasons stated.

NMED Proposal:

20.6.4.108a RIO GRANDE BASIN – Perennial reaches of Sulphur Creek from its headwaters to its confluence with Redondo Creek.

A. Designated Uses: limited aquatic life, wildlife habitat, livestock watering and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 2.0 to 9.0, and temperature 30ºC (86ºF) or less. The use-specific criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

AB Proposal:

20.6.4.108a RIO GRANDE BASIN – Perennial reaches of Sulphur Creek from its headwaters to its confluence with Redondo Creek.

A. Designated Uses: [~~limited aquatic life,~~] aquatic life, wildlife habitat, livestock watering and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 2.0 to 9.0, and temperature 30ºC (86ºF) or less. The use-specific criteria set forth in 20.6.4.900 NMAC, except for chronic life criteria in Subsection 20.6.4.900 (J), are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes a new section based upon the unique conditions of Sulphur Creek because the current use and pH criterion are not appropriate. PL 20 at 38-39. The pH in Sulphur Creek at normal base flows generally varies between 2.0 and 5.0. PL 27 at Montgomery 72; PL 27 at Ex 38f, 42.

Amigos Bravos proposes to replace "limited aquatic life" with "aquatic life" and to exclude the chronic criteria in Section 20.6.4.900.J. Amigos Bravos Revised Proposals, AB Final Submittal at

p. 16. AB believes there is no need for a limited aquatic life at all; it's redundant because it has the same criteria applied as a general aquatic life standard. Sulphur Creek is naturally highly acidic, as its name implies. AB supports NMED's goals in having an aquatic life standard apply, and of applying it to ephemeral and intermittent waters, but believes there's a less complicated approach. Sulphur Creek could be protected with an aquatic life use by assigning the general aquatic life use to that water, and then, in the criteria listed underneath that segment, segment-specific criteria could trump the criteria listed for those uses in the back of the standards. Additionally, if it's deemed necessary, there could be an exemption from chronic aquatic life applied to that water as well. TR at pp. 1209-1210.

NMED opposes AB's first proposal for the reasons stated in Section 20.6.4.NNN, and there is no reason to adopt the second proposal if the first is not adopted.

20.6.4.109 RIO GRANDE BASIN - Perennial reaches of Bluewater creek, Rio Moquino, Seboyeta creek, Rio Paguate, the Rio Puerco [~~within the Santa Fe national forest~~] above the village of Cuba, and all other perennial reaches of tributaries to the Rio Puerco including the Rio San Jose in Cibola county from the USGS gaging station at Correo upstream to Horace springs.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, domestic water supply, fish culture, irrigation, livestock watering, wildlife habitat, and primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less, and total phosphorus (as P) [~~shall not exceed~~] 0.1 mg/L [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.109 NMAC – Rp 20 NMAC 6.1.2107, 10-12-00]

NMED proposes to amend the segment description to include the perennial reaches downstream from the Santa Fe national forest boundary because these perennial reaches are currently either unclassified or a part of Section 20.6.4.105 and are logically included with the adjacent segment. PL 20 at 39. The most logical hydrologic feature to use as a division point is Arroyo San Jose. PL 27 at Montgomery 72-73; PL 27 at Ex 38g.

Comment: Recommend adoption for reasons stated.

20.6.4.110 RIO GRANDE BASIN - The main stem of the Rio Grande from Angostura diversion works upstream to Cochiti dam.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, secondary contact, coldwater [~~fishery~~] aquatic life, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.110 NMAC – Rp 20 NMAC 6.1.2108, 10-12-00]

RGCDC proposes to change the designated use and criteria to primary contact. PL 23. NMED supports the proposal because the evidence demonstrates that swimming is an existing use, and existing uses must be protected. PL 47; TR at 428 (RGCDC Exhibits A, B, C); PL 20 at 39; PL 27 at Montgomery 73; TR at 161 ll17-25, 620 ll.18-20, 624 l.19 - 625 l.1.

Comment: Alternatively, the Commission may want to retain the current designated use of secondary contact but adopt primary contact criteria. The Commission has adopted this approach for numerous segments in the past, most recently the lower Rio Grande in segment 101, and EPA has approved this approach. See Montgomery, TR at p. 162.

20.6.4.111 RIO GRANDE BASIN- Perennial reaches of Las Huertas ~~and Pedro~~ creek~~s~~.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.111 NMAC – Rp 20 NMAC 6.1.2108.5, 10-12-00; A, 7-25-01]

20.6.4.111a RIO GRANDE BASIN - Perennial reaches of San Pedro creek.

A. Designated Uses: coldwater aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8, and temperature 25°C (77°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

Los Placitas Association ("LPA") proposes to change the designated use for the perennial reaches of Las Huertas Creek from coldwater to high quality coldwater aquatic life because the evidence supports high quality coldwater as an existing use. PL 12. LPA submitted evidence of water quality and macroinvertebrates in Las Huertas Creek demonstrating that high quality coldwater aquatic life is the existing use. The high quality coldwater aquatic life use is protected by a criterion for specific conductance between 300 and 1500 umhos/cm. See Section 20.6.4.900.H(1). The data indicates that the specific conductance in Las Huertas Creek is generally below 500 umhos. Conversely, there is no evidence that San Pedro Creek has an existing use of high quality coldwater aquatic life, nor has LPA attempted to demonstrate that the high quality coldwater aquatic life is an attainable use. NMED agrees it is appropriate to place San Pedro Creek in a separate segment with its current uses and criteria. PL 30; TR at 694 (LPA Ex 1-11); PL 20 at 39-40; PL 27 at Montgomery 73-74; PL 40 at 19-20; TR at 162 l.8 - 163 l.3, 799 l.1 - 805 l.20, 807 ll.1-15.

Comment: Recommend adoption for reasons stated.

20.6.4.112 RIO GRANDE BASIN - Cochiti reservoir.

A. Designated Uses: livestock watering, wildlife habitat, warmwater [~~fishery~~] aquatic life, coldwater [~~fishery~~] aquatic life, and primary contact.

B. [~~Standards~~]Criteria[4]:

(l) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 25°C (77°F) [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.112 NMAC – Rp 20 NMAC 6.1.2109, 10-12-00]

NMED's proposes the same changes set out above for this section. PL 20 at 40;

PL 27 at Montgomery 74.

Comment: Recommend adoption for reasons stated.

20.6.4.113 RIO GRANDE BASIN - The Santa Fe river and perennial reaches of its tributaries from Cochiti reservoir upstream to the outfall of the Santa Fe wastewater treatment facility.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, secondary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(l) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, temperature [~~shall not exceed~~] 30°C (86°F) or less, [~~turbidity shall not exceed 50 NTU,~~] and dissolved oxygen [~~shall not be less than~~] 4.0 mg/L or more. Dissolved oxygen [~~shall not be less than~~] 5.0 mg/L or more as a 24-hour average. Values used in the calculation of the 24-hour average for dissolved oxygen shall not exceed the dissolved oxygen saturation value. For a measured value above the dissolved oxygen saturation value, the dissolved oxygen saturation value will be used in calculating the 24-hour average. The dissolved oxygen saturation value shall be determined from the table set out in [~~P~~] N of 20.6.4.900 NMAC. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.113 NMAC – Rp 20 NMAC 6.1.2110, 10-12-00; A, 10-11-02]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 40, PL 27 at Montgomery 74.

Comment: Recommend adoption for reasons stated.

20.6.4.114 RIO GRANDE BASIN - The main stem of the Rio Grande from the headwaters of Cochiti reservoir upstream to [~~Taos Junction bridge~~] Rio Pueblo de Taos, Embudo creek from its mouth on the Rio Grande upstream to the junction of the Rio Pueblo and the Rio Santa Barbara, the Santa Cruz river below Santa Cruz dam, the Rio Tesuque below the Santa Fe national forest and the Pojoaque river below Nambe dam.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 22°C (71.6°F) or less [~~, and turbidity shall not exceed 50 NTU~~]. The use-specific numeric [~~standards~~] criteria[4] set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS [~~shall not exceed~~] 500 mg/L or less, sulfate [~~shall not exceed~~] 150 mg/L or less, and chloride [~~shall not exceed~~] 25 mg/L or less.

[20.6.4.114 NMAC – Rp 20 NMAC 6.1.2111, 10-12-00]

NMED proposes to replace "Taos Junction Bridge" with "Rio Pueblo de Taos" because the division point relies on a hydrologic rather than a cultural feature. PL 20 at 41. Division points

between segments that use cultural features were generally designated based upon convenience of identification rather than an actual change in stream conditions. The use of highway crossings, although convenient, can cause ambiguity when highways are rerouted or renumbered. The confluence of Rio Pueblo de Taos lies approximately 1/4 mile upstream from the bridge, and therefore constitutes a de minimis change. PL 27 at Montgomery 74-75; PL 27 at Ex 38h.

Comment: Recommend adoption for reasons stated.

20.6.4.115 RIO GRANDE BASIN - The perennial reaches of Rio Vallecitos and its tributaries, and perennial reaches of Rio del Oso, and perennial reaches of El Rito creek above the town of El Rito.

A. Designated Uses: domestic water supply, irrigation, high quality coldwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 mhos or less, and pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.115 NMAC – Rp 20 NMAC 6.1.2112, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 41, PL 27 at Montgomery 75-76.

Comment: Recommend adoption for reasons stated.

20.6.4.116 RIO GRANDE BASIN - The Rio Chama from its mouth on the Rio Grande upstream to Abiquiu reservoir, perennial reaches of the Rio Tusas, perennial reaches of the Rio Ojo Caliente, perennial reaches of Abiquiu creek, and perennial reaches of El Rito creek below the town of El Rito.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, coldwater [~~fishery~~] aquatic life, warmwater [~~fishery~~] aquatic life, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 31°C (87.8°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.116 NMAC – Rp 20 NMAC 6.1.2113, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 41-42, PL 27 at Montgomery 76.

Comment: Recommend adoption for reasons stated.

20.6.4.117 RIO GRANDE BASIN - Abiquiu reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact, coldwater [~~fishery~~] aquatic life and, warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.117 NMAC – Rp 20 NMAC 6.1.2114, 10-12-00]

NMED's proposes the same changes set out above for this section. PL 20 at 40;

PL 27 at Montgomery 74.

Comment: Recommend adoption for reasons stated.

20.6.4.118 RIO GRANDE BASIN - The Rio Chama from the headwaters of Abiquiu reservoir upstream to El Vado reservoir and perennial reaches of the Rio Gallina and Rio Puerco de Chama north of state highway 96.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, coldwater [~~fishery~~] aquatic life, warmwater [~~fishery~~] aquatic life, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 26°C (78.8°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.118 NMAC – Rp 20 NMAC 6.1.2115, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 42, PL 27 at Montgomery 76-77.

Comment: Recommend adoption for reasons stated.

20.6.4.119 RIO GRANDE BASIN - All perennial reaches of tributaries to the Rio Chama above Abiquiu dam except the Rio Gallina and Rio Puerco de Chama north of state highway 96 and the main stem of the Rio Chama from the headwaters of El Vado reservoir upstream to the New Mexico-Colorado line.

A. Designated Uses: domestic water supply, fish culture, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 500 µmhos or less (1,000 µmhos or less for Coyote creek), pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.119 NMAC – Rp 20 NMAC 6.1.2116, 10-12-00]

NMED's proposes the same changes set out above for this section. PL 20 at 42-43; PL 27 at Montgomery 77.

Comment: Recommend adoption for reasons stated.

20.6.4.120 RIO GRANDE BASIN - El Vado and Heron reservoirs.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact, and coldwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.120 NMAC – Rp 20 NMAC 6.1.2117, 10-12-00]

NMED's proposes the same changes set out above for this section. PL 20 at 43; PL 27 at Montgomery 77.

Comment: Recommend adoption for reasons stated.

20.6.4.121 RIO GRANDE BASIN - Perennial tributaries to the Rio Grande in Bandelier national monument and their headwaters in Sandoval county, and all perennial reaches of tributaries to the Rio Grande in Santa Fe county unless included in other segments.

A. Designated Uses: domestic water supply, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply, secondary contact, and primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.121 NMAC – Rp 20 NMAC 6.1.2118, 10-12-00]

NMED's proposes the same changes set out above for this section. PL 20 at 43; PL 27 at Montgomery 77-78.

Comment: Recommend adoption for reasons stated.

20.6.4.121a, 121b, and 121c

Both UC and NMED have proposed to segment and adopt segment-specific standards for waters within or near LANL. See UC Revised Proposed Amendments, PL 22 at 8-11, UC Closing Arguments, pp. 42-53; and NMED Revised Proposed Amendments, PL 20 at 43-45, NMED Closing Arguments, pp. 162-170. The proposed segments, designated as 121a, b and c, are identical. The proposed designated uses and criteria for those segments are similar, but not identical. As discussed below, UC and NMED disagree on the designated uses in Segments 121a and 121c, and the dissolved oxygen and temperature criteria for Segment 121a.

NMED Proposal:

20.6.4.121a RIO GRANDE BASIN –Perennial Portions of Cañon deValle from Los Alamos National Laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe upstream into Starmers gulch and Starmers spring, and Water canyon from Area-A canyon upstream to State Route 501.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8, and temperature 24°C (75.2°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 2507/100 mL or less; single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

UC Proposal:

20.6.4.121a RIO GRANDE BASIN – Perennial portions of Cañon de Valle from Los Alamos National Laboratory (LANL) stream gage E256 upstream to Burning Ground Spring, Sandia Canyon from Sigma Canyon upstream to LANL NPDES Outfall 001, Pajarito Canyon from Arroyo de La Delfe upstream into Starmers Gulch to Starmers Spring, and Water Canyon from Area-A Canyon upstream to State Route 501.

A. Designated Uses: limited aquatic life, wildlife habitat, and secondary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900.G2, 20.6.4.900.L, and 20.6.4.900.L2 NMAC and the acute and chronic criteria for aquatic life in 20.6.4.900.J and 20.6.4.900.M NMAC are applicable to the designated uses listed above in Subsection A of this section. The total ammonia criteria set forth in sections 20.6.4.900.N (Salmonids Absent) and 20.6.4.900.O2 NMAC are applicable to this use.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less; single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) For Pajarito Canyon, Starmers Gulch, and Water Canyon: pH within the range of 6.6 to 8.8, temperature 22°C (71.6°F) or less, dissolved oxygen 5 mg/L or more.

(4) For Cañon de Valle and Sandia Canyon: pH within the range of 6.6 to 9.0, temperature 30°C (86°F) or less, dissolved oxygen 4 mg/L or more, 24-hour average dissolved oxygen 5 mg/L or more.

NMED proposes to add a new segment to classify waters based upon an intensive study by the USFWS. PL 20 at 43-44. The proposal should be adopted because the study supports the designated uses of coldwater aquatic life, wildlife habitat, secondary contact, and livestock watering. The aquatic life, wildlife habitat, and recreation uses are required by CWA Section 101(a)(2) unless a UAA supports not designating them. For this segment, coldwater is the appropriate subcategory of aquatic life use because it is supported by the USFWS report and is consistent with the aquatic life use in adjacent Section 20.6.4.121, which includes tributaries of the Rio Grande in Bandelier National Monument (where high quality coldwater is the designated use). For this segment, secondary contact is the appropriate subcategory of recreation because full-body contact in these small streams is unlikely and infrequent, and if it does occur the proposed criteria offer a proper level of protection. Finally, the uses of wildlife habitat and livestock watering are appropriate. The WQCC has historically presumed these uses for all unclassified surface waters. There is no question about wildlife using these streams. There also is evidence that livestock watering is an existing use. Laboratory publications acknowledge the

presence of livestock on or adjacent to this segment, including horseback riding (PL 27 at Ex 37a, p.16), cattle grazing (PL 27 at Ex 37a, pp.18, 228), and free-range chickens and dairy goats (PL 27 at Ex 37b, p.225). The designation of livestock watering is based on both the existing use of these waters by livestock, as well as for the protection of downstream livestock watering uses. PL 27 at Montgomery 78; PL 27 at Ex 23, 48, 58; TR at 163 l.5 - 170 l.7.

UC states as follows: UC's proposed designated uses for this segment are limited aquatic life (acute and chronic criteria), wildlife habitat, and secondary contact. UC's proposal groups the portions together and proposes site-specific criteria consisting of the pH range of the coldwater fisheries criteria, along with temperature and dissolved oxygen standards that are slightly modified from the coldwater fisheries criteria to fit known characteristics of the segments. NMED proposed coldwater aquatic life, livestock watering, wildlife habitat, and secondary contact. UC's proposed limited aquatic life designated use is supported by credible scientific data and the proposed application of the acute and chronic aquatic life criteria are protective of that use. NMED's proposed coldwater aquatic life and livestock watering designated uses are not supported by the evidence and should be rejected.

UC's proposed limited aquatic life for this segment is consistent with the aquatic communities found in the portions of this segment. The USFWS Use Study[11] *found no fish in perennial segments of Cañon de Valle, Pajarito Canyon and Sandia Canyon and concluded that habitat for fish was poor compared to Los Alamos Canyon. Fisher Direct Testimony, PL 35 at 14. In addition to the limited flow and poor habitat quality for fish, the USFWS Use Study also indicated that fish were not likely to naturally occur in those canyons because "[t]he steep, >250-m drop from the Pajarito Plateau into White Rock Canyon containing the Rio Grande . . . as well as the occurrence of ephemeral segments in most of these canyons, likely prevents the natural migration of fish from the Rio Grande." Id.; USFWS Use Study at 81. Thus, limited aquatic life is an appropriate designated use for this segment.*

[11] Lusk & MacRae, *A Water Quality Assessment of Four Intermittent Streams in Los Alamos County, New Mexico* (July 2002).

UC's proposed criteria are appropriate for the protection of the listed designated uses. Fisher Direct Testimony, PL 35 at 16. UC proposes to apply the acute and chronic aquatic life criteria to this segment. The proposal for ammonia criteria eliminates those criteria clearly dependent on the presence of fish. Id.; University Revised Proposed Amendments, PL 22 at 9.

UC has also proposed segment-specific temperature and dissolved oxygen levels. The proposed levels are based on data collected by the USFWS showing that coldwater fisheries criteria are sometimes not attained in all four of these segments even in the relatively wet and cool 1997. Fisher Direct Testimony, PL 35 at 16. It should also be noted that the criteria for temperature and dissolved oxygen are based primarily on fish, which do not occur in these segments. Id. "Each of the four portions of this segment is unique in the factors influencing temperature and dissolved oxygen." Id. The Pajarito Canyon/Starmers Gulch portion is fed by several springs and currently receives no effluent discharges and failed to meet coldwater fisheries criteria for temperature and dissolved oxygen only rarely for short periods of time during cool and wet 1997. Id. However, data collected in August 2003 showed regular exceedances of coldwater fisheries criteria for temperature. Id. at 16-17. This segment is well shaded with a mature forest that received only minor impacts of the Cerro Grande Fire, UC Exhibit 3, PL 28, Photo 5, and has been proposed as a reference site for other LANL canyons, PL 28, UC Exhibit 8. The upper portion of Water Canyon is similar in character to Pajarito/Starmers, but is less well studied and was not included in the Use Study. This portion was dry for many years; it is now fed by several springs that have begun flowing again in the last few years. The segment was dry in 1996-1997 when data was being collected for the Use Study. The upper watershed of Water Canyon was impacted by the Cerro Grande Fire, which also could have increased current spring flow. The lower portions of this segment are much more open because they were severely burned in the La Mesa Fire in 1977 and again in the Cerro Grande Fire in 2000. PL 28, UC Exhibit 3, Photos 11 & 12. This lower portion could have problems meeting the temperature and dissolved oxygen criteria. Fisher Direct Testimony, PL 35 at 17.

Data collected during the USFWS Use Study demonstrates that Cañon de Valle and Sandia Canyon often failed to meet coldwater fisheries criteria for temperature and dissolved oxygen. In

Cañon de Valle, this failure is primarily due to the limited flow volume. Fisher Direct Testimony, PL 35 at 17; PL 28, UC Exhibit 3, Photos 8, 9, & 10. The limited flow makes the water temperature more subject to variations in ambient air temperature. The resulting higher water temperatures can reduce dissolved oxygen levels. Dissolved oxygen can also decrease as dissolved oxygen is used in the decomposition of leaves dropped from common riparian deciduous trees such as oak, locust, alder and aspen. Fisher Direct Testimony, PL 35 at 17-18; PL 28, UC Exhibit 3, Photo 9. Sandia Canyon is a smaller lower-elevation watershed than the other three portions. Fisher Direct Testimony, PL 35 at 18; PL 28, UC Exhibit 1, Charts 2 & 3. The watershed is also highly urbanized, draining the main technical area of the Laboratory. PL 28, UC Exhibit 2, Map 1. Except immediately after precipitation, the entire flow in Sandia Canyon is effluent, mainly from the sanitary wastewater plant, that is also reused as cooling water at the LANL power plant. Fisher Direct Testimony, PL 35 at 18; PL 28, UC Exhibit 3, Photo 3. Although the causes of the higher temperature and lower dissolved oxygen differ between Cañon de Valle and Sandia Canyon, the range of variation was similar. Since the perennial portion of Sandia Canyon is an effluent-created water, the University proposed temperature, dissolved oxygen and pH criteria already approved by the Commission for a nearby effluent-created water, the Santa Fe River. Fisher Direct Testimony, PL 35 at 18.

NMED's proposed coldwater aquatic life designated use is not supported by credible scientific evidence in the record. Coldwater temperature and dissolved oxygen criteria are not attainable; a classification of coldwater aquatic life is also not an attainable use. Fisher Direct Testimony, PL 35 at 15.

NMED stated that they included livestock watering as a designated use because "publications of LANL acknowledge the presence of livestock on or adjacent to the LANL property." NMED Direct Testimony, PL 27 at 78. However, the proposed livestock watering designated use is not an existing or attainable use. As Dr. Fisher testified, livestock are not permitted within the Laboratory. Fisher Direct Testimony, PL 35 at 16. Access is restricted by fencing, security patrols, and other means. PL 28, UC Exhibit 3, Photo 14. Livestock watering is not an existing

use; it is not compatible with the USDOE's current or expected use of the LANL property and therefore, is not a reasonably attainable use. Fisher Direct Testimony, PL 35 at 16.

After the conclusion of the hearing, UC and NMED discussed a possible compromise on the temperature criteria for this segment. They agreed that 24° C (75.2°F) or less was appropriate and closely accords with the available temperature data for this segment.

(Both proposed sections include this change.)

NMED replies to UC's objections as follows: UC objects to the designation of the coldwater aquatic life use on the basis that no fish are present in these streams. PL 22 at 8. The objection lacks merit. The USFWS demonstrated that coldwater aquatic life is present in these streams. The USFWS identified shellfish typically found in coldwater aquatic communities in these streams. The USFWS, which prepared the study on which NMED's proposal is based, testified that it agreed with NMED's designation of this use.

The coldwater subcategory is intended for "the protection and propagation of fish, shellfish and wildlife." Accordingly, the presence of shellfish indicative of a coldwater aquatic community establishes an existing use, even in the absence of fish. In addition, the USFWS documented existing macroinvertebrate communities in all of these streams (except Water Canyon). These macroinvertebrate communities (except Sandia Canyon) compare favorably (only slightly impaired or full support - impacts observed) to Upper Los Alamos Canyon, a coldwater fishery at the time of the study. The USFWS also determined that eight species in Los Alamos and Pajarito Canyons (identified by NMED) were classified by the Idaho DEQ as preferring coldwater. Moreover, the Laboratory's invertebrate data included several species that prefer coldwater in Los Alamos, Pajarito, Sandia, and Chaquehui Canyons. Finally, to the extent that the absence of fish is even relevant to the subcategory designation, the term "existing use" has a broader meaning than "existing on this date". The absence of fish in 2003 is not the benchmark for designation of an aquatic life use. PL 27 at Montgomery 78; PL 27 at 23, 48, 58; PL 40 at 20; TR at 163 l.20 - 164 l.20, 834 l.8 - 835 l.25.

UC objects to the livestock watering designated use on the basis that it is not an existing or attainable use because livestock are not permitted on Laboratory property and will not be in the foreseeable future, pointing to fencing and security patrols as evidence of an intent to exclude livestock. PL 22 at 8. The objection lacks merit. As described in Section 20.6.4.121(c), the evidence indicates that livestock continue to use streams on Laboratory property despite UC's intent to exclude them. For instance, NMED has observed evidence of livestock on Laboratory property for years, including tracks, feces, wallows, and overgrazing. For years, NMED has discussed the impacts of livestock grazing on surface water on Laboratory property with UC representatives. Obviously, UC has not succeeded in excluding livestock from Laboratory property. Accordingly, livestock watering is an existing use, and cannot be removed without a UAA. PL 27 at Montgomery 78; PL 40 at 20-21; TR at 164 l.21 - 166 l.20.

At the hearing, UC suggested the streams in this segment could be divided between lower reaches used by livestock and upper reaches that are not used by livestock. It suggested that the division points could be based on "breaks in the slopes and positions of the springs". TR at 1693 (UC Ex 27, Slides 122, 123); TR at 1717 l.19 - 1718 l.6. However, UC did not make any proposal to this effect. In fact, UC expressly declined to make a proposal:

> *Well, our proposal is that we will - we are willing to segment - do a segmentation and apply livestock watering criteria to the lower canyon areas where the livestock are present. We're not ready to do that at this time, because we have to go - we have to actually visit the locations, and we have to map - we do have maps of the springs and try and map them based on - you know, you find where the cattle are - and then we're willing to do that.*

TR at 1718 ll.8-16, 1843 ll.4-12. Moreover, UC did not present any evidence regarding these division points. Accordingly, there is neither a proposal nor a record to support such a proposal. In addition, the parties did not have an opportunity to review or cross-examine UC's witnesses regarding a proposal or the supporting evidence. Finally, UC's proposal would remove an existing use. Therefore, the WQCC should decline to consider any proposal to divide the streams in this segment until a full record is developed in a future proceeding.

NMED proposes criteria to protect the designated uses described above. The proposal should be adopted because the criteria protect the designated uses. PL 20 at 43-44. With one exception, the criteria are already specified in the WQS for these designated uses. PL 27 at Montgomery 78-79;

TR at 166 ll.22-24. The one exception is temperature. At the hearing, the parties examined the USFWS study, and concluded that a temperature of 24 degrees was sufficient to protect the aquatic community in Sandia Canyon. The USFWS, which prepared the study on which NMED's proposal is based, testified that it agreed with this proposed criterion. PL 44 at Fisher, Item 5; TR at 168 ll.13-19, 834 l.8 - 835 l.25, 1847 l.16 - 1848 l.4.

UC proposes a dissolved oxygen (DO) criterion of 5 mg/l for Pajarito Canyon, Starmers Gulch, and Water Canyon, and 4 mg/l for Canon de Valle and Sandia Canyon. PL 22 at 8. The proposal should not be adopted because it not supported by the record. NMED proposed a DO criterion of 6 mg/l for all waters in this segment to protect the designated use of coldwater aquatic life. The USFWS study provides no basis for deviating from this established value. While it may be appropriate to adjust criteria based on natural conditions, there is no evidence that the natural conditions in this section justify such adjustment. The DO concentration in Pajarito Canyon dropped below 6 mg/l only once in 7,124 hours (1/100 of 1 percent). The DO concentration in Sandia Canyon dropped below 6 mg/l only 6 times in 378 hours (5 percent). Stated differently, 95 percent of the data supports the proposed criterion. NMED does not consider the small possibility of exceedance to be problematic, since the assessment protocols allow some exceedances before an impairment determination is made, and NMED will exercise discretion in the enforcement context. The USFWS, which prepared the study on which NMED's proposal is based, testified that it agreed with NMED's proposed criterion. UC complained that the data was collected during an abnormally wet and cold year, but it agreed that decisions must be based on the available data and adjusted as new information is obtained. PL 27 at Montgomery 79; PL 27 at Ex 23, 48, 58; TR at 169 l.6 - 170 l.7, 701 l.21 - 703 l.9, 834 l.8 - 835 l.25, 1853 l.16 - 1855 l.16.

NMED Proposal:

20.6.4.121b RIO GRANDE BASIN – Perennial portions of Los Alamos Canyon upstream from Los Alamos Reservoir and Los Alamos Reservoir.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat, irrigation, secondary contact, and primary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8, and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

UC Proposal:

20.6.4.121b RIO GRANDE BASIN – Perennial portions of Los Alamos Canyon upstream from Los Alamos Reservoir and Los Alamos Reservoir.

A. **Designated Uses**: coldwater fishery, livestock watering, wildlife habitat, irrigation, secondary contact, and primary contact.

B. **Criteria**:

(1) In any single sample: pH within the range of 6.6 to 8.8, and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes a new segment to classify waters based upon the USFWS study. PL 20 at 44. The proposal should be adopted because the proposed uses and criteria are appropriate, as discussed in Section 20.6.4.121a. The only difference involves the designated use of primary contact, which is based on evidence of swimming in Los Alamos Reservoir. PL 27 at Montgomery 79-80; PL 27 at Ex 23, 48, 58; TR at 170 ll.9-16.

UC states that its proposed designated uses and criteria are identical to NMED's, except that UC has retained the fishery designation rather than "aquatic life."

NMED replies that if NMED's proposal to replace "fishery" with "aquatic life" has been adopted, there is no basis to retain "fishery" in this section. PL 22 at 11.

NMED Proposal:

20.6.4.121c RIO GRANDE BASIN – Ephemeral and intermittent portions of water courses within lands managed by US Department of Energy (DOE) within Los Alamos National Laboratory, including but not limited to, Mortandad Canyon, Cañon del Buey, Ancho Canyon, Chaquehui Canyon, Indio Canyon, Fence Canyon, Potrillo Canyon, and portions of Cañon de Valle, Los Alamos Canyon, Sandia Canyon, Pajarito Canyon, and Water Canyon not specifically identified in 20.6.4.121a. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.

A. **Designated Uses**: livestock watering, wildlife habitat, limited aquatic life, and secondary contact.

B. Criteria:

(1) The use-specific criteria in 20.6.4.900 NMAC, except the chronic criteria for aquatic life are applicable for the designated uses listed in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less; single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

UC Proposal:

20.6.4.121c RIO GRANDE BASIN – Ephemeral and intermittent portions of watercourses within lands managed by US Department of Energy (DOE) within Los Alamos National Laboratory, including but not limited to, Mortandad Canyon, Cañada del Buey, Ancho Canyon, Chaquehui Canyon, Indio Canyon, Fence Canyon, Potrillo Canyon, and portions of Cañon de Valle, Los Alamos Canyon, Sandia Canyon, Pajarito Canyon, and Water Canyon not specifically identified in 20.6.4.121a. (Surface waters within lands scheduled for transfer from DOE to tribal, state and/or local authorities are specifically excluded.)

A. Designated Uses: limited aquatic life, wildlife habitat, and secondary contact.

B. Criteria:

(1) The use-specific criteria in 20.6.4.900.G2, 20.6.4.900.L, and 20.6.4.900.L2 NMAC and the acute criteria for aquatic life in 20.6.4.900.J(1) and 20.6.4.900.M NMAC are applicable for the designated uses listed in Subsection A of this section. The acute total ammonia criteria set forth in section 20.6.4.900.N (Salmonids Absent) are applicable to this use.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less; single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes a new segment to classify waters based on the USFWS study. PL 20 at 44-45. NMED's proposal includes the livestock watering designated use. The proposal should be adopted because the proposed uses and criteria are appropriate, as discussed in Section 20.6.4.121a. PL 27 at Montgomery 80; PL 27 at Ex 23, 48, 56, 58; TR at 170 l.18 - 23.

UC states that its proposal is intended to clarify the applicable standards to ephemeral and intermittent waters within LANL. Fisher Direct Testimony, PL 35 at 19. UC's and NMED's proposed designated uses and criteria differ somewhat. NMED proposed to include livestock watering as a designated use; UC did not. UC proposed to include the acute total ammonia criteria (Salmonids absent) in 20.6.4.900.N NMAC; NMED did not.

As discussed on Segment 121a, NMED stated that they included livestock watering as a designated use because "publications of LANL acknowledge the presence of livestock on or

adjacent to the LANL property." NMED Direct Testimony, PL 27 at 78. UC did not include livestock watering because it does not believe that livestock watering is an existing or attainable use. Fisher Direct Testimony, PL 35 at 19.

UC agrees that cattle have been observed in White Rock Canyon, near the Rio Grande. Fisher Rebuttal Testimony, PL 44 at 4; Tr. 1716. The cattle have been observed down by the Rio Grande. Tr. 1716. They are limited to this lower area because there is a steep, 1,000 foot, escarpment between the areas where the cattle have been observed and the active areas of LANL. Id. However, cattle have not been observed in the active areas of LANL. Fisher Rebuttal Testimony, PL 44 at 4. The areas where cattle have been observed, including those in NMED's photo, are very inaccessible. Tr. 1717. As Dr. Fisher noted:

> *[T]his area is very inaccessible. We can only collect samples once a year down here because of the inaccessibility. We take a raft trip down from above to collect samples. It is possible for hikers carrying water to get down here, but it's not something, you know, that – the cattle stay down here, because this is where the water is. This is where the browse is. Nobody has ever seen any cattle up in the laboratory, which is 1,000 feet – roughly 1,000 feet up. Id.*

Finally, UC does not believe that the observed cattle are "livestock" within the ordinary meaning of the term. Fisher Rebuttal Testimony, PL 44 at 4. The cattle, as well as other animals that may wander onto LANL property, are wild, and therefore, not livestock. Id., citing Webster's Third New International Dictionary.

Even though UC believes that the inclusion of the livestock watering use for this segment is inappropriate, it is willing to accept a compromise that would apply the livestock watering use to areas adjacent to the Rio Grande, but below the escarpment. Specifically, UC proposes to add "and for portions from the riparian area near the Rio Grande at approximately 5460 feet elevation to the mesa rising at an approximate 6300 elevation, livestock watering" in proposed 20.6.4.121c.A NMAC, and a citation to 20.6.4.900.K NMAC (livestock watering criteria) in 20.6.4.121c.B. The proposed language is consistent with Dr. Fisher's testimony; the elevations used are from the USGS White Rock Quadrangle 7.5 minute topographic map.[12]

[12] The Commission can take administrative notice of the map.

NMED replies: UC objects to the livestock watering designated use for the same reasons as described in Section 20.6.4.121a. PL 22 at 11. The objection lacks merit. The evidence indicates that livestock use streams on Laboratory property despite UC's intent to exclude them. For instance, NMED has observed evidence of livestock on Laboratory property for years, including tracks, feces, wallows, and overgrazing. In fact, on November 5, 2003, just days before the original hearing date, NMED observed cattle on Laboratory property in Chaquehui Canyon. For years, NMED has discussed the impacts of livestock grazing on surface water on Laboratory property with UC representatives. Obviously, UC has not succeeded in excluding livestock from Laboratory property. Indeed, UC concedes that livestock watering is an existing use and cannot be removed without a UAA. Accordingly, livestock watering is an existing use and must be protected. PL 27 at Montgomery 80; PL 27 at Ex 56; PL 40 at 21; TR at 170 l.22 - 171 l.12, 1842 ll.3-13, 1842 l.24 - l.12. At the hearing, UC suggested the streams in this segment could be divided between lower reaches used by livestock and upper reaches that are not used by livestock. This proposal should not be adopted for the reasons stated in Section 20.6.4.121a, that is, that UC did not timely make such a proposal.

UC proposes to add the phrase "[t]he acute total ammonia criteria set forth in section 20.6.4.900.N (Salmonids Absent) are applicable to this use". PL 22 at 11. The proposal should not be adopted because it is not necessary. NMED proposes to move the sentence from Section 20.6.4.900.N to the introductory paragraph of Section 20.6.4.900. As a result, the ammonia criteria would depend on the presence or absence of salmonids. For nonperennial waters, which generally do not contain salmonids, the less restrictive ammonia criteria would apply, which is consistent with and eliminates the need for UC's proposal. TR at 171 l.13 - 172 l.2.

<u>Comment:</u> The Commission can, as UC states in fn. 12, take administrative notice of a topographic map if it accepts UC's testimony about the location of the cattle in relation to the escarpment. I do not believe the Commission is precluded from considering the potential segmentation on its merits as a "logical outgrowth." NMED is correct that this was not UC's position prior to hearing. The topographic map will be available to Commissioners if they choose to take notice of it.

NMED Proposal:

20.6.4.122 RIO GRANDE BASIN - The main stem of the Rio Grande from [~~Taos Junction bridge~~] Rio Pueblo de Taos upstream to the New Mexico-Colorado line, the Red river from its mouth on the Rio Grande upstream to the mouth of Placer creek, and the Rio Pueblo de Taos from its mouth on the Rio Grande upstream to the mouth of the Rio Grande del Rancho.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, fish culture, irrigation, livestock watering, wildlife habitat, and primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 50 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.122 NMAC – Rp 20 NMAC 6.1.2119, 10-12-00]

AB Proposal:

20.6.4.122 RIO GRANDE BASIN- The main stem of the Rio Grande from [~~Taos Junction Bridge~~] Rio Pueblo Taos upstream to the New Mexico-Colorado line, the Red River from its mouth on the Rio Grande upstream to the [~~mouth of Placer creek~~] fish hatchery, and the Rio Pueblo de Taos from its mouth on the Rio Grande upstream to the mouth of the Rio Grande del Rancho.

20.6.4.123 RIO GRANDE BASIN- The Red River from the fish hatchery to the mouth of Placer creek.

A. Designated Uses: High quality coldwater aquatic life, fish culture, irrigation, livestock watering, wildlife habitat, and primary contact.

B. Criteria:

(1) In any singe sample: pH shall be in the range of 6.6 to 8.8 and temperature shall not exceed 20 degrees C (68 F). The use specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria shall not exceed 126/100mL; no single sample shall exceed 235/100 mL.

NMED proposes the same changes, above, for the reasons stated in Section 114. PL 20 at 45; PL 27 at Montgomery 81.

Comment: Recommend adoption for the reason stated.

Amigos Bravos proposes a new segment for the Red River from the fish hatchery to the mouth of Placer Creek with the designated use of high quality coldwater fishery, or, using NMED's language, high quality coldwater aquatic life. PL 25. AB Final submittal, pp. 16-17.

AB supports its proposal as follows: Addressing threats to Red River has been an important aspect of Amigos Bravos' work for the past 15 years and recently it was brought to our attention that water quality standards in a stretch of the Red River were illegally lowered in a crucial segment of the Red River that flows through the town of Questa. In the 1990 version of the water quality standards the stretch of the Red River from the fish hatchery upstream to the confluence of Placer Creek had a use designation of a high quality coldwater fishery and then in 1992, after numerous segments had been combined, the use was downgraded to coldwater fishery. This change in use was done, as far as we are aware, without the required use attainability analysis. The original use of high quality coldwater fishery should be reapplied to this segment until a use attainability analysis proves that it is necessary to downgrade the use to a coldwater fishery. To avoid conflict with the other stretches of river in the current segment in which the stretch in question is located we suggest creating a new segment for this stretch that retains its originally pre 1992 high quality coldwater fishery. All the other uses and criteria set forth in this new segment are the same as in 20.6.4.122. See page 4 of Matt Bishop's rebuttal testimony.

Molycorp opposes this segment, as does NMED. NMED states that Amigos Bravos failed to present evidence to demonstrate that high quality coldwater aquatic life is either an existing or attainable use. Amigos Bravos also failed to explain the legal basis for challenging a decision made 14 years ago. The WQCC moved this reach to Section 20.6.4.122 during the 1990 triennial review. EPA approved the change. Amigos Bravos claims that this move was improper because the WQCC did not prepare a UAA. However, this challenge was not raised during the statutory appeal period, so the WQCC's decision is final and unreviewable. Moreover, the evidence indicates that the WQCC actually based its decision on an intensive stream survey, which under the applicable regulations in 1990, constituted the functional equivalent of a UAA. PL 27 at Montgomery 81-82; PL 40 at Montgomery 21-22; TR at 172 l.11 - 174 l.7. NMED Closing Argument, pp. 170-71.

Molycorp devoted its entire closing legal argument to the issue, and the Commission should refer to the document for all of its specific statements, arguments and attachments. Briefly, Molycorp sets out the positions of AB, NMED and Molycorp as reflected in pre-hearing documents and testimony at the hearing. Molycorp then refers to the administrative record for the 1990 triennial review in which the WQCC changed the standards for Red River through a process AB now claims was improper. Finally, Molycorp addresses the law applicable to AB's challenge of the process followed in 1990. Molycorp is correct that the Commission can take administrative notice of the documents it attaches from the 1990 triennial review.

Comment: Do not recommend adoption of AB's proposal; I believe this challenge is out of time, for all of the reasons stated by Molycorp and NMED, and the Commission is precluded from acting on it with the record in hand.

20.6.4.123 RIO GRANDE BASIN - [~~The~~] Perennial reaches of the Red River upstream of the mouth of Placer creek, all perennial reaches of tributaries to the Red River, and all other perennial reaches of tributaries to the Rio Grande in Taos and Rio Arriba counties unless included in other segments.

A. Designated Uses: domestic water supply, fish culture, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 400 µmhos or less (500 µmhos or less for the Rio Fernando de Taos), pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less, and [~~turbidity shall not exceed 25 NTU~~]. For the Red River in this segment total phosphorous (as P) less than 0.1 mg/L. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.123 NMAC – Rp 20 NMAC 6.1.2120, 10-12-00]

NMED proposes to amend the segment description because nonperennial reaches are included in new Section 20.6.4.98. PL 20 at 45-46, PL 27 at Montgomery 82.

NMED proposes a numeric segment-specific criterion for total phosphorus for the Rio Hondo and Red River because it corrects an inadvertent error. PL 20 at 45-46. The criterion was applicable to these streams until the 1998 triennial review, when it was inadvertently removed. Similar

segment-specific criteria for total phosphorus are currently applicable to Sections 109, 208, 404, 406, and 407. PL 27 at Montgomery 82.

Comment: Recommend adoption for the reasons stated.

20.6.4.124 RIO GRANDE BASIN - Perennial reaches of the Rio Hondo.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. Criteria:

(1) In any single sample: specific conductance 400 µmhos or less, pH within the range of 6.6 to 8.8, total phosphorous (as P) less than 0.1 mg/L, and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes to create a new segment to restore the phosphorous criterion removed inadvertently in the 1998 triennial review. PL 20 at 46. See 0Section 20.6.4.123. PL 27 at Montgomery 82-83.

Comment: Recommend adoption for the reasons stated.

20.6.4.125 – 20.6.4.200: [RESERVED]

20.6.4.201 PECOS RIVER BASIN - The main stem of the Pecos river from the New Mexico-Texas line upstream to the mouth of the Black river (near Loving).

A. Designated Uses: irrigation, livestock watering, wildlife habitat, secondary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(l) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At all flows above 50 cfs: TDS [~~shall not exceed~~] 20,000 mg/L or less, sulfate [~~shall not exceed~~] 3,000 mg/L or less, and chloride [~~shall not exceed~~] l0,000 mg/L or less.

[20.6.4.201 NMAC – Rp 20 NMAC 6.1.2201, 10-12-00]

NMED's proposes the same changes set out above for this section. PL 20 at 46-47; PL 27 at Montgomery 83.

Comment: Recommend adoption for the reasons stated.

20.6.4.202 PECOS RIVER BASIN - The main stem of the Pecos river from the mouth of the Black river upstream to lower Tansil dam [~~(diversion for irrigation frequently limits summer flow in this reach to that contributed by springs along the watercourse)~~], including perennial reaches of the Black river, the Delaware river and Blue spring.

A. Designated Uses: industrial water supply, irrigation, livestock watering, wildlife habitat, secondary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(l) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 34°C (93.2°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At all flows above 50 cfs: TDS [~~shall not exceed~~] 8,500 mg/L or less, sulfate [~~shall not exceed~~] 2,500 mg/L or less, and chloride [~~shall not exceed~~] 3,500 mg/L or less.

C. Remarks: [Diversion for irrigation frequently limits summer flow in this reach of the main stem Pecos river to that contributed by springs along the watercourse.]

[20.6.4.202 NMAC – Rp 20 NMAC 6.1.2202, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 47, PL 27 at Montgomery 83.

Comment: Recommend adoption for the reasons stated.

20.6.4.202a PECOS RIVER BASIN - Tansil lake and Lake Carlsbad.

A. Designated Uses: industrial water supply, livestock watering, wildlife habitat, primary contact, and warmwater aquatic life.

B. Criteria:

(1) At any sampling site: pH within the range of 6.6 to 9.0, and temperature 34°C (93.2°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes to place the reservoirs in a separate section because the definition of "segment" in Section 20.6.4.7.PP indicates that the waters within a segment should have similar hydrologic characteristics or flow regimes, and natural physical, chemical, and biological characteristics, and exhibit similar reactions to external stresses. PL 20 at 47. Streams and reservoirs do not share many of these characteristics and therefore should not be included in the same segment. PL 27 at Montgomery 84.

Comment: Recommend adoption for the reasons stated.

20.6.4.203 PECOS RIVER BASIN - The main stem of the Pecos river from lower [~~Tansil dam~~] the headwaters of Lake Carlsbad upstream to Avalon dam[~~, including Tansil lake~~].

A. Designated Uses: industrial water supply, livestock watering, wildlife habitat, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) [~~At any sampling site~~] In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 34°C (93.2°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.203 NMAC – Rp 20 NMAC 6.1.2203, 10-12-00]

NMED proposes the same changes set out above for this section. PL 20 at 47-48; PL 27 at Montgomery 84.

Comment: Recommend adoption for the reasons stated.

20.6.4.203a PECOS RIVER BASIN - Avalon reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, secondary contact, and warmwater aquatic life.

B. Criteria:

(1) At any sampling site: pH within the range of 6.6 to 9.0, and temperature 32.2°C (90°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less, single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes to place the reservoirs in a separate section because the definition of "segment" in Section 20.6.4.7.PP indicates that the waters within a segment should have similar hydrologic characteristics or flow regimes, and natural physical, chemical, and biological characteristics, and exhibit similar reactions to external stresses. PL 20 at 48. Streams and reservoirs do not share many of these characteristics and therefore should not be included in the same segment. PL 27 at Montgomery 84-85.

Comment: Recommend adoption for the reasons stated.

20.6.4.204 PECOS RIVER BASIN - The main stem of the Pecos river from [~~Avalon dam~~] the headwaters of Avalon reservoir upstream to Brantley dam[~~, including Avalon reservoir~~].

A. Designated Uses: irrigation [~~storage~~], livestock watering, wildlife habitat, secondary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) [~~At any sampling site~~] In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less, single sample 2880 cfu/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.204 NMAC – Rp 20 NMAC 6.1.2204, 10-12-00]

NMED proposes the same changes set out above for this section. PL 20 at 48; PL 27 at Montgomery 85.

Comment: Recommend adoption for the reasons stated.

20.6.4.205 PECOS RIVER BASIN - Brantley reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.205 NMAC – Rp 20 NMAC 6.1.2205, 10-12-00]

NMED proposes the same changes set out above for this section. PL 20 at 48-49; PL 27 at Montgomery 85.

Comment: Recommend adoption for the reasons stated.

20.6.4.206 PECOS RIVER BASIN - The main stem of the Pecos river from the headwaters of Brantley reservoir upstream to Salt creek (near Acme), perennial reaches of the Rio Peñasco downstream from state highway 24 near Dunken, [~~any flow at the mouth of~~] perennial reaches of the Rio Hondo and its tributaries below Bonney canyon and [~~any flow from~~] perennial reaches of the Rio Felix [~~which enters the main stem of the Pecos river~~].

A. Designated Uses: irrigation, livestock watering, wildlife habitat, secondary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At all flows above 50 cfs: TDS [~~shall not exceed~~] 14,000 mg/L or less, sulfate [~~shall not exceed~~] 3,000 mg/L or less, and chloride [~~shall not exceed~~] 6,000 mg/L or less.

[20.6.4.206 NMAC – Rp 20 NMAC 6.1.2206, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 49, PL 27 at Montgomery 85-86.

NMED proposes to identify the segment terminus at Bonney Canyon because it eliminates a possible conflict with Section 20.6.4.208. PL 20 at 49, PL 27 at Montgomery 85-86; PL 27 at Ex 38i.

Comment: Recommend adoption for the reasons stated.

20.6.4.207 PECOS RIVER BASIN - The main stem of the Pecos river from Salt creek (near Acme) upstream to Sumner dam.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At all flows above 50 cfs: TDS [~~shall not exceed~~] 8,000 mg/L or less, sulfate [~~shall not exceed~~] 2,500 mg/L or less, and chloride [~~shall not exceed~~] 4,000 mg/L or less.

[20.6.4.207 NMAC – Rp 20 NMAC 6.1.2207, 10-12-00]

NMED proposes the same changes set out above for this section. PL 20 at 49-50; PL 27 at Montgomery 86.

Comment: Recommend adoption for the reasons stated.

20.6.4.208 PECOS RIVER BASIN - Perennial reaches of the Rio Peñasco and its tributaries above state highway 24 near Dunken, perennial reaches of the Rio Bonito downstream from state highway 48 (near Angus), the Rio Ruidoso downstream of the U.S. highway 70 bridge near Seeping Springs lakes, perennial reaches of the Rio Hondo upstream from Bonney canyon, and perennial reaches of Agua Chiquita.

A. Designated Uses: fish culture, irrigation, livestock watering, wildlife habitat, coldwater [~~fishery~~] aquatic life, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 30°C (86°F) or less, and total phosphorus (as P) [~~shall be~~] less than 0.1 mg/L. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of

E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.208 NMAC – Rp 20 NMAC 6.1.2208, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 50, PL 27 at Montgomery 86-87.

Comment: Recommend adoption for the reasons stated.

20.6.4.209 PECOS RIVER BASIN - Perennial reaches of Eagle creek above Alto reservoir, perennial reaches of the Rio Bonito and its tributaries upstream of state highway 48 (near Angus), and perennial reaches of the Rio Ruidoso and its tributaries upstream of the U.S. highway 70 bridge near Seeping Springs lakes.

A. Designated Uses: domestic water supply, fish culture, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 600 µmhos or less in Eagle creek, 1,100 mhos or less in Bonito creek, and 1,500 µmhos or less in the Rio Ruidoso, pH [~~shall be~~] within the range of 6.6 to 8.8, total phosphorus (as P) [~~shall be~~] less than 0.1 mg/L, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.209 NMAC – Rp 20 NMAC 6.1.2209, 10-12-00]

NMED proposes to add a phosphorous criterion because it restores a criterion that was removed inadvertently in the 1998 triennial review. PL 20 at 50, PL 27 at Montgomery 87.

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 50, PL 27 at Montgomery 87.

Comment: Recommend adoption for the reasons stated.

20.6.4.210 PECOS RIVER BASIN - Sumner reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.210 NMAC – Rp 20 NMAC 6.1.2210, 10-12-00]

NMED proposes the same changes set out above for this section. PL 20 at 50-51; PL 27 at Montgomery 87-88.

Comment: Recommend adoption for the reasons stated.

20.6.4.211 PECOS RIVER BASIN - - The main stem of the Pecos river from the headwaters of Sumner reservoir upstream to [~~Anton Chico~~] Tecolote Creek.

A. Designated Uses: fish culture, irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At all flows above 50 cfs: TDS [~~shall not exceed~~] 3,000 mg/L or less, sulfate [~~shall not exceed~~] 2,000 mg/L or less, and chloride [~~shall not exceed~~] 400 mg/L or less.

[20.6.4.211 NMAC – Rp 20 NMAC 6.1.2211, 10-12-00]

NMED proposes to amend the segment description because it uses Tecolote Creek as a break point rather than "Anton Chico," which describes an areal extent rather than a point, and causes ambiguity regarding the place where the segment changes. PL 20 at 51. Division points between segments that use cultural features were generally designated based upon convenience of identification rather than an actual change in stream conditions. At approximately the confluence of Tecolote Creek, the Pecos River emerges from a canyon into a broader valley with less gradient. The valley floor is irrigated by acequias and the character of the river changes accordingly. Reflecting this change, the aquatic life use becomes marginal warmwater, resulting in a slight increase in the temperature criterion. PL 27 at Montgomery 88; PL 27 at Ex 38j.

Comment: Recommend adoption for the reasons stated.

20.6.4.212 PECOS RIVER BASIN - Perennial tributaries to the main stem of the Pecos river from the headwaters of Sumner reservoir upstream to Santa Rosa dam.

A. Designated Uses: irrigation, coldwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8 and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.212 NMAC – Rp 20 NMAC 6.1.2211.1, 10-12-00]

NMED proposes the same changes set out above for this section PL 20 at 51; PL 27 at Montgomery 88-89.

Comment: Recommend adoption for the reasons stated.

20.6.4.213 PECOS RIVER BASIN - McAllister lake.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, secondary contact, livestock watering, and wildlife habitat.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 8.8 and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.213 NMAC – Rp 20 NMAC 6.1.2211.3, 10-12-00]

NMED proposes the same changes set out above for this section PL 20 at 52; PL 27 at Montgomery 89.

Comment: Recommend adoption for the reasons stated.

20.6.4.214 PECOS RIVER BASIN - Storrie lake.

***A. Designated Uses**: coldwater [~~fishery~~] aquatic life, warmwater [~~fishery~~] aquatic life, primary contact, livestock watering, wildlife habitat, municipal water supply, and irrigation storage.*

***B. [~~Standards~~]Criteria**:*

***(1)** At any sampling site: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.*

***(2)** [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).*

[20.6.4.214 NMAC – Rp 20 NMAC 6.1.2211.5, 10-12-00]

NMED proposes the same changes set out above for this section PL 20 at 52; PL 27 at Montgomery 89.

Comment: Recommend adoption for the reasons stated.

20.6.4.215 PECOS RIVER BASIN - [~~The~~] Perennial reaches of the Gallinas river and all its tributaries above the diversion for the Las Vegas municipal reservoir and perennial reaches of Tecolote creek and its perennial tributaries.

A. Designated Uses: domestic water supply, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 µmhos or less except [~~conductivity~~] specific conductance [~~shall not exceed~~] 450 µmhos or less in Wright Canyon creek, pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.215 NMAC – Rp 20 NMAC 6.1.2212, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 52, PL 27 at Montgomery 89-90.

Comment: Recommend adoption for the reasons stated.

20.6.4.216 PECOS RIVER BASIN - The main stem of the Pecos river from [~~Anton Chico~~] Tecolote Creek upstream to[~~the southern boundary of the Pecos national historical park~~] Cañon de Manzanita~~, and perennial reaches of the Gallinas river from its mouth upstream to the diversion for the Las Vegas municipal reservoir~~.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, and [~~secondary~~] primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 30°C (86°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 126/100 mL or less, single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

(3) At all flows above 10 cfs: TDS [~~shall not exceed~~] 250 mg/L or less, sulfate [~~shall not exceed~~] 25 mg/L or less, and chloride [~~shall not exceed~~] 5 mg/L or less.

[20.6.4.216 NMAC – Rp 20 NMAC 6.1.2213, 10-12-00]

NMED proposes to change "Anton Chico" to "Tecolote Creek" for the reasons stated in Section 20.6.4.112. PL 20 at 53, PL 27 at Montgomery 90.

NMED proposes to change the "boundary of Pecos National Historical Park" to" Cañon de Manzanita" because it relies on a hydrologic rather than a cultural feature. PL 20 at 52. The park boundary does not appear on many maps, while the nearest downstream tributary is Cañon de Manzanita. NMED Exhibit 38k. To reflect evidence of swimming in this section, primary contact is added as a designated use. PL 27 at Montgomery 90.

NMED proposes to move the Gallinas River to the next section for the reasons stated in Section 20.6.4.117. PL 20 at 52. PL 27 at Montgomery 90.

Comment: Recommend adoption for the reasons stated.

20.6.4.217 PECOS RIVER BASIN – Perennial reaches of the Gallinas River and its tributaries from its mouth upstream to the diversion for the Las Vegas municipal reservoir, except Pecos Arroyo.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, and primary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 9.0 and temperature 30°C (86°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section. (see Subsection B of 20.6.4.13 NMAC).

(2) The monthly geometric mean of E. coli bacteria 126/100 mL or less, single sample 410/100 mL or less.

NMED proposes to create a new section containing waters formerly in Section 20.6.4.216 because these waters share a distinct chemical quality attributable to the hot springs above the Village of Pecos and from Pecos Arroyo. PL 20 at 53. Before 1991, the Gallinas River from its mouth upstream to the diversion for Las Vegas Municipal Reservoir was not included in the WQS. When the river was added, it was contained in Section 20.6.4.216 (formerly Section 20.6.4.213). The assigned criteria for TDS, chloride, and sulfate and the flow limiter, which were derived from data developed for the main stem of the Pecos River, are not appropriate and should be removed. PL 27 at Montgomery 90-91; PL 27 at Ex 44.

NMED proposes to move Pecos Arroyo to new Section 20.6.4.218 because Pecos Arroyo has naturally high salinity that differs from the chemical quality of the waters in Section 20.6.4.217. PL 20 at 53, PL 27 at Montgomery 90-91.

NMED proposes to designate the primary contact use because the evidence indicates that swimming near the hot springs is an existing use. PL 20 at 53, PL 27 at Montgomery 90-91.

AB commented on NMED's proposal, AB Final submittal pp. 17-18: The new section for the Gallinas River proposed by NMED would drastically lower the water quality standards for this stretch of river. This new segment delineation lowers the water quality standards of this section of the Gallinas River from 250 mg/L to 2000 mg/L for TDS, 25 mg/L to 1000 mg/L for sulfate, and 5 mg/L to 354 mg/L for Chloride. This is a substantial reduction in water quality standards. While we realize that the geologic conditions may warrant a change in water quality standards for this segment of river this proposal goes way too far in reducing water quality protection in this stretch. The changes in the standards represent a huge, inappropriate change in water quality standards. Amigos Bravos suggests that the department determine appropriate segment specific standards for this stretch of river. Amigos Bravos proposes that the segment specific standards that used to apply to this stretch of river be applied until more appropriate segment specific standards can be developed. A change of this magnitude of water quality standards/criteria is similar to a change in the criteria brought on by a change in the use designation. To drop or lower a use from a segment of water a use attainability analysis is required. Amigos Bravos views that a change in the criteria of this magnitude requires a similar such analysis.

Amigos Bravos was pleased to see that the recreation use was changed from secondary to primary contact in the proposed changes by NMED. This was a concern that Amigos Bravos mentioned in its preliminary comments and we are glad to see the environment department incorporated our concerns. (AB included a picture of folks swimming near the hot springs in this segment of Gallinas in the Spring of 2003 to give added support for this change.) This pool is used daily during Spring, Summer and Fall.

Another issue of concern in this segment is that the stretch of river from the diversion for the Las Vegas municipal reservoir, which is located west of town, to the wastewater treatment facility located southeast of Las Vegas, runs dry for a portion of the year because the whole river is diverted, for months at a time, to fill the municipal reservoir. During this time, the river is not meeting its designated uses of irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, and primary contact. The standards are not adequately protecting this stretch of river. Amigos Bravos recommends that the state consider including criteria for flow in the standards to meet designated uses. Without such criteria the uses of rivers and streams like the Gallinas simply cannot and will not be met. Both the states of Washington and Minnesota have adopted flow criteria. AB Final Submittal, pp. 17-18.

Comment: Recommend adoption of NMED's proposal for the reasons stated.

20.6.4.218 PECOS RIVER BASIN -- Pecos Arroyo

A. Designated Uses: livestock watering, wildlife habitat, warmwater aquatic life, and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 9.0 and temperature 32.2°C (90°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED makes the same proposal as above for the reasons stated in Section 20.6.4.217.

PL 20 at 53-54; PL 27 at Montgomery 91.

Comment: Recommend adoption for the reasons stated.

[~~20.6.4.217~~] 20.6.4.219 PECOS RIVER BASIN - Perennial reaches of Cow creek and all perennial reaches of its tributaries and the main stem of the Pecos river from [~~the southern boundary of the Pecos national historical park~~] Cañon de Manzanita upstream to its headwaters, including perennial reaches of all tributaries thereto.

A. Designated Uses: domestic water supply, fish culture, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric

mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.217 NMAC – Rp 20 NMAC 6.1.2214, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 54, PL 27 at Montgomery 91-92.

NMED's proposal to change the division point should be adopted for the reasons stated in Section 20.6.4.216. PL 20 at 54; PL 27 at Montgomery 91-92.

Comment: Recommend adoption for the reasons stated.

20.6.4.218 – 20.6.4.300: [RESERVED]

20.6.4.301 CANADIAN RIVER BASIN - The main stem of the Canadian river from the New Mexico-Texas line upstream to Ute dam, and any flow [~~which~~] that enters the main stem from Revuelto creek.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, temperature [~~shall not exceed~~] 32.2°C (90°F) or less, and TDS [~~shall not exceed~~] 6,500 mg/L or less at flows above 25 cfs. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.301 NMAC – Rp 20 NMAC 6.1.2301, 10-12-00]

NMED makes the same proposals for the reasons stated above. PL 20 at 54; PL 27 at Montgomery 92.

Comment: Recommend adoption for the reasons stated.

20.6.4.302 CANADIAN RIVER BASIN - Ute reservoir.

A. Designated Uses: livestock watering, wildlife habitat, municipal and industrial water supply, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, [~~turbidity shall not exceed 25 NTU~~] and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.302 NMAC – Rp 20 NMAC 6.1.2302, 10-12-00]

NMED makes the same proposals for the reasons stated above. PL 20 at 54-55; PL 27 at Montgomery 92.

Comment: Recommend adoption for the reasons stated.

20.6.4.303 CANADIAN RIVER BASIN - The main stem of the Canadian river from the headwaters of Ute reservoir upstream to Conchas dam, the perennial reaches of Pajarito [~~creek, and Ute creek and its perennial tributaries~~] and Ute creeks and their perennial tributaries.

A. Designated Uses: irrigation, [~~limited~~] marginal[13] warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.303 NMAC – Rp 20 NMAC 6.1.2303, 10-12-00]

NMED proposes to amend the segment to include the perennial tributaries of Pajarito Creek because the current language is ambiguous regarding whether these reaches are included. PL 20 at 55, PL 27 at Montgomery 92-93.

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 55, PL 27 at Montgomery 92-93.

Comment: Recommend adoption for the reasons stated.

20.6.4.304 CANADIAN RIVER BASIN - Conchas reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.304 NMAC – Rp 20 NMAC 6.1.2304, 10-12-00]

NMED makes the same proposals for the reasons stated above. PL 20 at 55; PL 27 at Montgomery 93.

Comment: Recommend adoption for the reasons stated.

20.6.4.305 CANADIAN RIVER BASIN - - The main stem of the Canadian river from the headwaters of Conchas reservoir upstream to the New Mexico-Colorado line, perennial reaches of the Conchas river, the Mora river downstream from the USGS gaging station near Shoemaker, the Vermejo river downstream from Rail canyon, and perennial reaches of Raton, Chicorica and Una de Gato creeks.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~**Standards**~~**] Criteria**:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, temperature [~~shall not exceed~~] 32.2°C (90°F) or less. , and TDS [~~shall not exceed~~] 3,500 mg/L or less at flows above 10 cfs. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.305 NMAC – Rp 20 NMAC 6.1.2305, 10-12-00]

NMED proposes to move the upper reaches of the Vermejo River to Section 20.6.4.309 because the Section 20.6.4.309 is the better location for these reaches. PL 20 at 55-56, PL 27 at Montgomery 93; NMED Exhibit 38l.

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 55-56, PL 27 at Montgomery 93.

Comment: Recommend adoption for the reasons stated.

20.6.4.306 CANADIAN RIVER BASIN - The Cimarron river downstream from state highway 21 in Cimarron to the Canadian river and all perennial reaches of tributaries to the Cimarron river downstream from state highway 21 in Cimarron.

A. Designated Uses: irrigation, warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~**Standards**~~**]Criteria**:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, temperature [~~shall not exceed~~] 32.2°C (90°F) or less, and TDS [~~shall not exceed~~] 3,500 mg/L or less at flows above 10 cfs. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.306 NMAC – Rp 20 NMAC 6.1.2305.1, 10-12-00; A, 7-19-01]

NMED makes the same proposals for the reasons stated above. PL 20 at 56; PL 27 at Montgomery 94.

Comment: Recommend adoption for the reasons stated.

20.6.4.307 CANADIAN RIVER BASIN - Perennial reaches of the Mora river from the USGS gaging station near Shoemaker upstream to the state highway 434 bridge in Mora, all perennial reaches of tributaries to the Mora river downstream from the USGS gaging station at La Cueva in San Miguel and Mora counties, perennial reaches of Ocate creek and its tributaries downstream of Ocate, and perennial reaches of Rayado creek downstream of Miami lake diversion in Colfax county.

A. Designated Uses: marginal coldwater [~~fishery~~] aquatic life, warmwater [~~fishery~~] aquatic life, secondary contact, irrigation, livestock watering, and wildlife habitat.

B. [~~Standards~~]Criteria:

(1) [~~At any sampling site~~] In any single sample: temperature [~~shall not exceed~~] 25°C (77°F) or less, and pH [~~shall be~~] within the range of 6.6 to 9.0. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.307 NMAC – Rp 20 NMAC 6.1.2305.3, 10-12-00]

NMED proposes to change the phrase "at any sampling site" to "in any single sample" because it is consistent with other sections. PL 20 at 56-57, PL 27 at Montgomery 94.

Comment: Recommend adoption for the reasons stated.

20.6.4.308 CANADIAN RIVER BASIN - Charette lakes.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, warmwater [~~fishery~~] aquatic life, secondary contact, livestock watering, and wildlife habitat.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL~~ The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.308 NMAC – Rp 20 NMAC 6.1.2305.5, 10-12-00]

NMED makes the same proposals for the reasons stated above. PL 20 at 57; PL 27 at Montgomery 94-95.

Comment: Recommend adoption for the reasons stated.

20.6.4.309 CANADIAN RIVER BASIN - The Mora river and perennial reaches of its tributaries upstream from the state highway 434 bridge in Mora, all perennial reaches of tributaries to the Mora river upstream from the USGS gaging station at La Cueva, perennial reaches of Coyote creek and its tributaries, the Cimarron river and its perennial tributaries above state highway 21 in Cimarron, all perennial reaches of tributaries to the Cimarron river north and northwest of highway 64, perennial reaches of Rayado creek and its tributaries above Miami lake diversion, Ocate creek and perennial reaches of its tributaries upstream of Ocate, perennial reaches of the Vermejo river upstream from Rail canyon, and all other

perennial reaches of tributaries to the Canadian river northwest and north of U.S. highway 64 in Colfax county unless included in other segments.

A. Designated Uses: domestic water supply, irrigation, high quality coldwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, municipal and industrial water supply, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 500 µmhos/cm or less [~~(at 25°C)~~], pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.309 NMAC – Rp 20 NMAC 6.1.2306, 10-12-00; A, 7-19-01]

NMED proposes to move the upper reaches of the Vermejo River to another section for the reasons described in Section 20.6.4.305. PL 20 at 57-58, PL 27 at Montgomery 95; PL 27 at Ex 38l.

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 57-58, PL 27 at Montgomery 95.

Comment: Recommend adoption for the reasons stated.

20.6.4.310 CANADIAN RIVER BASIN – Perennial reaches of Corrumpa creek and perennial reaches of tributaries of the Canadian river north of U.S. highway 54/66 and east and northeast of the Ute creek drainage.

A. Designated Uses: livestock watering, wildlife habitat, secondary contact, and warmwater aquatic life.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 9.0, and temperature 32.2°C (90°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548/100 mL or less, single sample 2507/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes to create a new segment because these waters are not correctly classified in Section 20.6.4.701. PL 20 at 58. These waters include Corrumpa, Seneca, Apache, Perico, Carrizo, and Tramperos Creeks, and other tributary creeks with perennial reaches. PL 27 at Montgomery 95-96; PL 27 at Ex 38m.

Comment: Recommend adoption for the reasons stated.

20.6.4.311 – 20.6.4.400: [RESERVED]

20.6.4.401 SAN JUAN RIVER BASIN - The main stem of the San Juan river from the [~~point where the San Juan leaves New Mexico and enters Colorado the~~] Navajo Nation boundary at the Hogback upstream to [~~U.S. highway 64 at Blanco~~] its confluence with the Animas river [~~and any flow which enters the San Juan river from the Mancos and Chaco rivers~~].

A. Designated Uses: municipal and industrial water supply, irrigation, livestock watering, wildlife habitat, secondary contact, marginal coldwater [~~fishery~~] aquatic life and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.401 NMAC – Rp 20 NMAC 6.1.2401, 10-12-00]

NMED proposes to split the segment at the confluence of the Animas River because the water quality of the San Juan River changes at its confluence with the Animas River. PL 20 at 58, PL 27 at Montgomery 96.

NMED proposes to exclude the main stem of the San Juan River below the Hogback and the Mancos and Chaco Rivers because these waters are entirely within the Navajo Nation. PL 20 at 58, PL 27 at Montgomery 96; PL 27 at Ex 38n.

NMED proposes to move the division point between Sections 20.6.4.401 and 405 from U.S. Highway 64 at Blanco to Canyon Largo because it relies on a hydrologic feature rather than a cultural feature. PL 20 at 58, PL 27 at Montgomery 96; PL 27 at Ex 38o.

Comment: Recommend adoption for the reasons stated.

20.6.4.401a SAN JUAN RIVER BASIN - The main stem of the San Juan river from its confluence with the Animas river upstream to its confluence with Canyon Largo.

A. Designated Uses: municipal and industrial water supply, irrigation, livestock watering, wildlife habitat, secondary contact, marginal coldwater aquatic life, and warmwater aquatic life.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 9.0, and temperature 32.2°C (90°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED makes the same proposal for the reasons stated in Section 20.6.4.401.

PL 20 at 58-59; PL 27 at Montgomery 96-97; PL 27 at Ex 38o.

Comment: Recommend adoption for the reasons stated.

20.6.4.402 SAN JUAN RIVER BASIN - La Plata river from its confluence with the San Juan river upstream to the New Mexico-Colorado line.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, marginal coldwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.402 NMAC – Rp 20 NMAC 6.1.2402, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 59; PL 27 at Montgomery 97.

Comment: Recommend adoption for the reasons stated.

20.6.4.403 SAN JUAN RIVER BASIN - The Animas river from its confluence with the San Juan upstream to [~~U.S. highway 550 at Aztec~~] Estes Arroyo.

A. **Designated Uses**: municipal and industrial water supply, irrigation, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, [~~secondary~~] primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 27°C (80.6°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.403 NMAC – Rp 20 NMAC 6.1.2403, 10-12-00]

NMED proposes to change the segment description because it relies on hydrologic rather than a cultural feature. PL 20 at 59-60, PL 27 at Montgomery 97; PL 27 at Ex 47.

NMED proposes to upgrade the designated use from secondary to primary contact because the evidence demonstrates that swimming is an existing use. PL 20 at 59-60, PL 27 at Montgomery 97; PL 27 at Ex 47.

Comment: Recommend adoption for the reasons stated.

20.6.4.404 SAN JUAN RIVER BASIN - The Animas river from [~~U.S. highway 550 at Aztec~~] Estes Arroyo upstream to the New Mexico-Colorado line.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less, and total phosphorus (as P) [~~shall not exceed~~] 0.l mg/L or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.404 NMAC – Rp 20 NMAC 6.1.2404, 10-12-00]

NMED proposes to amend the segment description because it relies on a hydrologic rather than a cultural feature. PL 20 at 60, PL 27 at Montgomery 97-98; PL 27 at Ex 38p.

Comment: Recommend adoption for the reasons stated.

20.6.4.405 SAN JUAN RIVER BASIN - The main stem of the San Juan river from [~~U.S. highway 64 at Blanco~~] Canyon Largo upstream to the Navajo dam.

A. Designated Uses: high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 400 µmhos/cm or less [~~(at 25°C)~~], pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.405 NMAC – Rp 20 NMAC 6.1.2405, 10-12-00]

NMED proposes to amend the segment description because it relies on a hydrologic rather than a cultural feature. PL 20 at 60, PL 27 at Montgomery 98; PL 27 at Ex 38o.

Comment: Recommend adoption for the reasons stated.

20.6.4.406 SAN JUAN RIVER BASIN - Navajo reservoir in New Mexico.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, warmwater [~~fishery~~] aquatic life, irrigation storage, livestock watering, wildlife habitat, municipal and industrial water storage, and primary contact.

B. [~~Standards~~]Criteria:

(1) At any sampling site: pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less, and total phosphorus (as P) [~~shall not exceed~~] 0.l mg/L or less [~~, and turbidity shall not exceed 25 NTU~~]. The use-specific

numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.406 NMAC – Rp 20 NMAC 6.1.2406, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 60-61; PL 27 at Montgomery 98-99.

Comment: Recommend adoption for the reasons stated.

20.6.4.407 SAN JUAN RIVER BASIN - [~~The~~] Perennial reaches of the Navajo and Los Pinos rivers in New Mexico.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less and total phosphorus (as P) [~~shall not exceed~~] 0.l mg/L or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.407 NMAC – Rp 20 NMAC 6.1.2407, 10-12-00]

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 61, PL 27 at Montgomery 99.

Comment: Recommend adoption for the reasons stated.

20.6.4.408 – 20.6.4.500: [RESERVED]

20.6.4.501 GILA RIVER BASIN - The main stem of the Gila river from the New Mexico-Arizona line upstream to [~~state highway 464 in Red Rock~~] Redrock canyon, and perennial reaches of streams in Hidalgo county.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.501 NMAC – Rp 20 NMAC 6.1.2501, 10-12-00]

NMED proposes to amend the segment description because it relies on a hydrologic rather than a cultural feature. PL 20 at 61. The canyon is properly named "Redrock," not "Red Rock," which is a town located near Gallup. PL 27 at Montgomery 99; PL 27 at Ex 38q.

Comment: Recommend adoption for the reasons stated.

20.6.4.502 GILA RIVER BASIN - The main stem of the Gila river from [~~state highway 464 in Red Rock~~] Redrock canyon upstream to [~~Gila hot springs~~] the confluence of the West Fork Gila river and East Fork Gila river, and perennial reaches of tributaries to the Gila river below [~~the town of Cliff~~] Mogollon creek.

A. Designated Uses: industrial water supply, irrigation, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, primary contact, and warmwater [~~fishery~~] aquatic life.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 28°C (82.4°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.502 NMAC – Rp 20 NMAC 6.1.2502, 10-12-00]

NMED proposes to amend the segment description because it relies on a hydrologic rather than a cultural feature. PL 20 at 61-62, PL 27 at Montgomery 99-100; PL 27 at Ex 38q.

NMED proposes to amend the segment description because it clarifies that the main stem of the Gila River ends at the confluence of the East and West Forks. PL 20 at 61-62, PL 27 at Montgomery 99-100; PL 27 at Ex 38r.

Comment: Recommend adoption for the reasons stated.

20.6.4.503 GILA RIVER BASIN - – [~~The main stem of the Gila river from Gila hot springs upstream to the headwaters and all~~] All perennial tributaries to the Gila river [~~at or~~] above [~~the town of Cliff~~] and including Mogollon creek.

A. Designated Uses: domestic water supply, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 µmhos or less for the main stem of the Gila river above Gila hot springs and 400 µmhos or less for other reaches, pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less except 32.2°C (90°F) or less in the east fork of the Gila river and Sapillo creek below Lake Roberts [~~where the temperature shall not exceed 32.2°C (90°F)~~] [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL;~~

~~no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).
[20.6.4.503 NMAC – Rp 20 NMAC 6.1.2503, 10-12-00]

NMED makes the proposal for the reasons stated in Section 20.6.4.503. PL 20 at 62; PL 27 at Montgomery 100; PL 27 at Ex 38r.

Comment: Recommend adoption for the reasons stated.

20.6.4.504 GILA RIVER BASIN - - Wall lake, Lake Roberts, [~~Bear Canyon lake~~] and Snow lake.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 22°C (72°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).
[20.6.4.504 NMAC – Rp 20 NMAC 6.1.2504, 10-12-00]

NMED proposes to move Bear Canyon Lake into a new section because the lake is in the Mimbres River basin, not the Gila River basin. PL 20 at 62-63. The new section is Section 20.6.4.804a. PL 27 at Montgomery 100-101; PL 27 at Ex 38s.

Comment: Recommend adoption for the reasons stated.

20.6.4.505 – 20.6.4.600: [RESERVED]

20.6.4.601 SAN FRANCISCO RIVER BASIN - The main stem of the San Francisco river from the New Mexico-Arizona line upstream to state highway 12 at Reserve and perennial reaches of Mule creek.

A. Designated Uses: irrigation, [~~limited~~] marginal warmwater and marginal coldwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).
[20.6.4.601 NMAC – Rp 20 NMAC 6.1.2601, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 63; PL 27 at Montgomery

101.

Comment: Recommend adoption for the reasons stated.

20.6.4.602 SAN FRANCISCO RIVER BASIN - The main stem of the San Francisco river from state highway 12 at Reserve upstream to the New Mexico-Arizona line.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and primary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 25°C (77°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.602 NMAC – Rp 20 NMAC 6.1.2602, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 63; PL 27 at Montgomery 101.

Comment: Recommend adoption for the reasons stated.

20.6.4.603 SAN FRANCISCO RIVER BASIN - All perennial reaches of tributaries to the San Francisco river [~~at or above the town of Glenwood~~] above the confluence of Whitewater creek and including Whitewater creek.

A. Designated Uses: domestic water supply, fish culture, high quality coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 400 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 20°C (68°F) or less except 25°C (77°F) or less in Tularosa creek [~~, where the temperature shall not exceed 25°C (77°F)~~] [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.603 NMAC – Rp 20 NMAC 6.1.2603, 10-12-00]

NMED proposes to amend the segment description because it relies on a hydrologic rather than a cultural feature. PL 20 at 63-64, PL 27 at Montgomery 102; PL 27 at Ex 38t.

Comment: Recommend adoption for the reasons stated.

20.6.4.604 – 20.6.4.700: [RESERVED]

20.6.4.701 DRY CIMARRON RIVER - Perennial portions of the Dry Cimarron river below Oak creek, and perennial portions of Long canyon and Carrizozo creeks.

A. Designated Uses: warmwater aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8, temperature 32.2°C (90°F) or less, TDS 1,200 mg/L or less, sulfate 600 mg/L or less, and chloride 40 mg/L or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 235 cfu/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.701 NMAC – Rp 20 NMAC 6.1.2701, 10-12-00]

NMED proposes to assign the designated use of warmwater aquatic life because a UAA indicates that warmwater is the proper subcategory. PL 20 at 64, PL 27 at Montgomery 102; PL 27 at Ex 34, 38m.

Comment: Recommend adoption for the reasons stated.

20.6.4.[~~701~~]702 DRY CIMARRON RIVER - Perennial portions of the Dry Cimarron river [~~in Union and Colfax counties~~] above Oak creek and perennial reaches of Oak creek[~~, Long canyon, and Corrumpa and Carrizozo creeks~~].

A. Designated Uses: marginal coldwater [~~fishery~~] aquatic life, warmwater aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, temperature [~~shall not exceed~~] 25°C (77°F) or less, TDS [~~shall not exceed~~] 1,200 mg/L or less, sulfate [~~shall not exceed~~] 600 mg/L or less, and chloride [~~shall not exceed~~] 40 mg/L or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED proposes to move Corrumpa Creek to Section 20.6.4.310. PL 20 at 64. . PL 27 at Montgomery 102-103.

NMED proposes to change the designated use from coldwater to marginal coldwater aquatic life because Corrumpa Creek is a tributary of the Canadian River and should be placed in that basin. PL 20 at 64. A UAA indicates that the designation is erroneous. PL 27 at Montgomery 102-103; PL 27 at Ex 34, 38m.

Comment: Recommend adoption for the reasons stated.

20.6.4.702 – 20.6.4.800: [RESERVED]

20.6.4.801 CLOSED BASINS - Rio Tularosa lying east of the old U.S. highway 70 bridge crossing east of Tularosa, and all perennial tributaries to the Tularosa basin except Three Rivers.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, fish culture, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.801 NMAC – Rp 20 NMAC 6.1.2801, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 64-65; PL 27 at Montgomery 103.

Comment: Recommend adoption for the reasons stated.

20.6.4.802 CLOSED BASINS - Perennial reaches of Three Rivers.

A. Designated Uses: irrigation, domestic water supply, high quality coldwater [~~fishery~~] aquatic life, secondary contact, livestock watering, and wildlife habitat.

B. [**~~Standards~~] Criteria**:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 500 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.802 NMAC – Rp 20 NMAC 6.1.2802, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 65; PL 27 at Montgomery 103.

Comment: Recommend adoption for the reasons stated.

20.6.4.803 CLOSED BASINS - Perennial reaches of the Mimbres river downstream of [~~the USGS gaging station at Mimbres~~] the confluence with Willow Springs canyon and all perennial reaches of tributaries thereto.

A. Designated Uses: coldwater [~~fishery~~] aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less. The use-specific numeric [~~standards~~]

criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.803 NMAC – Rp 20 NMAC 6.1.2803, 10-12-00]

NMED proposes to amend the segment description because it correctly references the USGS gaging station. PL 20 at 65. Current USGS topographic maps do not show the gage at Mimbres, while older USGS topographic maps show the gage at a location approximately 1½ miles above the present location. Rather than rely on the gage, a hydrologic feature should be used. The change results in moving the segment boundary approximately 100 feet upstream. PL 27 at Montgomery 104; PL 27 at Ex 38u.

Comment: Recommend adoption for the reasons stated.

20.6.4.804 CLOSED BASINS - – [~~The~~] Perennial reaches of the Mimbres river upstream of [~~the USGS gaging station at Mimbres~~] the confluence with Willow Springs canyon and all perennial tributaries thereto.

A. Designated Uses: irrigation, domestic water supply, high quality coldwater [~~fishery~~] aquatic life, livestock watering, wildlife habitat, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: [~~conductivity~~] specific conductance [~~shall not exceed~~] 300 µmhos or less, pH [~~shall be~~] within the range of 6.6 to 8.8, and temperature [~~shall not exceed~~] 20°C (68°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 100/100 mL; no single sample shall exceed 200/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 235/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.804 NMAC – Rp 20 NMAC 6.1.2804, 10-12-00]

NMED proposes to amend the segment description for the reasons stated in Section 20.6.4.803. PL 20 at 66, PL 27 at Montgomery 104.

NMED proposes to amend the segment description to limit the designated uses to perennial reaches because the nonperennial reaches are properly covered by new Section 20.6.4.98. PL 20 at 66, PL 27 at Montgomery 104.

Comment: Recommend adoption for the reasons stated.

20.6.4.804a CLOSED BASINS - Bear Canyon reservoir.

A. Designated Uses: coldwater aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

B. Criteria:

(1) In any single sample: specific conductance 300 µmhos or less, pH within the range of 6.6 to 8.8, temperature 22°C (72°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

NMED makes the same proposal for the reasons stated in Section 20.6.4.504. PL 20 at 66; PL 27 at Montgomery 104-105; PL 20 at Ex 38s.

Comment: Recommend adoption for the reasons stated.

20.6.4.805 CLOSED BASINS - Perennial reaches of the Sacramento river (Sacramento-Salt Flat closed basin) and all perennial tributaries thereto.

A. Designated Uses: domestic and municipal water supply, livestock watering, wildlife habitat, marginal coldwater [~~fishery~~] aquatic life, and secondary contact.

B. [~~Standards~~]Criteria:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0, and temperature [~~shall not exceed~~] 25°C (77°F) or less [~~, and turbidity shall not exceed 10 NTU~~]. The use-specific numeric [~~standards~~] criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~] The monthly geometric mean of E. coli bacteria 126/100 mL or less; single sample 410/100 mL or less (see Subsection B of 20.6.4.13 NMAC).

[20.6.4.805 NMAC – Rp 20 NMAC 6.1.2805, 10-12-00]

NMED makes the same proposal for the reasons stated above. PL 20 at 66-67; PL 27 at Montgomery 105.

Comment: Recommend adoption for the reasons stated.

20.6.4.806 – 20.6.4.899: [RESERVED]

20.6.4.900 [~~STANDARDS~~] CRITERIA APPLICABLE TO ATTAINABLE OR DESIGNATED USES UNLESS OTHERWISE SPECIFIED IN 20.6.4.98 ~~101~~ THROUGH 20.6.4.899 NMAC.

NMED makes the same proposal regarding the words "standards" and "criteria" for the reason stated in Section 20.6.4.8.B. PL 20 at 67; PL 27 at Montgomery 105.

NMED proposes to change Section 20.6.4.101 to 20.6.4.98 because it reflects the addition of sections for unclassified waters in Sections 20.6.4.98 and 99. TR at 726 l.2 - 728 l.2.

Comment: Recommend adoption for the reasons stated.

NMED Proposal:

[~~I.~~]A. Fish culture, [~~secondary contact~~], and municipal and industrial water supply and storage are [~~also~~] designated uses in particular classified waters of the state where these uses are actually being realized. However, no numeric [~~standards~~] criteria apply uniquely to these uses. Water quality adequate for these uses is ensured by the general [~~standards~~] criteria and numeric [~~standards~~] criteria for bacterial quality, pH, and temperature [~~which~~] that are established for all classified waters of the state listed in 20.6.4.98~~101~~ through 20.6.4.899 NMAC.

UC Proposal:

I. Fish culture [~~secondary contact~~] and municipal and industrial water supply and storage are also designated in particular classified waters of the state where these uses are actually being realized. However, no numeric standards apply uniquely to these uses. Water quality adequate for these uses is ensured by the general standards and numeric standards for bacterial quality, pH, and temperature which are established for all classified waters of the state listed in 20.6.4.101 through 20.6.4.899 NMAC.

NMED proposes to move this section to the beginning of the criteria because Section 20.6.4.900's structure makes this broad statement difficult to locate. PL 20 at 67. Placing this section upfront will make it easier for the public interested in these uses to locate the criteria statement. PL 27 at Montgomery 105-106.

NMED proposes to remove the designated use of "secondary contact" because this use has criteria, which are contained in new Section 20.6.4.900.E. PL 20 at 67, PL 27 at Montgomery 105-106.

NMED makes the same proposal regarding the words "standards", "criteria", "which" and "that" for the reasons stated in Sections 20.6.4.6.B and 20.6.4.7.H. PL 20 at 67; PL 27 at Montgomery 105-106.

NMED proposes to change Section 20.6.4.101 to 20.6.4.98 because it reflects the addition of sections for unclassified waters in Sections 20.6.4.98 and 99. TR at 726 l.2 - 728 l.2.

UC proposed the deletion of "secondary contact" because specific criteria for that use were proposed in new 20.6.4.900.G2 NMAC. Therefore, inclusion of secondary contact in this paragraph is inappropriate.

Comment: It appears that adopting NMED's proposal addresses UC's concern as well. UC did not, in relation to this section, pose any express objections to NMED's proposal in its post-hearing submittal. UC Closing Argument, p. 54.

NMED Proposal:

B. Domestic Water Supply: Surface waters of the state designated for use as domestic water supplies shall not contain substances in concentrations that create a lifetime cancer risk of more than one cancer per 100,000 exposed persons. ~~The following numeric standards and t~~Those [~~standards~~] criteria listed under domestic water supply and the criteria listed under human health, water plus organisms, in Subsection [~~M~~] J of this section [~~shall not be exceeded~~] apply to this use.

~~**(1)**~~	~~dissolved nitrate (as N)~~	~~10.~~	~~mg/L~~
~~**(2)**~~	~~radium 226 + radium 228~~	~~5.~~	~~pCi/L~~
~~**(3)**~~	~~strontium 90~~	~~8~~	~~pCi/L~~
~~**(4)**~~	~~tritium~~	~~20,000~~	~~pCi/L~~
~~**(5)**~~	~~gross alpha (including radium 226, but excluding radon and uranium) 15 pCi/L~~		

(1) For purposes of this Subsection and the table in Subsection J of 20.6.4.900 NMAC the term "adjusted gross alpha" includes radium 226, but excludes radon and uranium.

UC Proposal:

B. Domestic Water Supply: Surface waters of the state designated for use as domestic water supplies shall not contain substances in concentrations that create a lifetime cancer risk of more than one cancer per 100,000 exposed persons. The following numeric standards and those standards listed under domestic water supply in Subsection M of this section are applicable to this use [~~shall not be exceeded~~]:

NMED proposes to move these criteria to the table in Section 20.6.4.900.J because it consolidates the criteria in an easily-accessible format. PL 20 at 67, PL 27 at Montgomery 106.

NMED proposes to delete the phrase "and the criteria listed under human health, water plus organisms" because there is no need for this label in the table. PL 20 at 67, PL 27 at Montgomery 106.

NMED proposes to replace the phrase "shall not be exceeded" with the phrase "apply to this use" because it eliminates a potential conflict with the implementation provisions in Section 20.6.4.11. PL 20 at 67, PL 27 at Montgomery 106.

UC proposes to replace "shall not be exceeded" with the phrase "are applicable to this use" because (1) compliance is dealt with in 20.6.4.11 NMAC and therefore, the phrase is unnecessary,

and (2) for consistency with existing language in 20.6.4.900.A, C, E, F & H NMAC.[13] *Fisher Direct Testimony, PL 35 at 20. UC Closing Argument, pp. 52-53.*

NMED Proposal:

[~~D~~]C. Irrigation and Irrigation Storage: ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL.~~ The following numeric [~~standards~~] criteria and those [~~standards~~] criteria listed under irrigation in Subsection [~~M~~] J of this section [~~shall not be exceeded~~] apply to this use:

(1) dissolved selenium 0.13 mg/L

(2) dissolved selenium in presence of >500 mg/L SO4 0.25 mg/L

.

UC Proposal:

D. Irrigation and Irrigation Storage: The monthly geometric mean of fecal coliform bacteria shall not exceed 1,000/100 mL; no single sample shall exceed 2,000/100 mL. The following numeric standards and those standards listed under irrigation in Subsection M of this section are applicable to this use [~~shall not be exceeded~~]:

NMED proposes to retain the selenium criteria in this section, rather than in the consolidated table because placement in the table would require a footnote, but the New Mexico Commission of Public Records does not allow the use of footnotes in rules. PL 20 at 68. See Section 1.24.10.12.I; PL 27 at Montgomery 107.

NMED's proposal regarding the phrases "shall not be exceeded" and "apply to this use" is adopted for the reason stated in Section 20.6.4.900.B. PL 20 at 68; PL 27 at Montgomery 107; PL 40 at 22.

NMED's proposal regarding the words "standards" and "criteria" are adopted for the reasons stated in Section 20.6.4.7.H. PL 20 at 68.

NMED proposes to delete the fecal coliform criteria and not replace them with E coli criteria. NMED's proposal to replace the fecal coliform criteria has been adopted throughout the WQS, but EPA does not recommend E. coli criteria for this use. TR at 735 l.22 - 736 l.20.

[13] If the Commission determines that it is appropriate to make a global change throughout 20.6.4 NMAC, the University believes that SWQB's proposal of "apply to this use" is preferable for its brevity and use of the active voice.

UC proposed to replace "shall not be exceeded" with the phrase "are applicable to this use" because (1) compliance is dealt with in 20.6.4.11 NMAC and therefore, the phrase is unnecessary, and (2) for consistency with existing language in 20.6.4.900.A, C, E, F & H NMAC. Pl 22 at 13. Fisher Direct Testimony, PL 35 at 20. UC Closing Argument, p. 53.

[~~G~~]D. Primary Contact: ~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL, no single sample shall exceed 400/100 mL~~ The monthly geometric mean of E. coli bacteria of 126/100 mL and single sample of 410/100 mL, apply to this use and pH shall be within the range of 6.6 to 9.0.

NMED proposes to change fecal coliform to E. coli criteria because it is consistent with EPA guidance. PL 20 at 68. The change affects every stream segment because all segments are designated for primary or secondary contact. Escherechia coli, or E. coli for short, is the scientific name for a species of bacteria that EPA has determined to be an appropriate indicator of the presence of bacteria that may cause gastrointestinal illness in humans. EPA explained its recommendation in Ambient Water Quality Criteria for Bacteria – 1986, EPA 440/5-84-002, January 1986. EPA relied on studies indicating that there is no direct correlation between concentration of fecal coliform bacteria and occurrence of gastrointestinal illness in swimmers. On the other hand, these studies found a direct correlation between the concentration of E. coli and occurrence of gastrointestinal illness in swimmers. EPA also recommended criteria to protect primary and secondary contact. Specifically, EPA recommends primary contact criteria based on an illness rate of 8 illnesses per 1000 exposed persons. At this rate, a maximum geometric mean of 126/100 mL is calculated. EPA's recommended single-sample maximum is a function of the anticipated frequency or extent of use. EPA provided additional guidance for criteria implementation in Implementation Guidance for Ambient Water Quality Criteria for Bacteria (Draft), EPA-823-B-02-003, May 2002. Approved test methods for E. coli in ambient water are published in the Federal Register, Vol. 68, No. 139, July 21, 2003, pp. 43272-43283; PL 27 at Montgomery 107-108; PL 27 at Ex 12, 13, 14.

UC's proposed changes are identical to NMED's. PL 22 at 13. UC Closing Argument, p. 53.

Comment: Recommend adoption for the reasons stated.

E. Secondary Contact: The monthly geometric mean of E. coli bacteria of 548/100 mL and single sample of 2507/100 mL apply to this use.

NMED proposes to switch from fecal coliform to E. coli for the reasons stated in Section 20.6.4.900.D. PL 20 at 69. EPA guidance provides some flexibility in selecting the secondary contact criteria. It indicates that a secondary contact criterion five times the primary contact criterion for the geometric mean (which would result in a geometric mean for secondary contact of 630/100 mL) is acceptable. However, it does not recommend a single sample maximum. Instead, the guidance provides a range of values that would protect recreational use based on projected illness rates. NMED proposes to adopt the geometric mean density of 548/100 mL, which is associated with an illness rate of 14 per 1000 persons exposed to bacteria in water by ingestion as a result of immersion, and 2507/100 mL for a single sample maximum for waters infrequently used for full body contact at a 95% confidence limit. The proposal is consistent with EPA guidance and provides flexibility in the implementation of secondary contact criteria. PL 27 at Montgomery 108; PL 27 at Ex 12, 14.

UC's proposed changes are identical to NMED's. PL 22 at 13. UC Closing Argument, p. 54.

Comment: Recommend adoption for the reasons stated.

NMED Proposal:

[~~K~~]F. Livestock Watering: ~~The following numeric standards and those standards~~] The criteria listed in Subsection [~~M~~] J for livestock watering [~~shall not be exceeded~~] apply to this use:

~~**(1)** radium 226 + radium 228 30.0 pCi/L~~

~~**(2)** tritium 20,000 pCi/L~~

~~**(3)** total gross alpha (including radium 226, but excluding radon and uranium) 15 pCi/L~~

(1) For purposes of this Subsection and the table in Subsection J of 20.6.4.900 of NMAC the term "adjusted gross alpha" includes radium 226, but excludes radon and uranium.

NMED proposes to move these criteria to the table in Section 20.6.4.900.J for the reasons stated above. PL 20 at 69; PL 27 at Montgomery 109.

NMED makes the same proposal regarding the phrases "shall not be exceeded" and "apply to this use" for the reasons stated in Section 20.6.4.900.B. PL 20 at 69; PL 27 at Montgomery 109.

UC Proposal:

K. Livestock Watering: The following numeric standards and those standards listed in Subsection M for livestock watering are applicable to this use [~~shall not be exceeded~~]:

UC proposes to replace "shall not be exceeded" with the phrase "are applicable to this use" because (1) compliance is dealt with in 20.6.4.11 NMAC and therefore, the phrase is unnecessary, and (2) for consistency with existing language in 20.6.4.900.A, C, E, F & H NMAC. PL 22 at 14, Fisher Direct Testimony, PL 35 at 20.

NMED Proposal:

[~~L~~]G. Wildlife Habitat: Wildlife habitat [~~should~~] shall be free from any substances at concentrations that are toxic to or will adversely affect plants and animals that use these environments for feeding, drinking, habitat or propagation[~~, or~~] ; can bioaccumulate; [~~and~~] or might impair the community of animals in a watershed or the ecological integrity of surface waters of the state. [~~In the absence of site specific information, and subject to the following paragraph, the chronic numeric standards listed in Subsection M for wildlife habitat shall not be exceeded.~~] The discharge of substances [~~which~~] that bioaccumulate, in excess of levels listed in Subsection [~~M~~] J for wildlife habitat is allowed if, and only to the extent that, the substances are present in the intake waters [~~which~~] that are diverted and utilized prior to discharge, and then only if the discharger utilizes best available treatment technology to reduce the amount of bioaccumulating substances [~~which~~] that are discharged. The numeric criteria listed in Subsection J for wildlife habitat apply except when a site-specific or segment-specific criterion has been adopted under 20.6.4.101 through 20.6.4.899 NMAC.

NMED proposes to move these criteria to the table in Section 20.6.4.900.J for the reasons stated above. PL 20 at 69-70; PL 27 at Montgomery 109.

NMED proposes to change "should" to "shall" for consistency with other sections in the criteria. PL 20 at 69-70, PL 27 at Montgomery 109.

NMED proposes to delete the reference in the second sentence to "following paragraph" because there is no "following paragraph" as a result of an earlier revision to this section. PL 20 at 69, PL 27 at Montgomery 109.

NMED proposes to revise the second sentence and place it at the end of the paragraph for clarification. PL 20 at 69, PL 27 at Montgomery 109.

UC Proposal:

L. Wildlife Habitat: Wildlife habitat should be free from any substances at concentrations that are toxic to or will adversely affect plants and animals that use these environments for feeding, drinking, habitat or propagation, or can bioaccumulate and impair the community of animals in a watershed or the ecological integrity of surface waters of the state. In the absence of site-specific information, and subject to the following paragraph, the chronic numeric standards listed in Subsection M for wildlife habitat <u>are applicable to this use</u> [~~shall not be exceeded~~]. The discharge of substances which bioaccumulate, in excess of levels listed in Subsection M for wildlife habitat is allowed if, and only to the extent that, the substances are present in the intake waters which are diverted and utilized prior to discharge, and then only if the discharger utilizes best available treatment technology to reduce the amount of bioaccumulating substances which are discharged.

UC proposes to replace "shall not be exceeded" with the phrase "are applicable to this use" because (1) compliance is dealt with in 20.6.4.11 NMAC and therefore, the phrase is unnecessary, and (2) for consistency with existing language in 20.6.4.900.A, C, E, F & H NMAC. PL 22 at 14-15, Fisher Direct Testimony, PL 35 at 20.

NMED Proposal:

~~**A. Coldwater Fishery**: Dissolved oxygen shall not be less than 6.0 mg/L, temperature shall not exceed 20°C (68°F), and pH shall be within the range of 6.6 to 8.8. The acute and chronic aquatic life standards set out in subsections J and M of this section are applicable to this use. The total ammonia standards set out in Subsection O of this section and the human health standards listed in Subsection M of this section are applicable to this use.~~

~~**C. High Quality Coldwater Fishery**: Dissolved oxygen shall not be less than 6.0 mg/L, temperature shall not exceed 20°C (68°F), pH shall be within the range of 6.6 to 8.8, turbidity shall not exceed 10 NTU (25 NTU in certain reaches where natural background prevents attainment of lower turbidity), and conductivity (at 25°C) shall not exceed a limit varying between 300 mhos/cm and 1,500 mhos/cm depending on the natural background in particular surface waters of the state (the intent of this standard is to prevent excessive increases in dissolved solids which would result in changes in community structure). The acute and chronic aquatic life standards set out in subsections J and M of this section are applicable to this use. The total ammonia standards set out in Subsection O of this section and the human health standards for pollutants listed in Subsection M of this section are applicable to this use.~~

~~**E. Limited Warmwater Fishery**: Dissolved oxygen shall not be less than 5 mg/L, pH shall be within the range of 6.6 to 9.0, and on a case by case basis maximum temperatures may exceed 32.2°C. The acute and chronic aquatic life standards set out in Subsections J and M of this section are applicable to this use. The total ammonia standards set out in Subsection N of this section and the human health standards listed in Subsection M of this section are applicable to this use.~~

~~**F. Marginal Coldwater Fishery**: Dissolved oxygen shall not be less than 6 mg/L, on a case by case basis maximum temperatures may exceed 25°C and the pH may range from 6.6 to 9.0. The acute and chronic aquatic life standards set out in subsections J and M of this section are applicable to this use. The total ammonia~~

~~standards set out in Subsection O of this section and the human health standards listed in Subsection M of this section are applicable to this use.~~

~~**H. Warmwater Fishery**: Dissolved oxygen shall not be less than 5 mg/L, temperature shall not exceed 32.2°C (90°F), and pH shall be within the range of 6.6 to 9.0. The acute and chronic aquatic life standards set out in subsections J and M of this section are applicable to this use. The total ammonia standards set out in Subsection N of this section and the human health standards listed in Subsection M of this section are applicable to this use.~~

H. **Aquatic Life:** Surface waters of the state with a designated, existing or attainable use of aquatic life shall be free from any substances at concentrations that can impair the community of plants and animals in or the ecological integrity of surface waters of the state. The acute and chronic aquatic life criteria set out in subsections I and J of this section are applicable to this use. In addition, the specific criteria for aquatic life subcategories in the following paragraphs shall apply to waters classified under the respective designations

(1) High Quality Coldwater: Dissolved oxygen 6.0 mg/L or more, temperature 20°C (68°F) or less, and pH within the range of 6.6 to 8.8, and specific conductance a limit varying between 300 mhos/cm and 1,500 mhos/cm depending on the natural background in particular surface waters of the state (the intent of this criterion is to prevent excessive increases in dissolved solids which would result in changes in community structure). The total ammonia criteria set out in Subsections K,L and M of this section and the human health criteria for pollutants listed in Subsection J of this section are applicable to this use.

(2) Coldwater: Dissolved oxygen 6.0 mg/L or more, temperature 20°C (68°F) or less, and pH within the range of 6.6 to 8.8. The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.

(3) Marginal Coldwater: Dissolved oxygen than 6 mg/L or more, on a case by case basis maximum temperatures may exceed 25°C and the pH may range from 6.6 to 9.0. The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.

(4) Warmwater: Dissolved oxygen 5 mg/L or more, temperature 32.2°C (90°F) or less, and pH within the range of 6.6 to 9.0. The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.

(5) Marginal Warmwater: Dissolved oxygen 5 mg/L or more, pH within the range of 6.6 to 9.0, and on a case by case basis maximum temperatures may exceed 32.2°C. The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.

(6) Limited Aquatic Life: Criteria shall be developed on a segment-specific basis to protect the aquatic life present in those waters.

NMED proposes to move current Sections 20.6.4.900.A, C, E, F and H, into a single section for simplification, making it easier for the public and regulated community to locate the relevant subcategories and criteria. PL 20 at 70-71. Moving common language from each subcategory to the general statement also clarifies the section. PL 27 at Montgomery 106, 107, 108, 110.

NMED makes the same proposal regarding the "fishery" to "aquatic life" subcategories for the reasons stated in Section 20.6.4.7.I. PL 20 at 70-71; PL 27 at Montgomery 110.

NMED proposes to replace the use-specific numeric criteria for turbidity with the narrative criterion in Section 20.6.4.900.H(1), High Quality Coldwater. PL 20 at 70. The proposal is made for the reasons stated in Section 20.6.4.12.J. PL 27 at Montgomery 110.

NMED proposes the subcategory of "limited aquatic life". PL 20 at 71. The proposal is made because it allows the development of segment-specific criteria for waters that support an aquatic life population under conditions that would otherwise result in natural exceedances of aquatic life criteria. NMED's proposal for Sulphur Creek, which has a very low pH, is an example of a water with the limited aquatic life category. PL 27 at Montgomery 111.

NMED proposes to apply the acute and chronic criteria to the subcategory for "limited aquatic life" because the evidence supports the protection of these waters. PL 20 at 71. No party disputed the appropriateness of applying these criteria as specified in this section. There was a dispute about applying the chronic criteria to ephemeral streams under Section 20.6.4.98, but that dispute focused on whether the aquatic communities in ephemeral streams required protection, not whether it was appropriate to apply the chronic criteria to waters with the limited aquatic life use. PL 40 at Montgomery 22-23; PL 40 at 22-23.

UC Proposal:

L2. Limited Aquatic Life: Criteria shall be developed on a segment-specific basis to protect the aquatic life community that has developed in a location where natural conditions preclude development of a diverse aquatic community including fish.

UC's proposal for limited aquatic life criteria, to be developed on a segment-specific basis, is virtually identical to the SWQB's proposal. PL 22 at 15.

AB Proposal:

AB proposes a change to Section 12.6.4.900 H. 1-3 relating to phosphorous and aluminum:

(1). High Quality Coldwater: Dissolved oxygen shall not be less than 6.0 mg/[~~l~~] L, temperature shall not exceed 20 C (68 F), pH shall be within the range of 6.6 to 8.8, [total phosphorus (as P) shall not exceed 0.1 mg/L, total inorganic nitrogen (as N) shall not exceed 1.0 mg/L,, acute Dissolved AL shall not exceed 250 ug/L , and Chronic dissolved Aluminum shall not exceed 25 ug/L…. .

Similar language should be added to the coldwater aquatic life and marginal coldwater aquatic life uses:

(2.) Coldwater: Dissolved oxygen shall not be less than 6.0 mg/L, temperature shall not exceed 20 C (68 F), [~~and~~] pH shall be within the range of 6.6 to 8.8 and total phosphorus (as P) shall not exceed 0.1 mg/L, total inorganic nitrogen (as N) shall not exceed 1.0 mg/L , acute Dissolved AL shall not exceed 250 ug/L , and Chronic dissolved Aluminum shall not exceed 25 ug/L…. .

. . . .

(3.). Marginal Coldwater :Dissolved oxygen shall not be less than 6 mg/L, on a case by case basis maximum temperatures may exceed 25 C [~~and~~] , the pH may range from 6.6 to 9.0 and total phosphorus (as P) shall not exceed 0.1 mg/L, total inorganic nitrogen (as N) shall not exceed 1.0 mg/L , acute Dissolved AL shall not exceed 250 ug/L , and Chronic dissolved Aluminum shall not exceed 25 ug/L…. .

In support of its proposal, AB states as follows: (Phosphorus) The coldwater aquatic life uses are in need of a nutrient enrichment criteria to measure nutrient loading. Too many nutrients in surface waters can lead to algae blooms that threaten aquatic life. It should be noted that nutrient enrichment can impair the use of the surface waters for irrigation by blocking diversion structures and irrigation ditches with nuisance algae or adversely affects other uses including primary contact. The department should take this danger into account and consider applying a nutrient enrichment criteria to these other uses as well.

(Aluminum) The existing aquatic life criteria for dissolved Aluminum, both acute and chronic, are too high to protect several sensitive New Mexico species. Because of the higher Calcium loads and higher pHs of warmwater streams, the warmwater species are not at as much risk. New coldwater criteria for Dissolved Aluminum are essential. Background information for Aluminum:

Sparling, Donald. W. and T. Peter Lowe. 1996. Environmental hazards of aluminum to plants, invertebrates, fish and wildlife. Reviews of Environmental Contamination and Toxicology. Vol. 145. 129 pp. Springer-Verlag New York, Inc.

Young fathead minnows are sensitive to low Al levels . . . survival was significantly reduced with exposure to . . . 25 u g/ L^{-1} . . . . p 87

- The results of a single study of cutthroat trout . . . Significant alevin mortality occurred during 7-d exposures to . . . 50 g / L^{-1} Al. . . . Both cutthroat and rainbow trout respond similarly to Al exposures. pp 36, 69

-Mortality studies suggest that adult brown trout may be nearly as sensitive as rainbow trout. pp 79, 82

- Mortality studies suggest that brown trout alevins are sensitive to Al levels ranging from about 140 to 250 g · L^{-1}. . . . Survival was severely reduced at 250 g · L^{-1} Al . p 79

- Levels of DOC up to 11 - 12 mg · L^{-1} appear to enhance survival of all stages of Atlantic salmon, brook trout, and rainbow trout exposed to 500 g · L^{-1} or less Al . . . . Brouard et al.

(1989) found that Al levels in DOC-exposed juvenile rainbow trout and embryonated Atlantic salmon eggs were about one-half that in unexposed fish . . . . Witters et al. (1990b) reported statistically significant reductions in Al levels among adult rainbow trout in the presence of DOC compared to fish in water without the mixture. p 90

- The hazard that dissolved Al poses to fish is influenced greatly by acidity, dissolved cations (particularly Ca), DOC, and, to a lesser extent, F. Stress caused by Al is influenced greatly by pH because of the intimate relationship between Al solubility and pH. Calcium tends to counteract Al by helping fish resist electrolyte loss across gill membranes. Both DOC and F tend to compete with monomeric Al, thereby reducing its availability as a stressing agent. pp 90-91

AB Final Submittal, pp. 20-21.

AB Proposed Change:

Section 20.4.6.900 H. (6) – Limited Aquatic Life:

……

~~[(6) Limited Aquatic Life: Criteria shall be developed on a segment specific basis to protect the aquatic life community that has developed in a location where natural conditions preclude attainment of criteria otherwise applicable]~~

AB states in support of its proposal, at AB Final Submittal, pp. 18-19: While Amigos Bravos feels that the department was well intentioned in creating this new aquatic life use it raises some troubling questions and may represent a step towards unduly complicating the standards. The two reasons Amigos Bravos has identified for creating this new use are 1. the need to assign Sulphur Creek an aquatic life standard, and 2. the need to assign an aquatic life use to ephemeral and intermittent waters. As previously mentioned, Amigos Bravos strongly supports these two goals yet we suggest that there is a less complicated way of achieving these goals that would not require the creation of a new use. The Sulphur creek segment could simply be assigned a general aquatic life use with certain exceptions.

NMED replies: Amigos Bravos proposes to replace the limited aquatic life subcategory with the default use of "aquatic life." PL 17 at 13. This proposal should not be adopted because the limited aquatic life subcategory is designed for waters that have aquatic communities adapted to unusual chemical and physical conditions. Persons reviewing the WQS would immediately

recognize the unique nature of these waters, as opposed to a generic "aquatic life" use. Moreover, to accommodate Amigos Bravos' proposal, Section 20.6.4.900 would have to be substantially revised, for instance, by eliminating all subcategories. PL 27 at Montgomery 111.

EBID Proposal:

Expected Aquatic Life: Waters of the state with a designated or existing use of expected aquatic life shall be free from any substance at concentrations that can impair the native community of plants and animals, or that can impair the ecological integrity of the water. The acute and chronic aquatic life criteria set out in subsections I and J of this section are applicable to this use except the "limited aquatic habitat" designated use. In addition, the specific aquatic habitat subcategories in the following paragraphs shall apply to waters classified under the respective designations.

TR at 428 (Hernandez Recommended Changes). EBID proposes a different designated use. See above.

NMED opposes the change because EBID has not proposed a definition of "expected aquatic life." Moreover, the proposal contains two designated uses, "expected aquatic life" and "limited aquatic habitat." To the extent that the proposal relies on the latter definition, it should not be adopted for the reasons stated in Section 20.6.4.7.I.

[~~J~~]I. The following schedule of equations for the determination of numeric [~~standards~~] criteria for the substances listed and those [~~standards~~] criteria listed in Subsection [~~M~~] J for aquatic life shall apply to the subcategories of [~~fisheries~~] aquatic life identified in this section:

(1) Acute [~~standards~~] criteria

(a) dissolved silver $0.85\ e^{(1.72[\ln(\text{hardness})]-[\cancel{6.6825}]6.59)}$ µg/L

(b) dissolved cadmium $(e^{([\cancel{1.128}]1.0166[\ln(\text{hardness})][\cancel{-3.6867}]-3.924)})$cf µg/L The hardness-dependent formulae for cadmium must be multiplied by a conversion factor (cf) to be expressed as dissolved values. The acute factor for cadmium is cf = 1.136672 - [(ln hardness)(0.041838)].

(c) dissolved chromium $0.316\ e^{(0.819[\ln(\text{hardness})]+[\cancel{2.5736}]3.7256)}$ µg/L

(d) dissolved copper $0.960\ e^{(0.9422[\ln(\text{hardness})]-[\cancel{1.7408}]1.700)}$ µg/L

(e) dissolved lead $(e^{(1.273[\ln(\text{hardness})]-1.46)})$cf µg/L The hardness-dependent formulae for lead must be multiplied by a conversion factor (cf) to be expressed as dissolved values. The acute and chronic factor for lead is cf = 1.46203 - [(ln hardness)(0.145712)].

(f) dissolved nickel $0.998\ e^{(0.8460[\ln(\text{hardness})]+[\cancel{2.253}]2.255)}$ µg/L

(g) dissolved zinc $0.978\ e^{(0.8473[\ln(\text{hardness})]+[\cancel{0.8618}]0.884)}$ µg/L

(2) Chronic [~~standards~~] criteria

(a) dissolved cadmium $(e^{([\cancel{0.7852}]0.7409[\ln(\text{hardness})]-[\cancel{2.715}]4.719)})$cf µg/L

The hardness-dependent formulae for cadmium must be multiplied by a conversion factor (cf) to be expressed as dissolved values. The chronic factor for cadmium is cf = 1.101672 - [(ln hardness)(0.041838)].

(b) dissolved chromium $\underline{0.860}\ e^{(0.819[\ln(\text{hardness})]+[\cancel{0.534}]\underline{0.6848})}$ µg/L

(c) dissolved copper $\underline{0.960}\ e^{(0.8545[\ln(\text{hardness})]-[\cancel{1.7428}]\underline{1.702})}$ µg/L

(d) dissolved lead $(e^{(1.273[\ln(\text{hardness})]-4.705)})\text{cf}$ µg/L

The hardness-dependent formulae for lead must be multiplied by a conversion factor (cf) to be expressed as dissolved values. The acute and chronic factor for lead is cf = 1.46203 - [(ln hardness)(0.145712)].

(e) dissolved nickel $\underline{0.997}\ e^{(0.846[\ln(\text{hardness})]+[\cancel{0.0554}]\underline{0.0584})}$ µg/L

(f) dissolved zinc $\underline{0.986}\ e^{(0.8473[\ln(\text{hardness})]+[\cancel{0.8699}]\underline{0.884})}$ µg/L

NMED proposes to update the formulae based on the most recent EPA guidance, National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047, November 2002. PL 20 at 71-72, PL 27 at Montgomery 111-112; PL 27 at Ex 10.

UC's proposed changes are identical to NMED's changes. PL 22 at 13-14.

<u>Comment:</u> Recommend adoption for reason stated.

[~~M~~] J. Numeric criteria

The following table sets forth the numeric criteria adopted by the Commission to protect existing, designated and attainable uses. Additional criteria that are not compatible with this table [~~and~~] are found in Subsections A through [~~L~~] I of this section.

	Pollutant total unless indicated	CAS Number	Domestic Water Supply µg/L unless indicated	Irrigation µg/L unless indicated	Livestock Watering µg/L unless indicated	Wildlife Habitat µg/L unless indicated	Aquatic Life Acute µg/L	Aquatic Life Chronic µg/L	Human Health µg/L	Cancer Causing (C) [~~and/~~]or Persistent (P)
~~1~~	Aluminum, dissolved	7429-90-5		5,000			750	87		
	Aluminum	7429-90-5								
~~2~~	Antimony, dissolved	7440-36-0	[~~6~~] 5.6[17]						[~~4,300~~]640[17]	P
~~3~~	Arsenic, dissolved	7440-38-2	[~~50~~] 2.3[22]	100	200		340	150	[~~24.2~~] 9.0[22]	C,P
	Asbestos	1332-21-4	7,000,000 fibers/L[17]							
~~4~~	Barium, dissolved	7440-39-3	2,000							
~~5~~	Beryllium, dissolved	7440-41-7	4				[~~130~~]	[~~5.3~~]		
~~6~~	Boron, dissolved	7440-42-8		750	5,000					
~~7~~	Cadmium, dissolved	7440-43-9	5	10	50		see 20.6.4.900.[~~J~~]I	see 20.6.4.900.[~~J~~]I		
~~8~~	Chlorine residual	7782-50-5				11	19	11		
~~9~~	Chromium, dissolved	18540-29-9	100	100	1,000		see 20.6.4.900.[~~J~~]I	see 20.6.4.900.[~~J~~]I		
~~10~~	Cobalt, dissolved	7440-48-4		50	1,000					
~~11~~	Copper, dissolved	7440-50-8	1,300[17]	200	500		see 20.6.4.900.[~~J~~]I	see 20.6.4.900.[~~J~~]I		
~~12~~	Cyanide, dissolved	57-12-5	200							
~~13~~	Cyanide, weak acid dissociable	57-12-5	700[17]			5.2	22.0	5.2	220,000	
~~14~~	Lead, dissolved	7439-92-1	50	5,000	100		see 20.6.4.900.[~~J~~]I	see 20.6.4.900.[~~J~~]I		
~~15~~	Mercury	7439-97-6	2		10	0.77	[~~[2.4]1.4~~]	[~~0.012~~]		
	Mercury, dissolved	7439-97-6					1.4[17]	0.77[17]		
	Methylmercury	22967-92-6							0.3 mg/kg[17] in fish tissue	P
~~16~~	Molybdenum, dissolved	7439-98-7		1,000						
~~17~~	Nickel, dissolved	7440-02-0	100				see 20.6.4.900.[~~J~~]I	see 20.6.4.900.[~~J~~]I	4,600	P

	Pollutant total unless indicated	CAS Number	Domestic Water Supply µg/L unless indicated	Irrigation µg/L unless indicated	Livestock Watering µg/L unless indicated	Wildlife Habitat µg/L unless indicated	Aquatic Life Acute µg/L	Aquatic Life Chronic µg/L	Human Health µg/L	Cancer Causing (C) [~~and/~~]or Persistent (P)
	Nitrate as N (mg/L)		10 mg/L[15]		[~~10 mg/L~~[18]]					
	Nitrite + Nitrate [~~as N~~] (mg/L)				[~~100 mg/L~~[18]] 132 mg/L[18]					
~~18~~	Selenium, dissolved	7782-49-2	50	see 20.6.4.900.[~~D~~]C	50				[~~11,000~~] 4,200[17]	P
~~19~~	Selenium, total recoverable	7782-49-2				5.0	20.0	5.0		
~~20~~	Silver, dissolved	7440-22-4					see 20.6.4.900.[~~J~~]I			
	~~Total Dissolved Solids Dried at 180 degrees Celsius (mg/L)~~				~~5,000 mg/L~~[18]	~~2212 mg/L~~[21]				
~~21~~	Thallium, dissolved	7440-28-0	~~2~~ 1.7[17]						6.3	P
~~22~~	Uranium, dissolved	7440-61-1	5,000							
~~23~~	Vanadium, dissolved	7440-62-2		100	100					
~~24~~	Zinc, dissolved	7440-66-6	7,400[17]	2,000	25,000		see 20.6.4.900.[~~J~~]I	see 20.6.4.900.[~~J~~]I	[~~69,000~~] 26,000[17]	P
	Adjusted gross alpha (see 20.6.4.900.B & K)		15 pCi/L[15]		15 pCi/L[16]					
	Radium 226 + Radium 228		5 pCi/L[15]		30.0 pCi/L[16]					
	Strontium 90		8 pCi/L[15]							
	Tritium		20,000 pCi/L[15]		20,000 pCi/L[16]					
~~25~~	Acenaphthene	83-32-9	670[17]						[~~2,700~~] 990[17]	
~~26~~	Acrolein	107-02-8	190[17]						[~~780~~]290[17]	
~~27~~	Acrylonitrile	107-13-1	0.51[17]						[~~6.6~~] 2.5[17]	C
~~28~~	Aldrin	309-00-2	0.00049[17]				3.0		[~~0.0014~~] 0.00050[17]	C,P
~~29~~	Anthracene	120-12-7	8,300[17]						[~~110,000~~] 40,000[17]	
~~30~~	Benzene	71-43-2	22[17]						[~~710~~] 510[17]	C
~~31~~	Benzidine	92-87-5	0.00086[17]						[~~0.0054~~] 0.0020[17]	C
~~32~~	Benzo(a)anthracene	56-55-3	0.038[17]						[~~0.49~~] 0.18[17]	C
~~33~~	Benzo(a)pyrene	50-32-8	0.038[17]						[~~0.49~~] 0.18[17]	C,P
~~34~~	Benzo(b)fluoranthene	205-99-2	0.038[17]						[~~0.49~~] 0.18[17]	C
~~35~~	Benzo(k)fluoranthene	207-08-9	0.038[17]						[~~0.49~~] 0.18[17]	C

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~~36~~	alpha-BHC	319-84-6	0.026[17]						[~~0.13~~] 0.049[17]	C
~~37~~	beta-BHC	319-85-7	0.091[17]						[~~0.46~~] 0.17[17]	C
~~38~~	gamma-BHC (Lindane)	58-89-9	0.19[17]				0.95		0.63	C
~~39~~	Bis(2-chloroethyl) ether	111-44-4	0.30[17]						[~~14~~] 5.3[17]	C
~~40~~	Bis(2-chloroisopropyl) ether	108-60-1	1,400[17]						[~~170,000~~] 65,000[17]	
~~41~~	Bis(2-ethylhexyl) phthalate	117817	12[17]						[~~59~~] 22[17]	C
~~42~~	Bromoform	75-25-2	43[17]						[~~3600~~] 1,400[17]	C
~~43~~	Butylbenzyl phthalate	85-68-7	1,500[17]						[~~5,200~~] 1,900[17]	
~~44~~	Carbon tetrachloride	56-23-5	2.3[17]						[~~44~~] 16[17]	C
~~45~~	Chlordane	57-74-9	0.0080[17]				2.4	0.0043	[~~0.022~~] 0.0081[17]	C,P
~~46~~	Chlorobenzene	108-90-7	680[17]						21,000	
~~47~~	Chlorodibromomethane	124-48-1	4.0[17]						[~~340~~] 130[17]	C
~~48~~	Chloroform	67-66-3	57[17]						4,700	C
~~49~~	2-Chloronaphthalene	91-58-7	1,000[17]						[~~4,300~~] 1,600[17]	
~~50~~	2-Chlorophenol	95-57-8	81[17]						[~~400~~] 150[17]	
~~51~~	Chrysene	218-01-9	0.038[17]						[~~0.49~~] 0.18[17]	C
~~52~~	4,4'-DDT and derivatives	[~~50-29-3~~]	0.0022[17]			0.001	1.1	0.001	[~~0.0059~~] 0.0022[17]	C,P
~~53~~	Dibenzo(a,h)anthracene	53-70-3	0.038[17]						[~~0.49~~]0.18[17]	C
~~54~~	Dibutyl phthalate	84-74-2	2,000[17]						[~~12,000~~] 4,500[17]	
~~55~~	1,2-Dichlorobenzene	95-50-1	2,700[17]						17,000	
~~56~~	1,3-Dichlorobenzene	541-73-1	320[17]						[~~2,600~~] 960[17]	
~~57~~	1,4-Dichlorobenzene	106-46-7	400[17]						2,600	
~~58~~	3,3'-Dichlorobenzidine	91-94-1	0.21[17]						[~~0.77~~] 0.28[17]	C
~~59~~	Dichlorobromomethane	75-27-4	5.5[17]						[~~460~~] 170[17]	C
~~60~~	1,2-Dichloroethane	107-06-2	3.8[17]						[~~990~~] 370[17]	C
~~61~~	1,1-Dichloroethylene	75-35-4	0.57[17]						32	C
~~62~~	2,4-Dichlorophenol	120-83-2	77[17]						[~~790~~] 290[17]	
~~63~~	1,2-Dichloropropane	78-87-5	5.0[17]						[~~390~~] 150[17]	C
~~64~~	1,3-Dichloropropene	542-75-6	10[17]						1,700	
~~65~~	Dieldrin	60-57-1	0.00052[17]				0.24	0.056	[~~0.0014~~] 0.00054[17]	C,P
~~66~~	Diethyl phthalate	84-66-2	17,000[17]						[~~120,000~~] 44,000[17]	
~~67~~	Dimethyl phthalate	131-11-3	270,000[17]						[~~2,900,000~~] 1,100,000[17]	

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							Acute µg/L	Chronic µg/L		
~~68~~	2,4-Dimethylphenol	105-67-9	380[17]						[~~2,300~~] 850[17]	
~~69~~	2,4-Dinitrophenol	51-28-5	69[17]						[~~14,000~~] 5,300[17]	
~~70~~	2,4-Dinitrotoluene	121-14-2	1.1[17]						[~~91~~] 34[17]	C
~~71~~	2,3,7,8-TCDD Dioxin	1746-01-6	5.0E-08[17]						[~~1.4E-07~~] 5.1E-08[17]	C,P
~~72~~	1,2-Diphenylhydrazine	122-66-7	0.36[17]						[~~5.4~~] 2.0[17]	C
~~73~~	alpha-Endosulfan	959-98-8	62[17]				0.22	0.056	[~~240~~] 89[17]	
~~74~~	beta-Endosulfan	33213-65-9	62[17]				0.22	0.056	[~~240~~] 89[17]	
~~75~~	Endosulfan sulfate	1031-07-8	62[17]						[~~240~~] 89[17]	
~~76~~	Endrin	72-20-8	0.76[17]				0.086	0.036	0.81	
~~78~~	Endrin aldehyde	7421-93-4	0.29[17]						[~~0.81~~] 0.30[17]	
~~79~~	Ethylbenzene	100-41-4	3,100[17]						29,000	
~~80~~	Fluoranthene	206-44-0	130[17]						[~~370~~] 140[17]	
~~81~~	Fluorene	86-73-7	1,100[17]						[~~14,000~~] 5,300[17]	
~~82~~	Heptachlor	76-44-8	0.00079[17]				0.52	0.0038	[~~0.0021~~] 0.00079[17]	C
~~83~~	Heptachlor epoxide	1024-57-3	0.00039[17]				0.52	0.0038	[~~0.0011~~] 0.00039[17]	C
~~84~~	Hexachlorobenzene	118-74-1	0.0028[17]						[~~0.0077~~] 0.0029[17]	C,P
~~85~~	Hexachlorobutadiene	87-68-3	4.4[17]						[~~500~~] 180[17]	C
~~86~~	Hexachlorocyclopentadiene	77-47-4	240[17]						17,000	
~~87~~	Hexachloroethane	67-72-1	14[17]						[~~89~~] 33[17]	C
~~88~~	Ideno(1,2,3-cd)pyrene	193-39-5	0.038[17]						[~~0.49~~] 0.18[17]	C
~~89~~	Isophorone	78-59-1	350[17]						[~~26,000~~] 9,600[17]	C
~~90~~	Methyl bromide	74-83-9	47[17]						[~~4000~~] 1,500[17]	
~~91~~	2-Methyl-4,6-dinitrophenol	534-52-1	13[17]						[~~765~~] 280[17]	
~~92~~	Methylene chloride	75-09-2	46[17]						[~~16,000~~] 5,900[17]	C
~~93~~	Nitrobenzene	98-95-3	17[17]						[~~1,900~~] 690[17]	
~~94~~	N-Nitrosodimethylamine	62-75-9	0.0069[17]						[~~81~~] 30[17]	C
~~95~~	N-Nitrosodi-n-propylamine	621-64-7	0.050[17]						[~~14~~] 5.1[17]	C
~~96~~	N-Nitrosodiphenylamine	86-30-6	33[17]						[~~160~~] 60[17]	C
~~97~~	PCBs	[~~1336-36-3~~]	0.00064[17]			0.014		0.014	[~~0.0017~~] 0.00064[17]	C,P
~~98~~	Pentachlorophenol	87-86-5	2.7[17]				19	15	[~~82~~] 30[17]	C
~~99~~	Phenol	108-95-2	21,000[17]						[~~4,600,000~~] 1,700,000[17]	

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~~100~~	Pyrene	129-00-0	830[17]						[~~11,000~~] 4,000[17]	
~~101~~	1,1,2,2-Tetrachloroethane	79-34-5	1.7[17]						[~~110~~] 40[17]	C
~~102~~	Tetrachloroethylene	127-18-4	6.9[17]						[~~88.5~~] 33[17]	C,P
~~103~~	Toluene	108-88-3	6,800[17]						200,000	
~~104~~	Toxaphene	8001-35-2	0.0028[17]				0.73	0.0002	[~~0.0075~~] 0.0028[17]	C
~~105~~	1,2-Trans-dichloroethylene	156-60-5	700[17]						140,000	
~~106~~	1,2,4-Trichlorobenzene	120-82-1	260[17]						940	
~~107~~	1,1,2-Trichloroethane	79-00-5	5.9[17]						[~~420~~] 160[17]	C
~~108~~	Trichloroethylene	79-01-6	25[17]						[~~810~~] 300[17]	C
~~109~~	2,4,6-Trichlorophenol	88-06-2	14[17]						[~~65~~] 24[17]	C
~~110~~	Vinyl chloride	75-01-4	20[17]						[~~5,250~~] 5,300[17]	C

~~**N.** Total Ammonia (mg/L as N), Warmwater Fisheries:~~

~~**(1)** acute [standards] criteria~~

pH

Temperature °C	~~6.50~~	~~6.75~~	~~7.00~~	~~7.25~~	~~7.50~~	~~7.75~~	~~8.00~~	~~8.25~~	~~8.50~~	~~8.75~~	~~9.00~~
~~0~~	~~29~~	~~26~~	~~23~~	~~19~~	~~14~~	~~10~~	~~6.6~~	~~3.7~~	~~2.1~~	~~1.2~~	~~0.70~~
~~1~~	~~28~~	~~26~~	~~23~~	~~19~~	~~14~~	~~9.9~~	~~6.5~~	~~3.7~~	~~2.1~~	~~1.2~~	~~0.70~~
~~2~~	~~28~~	~~26~~	~~22~~	~~18~~	~~14~~	~~9.7~~	~~6.4~~	~~3.6~~	~~2.1~~	~~1.2~~	~~0.69~~
~~3~~	~~28~~	~~25~~	~~22~~	~~18~~	~~14~~	~~9.6~~	~~6.3~~	~~3.6~~	~~2.0~~	~~1.2~~	~~0.69~~
~~4~~	~~27~~	~~25~~	~~22~~	~~18~~	~~14~~	~~9.5~~	~~6.2~~	~~3.5~~	~~2.0~~	~~1.2~~	~~0.69~~
~~5~~	~~27~~	~~25~~	~~22~~	~~18~~	~~13~~	~~9.4~~	~~6.1~~	~~3.5~~	~~2.0~~	~~1.2~~	~~0.68~~
~~6~~	~~27~~	~~24~~	~~21~~	~~18~~	~~13~~	~~9.3~~	~~6.1~~	~~3.5~~	~~2.0~~	~~1.1~~	~~0.68~~
~~7~~	~~26~~	~~24~~	~~21~~	~~17~~	~~13~~	~~9.2~~	~~6.0~~	~~3.4~~	~~2.0~~	~~1.1~~	~~0.68~~
~~8~~	~~26~~	~~24~~	~~21~~	~~17~~	~~13~~	~~9.1~~	~~6.0~~	~~3.4~~	~~1.9~~	~~1.1~~	~~0.68~~
~~9~~	~~26~~	~~24~~	~~21~~	~~17~~	~~13~~	~~9.0~~	~~5.9~~	~~3.4~~	~~1.9~~	~~1.1~~	~~0.68~~
~~10~~	~~25~~	~~23~~	~~21~~	~~17~~	~~13~~	~~8.9~~	~~5.9~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.68~~
~~11~~	~~25~~	~~23~~	~~20~~	~~17~~	~~13~~	~~8.9~~	~~5.8~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.68~~
~~12~~	~~25~~	~~23~~	~~20~~	~~17~~	~~13~~	~~8.8~~	~~5.8~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.69~~
~~13~~	~~25~~	~~23~~	~~20~~	~~16~~	~~12~~	~~8.7~~	~~5.7~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.69~~
~~14~~	~~25~~	~~23~~	~~20~~	~~16~~	~~12~~	~~8.7~~	~~5.7~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.70~~
~~15~~	~~24~~	~~23~~	~~20~~	~~16~~	~~12~~	~~8.6~~	~~5.7~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.70~~
~~16~~	~~24~~	~~22~~	~~20~~	~~16~~	~~12~~	~~8.6~~	~~5.7~~	~~3.3~~	~~1.9~~	~~1.1~~	~~0.71~~
~~17~~	~~24~~	~~22~~	~~20~~	~~16~~	~~12~~	~~8.5~~	~~5.6~~	~~3.2~~	~~1.9~~	~~1.1~~	~~0.72~~
~~18~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.5~~	~~5.6~~	~~3.2~~	~~1.9~~	~~1.2~~	~~0.73~~
~~19~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.5~~	~~5.6~~	~~3.2~~	~~1.9~~	~~1.2~~	~~0.74~~
~~20~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.5~~	~~5.6~~	~~3.2~~	~~1.9~~	~~1.2~~	~~0.75~~
~~21~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.4~~	~~5.6~~	~~3.2~~	~~1.9~~	~~1.2~~	~~0.77~~
~~22~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.4~~	~~5.6~~	~~3.3~~	~~1.9~~	~~1.2~~	~~0.78~~
~~23~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.4~~	~~5.6~~	~~3.3~~	~~1.9~~	~~1.2~~	~~0.80~~

~~24~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.4~~	~~5.6~~	~~3.3~~	~~2.0~~	~~1.2~~	~~0.81~~
~~25~~	~~24~~	~~22~~	~~19~~	~~16~~	~~12~~	~~8.4~~	~~5.6~~	~~3.3~~	~~2.0~~	~~1.2~~	~~0.83~~
~~26~~	~~22~~	~~20~~	~~18~~	~~15~~	~~11~~	~~7.9~~	~~5.2~~	~~3.1~~	~~1.9~~	~~1.2~~	~~0.80~~
~~27~~	~~20~~	~~19~~	~~17~~	~~14~~	~~10~~	~~7.3~~	~~4.9~~	~~2.9~~	~~1.8~~	~~1.1~~	~~0.76~~
~~28~~	~~19~~	~~18~~	~~15~~	~~13~~	~~9.7~~	~~6.9~~	~~4.6~~	~~2.7~~	~~1.7~~	~~1.1~~	~~0.73~~
~~29~~	~~18~~	~~16~~	~~14~~	~~12~~	~~9.1~~	~~6.4~~	~~4.3~~	~~2.6~~	~~1.6~~	~~1.0~~	~~0.70~~
~~30~~	~~17~~	~~15~~	~~13~~	~~11~~	~~8.5~~	~~6.0~~	~~4.1~~	~~2.4~~	~~1.5~~	~~0.97~~	~~0.68~~

~~**(2)** chronic [standards] criteria~~

~~pH~~

Temperature °C	~~**6.50**~~	~~**6.75**~~	~~**7.00**~~	~~**7.25**~~	~~**7.50**~~	~~**7.75**~~	~~**8.00**~~	~~**8.25**~~	~~**8.50**~~	~~**8.75**~~	~~**9.00**~~
~~**0**~~	~~2.5~~	~~2.5~~	~~2.5~~	~~2.5~~	~~2.5~~	~~2.3~~	~~1.5~~	~~0.84~~	~~0.48~~	~~0.28~~	~~0.16~~
~~**1**~~	~~2.5~~	~~2.5~~	~~2.5~~	~~2.5~~	~~2.5~~	~~2.3~~	~~1.5~~	~~0.83~~	~~0.47~~	~~0.27~~	~~0.16~~
~~**2**~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.2~~	~~1.5~~	~~0.82~~	~~0.47~~	~~0.27~~	~~0.16~~
~~**3**~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.2~~	~~1.4~~	~~0.81~~	~~0.46~~	~~0.27~~	~~0.16~~
~~**4**~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.4~~	~~2.2~~	~~1.4~~	~~0.80~~	~~0.46~~	~~0.27~~	~~0.16~~
~~**5**~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.1~~	~~1.4~~	~~0.80~~	~~0.45~~	~~0.26~~	~~0.16~~
~~**6**~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.1~~	~~1.4~~	~~0.79~~	~~0.45~~	~~0.26~~	~~0.16~~
~~**7**~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.1~~	~~1.4~~	~~0.78~~	~~0.45~~	~~0.26~~	~~0.16~~
~~**8**~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.3~~	~~2.1~~	~~1.4~~	~~0.77~~	~~0.44~~	~~0.26~~	~~0.15~~
~~**9**~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.1~~	~~1.3~~	~~0.77~~	~~0.44~~	~~0.26~~	~~0.16~~
~~**10**~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.0~~	~~1.3~~	~~0.76~~	~~0.44~~	~~0.26~~	~~0.16~~
~~**11**~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.0~~	~~1.3~~	~~0.76~~	~~0.44~~	~~0.26~~	~~0.16~~
~~**12**~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.0~~	~~1.3~~	~~0.75~~	~~0.44~~	~~0.26~~	~~0.16~~
~~**13**~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.2~~	~~2.0~~	~~1.3~~	~~0.75~~	~~0.43~~	~~0.26~~	~~0.16~~
~~**14**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.2~~	~~2.0~~	~~1.3~~	~~0.75~~	~~0.43~~	~~0.26~~	~~0.16~~
~~**15**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.0~~	~~1.3~~	~~0.74~~	~~0.43~~	~~0.26~~	~~0.16~~
~~**16**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.0~~	~~1.3~~	~~0.74~~	~~0.43~~	~~0.26~~	~~0.16~~
~~**17**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~1.9~~	~~1.3~~	~~0.74~~	~~0.43~~	~~0.26~~	~~0.16~~
~~**18**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~1.9~~	~~1.3~~	~~0.74~~	~~0.43~~	~~0.26~~	~~0.17~~
~~**19**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~1.9~~	~~1.3~~	~~0.74~~	~~0.44~~	~~0.26~~	~~0.17~~
~~**20**~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~2.1~~	~~1.9~~	~~1.3~~	~~0.74~~	~~0.44~~	~~0.27~~	~~0.17~~
~~**21**~~	~~1.9~~	~~1.9~~	~~1.9~~	~~1.9~~	~~1.9~~	~~1.8~~	~~1.2~~	~~0.69~~	~~0.41~~	~~0.25~~	~~0.16~~
~~**22**~~	~~1.8~~	~~1.8~~	~~1.8~~	~~1.8~~	~~1.8~~	~~1.7~~	~~1.1~~	~~0.65~~	~~0.38~~	~~0.24~~	~~0.15~~
~~**23**~~	~~1.7~~	~~1.7~~	~~1.7~~	~~1.7~~	~~1.7~~	~~1.6~~	~~1.0~~	~~0.60~~	~~0.36~~	~~0.22~~	~~0.15~~
~~**24**~~	~~1.6~~	~~1.6~~	~~1.6~~	~~1.6~~	~~1.6~~	~~1.5~~	~~0.97~~	~~0.57~~	~~0.34~~	~~0.21~~	~~0.14~~
~~**25**~~	~~1.4~~	~~1.4~~	~~1.5~~	~~1.5~~	~~1.5~~	~~1.4~~	~~0.91~~	~~0.53~~	~~0.32~~	~~0.20~~	~~0.13~~
~~**26**~~	~~1.3~~	~~1.3~~	~~1.4~~	~~1.4~~	~~1.4~~	~~1.3~~	~~0.85~~	~~0.50~~	~~0.30~~	~~0.19~~	~~0.13~~
~~**27**~~	~~1.3~~	~~1.3~~	~~1.3~~	~~1.3~~	~~1.3~~	~~1.2~~	~~0.79~~	~~0.47~~	~~0.28~~	~~0.18~~	~~0.12~~
~~**28**~~	~~1.2~~	~~1.2~~	~~1.2~~	~~1.2~~	~~1.2~~	~~1.1~~	~~0.74~~	~~0.44~~	~~0.27~~	~~0.17~~	~~0.12~~
~~**29**~~	~~1.1~~	~~1.1~~	~~1.1~~	~~1.1~~	~~1.1~~	~~1.0~~	~~0.70~~	~~0.41~~	~~0.25~~	~~0.16~~	~~0.11~~
~~**30**~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~0.97~~	~~0.65~~	~~0.39~~	~~0.24~~	~~0.16~~	~~0.11~~

O. Total Ammonia (mg/L as N), Coldwater Fisheries:

(1) acute [standards] criteria

pH

Temperature °C	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0	29	26	23	19	14	10	6.6	3.7	2.1	1.2	0.70
1	28	26	23	19	14	9.9	6.5	3.7	2.1	1.2	0.70
2	28	26	22	18	14	9.7	6.4	3.6	2.1	1.2	0.69
3	28	25	22	18	14	9.6	6.3	3.6	2.0	1.2	0.69
4	27	25	22	18	14	9.5	6.2	3.5	2.0	1.2	0.69
5	27	25	22	18	13	9.4	6.1	3.5	2.0	1.2	0.68
6	27	24	21	18	13	9.3	6.1	3.5	2.0	1.1	0.68
7	26	24	21	17	13	9.2	6.0	3.4	2.0	1.1	0.68
8	26	24	21	17	13	9.1	6.0	3.4	1.9	1.1	0.68
9	26	24	21	17	13	9.0	5.9	3.4	1.9	1.1	0.68
10	25	23	21	17	13	8.9	5.9	3.3	1.9	1.1	0.68
11	25	23	20	17	13	8.9	5.8	3.3	1.9	1.1	0.68
12	25	23	20	17	13	8.8	5.8	3.3	1.9	1.1	0.69
13	25	23	20	16	12	8.7	5.7	3.3	1.9	1.1	0.69
14	25	23	20	16	12	8.7	5.7	3.3	1.9	1.1	0.70
15	24	23	20	16	12	8.6	5.7	3.3	1.9	1.1	0.70
16	24	22	20	16	12	8.6	5.7	3.3	1.9	1.1	0.71
17	24	22	20	16	12	8.5	5.6	3.2	1.9	1.1	0.72
18	24	22	19	16	12	8.5	5.6	3.2	1.9	1.2	0.73
19	24	22	19	16	12	8.5	5.6	3.2	1.9	1.2	0.74
20	24	22	19	16	12	8.5	5.6	3.2	1.9	1.2	0.75
21	22	20	18	15	11	7.9	5.2	3.0	1.8	1.1	0.71
22	21	19	17	14	10	7.3	4.9	2.8	1.7	1.0	0.68
23	19	18	15	13	9.7	6.8	4.5	2.7	1.6	0.98	0.65
24	18	16	14	12	9.0	6.4	4.2	2.5	1.5	0.93	0.62
25	17	15	13	11	8.4	6.0	4.0	2.3	1.4	0.88	0.59
26	16	14	13	10	7.9	5.6	3.7	2.2	1.3	0.84	0.56
27	14	13	12	9.6	7.3	5.2	3.5	2.1	1.2	0.79	0.54
28	13	12	11	9.0	6.9	4.9	3.3	1.9	1.2	0.76	0.52
29	13	12	10	8.4	6.4	4.6	3.1	1.8	1.1	0.72	0.50
30	12	11	10	7.8	6.0	4.3	2.9	1.7	1.1	0.69	0.48

(2) chronic [standards] criteria

pH

Temperature °C	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0	2.5	2.5	2.5	2.5	2.5	2.3	1.5	0.84	0.48	0.28	0.16
1	2.5	2.5	2.5	2.5	2.5	2.3	1.5	0.83	0.47	0.27	0.16
2	2.4	2.4	2.4	2.4	2.4	2.2	1.5	0.82	0.47	0.27	0.16
3	2.4	2.4	2.4	2.4	2.4	2.2	1.4	0.81	0.46	0.27	0.16
4	2.4	2.4	2.4	2.4	2.4	2.2	1.4	0.80	0.46	0.27	0.16
5	2.3	2.3	2.3	2.3	2.3	2.1	1.4	0.80	0.45	0.26	0.16
6	2.3	2.3	2.3	2.3	2.3	2.1	1.4	0.79	0.45	0.26	0.16
7	2.3	2.3	2.3	2.3	2.3	2.1	1.4	0.78	0.45	0.26	0.16
8	2.3	2.3	2.3	2.3	2.3	2.1	1.4	0.77	0.44	0.26	0.15
9	2.2	2.2	2.2	2.2	2.2	2.1	1.3	0.77	0.44	0.26	0.16
10	2.2	2.2	2.2	2.2	2.2	2.0	1.3	0.76	0.44	0.26	0.16
11	2.2	2.2	2.2	2.2	2.2	2.0	1.3	0.76	0.44	0.26	0.16
12	2.2	2.2	2.2	2.2	2.2	2.0	1.3	0.75	0.44	0.26	0.16
13	2.2	2.2	2.2	2.2	2.2	2.0	1.3	0.75	0.43	0.26	0.16
14	2.1	2.1	2.1	2.1	2.2	2.0	1.3	0.75	0.43	0.26	0.16
15	2.1	2.1	2.1	2.1	2.1	2.0	1.3	0.74	0.43	0.26	0.16
16	2.0	2.0	2.0	2.0	2.0	1.8	1.2	0.69	0.40	0.24	0.15

~~17~~	~~1.8~~	~~1.8~~	~~1.8~~	~~1.8~~	~~1.8~~	~~1.7~~	~~1.1~~	~~0.64~~	~~0.38~~	~~0.23~~	~~0.14~~
~~18~~	~~1.7~~	~~1.7~~	~~1.7~~	~~1.7~~	~~1.7~~	~~1.6~~	~~1.0~~	~~0.60~~	~~0.35~~	~~0.21~~	~~0.14~~
~~19~~	~~1.6~~	~~1.6~~	~~1.6~~	~~1.6~~	~~1.6~~	~~1.5~~	~~0.97~~	~~0.56~~	~~0.33~~	~~0.20~~	~~0.13~~
~~20~~	~~1.5~~	~~1.5~~	~~1.5~~	~~1.5~~	~~1.5~~	~~1.4~~	~~0.90~~	~~0.52~~	~~0.31~~	~~0.19~~	~~0.12~~
~~21~~	~~1.4~~	~~1.4~~	~~1.4~~	~~1.4~~	~~1.4~~	~~1.3~~	~~0.84~~	~~0.49~~	~~0.29~~	~~0.18~~	~~0.12~~
~~22~~	~~1.3~~	~~1.3~~	~~1.3~~	~~1.3~~	~~1.3~~	~~1.2~~	~~0.79~~	~~0.46~~	~~0.27~~	~~0.17~~	~~0.11~~
~~23~~	~~1.2~~	~~1.2~~	~~1.2~~	~~1.2~~	~~1.2~~	~~1.1~~	~~0.73~~	~~0.43~~	~~0.26~~	~~0.16~~	~~0.10~~
~~24~~	~~1.1~~	~~1.1~~	~~1.1~~	~~1.1~~	~~1.1~~	~~1.0~~	~~0.69~~	~~0.40~~	~~0.24~~	~~0.15~~	~~0.10~~
~~25~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~0.96~~	~~0.64~~	~~0.38~~	~~0.23~~	~~0.14~~	~~0.095~~
~~26~~	~~0.95~~	~~0.95~~	~~0.96~~	~~0.96~~	~~0.97~~	~~0.9~~	~~0.60~~	~~0.35~~	~~0.21~~	~~0.13~~	~~0.091~~
~~27~~	~~0.89~~	~~0.89~~	~~0.89~~	~~0.90~~	~~0.91~~	~~0.84~~	~~0.56~~	~~0.33~~	~~0.20~~	~~0.13~~	~~0.087~~
~~28~~	~~0.83~~	~~0.83~~	~~0.83~~	~~0.84~~	~~0.85~~	~~0.79~~	~~0.53~~	~~0.31~~	~~0.19~~	~~0.12~~	~~0.084~~
~~29~~	~~0.77~~	~~0.78~~	~~0.78~~	~~0.78~~	~~0.79~~	~~0.73~~	~~0.49~~	~~0.29~~	~~0.18~~	~~0.12~~	~~0.080~~
~~30~~	~~0.72~~	~~0.72~~	~~0.73~~	~~0.73~~	~~0.74~~	~~0.69~~	~~0.46~~	~~0.28~~	~~0.17~~	~~0.11~~	~~0.077~~

K. Acute Criteria, Total Ammonia (mg/L as N)

pH	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8.	8.9	9.0
Salmonids Present	32.6	31.3	29.8	28.1	26.2	24.1	22.0	19.7	17.5	15.4	13.3	11.4	9.65	8.11	6.77	5.62	4.64	3.83	3.15	2.59	2.14	1.77	1.47	1.23	1.04	0.885
Salmonids Absent	48.8	46.8	44.6	42.0	39.1	36.1	32.8	29.5	26.2	23.0	19.9	17.0	14.4	12.1	10.1	8.40	6.95	5.72	4.71	3.88	3.20	2.65	2.20	1.84	1.56	1.32

L. Chronic Criteria, Total Ammonia (mg/L as N), Fish Early Life Stages Present

	pH																									
Temperature, C	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8.	8.9	9.0
0	6.67	6.57	6.44	6.29	6.12	5.91	5.67	5.39	5.08	4.73	4.36	3.98	3.58	3.18	2.80	2.43	2.10	1.79	1.52	1.29	1.09	0.920	0.778	0.661	0.565	0.486
14	6.67	6.57	6.44	6.29	6.12	5.91	5.67	5.39	5.08	4.73	4.36	3.98	3.58	3.18	2.80	2.43	2.10	1.79	1.52	1.29	1.09	0.920	0.778	0.661	0.565	0.486
15	6.46	6.36	6.25	6.10	5.93	5.73	5.49	5.22	4.92	4.59	4.23	3.85	3.47	3.09	2.71	2.36	2.03	1.74	1.48	1.25	1.06	0.892	0.754	0.641	0.548	0.471
16	6.06	5.97	5.86	5.72	5.56	5.37	5.15	4.90	4.61	4.30	3.97	3.61	3.25	2.89	2.54	2.21	1.91	1.63	1.39	1.17	0.990	0.836	0.707	0.601	0.513	0.442
18	5.33	5.25	5.15	5.03	4.89	4.72	4.53	4.31	4.06	3.78	3.49	3.18	2.86	2.54	2.24	1.94	1.68	1.43	1.22	1.03	0.870	0.735	0.622	0.528	0.451	0.389
20	4.68	4.61	4.52	4.42	4.30	4.15	3.98	3.78	3.57	3.32	3.06	2.79	2.51	2.23	1.96	1.71	1.47	1.26	1.07	0.906	0.765	0.646	0.547	0.464	0.397	0.342
22	4.12	4.05	3.98	3.89	3.78	3.65	3.50	3.33	3.13	2.92	2.69	2.45	2.21	1.96	1.73	1.50	1.29	1.11	0.941	0.796	0.672	0.568	0.480	0.408	0.349	0.300
24	3.62	3.56	3.50	3.42	3.32	3.21	3.08	2.92	2.76	2.57	2.37	2.16	1.94	1.73	1.52	1.32	1.14	0.973	0.827	0.700	0.591	0.499	0.422	0.359	0.306	0.264
26	3.18	3.13	3.07	3.00	2.92	2.82	2.70	2.57	2.42	2.26	2.08	1.90	1.71	1.52	1.33	1.16	1.00	0.855	0.727	0.615	0.520	0.439	0.371	0.315	0.269	0.232
28	2.80	2.75	2.70	2.64	2.57	2.48	2.38	2.26	2.13	1.98	1.83	1.67	1.50	1.33	1.17	1.02	0.879	0.752	0.639	0.541	0.457	0.386	0.326	0.277	0.237	0.204
30	2.46	2.42	2.37	2.32	2.25	2.18	2.09	1.99	1.87	1.74	1.61	1.47	1.32	1.17	1.03	0.897	0.773	0.661	0.562	0.475	0.401	0.339	0.287	0.244	0.208	0.179

M. Chronic Criteria, Total Ammonia (mg/L as N), Fish Early Life Stages Absent

Temperature, C	pH 6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8.	8.9	9.0
0	10.8	10.7	10.5	10.2	9.93	9.60	9.20	8.75	8.24	7.69	7.09	6.46	5.81	5.17	4.54	3.95	3.41	2.91	2.47	2.09	1.77	1.49	1.26	1.07	0.917	0.790
7	10.8	10.7	10.5	10.2	9.93	9.60	9.20	8.75	8.24	7.69	7.09	6.46	5.81	5.17	4.54	3.95	3.41	2.91	2.47	2.09	1.77	1.49	1.26	1.07	0.917	0.790
8	10.1	9.99	9.81	9.58	9.31	9.00	8.63	8.20	7.73	7.21	6.64	6.05	5.45	4.84	4.26	3.70	3.19	2.73	2.32	1.96	1.66	1.40	1.18	1.01	0.860	0.740
9	9.51	9.37	9.20	8.98	8.73	8.43	8.09	7.69	7.25	6.76	6.23	5.67	5.11	4.54	3.99	3.47	2.99	2.56	2.18	1.84	1.55	1.31	1.11	0.944	0.806	0.694
10	8.92	8.79	8.62	8.42	8.19	7.91	7.58	7.21	6.79	6.33	5.84	5.32	4.79	4.26	3.74	3.26	2.81	2.40	2.04	1.73	1.46	1.23	1.04	0.855	0.756	0.651
11	8.36	8.24	8.08	7.90	7.68	7.41	7.11	6.76	6.37	5.94	5.48	4.99	4.49	3.99	3.51	3.05	2.63	2.25	1.91	1.62	1.37	1.15	0.976	0.829	0.709	0.610
12	7.84	7.72	7.58	7.40	7.20	6.95	6.67	6.34	5.97	5.57	5.13	4.68	4.21	3.74	3.29	2.86	2.47	2.11	1.79	1.52	1.28	1.08	0.915	0.778	0.664	0.572
13	7.35	7.24	7.11	6.94	6.75	6.52	6.25	5.94	5.60	5.22	4.81	4.38	3.95	3.51	3.09	2.68	2.31	1.98	1.68	1.42	1.20	1.01	0.858	0.729	0.623	0.536
14	6.89	6.79	6.66	6.51	6.33	6.11	5.86	5.57	5.25	4.89	4.51	4.11	3.70	3.29	2.89	2.52	2.17	1.85	1.58	1.33	1.13	0.951	0.805	0.684	0.584	0.503
15	6.46	6.36	6.25	6.10	5.93	5.73	5.49	5.22	4.92	4.59	4.23	3.85	3.47	3.09	2.71	2.36	2.03	1.74	1.48	1.25	1.06	0.892	0.754	0.641	0.548	0.471
	At 15º C and above, the criterion for fish early life stages absent is the same as the criterion for fish early life stages present (refer to Subsection L of 20.6.4.900 NMAC).																									

NMED proposes to change the ammonia criteria based on EPA recommended criteria. PL 20 at 79-81, PL 27 at Montgomery 123; PL 27 at Ex 10, 15.

[~~P~~] **N.** Dissolved oxygen saturation based on temperature and elevation.

Elevation (feet)

	0	**500**	**1,000**	**1,500**	**2,000**	**2,500**	**3,000**	**3,500**	**4,000**	**4,500**	**5,000**	**5,500**	**6,000**	**6,500**	**7,000**	**7,500**	**8,000**	**8,500**	**9,000**	**9,500**	**10,000**
0	14.6	14.3	14.1	13.8	13.6	13.3	13.1	12.8	12.6	12.3	12.1	11.9	11.6	11.4	11.2	11.0	10.8	10.6	10.3	10.1	9.9
1	14.2	13.9	13.7	13.4	13.2	12.9	12.7	12.5	12.2	12.0	11.8	11.5	11.3	11.1	10.9	10.7	10.5	10.3	10.1	9.9	9.7
2	13.8	13.6	13.3	13.1	12.8	12.6	12.4	12.1	11.9	11.7	11.5	11.2	11.0	10.8	10.6	10.4	10.2	10.0	9.8	9.6	9.4
3	13.4	13.2	13.0	12.7	12.5	12.3	12.0	11.8	11.6	11.4	11.1	10.9	10.7	10.5	10.3	10.1	9.9	9.7	9.5	9.3	9.1
4	13.1	12.8	12.6	12.4	12.2	11.9	11.7	11.5	11.3	11.1	10.9	10.7	10.4	10.2	10.0	9.8	9.7	9.5	9.3	9.1	8.9
5	12.7	12.5	12.3	12.1	11.8	11.6	11.4	11.2	11.0	10.8	10.6	10.4	10.2	10.0	9.8	9.6	9.4	9.2	9.0	8.9	8.7
6	12.4	12.2	12.0	11.8	11.5	11.3	11.1	10.9	10.7	10.5	10.3	10.1	9.9	9.7	9.5	9.4	9.2	9.0	8.8	8.6	8.5
7	12.1	11.9	11.7	11.5	11.3	11.1	10.8	10.6	10.4	10.2	10.1	9.9	9.7	9.5	9.3	9.1	8.9	8.8	8.6	8.4	8.2
8	11.8	11.6	11.4	11.2	11.0	10.8	10.6	10.4	10.2	10.0	9.8	9.6	9.4	9.3	9.1	8.9	8.7	8.6	8.4	8.2	8.0
9	11.5	11.3	11.1	10.9	10.7	10.5	10.3	10.1	9.9	9.8	9.6	9.4	9.2	9.0	8.9	8.7	8.5	8.3	8.2	8.0	7.8
10	11.3	11.1	10.9	10.7	10.5	10.3	10.1	9.9	9.7	9.5	9.4	9.2	9.0	8.8	8.7	8.5	8.3	8.1	8.0	7.8	7.7
11	11.0	10.8	10.6	10.4	10.2	10.0	9.9	9.7	9.5	9.3	9.1	9.0	8.8	8.6	8.5	8.3	8.1	8.0	7.8	7.6	7.5

Temperature °C																					
12	10.8	10.6	10.4	10.2	10.0	9.8	9.6	9.5	9.3	9.1	8.9	8.8	8.6	8.4	8.3	8.1	7.9	7.8	7.6	7.5	7.3
13	10.5	10.3	10.1	9.9	9.8	9.6	9.4	9.2	9.1	8.9	8.7	8.6	8.4	8.2	8.1	7.9	7.8	7.6	7.5	7.3	7.2
14	10.3	10.1	9.9	9.7	9.6	9.4	9.2	9.0	8.9	8.7	8.5	8.4	8.2	8.1	7.9	7.7	7.6	7.4	7.3	7.1	7.0
15	10.1	9.9	9.7	9.5	9.3	9.2	9.0	8.8	8.7	8.5	8.4	8.2	8.0	7.9	7.7	7.6	7.4	7.3	7.1	7.0	6.8
16	9.8	9.7	9.5	9.3	9.2	9.0	8.8	8.7	8.5	8.3	8.2	8.0	7.9	7.7	7.6	7.4	7.3	7.1	7.0	6.8	6.7
17	9.6	9.5	9.3	9.1	9.0	8.8	8.6	8.5	8.3	8.2	8.0	7.9	7.7	7.6	7.4	7.3	7.1	7.0	6.8	6.7	6.6
18	9.4	9.3	9.1	8.9	8.8	8.6	8.5	8.3	8.1	8.0	7.8	7.7	7.5	7.4	7.3	7.1	7.0	6.8	6.7	6.6	6.4
19	9.3	9.1	8.9	8.8	8.6	8.4	8.3	8.1	8.0	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3
20	9.1	8.9	8.7	8.6	8.4	8.3	8.1	8.0	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3	6.2
21	8.9	8.7	8.6	8.4	8.3	8.1	8.0	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3	6.2	6.0
22	8.7	8.6	8.4	8.2	8.1	8.0	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3	6.2	6.1	5.9
23	8.6	8.4	8.2	8.1	7.9	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3	6.2	6.1	5.9	5.8
24	8.4	8.2	8.1	7.9	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3	6.2	6.1	5.9	5.8	5.7
25	8.2	8.1	7.9	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.5	6.3	6.2	6.1	6.0	5.8	5.7	5.6
26	8.1	7.9	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.5	6.3	6.2	6.1	6.0	5.8	5.7	5.6	5.5
27	7.9	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.8	6.7	6.6	6.5	6.3	6.2	6.1	6.0	5.9	5.7	5.6	5.5	5.4
28	7.8	7.7	7.5	7.4	7.2	7.1	7.0	6.9	6.7	6.6	6.5	6.4	6.2	6.1	6.0	5.9	5.8	5.6	5.5	5.4	5.3
29	7.7	7.5	7.4	7.3	7.1	7.0	6.9	6.7	6.6	6.5	6.4	6.2	6.1	6.0	5.9	5.8	5.7	5.5	5.4	5.3	5.2
30	7.5	7.4	7.3	7.1	7.0	6.9	6.7	6.6	6.5	6.4	6.3	6.1	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1

NMED proposes to reletter this section because it is consistent with the restructured criteria. PL 20 at 83.

Table Format, Titles, and Introduction

NMED proposes to delete the first column of the table because the column is unnecessary. PL 20 at 73, PL 27 at Montgomery 118.

NMED proposes to delete the CAS Numbers for "DDT and derivatives" and "PCBs" because these pollutants have multiple CAS Numbers. PL 20 at 75, 77, PL 27 at Montgomery 118.

NMED proposes to change the column headings because it allows the use of units other than µg/L when appropriate. PL 20 at 73, PL 27 at Montgomery 118.

UC proposes the introductory phrase "All of the following criteria are chronic unless otherwise noted." Pl 22 at 15, PL 35 at 20. UC proposes this phrase to clarify the nature of the criteria in 20.6.4.900.M and reduce the possibility that the criteria may be misapplied. Fisher Direct Testimony, PL 35 at 20. Further, absent this (or similar language) designating criteria as chronic or acute, there will be confusion over which compliance determination methods should be used. Because standards are directly enforceable, such confusion could render them unenforceable on due process grounds. The University's proposed change will avoid any such confusion.

NMED opposes UCs proposed introductory phrase. Only aquatic life criteria are "chronic." The other criteria may consider long-term exposure, but EPA does not call "chronic". Stated differently, EPA does not distinguish between criteria on the basis of "acute" and "chronic" with the exception of aquatic life. As a result, the designation of these criteria as "chronic" is erroneous, even if they were calculated to protect against long-term exposures. PL 27 at Montgomery 118; PL 40 at 23.

Domestic Water Supply

NMED proposes to move the criteria for nitrate, radium, strontium, tritium and gross alpha from Section 20.6.4.900.B because it is consistent with the restructured criteria. PL 20 at 74, PL 27 at Montgomery 118.

NMED proposes to add the criteria for priority toxic pollutants because it protects human health from exposure in organisms and water. PL 20 at 73-77. The criteria are based on the consumption of fish, shellfish, and two liters of water per day. The domestic water supply use is based upon the use of untreated water for drinking purposes. As a result, it is appropriate to consider the consumption of two liters of water per day without the benefit of treatment. PL 27 at Montgomery 118; PL 27 at Ex 10.

Mercury

UC proposed to revise the chronic and acute criteria for mercury. EPA intended the current mercury criteria for acute and chronic aquatic life and wildlife habitat to apply to dissolved mercury, not total mercury. PL 27, University Exhibit 20. The current 0.012 µg/L chronic criterion for mercury was withdrawn by EPA. EPA's current recommended acute and chronic criteria for dissolved mercury are now 1.4 and 0.77 µg/L, respectively. Id. at 12. Therefore, the criteria should be revised to be consistent with EPA's recommended criteria. See 40 CFR §131.11. UC's proposal is consistent with the EPA recommended criteria and NMED's proposal.

Methylmercury

UC also proposed to add a methylmercury criterion of 0.3 mg/kg for protection of human health, as recommended by EPA in 2001. 66 Fed. Reg. 1344 (January 8, 2001). This proposal is consistent with the EPA recommendation and NMED's proposal.

Perchlorate

AB proposed a change to the table to include numeric criteria for perchlorate-domestic water supply- at 1 ug/L. In support of its proposal, AB final submittal, p. 19, AB stated: a perchlorate criteria should be adopted for irrigation and for wildlife habitat and livestock watering as well. Standards for depleted uranium, manganese, MTBE, and high explosives should be added to the general criteria and numeric criteria as well. New Mexico has increasing problems with perchlorate contamination, as is evidenced by the numerous perchlorate hits in both ground and

surface water in the past ten years. In the Spring of 1999 perchlorate was identified at HAFB when USGS collected a surface water sample from the Lost River for the National Park Service and found perchlorate at 16,000 ug/L. In 1995 perchlorate was found in shallow alluvial groundwater in Los Alamos at 180 ug/L. At Fort Wingate, perchlorate was found in one groundwater monitoring well at 2,860 ug/L. Winslow, Julie. Perchlorate Occurrence at RCRA Facilities in New Mexico," current as of 10/5/01 NMED Haz Waste Bureau.) Although there is currently no federal drinking water standard for perchlorate, the EPA has considered a reference dose of 1ug/L for perchlorate in drinking water but has not come out with a final recommendation. EPA also mentions a range of 4-18 ug/L for perchlorate standards for drinking water. (EPA, www.epa.gov/swerffrr/documents/perchorlrate_qa.htm) New evidence shows that many Americans are now consuming large quantities of perchlorate in the vegetables that they eat. It is reasonable to assume levels of perchlorate that is safe in drinking water will have to lowered as the amount of perchlorate we ingest from others sources increases. Vegetables irrigated with perchlorate contaminated water concentrates the contaminate by many factors. For example lettuce concentrates perchlorate by an average factor of 65 at levels found in water of 10 to 130 ppb.

NMED opposes AB's proposal of a perchlorate criterion of 1 ug/L. PL 17 at 14. NMED is concerned about perchlorate. However, EPA has not recommended a criterion for ambient waters. Amigos Bravos provided some literature citations, but no technical testimony in support of its proposal. PL 27 at Montgomery 119.

Uranium

AB also proposed a change to the criteria for uranium: Uranium, dissolved- Domestic Water Supply [~~5,000 ug/L~~] to 7 ug/L. In support, AB states: To protect public health the standard for dissolved uranium in domestic water supply should be lowered from 5,000 mg/L to 7 mg/L. Ingestion of uranium has been linked to kidney disease. This issue is of particular importance in New Mexico as we have large sensitive populations that are vulnerable to the effects of ingesting uranium due to existing diseases, such as diabetes

NMED opposes the proposal. NMED is concerned about uranium. However, EPA has not recommended a criterion for ambient waters. Amigos Bravos provided some literature citations, but no technical testimony in support of its proposal. PL 27 at Montgomery 119.

Irrigation

NMED withdraws the proposed TDS criteria.

Livestock Watering

NMED proposes revised nitrate criteria based on the research of Dr. Sam Fernald of New Mexico State University, who demonstrated that the revised criteria protect livestock watering. PL 20 at 74, PL 14. No person opposed the revised criteria. PL 27 at Montgomery 118-119; PL 27 at Ex 18, 19, and 20.

The City of Farmington expressed concern about the aluminum criterion based on allegedly high levels in the Animas River. PL 11. However, the City did not submit a petition or evidence to support a change to the criterion. PL 27 at Montgomery 119.

Wildlife Habitat

NMED withdraws the proposed TDS criteria.

AB proposes 750 ug/L Dissolved Aluminum. In support of its proposal, AB states as follows: Data which are available for amphibians indicate that a new wildlife criterion for aluminum should be proposed. Based on the information presented below, which first noted mortality at 150 ug/L, AB proposes that all waters designated for wildlife habitat be protected by a criterion set at 5X that value and equal to the existing Acute aquatic life criteria.

Sparling, Donald. W. and T. Peter Lowe. 1996. Environmental hazards of aluminum to plants, invertebrates, fish and wildlife. Reviews of Environmental Contamination and Toxicology. Vol. 145. 129 pp. Springer-Verlag New York, Inc.

In summary, information on Al toxicity in amphibians is incomplete, sometimes contradictory, and confounded by the toxicity of low pH. . . . Lethal levels may be as low as 150 ug · L^{-1}, but LC_{50}s are commonly several times higher. Early life stages, especially newly hatched tadpoles, are most sensitive. pp 97-98.

AB also proposes Total Selenium – Wildlife Habitat – 1 ug/L on the basis that the existing criteria is inadequate to protect fish. See below, under aquatic life.

NMED opposes Amigos Bravos' proposed criteria for aluminum and selenium. PL 17 at 16-18. Amigos Bravos failed to provide sufficient evidence to justify their adoption. Amigos Bravos relied on literature citations, and did not present any technical testimony demonstrating that the values were necessary, or even reasonable and appropriate, for these uses. PL 27 at Montgomery 119. See also SJWC's objections below.

Aquatic Life

NMED proposes to delete the beryllium criterion because EPA has withdrawn its recommended value. PL 20 at 73, PL 27 at Montgomery 118. UC also proposes to remove the beryllium criteria. EPA no longer recommends Beryllium aquatic life criteria. Fisher Direct Testimony, PL 35 at 21. See PL 27, University Exhibit 20.

AB proposes: Total Selenium- Acute Aquatic Life - 5 ug/L and Total Selenium- Chronic Aquatic Life - 1 ug/L. In support, AB states that the existing aquatic life criteria of 20.0 ug/L Acute and 5.0 ug/L Chronic as Total Recoverable Selenium are inadequate to protect fish. Average water concentrations below the existing State wildlife criteria (Salton Sea) still resulted in an approximate 4% decrease in reproductive success in moderately-tolerant birds. Other examples clearly indicate that once an aquatic system is enriched with this pollutant it will remain so for many years to come. It is also instructive to note that, in general, the bioconcentration factor of

this pollutant seems to run approximately 3 orders of magnitude; thus, water concentrations are multiplied a thousand-fold in wildlife.

Secondly, the regulation of this pollutant as Total Recoverable, as opposed to Total, excludes both volatile organic forms (dimethylselenide and dimethyldiselenide) and nonvolatile organic forms (including selenoaminoacids) one of the most toxic forms of the element (Standard Methods for the Examination of Water and Wastewater. 19th edition, 1995. Eaton, Andrew et al. (Eds) p. 3-86, 3-92)) Thus selenium should be measured as Total Selenium rather than Total Recoverable Selenium.

Skorupa, Joseph P. 1998. Selenium poisoning of fish and wildlife in nature: Lessons from twelve real-world examples. pp. 315-354. IN Frankenburger, W.T. and R. A. Engberg (Eds.) Environmental chemistry of selenium. Marcel Dekker Incorporated.

- Belews Lake, North Carolina: Power Plant Cooling Basin. - Although the selenium concentration . . . had been elevated only to . . . an average value of 10 ug/L, highly elevated rates of teratogenic fish (10-70% vs. normal baseline of 1-3%) were documented, and populations of 16 species of fish completely collapsed. p 317.

- In contrast to the main reservoir, a semi-isolated reach known as the Highway 158 arm contained less than 5 ug/L waterborne selenium, and an overtly normal fish community persisted there . . . . A subsequent histopathological and hematological study of green sunfish (Lepomis cyanellus) measured 3 to 4 ug/L waterborne selenium in the Highway 158 arm and detected in some of the fish sublethal toxic effects such as generalized edema and abnormal tissue damage . . . Thus, the threshold region for toxicity at Belews Lake appeared to be in the neighborhood of 2 to 5 ug/L waterborne selenium. . . . p 317

- Hyco Reservoir, North Carolina: Power Plant Basin. . . . Water entering Hyco Reservoir from fly ash settling basins contained 50 to 200 ug/L selenium . . . the selenium concentration in the reservoir was elevated to an average of about 10 ug/L. . . . census in four separate coves of Hyco Reservoir indicated 38 to 75% reductions in densities of adult fish . . . and severe (>95%) reductions in densities of larval fish . . . pp 322-323

- Martin Reservoir, Texas: Power Plant Cooling Basin. . . . in 1978-79 there were unauthorized discharges from two fly ash settling ponds . . . Measures of waterborne selenium in Martin Reservoir varied from 1 to 34 ug/L, with an overall average of 2.6 ug/L . . . . This was sufficient to cause highly elevated tissue selenium in fish and birds, and elevated tissue selenium persisted for at least a decade . . . . p 323

- About 7 to 8 years after the discharge episode, high selenium concentrations in red-winged blackbird (Agelaius phoeniceus) eggs (mean value of 11.1 mg/kg) were documented and associated with greater than 50% depression in egg hatchability. p 323

- Tulare Basin, California: Drainage Water Evaporation Impoundments. . . . These additional data produce an estimate of stilt embryotoxicity threshold that is narrowed to the region between 6 and 7 mg/kg in eggs . . . . A strong relationship between the mean concentration of selenium in impounded water and in stilt eggs at the Tulare Basin sites (r^2= 0.81) is described by the equation shown in Figure 4, where egg and water selenium are expressed in milligrams per kilogram and micrograms per liter, respectively. . . . the average concentration of selenium in a

population sample of stilt eggs would be expected to exceed 6 mg/kg when the mean selenium content of impound drainage water exceeds 6 ug/L . . . p 328

- . . . ducks may be roughly twice as sensitive as stilts to selenium-induced embryotoxicity . . . . p 331

- Salton Sea, California: Regional Drainage Water Terminal Sink . . . . Although the water column of the sea contains only 1.5 ug/L total recoverable selenium, food chain fauna and tissues of fish and birds exhibit substantively elevated concentrations of selenium. . . . Among the 23 nests [black-necked stilt] that survived full term, 13% contained one or more inviable sibling eggs. Normally 8.9% of stilt nests contain one or more inviable eggs due to infertility and other natural causes. p 332

- Swedish Lakes Project, Sweden: Mercury Remediation Treatments . . . Following initial experimentation at Lake Oltertjarn in 1985-86, 11 additional lakes widely distributed across Sweden were treated with selenite in an attempt to mitigate high levels of mercury in edible fish . . . . four lakes . . . never exceeded about 2.6 ug/L average waterborne selenium. . . . Prior to treatment, concentrations of selenium in perch (Perca fluviatilis) muscle tissue averaged 0.8 to 2.0 mg/kg. After the first year of treatment these tissues averaged 6 to 36 mg/kg of selenium. By the end of the second year of treatment, researchers were unable to find any perch in four lakes . . . . The authors could not clearly establish the cause of the collapse of some perch populations, but concluded that the possibility of selenium poisoning could not be excluded. They also concluded that one of their most important findings was the need to keep waterborne selenium levels below 2 u g/L to avoid undesirable levels of selenium bioaccumulation in fish and unintentional side effects. pp 339 - 340
AB also proposes: Cyanide, Weak Acid Dissociable Chronic - 3.5 ug/L and Cyanide, Weak Acid Dissociable Acute - 10.0 ug/L. In support, AB states: The States existing fishery criteria of 22.0 Acute and 5.2 Chronic, are inadequate to protect many of the States warm and coldwater aquatic species.

Eisler, Ronald. 1991.

Cyanide hazards to fish, wildlife, and invertebrates: A synoptic review. US Fish and Wildl. Service Biological Report 85(1.23) 55 p.

- Cyanide is a potent and rapid-acting asphyxiate. At lethal does, inhalation or ingestion of cyanide produces reactions within seconds and death within minutes. p 7

- Fish were the most sensitive aquatic organisms tested . . . . Significant adverse nonlethal effects, including reduced swimming performance and inhibited reproduction were observed . . . . p 20

- Bluegill, Leopomis macrochirus - Complete inhibition of spawning after exposure to . . . 5.2 ug/L. . . p 22

- Rainbow trout, Oncorhynchus mykiss - Reduction of 50% in swimming performance . . . 5.0 ug/L . . . p 23

- Fathead minnow, Pimephales promelas - Egg reduction of 59% after exposure . . . 19 ug/L . . . . p 24

- Brook trout, Salvelinus fontinalis - Reduction of 50% in swimming performance in . . . 5.0 ug/L . . . . 75% reduction in swimming endurance after exposure . . . 10 ug/L . . . . p 25

- Cyanide adversely affects fish reproduction by reducing the number of eggs spawned, and the viability of the eggs . . . . Other adverse effects of cyanide on fish include . . . pathology, impaired swimming ability and relative performance, susceptibility to predation, disrupted respiration, osmoregulation difficulties, and altered growth patterns . . . . Cyanide-induced pathology in fish includes subcutaneous hemorrhaging, liver necrosis, and hepatic damage. Exposure of fish for 9 days to 10 ug HCN/L was sufficient to induce extensive necrosis of the liver, although gill tissue showed no damage. pp 26-27

- Table 6. Proposed free-cyanide criteria for protection of living resources and human health. . . . Freshwater organisms . . . Safe, most fish species 3.5 ug/L . . .

NMED opposes Amigos Bravos' proposed criteria for phosphorous, nitrogen, aluminum, cyanide, and selenium. PL 17 at 16-18. Amigos Bravos failed to provide sufficient evidence to justify their adoption. Amigos Bravos relied on literature citations, and did not present any technical testimony demonstrating that the values were necessary, or even reasonable and appropriate, for these uses. PL 27 at Montgomery 119.

SJWC also opposes AB's proposals to the criteria, stating as follows: In its petition, AB proposed several changes to numeric criteria set out in 20.6.4.900 NMAC. However, AB never filed a notice of intent to present technical testimony concerning those proposed criteria. Nor did AB provide written direct or rebuttal testimony, oral testimony or any exhibits supporting the criteria proposals. Thus, the Commission should (i) deem those proposals withdrawn for failure to comply with pertinent pre-trial and hearing procedures or (ii) reject those proposals for failure to provide any scientific evidence supporting them.

Section 303 of the hearing guidelines adopted for the triennial review requires a notice of intent to present technical testimony and the filing of written direct technical testimony and supporting exhibits. However, AB's notice of intent did not identify any witness who would address its numeric criteria proposals. Further, direct and rebuttal testimony filed by AB did not even mention, much less discuss, the proposed numeric criteria. Finally, AB failed to present any oral testimony, technical or otherwise, concerning their proposed numeric criteria. Therefore, AB effectively abandoned those proposals.

More importantly, section 74-6-4(C) of the New Mexico Statutes indicates that surface water quality standards are to be adopted based on "credible scientific data." Further, federal law

requires that each water quality standard be based on a supportable scientific rationale. See 40 C.F.R. § 131.11(a)(1) (criteria to protect designated uses must be based on sound scientific rationale). Clearly, standards adopted by the Commission must be scientifically defensible. NRDC v. EPA, 16 F.3d 1395, 1401-02 (4th Cir. 1993). Because neither AB nor any other party presented scientific data in support of the AB proposals, the Commission may not adopt them for lack of evidence. Moreover, SJWC presented expert technical testimony against the proposals. Because the Commission cannot disregard uncontradicted expert testimony, the Commission may not adopt the numeric criteria proposed by AB. See Bokum Resources Corp., 93 N.M. at 554, 603 P.2d at 293 (Commission cannot disregard uncontradicted expert testimony); Tenneco Oil Co., 107 N.M. at 477, 760 P.2d at 169 (agency decision will not be upheld if evidence as a whole does not support decision); cf. Colonias Dev. Council, 2003-NMCA-141, ¶ 5 (action is arbitrary and capricious if there is "no rational connection between the facts found and the choices made"); Pacheco, 931 F.2d at 697 (decision is not supported by substantial evidence if there is overwhelming evidence to contrary or if there is only mere scintilla of evidence supporting decision).

SJWC continued with specific reasons not to adopt each of AB's proposals:

A. <u>Coldwater Aquatic Life Phosphorus, Inorganic Nitrogen and Dissolved Aluminum Numeric Criteria</u>

1. AB has proposed changes to numeric criteria applicable to high quality coldwater, coldwater and marginal coldwater aquatic life designated uses that would impose a total phosphorus criterion of 0.1 mg/L, a total inorganic nitrogen criterion of 1.0 mg/L, an acute dissolved aluminum criterion of 250 µg/L, and a chronic dissolved aluminum criterion of 25 µg/L. [Petition at 15]

2. EPA guidance concerning the derivation of numeric aquatic life criteria establishes procedural guidelines for scientifically establishing numeric aquatic life criteria and requires extensive analysis and testing, including acute toxicity tests for animals, acute to chronic ratios for animals and toxicity tests for plants. [Montgomery at 49:14-51:10, 364:21-365:5; EPA Water Quality Standards Handbook (2d ed.), App. H, Ex. NMED-9; Parkhurst Rebuttal at 6; Pitts at 1083:20-25; Pitts Rebuttal at 27-28; see generally EPA Guidelines for Deriving Numerical

National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses (Criteria Guidelines), Ex. SJWC B-11]

3. Federal regulations (40 C.F.R. § 131.11(a)(1)) require that numeric criteria be based on sound scientific rationale. [40 C.F.R. § 131.11(a)(1), Ex. NMED-4]

4. N.M. Stat. Ann. § 74-6-4(C) requires that water quality standards be based on "credible scientific data."

5. AB's sole basis for its proposed total phosphorus numeric criterion, which is identified only in AB's petition, is simply that "[t]oo many nutrients in surface waters can lead to algae blooms that threaten aquatic life." [AB Petition at 15]

6. However, algae blooms are a function of several factors other than nutrient loading. [Pitts Rebuttal at 25]

7. AB provided no testimony, expert or otherwise, in support of its proposed total phosphorous numeric criterion for coldwater aquatic life.

8. AB also provided no basis or testimony, expert or otherwise, in support of its proposed total inorganic nitrogen numeric criterion for coldwater aquatic life.

9. AB's sole basis for its proposed acute and chronic dissolved aluminum numeric criteria, which is identified only in AB's petition, consists of quotations from one literature citation. [AB Petition at 15-16] A literature citation does not establish an appropriate scientifically based criterion pursuant to EPA guidelines. [Pitts Rebuttal at 26; Pitts at 1084:1-3; see generally Criteria Guidelines, Ex. SJWC B-11]

10. AB provided no testimony, expert or otherwise, in support of its proposed acute and chronic dissolved aluminum numeric criteria for coldwater aquatic life.

11. AB provided no scientific basis for its total phosphorus, total inorganic nitrogen or acute or chronic dissolved aluminum numeric criteria proposals. [Pitts at 1082:5-19] Thus, AB failed to comply with federal regulations (40 C.F.R. § 131.11(a)(1)), EPA guidance concerning the derivation of numeric aquatic life criteria and the credible scientific data requirement of N.M. Stat. Ann. § 74-6-4(C).

B. <u>Proposed Wildlife Habitat Dissolved Aluminum Numeric Criterion</u>

1. AB has proposed a change to the numeric criteria applicable to the wildlife habitat designated use that would impose a dissolved aluminum numeric criterion of 750 µg/L.

2. Federal regulations (40 C.F.R. § 131.11(a)(1)) require that numeric criteria be based on sound scientific rationale. [40 C.F.R. § 131.11(a)(1), Ex. NMED-4]

3. N.M. Stat. Ann. § 74-6-4(C) requires that water quality standards be based on "credible scientific data."

4. AB's sole basis for its proposed dissolved aluminum numeric criterion for wildlife habitat, which is identified only in AB's petition, is one literature citation. [AB Petition at 16] A literature citation does not establish an appropriate scientifically based criterion pursuant to EPA guidelines. [Pitts Rebuttal at 26; Pitts at 1084:1-3; see generally Criteria Guidelines, Ex. SJWC B-11]

5. AB's literature citation is inconclusive because it simply notes that lethal levels of dissolved aluminum for aquatic life may be as low as 150 µg/L. [Petition at 16; Pitts Rebuttal at 26; Pitts at 1082:20-1083:7]

6. AB provided no testimony, expert or otherwise, in support of its proposed dissolved aluminum numeric criterion for wildlife habitat.

7. AB provided no scientific basis for its proposed dissolved aluminum numeric criterion for wildlife habitat. [Pitts at 1082:20-1083:7] Thus, AB failed to comply with federal regulations (40 C.F.R. § 131.11(a)(1)) and the credible scientific data requirement of N.M. Stat. Ann. § 74-6-4(C).

C. <u>Section 20.6.4.900: Proposed Aquatic Life Cyanide Numeric Criteria</u>

1. AB has proposed changes to numeric aquatic life criteria that would impose cyanide, weak acid dissociable, numeric criteria of 3.5 µg/L chronic and 10.0 µg/L acute.

2. EPA guidance concerning the derivation of numeric aquatic life criteria establishes procedural guidelines for scientifically establishing numeric aquatic life criteria and requires extensive analysis and testing, including acute toxicity tests for animals, acute to chronic ratios for animals and toxicity tests for plants. [Montgomery at 49:14-51:10, 364:21-365:5; EPA Water Quality Standards Handbook (2d ed.), App. H, Ex. NMED-9; Parkhurst Rebuttal at 6; Pitts at 1083:20-25; Pitts Rebuttal at 27-28; see generally Criteria Guidelines, Ex. SJWC B-11]

3. Federal regulations (40 C.F.R. § 131.11(a)(1)) require that numeric criteria be based on sound scientific rationale. [40 C.F.R. § 131.11(a)(1), Ex. NMED-4]

4. N.M. Stat. Ann. § 74-6-4(C) requires that water quality standards be based on "credible scientific data."

5. AB's sole basis for its proposed chronic and acute cyanide, weak acid dissociable, numeric criteria for aquatic life consists of quotations from one literature citation. [Petition at 17; Pitts Rebuttal at 26; Pitts at 1083:8-13] A literature citation does not establish an appropriate scientifically based criterion pursuant to EPA guidelines. [Pitts Rebuttal at 26; Pitts at 1084:1-3; see generally Criteria Guidelines, Ex. SJWC B-11].

6. AB provided no testimony, expert or otherwise, in support of its proposed chronic and acute cyanide, weak acid dissociable, numeric criteria for aquatic life.

7. AB provided no scientific basis for its proposed chronic and acute cyanide, weak acid dissociable, numeric criteria for aquatic life. [Pitts at 1083:8-13] Thus, AB failed to comply with federal regulations (40 C.F.R. § 131.11(a)(1)), EPA guidance concerning the derivation of numeric aquatic life criteria and the credible scientific data requirement of N.M. Stat. Ann. § 74-6-4(C).

D. <u>Proposed Wildlife Habitat and Aquatic Life Selenium Numeric Criteria</u>

1. AB has proposed changes to the total selenium numeric criteria for wildlife habitat (1 µg/L), acute aquatic life (5 µg/L) and chronic aquatic life (1 µg/L). [Petition at 18-19]

2. EPA guidance concerning the derivation of numeric aquatic life criteria establishes procedural guidelines for scientifically establishing numeric aquatic life criteria and requires extensive analysis and testing, including acute toxicity tests for animals, acute to chronic ratios for animals and toxicity tests for plants. [Montgomery at 49:14-51:10, 364:21-365:5; EPA Water Quality Standards Handbook (2d ed.), App. H, Ex. NMED-9; Parkhurst Rebuttal at 6; Pitts at 1083:20-25; Pitts Rebuttal at 27-28; see generally Criteria Guidelines, Ex. SJWC B-11]

3. Federal regulations (40 C.F.R. § 131.11(a)(1)) require that numeric criteria be based on sound scientific rationale. [40 C.F.R. § 131.11(a)(1), Ex. NMED-4]

4. N.M. Stat. Ann. § 74-6-4(C) requires that water quality standards be based on "credible scientific data."

5. AB's sole basis for its proposed total selenium numeric criteria, which is found only in AB's petition, consists of random quotations from one publication. [AB Petition at 18-19] These quotations do not establish an appropriate scientifically based criterion pursuant to EPA guidelines. [Pitts Rebuttal at 26, 30; Pitts at 1084:1-3, 1084:21-1085:1; see generally Criteria Guidelines, Ex. SJWC B-11]

6. AB provided no testimony, expert or otherwise, in support of its proposed total selenium numeric criteria.

7. AB provided no scientific basis for any of its three proposed total selenium numeric criteria. [Pitts Rebuttal at 27-30; Pitts at 1083:20-1085:1] Thus, AB failed to comply with federal regulations (40 C.F.R. § 131.11(a)(1)), EPA guidance concerning the derivation of numeric aquatic life criteria and the credible scientific data requirement of N.M. Stat. Ann. § 74-6-4(C).

8. The current acute and chronic aquatic life criteria for selenium reflect the national criteria recommended by EPA, and the EPA recommendations are based on appropriate scientific analysis. [Pitts rebuttal at 28; EPA Draft Aquatic Life Water Quality Criteria for Selenium 2002, Ex. SJWC B-17; EPA Ambient Water Quality Criteria for Selenium 1987, Ex. SJWC B-18; EPA National Recommended Water Quality Criteria—Correction, Ex. SJWC B-19]

9. During the 1998-1999 triennial review, the Commission received and considered extensive scientific evidence concerning selenium and adopted a 5 µg/L chronic aquatic life criterion. [Pitts Rebuttal at 28-29; Pitts at 1084:7-13; Statement of Reasons for Amendment of Standards at 9, Ex. SJWC B-12 (re section 3100J.2)] That decision was based on the Commission's determination that the 5 µg/L chronic aquatic life criterion "better reflects national standards and avoids overprotection of fisheries uses." [Statement of Reasons for Amendment of Standards at 9, Ex. SJWC B-12 (re § 3100J.2)]

10. AB presented no evidence during this triennial review that would allow the Commission to reconsider that decision.

11. During the 1998-1999 triennial review, the Commission received and considered extensive scientific evidence concerning selenium and adopted a 5 µg/L wildlife habitat criterion. [Statement of Reasons for Amendment of Standards at 10, Ex. SJWC B-12 (re section 3100L)] That decision was based on the Commission's determination that the 5 µg/L wildlife habitat criterion "better reflects national standards and avoids overprotection of wildlife habitats." [Statement of Reasons for Amendment of Standards at 10, Ex. SJWC B-12 (re section 3100L)]

12. AB presented no evidence during this triennial review that would allow the Commission to reconsider that decision.

13. SJWC, however, provided expert testimony and scientific evidence during this triennial review supporting the Commissions' rejection of AB's proposals to reduce (i) the acute aquatic life criterion from 20 µg/L to 5 µg/L, (ii) the chronic aquatic life criterion from 5 µg/L to 1 µg/L, and (iii) the wildlife habitat criterion from 5 µg/L to 1 µg/L. [Pitts Rebuttal at 28-30; Pitts at 1083:14-1084:20; 1998 Technical Testimony of Tom Pitts, Ex. SJWC-B-20]

14. EPA's draft selenium criteria do not support AB's proposed acute aquatic life criterion. [Pitts Rebuttal at 29-30; EPA Draft Aquatic Life Water Quality Criteria for Selenium 2002, Ex. SJWC B-17]

<u>Comment:</u> Do not recommend adoption of AB's proposals for the reasons set out by SJWC.

<u>Human Health</u>

NMED proposes to amend the criteria. PL 20 at 73-77. The proposal is based upon the current EPA recommendations in National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047. The recalculated criteria integrate an updated national default fish consumption rate (17.5 g/day) and, in some cases, relative source contribution values obtained from primary drinking water standards and new cancer potency information from EPA's Integrated Risk Information System. PL 27 at Ex 10. Of these criteria, only the arsenic criterion is New Mexico-specific (e.g., the updated national default fish consumption rate applied to site-specific data collected during a 1997 joint agency study of arsenic in the middle Rio Grande in the vicinity of Albuquerque. The

site specific data included: (1) geometric mean of dissolved arsenic concentrations from all river and drain stations of 2.88 mg/L; (2) geometric mean of total arsenic concentrations in eight composited fish-tissue samples from fish collected in the river and drains of 13.13 µg/kg; and (3) risk assumptions, including (a) risk level = 10^{-5}; (b) body weight = 70 kg; (c) cancer potency factor = 1.5; (d) bioaccumulation factor = 4.57 L/kg (geomean tissue 13.13/ geomean H20 2.88); and (e) inorganic As = 65 percent). The recalculation resulted in an arsenic criterion of 9.0 µg/L for consumption of organisms only, and 2.3 µg/L for consumption of water plus organisms. PL 27 at Montgomery 118.

"P" Notations (for persistent)

UC had proposed deletion of the "P" notations in the last column that indicate persistent contaminants. The proposal was based on UC's challenge to the second sentence in 20.6.4.10.G NMAC applying persistent toxic pollutants to tributaries of waters with a fishery designation. That challenge, The Regents of the University of California v. NMWQCC, Ct. App. No. 23,498, was decided by the Court on April 28, 2004. The Court upheld the second sentence of the section. As a result, UC's proposed changes are moot, and UC withdrew its requested deletion of the "P" notations.

[Note that for sections 20.6.4.900.N, 20.6.4.900.O, and 20.6.4.900.O2 NMAC, above in the tables, UC's proposed changes are identical to NMED's changes. PL 22 at 16.]

20.6.4.901 PUBLICATION REFERENCES: These documents are intended as guidance and are available for public review during regular business hours at the offices of the surface water quality bureau and the New Mexico environment department public library. Copies of these documents have also been filed with the New Mexico state records center in order to provide greater access to this information.

A. American public health association. 1992. Standard methods for the examination of water and wastewater, 18th Edition. Washington, D.C. 1048 p.

B. American public health association. 1995. Standard methods for the examination of water and wastewater, 19th Edition. Washington, D.C. 1090 p.

C. American public health association. 1998. Standard methods for the examination of water and wastewater, 20h Edition. Washington, D.C. 1112 p.

[~~B~~] D. United States geological survey. 1987. Methods for determination of inorganic substances in water and fluvial sediments, techniques of water-resource investigations of the United States geological survey. Washington, D.C. 80 p.

[~~C~~] E. United States geological survey. 1987. Methods for the determination of organic substances in water and fluvial sediments, techniques of water-resource investigations of the U.S. geological survey. Washington, D.C. 80 p.

[~~D~~] F. United States environmental protection agency. 1974. Methods for chemical analysis of water and wastes. National environmental research center, Cincinnati, Ohio. (EPA-625-/6-74-003). 298 p.

[~~E~~] G. New Mexico water quality control commission. [~~1978~~]. 2003 (208) state of New Mexico water quality management plan [~~(updated 1988)~~]. Santa Fe, New Mexico. [~~226~~] 85. p.

[~~F~~] H. Colorado river basin salinity control forum. [~~1993~~] 2002. [~~1993~~] 2002 Review, water quality standards for salinity, Colorado river system. Phoenix, Arizona. [~~154~~] 176 p.

[~~G~~] I. United States environmental protection agency. [~~1991~~] 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Office of research and development, Washington, D.C. ([~~4th~~] 5th Ed., [~~EPA/600/4-90/027)~~] EPA 821-R-02-012. 293 p. http://www.epa.gov/ost/WET/atx.pdf

[~~H~~] J. United States environmental protection agency. 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Environmental monitoring systems laboratory, Cincinnati, Ohio. (2nd Ed., EPA 600/4-89/001). 250 p. http://www.epa.gov/OST/WET/ctf.pdf

[~~I~~] K. Ambient-induced mixing, in United States environmental protection agency. 1991. Technical support document for water quality-based toxics control. Office of water, Washington, D.C. (EPA/505/2-90-001). 2 p.

[~~J~~] L. United States environmental protection agency. 1983. Technical support manual: waterbody surveys and assessments for conducting use attainability analyses. Office of water, regulations and standards, Washington, D.C. 251 p. http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf

[~~K~~] M. United States environmental protection agency. 1984. Technical support manual: waterbody surveys and assessments for conducting use attainability analyses, volume III: lake systems. Office of water, regulations and standards, Washington, D.C. 208 p. http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf

NMED proposes to update the references, add new references, and add web addresses. PL 20 at 84, PL 27 at 126; TR at 45 l.20 - 46 l.2.

Comment: Recommend adoption for reasons stated.