

STATE OF NEW MEXICO

WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF TRIAD ) Docket No.:  
NATIONAL SECURITY, L.L.C.'S )  
NEWPORT NEWS NUCLEAR BWXT- ) WQCC 24-31  
LOS ALAMOS, L.L.C.'S, AND )  
THE UNITED STATES DEPARTMEN )  
OF ENERGY, OFFICE OF )  
ENVIRONMENTAL MANAGEMENT'S )  
PETITION FOR RULEMAKING )  
TO AMEND 20.6.4.900 NMAC. )  
\_\_\_\_\_ )

**CERTIFIED  
TRANSCRIPT**

HEARING RE THE MATTER OF TRIAD  
NATIONAL SECURITY, L.L.C.'S NEWPORT NEWS  
NUCLEAR BWXT-LOS ALAMOS, L.L.C.'S, AND THE  
UNITED STATES DEPARTMENT OF ENERGY, OFFICE  
OF ENVIRONMENTAL MANAGEMENT'S PETITION FOR  
RULEMAKING TO AMEND 20.6.4.900 NMAC.

BEFORE THE HONORABLE:

FELICIA L. ORTH

TUESDAY, JANUARY 14, 2025

10:47 A.M.

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20 AMELIA CARDEÑA  
21 INTERPRETER

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6 U.S. Department of  
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7 Environmental Management  
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14 Water Quality Criteria  
15 for the Pajarito Plateau:  
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16 Prepared For Newport News  
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17 1200 Trinity Drive, Suite  
150, Los Alamos, New Mexico  
18 87544," Dated November  
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4 Prepared For: Los Alamos  
5 National Security," Dated  
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25 NMED Document Bearing Title, 164  
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1 Santa Fe, New Mexico

2 January 14, 2025

3 10:47 a.m.

4  
5 CHAIRMAN THOMSON: Okay. Welcome  
6 back. I hope everyone had a chance to  
7 visit with Commissioner Dominguez because  
8 this unfortunately may be your last  
9 chance.

10 I call the meeting back into  
11 session.

12 We are now going to have a  
13 Public Hearing on Triad National Security,  
14 L.L.C.'s and Newport News Nuclear BWXT-Los  
15 Alamos, L.L.C.'s Petition for Rulemaking  
16 to Amend Water Quality Standards  
17 20.6.4.900 NMAC.

18 This will be a formal Public  
19 Hearing. The Hearing Officer is  
20 Ms. Felicia Orth.

21 If there are no questions or  
22 concerns from the Commission, I will turn  
23 the meeting over to Ms. Orth.

24 HEARING OFFICER ORTH: Okay. Thank  
25 you, Mr. Chair.

1           My name is Felicia Orth, the  
2       Hearing Officer appointed by the  
3       Commission to conduct a hearing in the  
4       Petition to Amend the Surface Water  
5       Quality standards for Intrastate and  
6       Interstate Surface Waters, 20.6.4 New  
7       Mexico Administrative Code.

8           The Petition was brought by  
9       Triad National Security, Newport News  
10      Nuclear BWXT-Los Alamos, and the U.S.  
11      Department of Energy Office of  
12      Environmental Management. This matter was  
13      docketed by the Commission Administrator  
14      as WQCC 24-31.

15           I would like to introduce our  
16      interpreter, who has brought a team of  
17      interpreters to interpret between Spanish  
18      and English this morning.

19           Ms. O'Grady.

20           INTERPRETER O'GRADY: Thank you,  
21      Madam Hearing Officer.

22           My name is Lisa O'Grady, and I  
23      have 2 other Interpreters interpreting  
24      from English into Spanish and Spanish into  
25      English, Denorah Gutierrez, Federally

1 certified Interpreter, and Amalia Cardeña,  
2 State certified interpreter.

3 In order to access the language  
4 channels, if you are appearing via WebEx,  
5 if you look at the lower left-hand corner  
6 of your screen you will see a globe. You  
7 will need to click on the globe and choose  
8 "English" if you want to hear the  
9 interpretation of any Spanish comments in  
10 English. If you are listening and you  
11 want to listen in Spanish, you will need  
12 to choose "Spanish."

13 I'll give the instructions now  
14 for those appearing on line to choose  
15 Spanish.

16 (Speaking Spanish.)

17 HEARING OFFICER ORTH: Thank you,  
18 Ms. O'Grady.

19 The Commission's Administrator  
20 is recording the hearing on the platform  
21 and the transcript is being made by David  
22 Lee of Cumbre reporting.

23 We have the Petitioners and the  
24 other parties in the matter, including the  
25 Environment Department and Nicholas

1 Maxwell.

2 May I have entries of  
3 appearances, please, or appearances for  
4 each of you.

5 Ms. Olson.

6 MS. OLSON: Good morning, Madam  
7 Hearing Officer, Chair Thomson, and  
8 Commissioners:

9 My name is Kari Olson from  
10 Spencer, Fane, Montgomery & Andrews. I am  
11 here on behalf of Newport News Nuclear  
12 BWXT-Los Alamos, commonly referred to as  
13 N3B throughout this proceeding. We are  
14 one of the 3 Co-Petitioners in this  
15 proceeding.

16 With me in the hearing room  
17 today is Silas DeRoma, who is in-house  
18 Counsel for N3D.

19 HEARING OFFICER ORTH: Thank you.

20 Ms. Dolan.

21 MS. DOLAN: Thank you, Madam  
22 Hearing Officer and Chair Thomson and  
23 Commission:

24 My name is Maureen Dolan. I am  
25 appearing on behalf of Triad National

1 Security, L.L.C., the managing and  
2 operating contractor for Los Alamos  
3 National Laboratory. We are  
4 Co-Petitioners.

5 HEARING OFFICER ORTH: Thank you.

6 MR. EVANS: Madam Hearing Officer,  
7 my name is John Evans. I am appearing on  
8 behalf of the DOE Office of Environmental  
9 Management.

10 HEARING OFFICER ORTH: Thank you.

11 Staff.

12 MS. SCOTT: Good morning. I am,  
13 Brecken Scott on behalf of NMED, the New  
14 Mexico Environment Department.

15 HEARING OFFICER ORTH: Thank you.

16 Mr. Maxwell, I see you on the  
17 platform.

18 MR. MAXWELL: Good morning, your  
19 Honor, and honored Commission:

20 My name is Nicholas Ray  
21 Maxwell. I am one of the people of Lea  
22 County, and I enter my appearance in the  
23 matter today. Thank you.

24 HEARING OFFICER ORTH: Thank you.

25 We will do things this way:

1           We'll start with Opening  
2 Statements. I understand Ms. Scott will  
3 make the Opening Statement, although when  
4 we go to the evidence, the Petitioners  
5 will put on their witnesses first. We  
6 have 2 witnesses from the Petitioners.

7           Then your witness, with 2  
8 potential Rebuttal witnesses, but one  
9 Direct witness from the Environment  
10 Department, and any statement Mr. Maxwell  
11 would like to make.

12           Aside from Technical Testimony,  
13 we'll also accept Public Comment.

14           We will take a lunch break from  
15 roughly a little before noon to a little  
16 before 1:00, and return at 1:00. That  
17 time is expressly reserved for Public  
18 Comment.

19           I will also ask for Public  
20 Comment at the end of the Technical case  
21 from anyone, whatever time that happens to  
22 be. If we have not yet finished the  
23 hearing by 5:00 p.m., I'll break into the  
24 Technical case again and accept Public  
25 Comment at that time; it's reserved.



1           If we have finished before 5:00  
2 p.m., there will not be a 5:00 p.m.  
3 Comment Period.

4           Any of you on the platform or  
5 who are in the room who would like to  
6 offer Public Comment, be sure to offer it  
7 at 1:00 p.m., or when I invite it after we  
8 finish the technical comment.

9           The hearing will be conducted  
10 under the Water Quality Act and the  
11 Commission's Rulemaking procedures, and  
12 20.1.6 of the New Mexico Administrative  
13 Code.

14           Testimony and Comment is taken  
15 under oath and is subject to  
16 Cross-Examination.

17           All matters relevant to the  
18 hearing can be found on the Docketed  
19 Matters web page at the Environment  
20 Department website.

21           If you have questions about  
22 anything relating to the status of the  
23 case, or the documents filed in the case,  
24 or you have a Public Comment you would  
25 like to submit by e-mail or in writing,

1 Pam Jones, the Commission Administrator,  
2 who is sitting back here in the blue  
3 sweater.

4 The Commission may choose to  
5 deliberate once we've closed the  
6 evidentiary record, or they may choose to  
7 deliberate at a subsequent meeting.

8 Okay. Let's take our Opening  
9 Statements.

10 Ms. Scott.

11 MS. SCOTT: Good morning, Madam  
12 Hearing Officer, Chair Thomson, and  
13 members of the Commission. Thank you for  
14 being here today:

15 My name is Brecken Scott, and I  
16 represent the Surface Water Quality Bureau  
17 within the Water Protection Division of  
18 the New Mexico Environment Department.

19 NMED is not the Petitioner in  
20 this Rulemaking, but the Department is  
21 here today in support of the Petitioners'  
22 proposed amendments to the New Mexico  
23 Administrative Code, which are  
24 specifically --

25 Are you hearing this?

1           Okay. Just making sure.

2           -- to the New Mexico  
3 Administrative Code, which are  
4 specifically to 20.6.4.900 NMAC.

5           My goal in this Opening  
6 Statement is to briefly provide some  
7 regulatory context and help situate you in  
8 this proceeding docketed at WQCC 24-31.

9 The Petitioners will address the substance  
10 of their proposed Rule amendment.

11           The Water Quality Control  
12 Commission or the WQCC is directed and  
13 required to adopt Water Quality standards  
14 for Surface Waters of the State under the  
15 New Mexico Water Quality Act. The Water  
16 Quality Act states.

17           "The standards shall, at a  
18 minimum, protect the public  
19 health or welfare, enhance the  
20 quality of water, and serve the  
21 purposes of the Act.

22           "Furthermore, in making the  
23 standards the Commission shall  
24 give the weight it deems  
25 appropriate to all facts and

1           circumstances, including the  
2           use and value of the water for  
3           water supplies, propagation of  
4           fish and wildlife, recreational  
5           purposes, and agricultural,  
6           industrial, and other  
7           purposes."

8           Water Quality standards include  
9   Site-Specific Water Quality Criteria,  
10   which are the basis of Petitioners'  
11   proposed Rule amendment today for  
12   specified waters in the Pajarito Plateau.

13           The WQCC may adopt site-  
14   specific numeric criteria in accordance  
15   with 20.6.4.10F NMAC. Any person may  
16   Petition the WQCC for adoption of such  
17   Site-Specific Criteria subject to certain  
18   requirements under the NMAC.

19           For example, the Petitioner of  
20   Site-Specific Criteria must include a  
21   description of methods used to notify and  
22   solicit input from potential stakeholders  
23   and the general public in the affected  
24   area, and present and respond to public  
25   input received.

1 Any person who initiates a  
2 Rulemaking shall also follow the New  
3 Mexico State Rules Act and associated  
4 regulations regarding public  
5 participation.

6 Between Petitioners and NMED we  
7 insured all public input, Public Notice,  
8 and Public Comment requirements were met,  
9 which brings us to today's Public Hearing  
10 as the final step in the Rulemaking  
11 process.

12 NMED's Technical Testimony will  
13 provide more detail on all of the above.  
14 NMED respectfully requests that the WQCC  
15 deliberate immediately following the close  
16 of the technical case.

17 NMED further requests that a  
18 Hearing Officer Report not be requested by  
19 the Commission in this matter. The  
20 parties anticipate circulating a Statement  
21 of Reasons, a concise explanatory  
22 statement later this week or early next  
23 week should the WQCC adopt the proposed  
24 Rule amendment.

25 Thank you for your time and

1 consideration in WQCC 24-31.

2 HEARING OFFICER ORTH: Thank you.

3 Let's see. It will be  
4 Ms. Dolan.

5 All right.

6 MS. DOLAN: Thank you, Madam  
7 Hearing Officer, Chairman Thomson, and  
8 Commission:

9 Again, my name is Maureen  
10 Dolan. I am representing Triad National  
11 Security, L.L.C., co-Petitioners in this  
12 matter. With me on the platform is Maxine  
13 McReynolds, also representing Triad.

14 As the Commission is aware  
15 Triad has been a co-Petitioner in 2  
16 third-party Petitions before the WQCC  
17 recently. Since the relationships among  
18 different entities at LANL can be  
19 confusing, I wanted to take this  
20 opportunity to provide a brief summary of  
21 Petitioners' respective roles at the  
22 outset:

23 LANL is a Federally funded  
24 research and development center, or FFRD  
25 managed and operated by Triad on behalf of

1 the National Nuclear Security  
2 Administration, or NNSA.

3 Triad is a Delaware Limited  
4 Liability Company authorized to do  
5 business in New Mexico. It is comprised  
6 of 3 --

7 I'm sorry; this microphone is  
8 difficult.

9 -- 3 nonprofit entities;  
10 Battelle Memorial Institute, the  
11 University of California, and the Texas  
12 A&M University system.

13 NNSA is a semi-autonomous  
14 agency within the Department of Energy  
15 responsible for enhancing national nuclear  
16 security through the military application  
17 of nuclear science. NNSA is run from  
18 headquarter sites, as well as through  
19 Field Offices co-located with each of its  
20 contractor-operated national laboratories.  
21 The NNSA Field Offices are responsible for  
22 ensuring compliance with the Federal  
23 contracts issued to manage and operate  
24 these national Labs.

25 NNALA is the NNSA Field Office

1 responsible for ensuring Triad's  
2 compliance with the Laboratory's  
3 management and operating contract. While  
4 NNSA and NNALA are not participants in  
5 this hearing, NNALA does support the  
6 proposed Rulemaking.

7           Since 2018 the legacy and  
8 remediation at LANL has been overseen not  
9 by NNSA, but by DOE's Office of  
10 Environmental Management, or DOEM, through  
11 the separate Field Office, the EMLA. At  
12 LANL this mission is managed and performed  
13 by Newport News Nuclear BWXT-Los Alamos.

14           In this matter, Triad is a  
15 co-Petitioner with both N3B and DOEM's Los  
16 Alamos office. Triad supports this  
17 proposed Rulemaking.

18           As Petitioners' witnesses will  
19 show, its foundations is the EPA-  
20 recommended modeling yield Copper criteria  
21 based on Site-Specific Water Chemistry.  
22 The proposed standards for the Pajarito  
23 Plateau are more accurately tailored to  
24 local conditions and better reflect  
25 potential impacts to Aquatic Life set out





1 in New Mexico's Hardness-Based Water  
2 Quality criteria for Copper.

3 With that I'll turn it over to  
4 Ms. Olson.

5 HEARING OFFICER ORTH: Thank you.

6 MS. OLSON: This chair is very low.

7 HEARING OFFICER ORTH: There is one  
8 you can switch it out for.

9 MS. OLSON: Oh, here it is; I'll  
10 raise this a little bit. I do need these  
11 microphones.

12 Okay. Good morning, Kari Olson  
13 again from Spencer, Fane, Montgomery &  
14 Andrews on behalf of Petitioner N3B.

15 We're here this morning before  
16 the Commission on Petitioners' Proposal to  
17 amend 20.6.4.900 NMAC to incorporate a  
18 Site-Specific Water Quality Criteria for  
19 copper for Pajarito Plateau Surface  
20 Waters.

21 Is this cutting in and out?  
22 I'll try to sit back a little bit.

23 This Proposal was developed  
24 from EPA's 2007 Copper Biotic Ligand  
25 Model. You will see that reflected as

1 "BLM" throughout the papers, and has  
2 Site-Specific Water Quality and  
3 Site-Specific Water Quality Chemistry for  
4 Surface Waters on the Pajarito Plateau.

5 Counsel for NMED has already  
6 laid out the legal framework for this  
7 Commission's adoption and review of  
8 Surface Water Quality standards. As she  
9 pointed out, 20.6.4.10F NMAC authorizes  
10 any person to Petition the Commission to  
11 adopt Site-Specific Criteria and sets  
12 forth the requirements that must be  
13 satisfied for adoption. The uncontested  
14 proposed Site-Specific Water Quality  
15 Criteria for copper for the Pajarito  
16 Plateau Surface Waters satisfies these  
17 requirements.

18 I apologize; I don't have any  
19 tips for...

20 As detailed in the  
21 Demonstration Report, which was included  
22 with our Petition, and is also provided as  
23 Petitioners' Exhibit 1, as well as the  
24 Technical Testimony presented from  
25 Petitioners' witnesses Dr. Amanda White

1 and Barry Fulton, the proposed site-  
2 specific Water Quality criteria was a  
3 result of a multiyear collaborative effort  
4 with NMED, stakeholders, tribes, and  
5 members of the public, to develop a  
6 BLM-based Copper Criteria for the Pajarito  
7 Plateau Surface Waters.

8           The proposed criteria relies on  
9 a scientifically defensible method and  
10 sites water quality data and analysis. It  
11 reflects the best available science in  
12 EPA's current recommendations for Copper  
13 Criteria, is fully protective of Aquatic  
14 Life Uses on the Pajarito Plateau to the  
15 same extent that as EPA 2007 Copper  
16 Criteria, and if adopted will provide a  
17 more accurate assessment of copper  
18 bioavailability and toxicity for Pajarito  
19 Plateau Surface Waters than the current  
20 New Mexico Hardness-Based calculation.

21           Again, the basis and  
22 justification for this Proposal is fully  
23 detailed in the Demonstration Report, and  
24 Petitioners' testimony and exhibits. I  
25 would like to just briefly summarize the

1 key points, for context, to the  
2 presentations you will hear today:

3           As the Commission is likely  
4 aware New Mexico's current statewide  
5 Aquatic Life water quality criteria for  
6 copper, set forth at Part 4900 NMAC, is  
7 based on outdated 1996 EPA Hardness-Based  
8 recommended Copper Criteria. That  
9 criteria only accounts for the affect of  
10 water Hardness on bioavailability and  
11 toxicity and does not explicitly consider  
12 the effects of other water quality and  
13 water chemistry parameters which we have  
14 since learned affect copper  
15 bioavailability and toxicity.

16           In 2007, EPA issued nationally  
17 recommended fresh water "Aquatic Life  
18 Criteria for copper" based on the BLM.  
19 That's provided as Petitioners' Exhibit  
20 10.

21           Reflecting our advances and  
22 understanding of water chemistry, EPA's  
23 2007 BLM-based Copper Criteria departs  
24 from the sole reliance on Hardness and  
25 incorporates the latest and best available

1 scientific information for setting Copper  
2 Criteria by accounting for the effects of  
3 multiple water chemistry parameters that  
4 affect copper bioavailability and toxicity  
5 to Aquatic Life.

6           The EPA 2007 criteria reflects  
7 the best available science and provides a  
8 more accurate assessment of copper  
9 bioavailability than New Mexico's current  
10 Hardness-Based calculation. This is not  
11 in dispute.

12           During the last Triennial  
13 Review of Part 4 the Environment  
14 Department Surface Water Quality Bureau  
15 was not ready to adopt the EPA's updated  
16 Copper BLM for statewide "Aquatic Life  
17 Criteria for copper" based primarily on  
18 scarcity of data. However, consistent  
19 with recommendations from EPA, NMED  
20 committed at that time to continue  
21 evaluating adoption of the BLM-based  
22 Copper Criteria on a segment-specific  
23 basis.

24           Again, as detailed in our  
25 papers, extensive monitoring and sampling

1 of BLM parameters in the Pajarito Plateau  
2 stream since 2005 provided sufficient BLM  
3 water chemistry data to support  
4 development of a BLM-based criteria for  
5 the Pajarito Plateau Surface Waters.  
6 Petitioners have worked extensively with  
7 the Environment Department over many years  
8 to develop the criteria for Pajarito  
9 Plateau Surface Waters presented today.

10 The Proposal also incorporates  
11 substantial input received from  
12 stakeholders, tribes, and members of the  
13 public through the multiyear engagement  
14 process detailed in the Public Involvement  
15 Plan provided with the Demonstration  
16 Report and summarized in the Direct  
17 Testimony of Dr. White.

18 The Copper Criteria for the  
19 Pajarito Plateau Surface Waters is  
20 proposed as a multiple linear progression.  
21 You will see that reflected as "MLR" in  
22 the papers, an equation that accurately  
23 replicates EPA's BLM-based Copper Criteria  
24 using Dissolved Organic Carbon; you will  
25 hear that referred to at "DOC," "pH," and

1 "Hardness." We noticed through the robust  
2 data collection and analysis of the BLM  
3 water chemistry data from the Pajarito  
4 Plateau Surface Waters -- which you will  
5 hear described by Dr. White and  
6 Mr. Fulton.

7 EPA recognizes that MLR  
8 equations are a scientifically defensible  
9 approach to calculate metal criteria for  
10 Aquatic Life. They provide greater  
11 transparency and usability over the Copper  
12 BLM software. Notably, because the MLR  
13 equations resemble the Hardness-Based  
14 metals criteria, they can easily be  
15 incorporated into 20.6.4.900 in an  
16 equation form that is already familiar to  
17 users and the public.

18 If adopted by the WQCC, the  
19 proposed copper Site-Specific Water  
20 Quality Criteria will provide a more  
21 accurate assessment of copper conditions  
22 for Aquatic Life Uses and level of  
23 protection in Pajarito Plateau Surface  
24 Waters in accordance with EPA's current  
25 guidance and recommendations, and the New

1 Mexico Water Quality standards.

2 We appreciate the Commission's  
3 careful consideration of this Proposal and  
4 request that, pursuant to 20.1.6.306 of  
5 the Commission's Rulemaking procedures,  
6 the Commission proceed with deliberation  
7 at the conclusion of this hearing and  
8 adopt the proposed uncontested  
9 Site-Specific Water Quality Criteria for  
10 copper for Surface Waters on Pajarito  
11 Plateau as amendments to Part 4. Thank  
12 you.

13 HEARING OFFICER ORTH: Thank you,  
14 Ms. Olson.

15 Will there be any further  
16 opening statement from the Petitioners?

17 MS. OLSON: No, Madam Hearing  
18 Officer.

19 HEARING OFFICER ORTH: All right.

20 Are you going to call your  
21 first witness?

22 MS. OLSON: Before I call her I  
23 would like to just briefly address  
24 exhibits:

25 Is it the Commission's pleasure



1 to introduce exhibits one by one through  
2 witnesses, or to have me walk through the  
3 exhibits, other than the Prefiled Direct  
4 Testimony, at this time? How would you  
5 like to handle that?

6 HEARING OFFICER ORTH: My memory  
7 from an e-mail that I saw, I think, from  
8 Ms. Scott is that Mr. Maxwell requested  
9 that foundation be laid through the  
10 testimony, and then we can talk about  
11 admission.

12 You can even, you know, lay the  
13 foundation and do it one at a time, or at  
14 the end, but it doesn't sound as though we  
15 have consensus on doing it all at the end.

16 MS. OLSON: Understood.

17 Just for clarification, as  
18 you're well aware there is no foundation  
19 requirement because the Rules of Civil  
20 Procedure do not apply in this proceeding.

21 I'm happy to have our witnesses  
22 identify the relevance, which I think is  
23 laid out in the testimony, or if  
24 Mr. Maxwell wants to identify any specific  
25 exhibits that he was unclear about

1 relevance to save time, I can limit it to  
2 just those exhibits, whatever would be  
3 your preference.

4 HEARING OFFICER ORTH: All right.

5 Mr. Maxwell, were there certain  
6 exhibits that you had concerns about as to  
7 whether they were relevant?

8 MR. MAXWELL: Not specifically, but  
9 I reserve my objection to the admission of  
10 them though.

11 HEARING OFFICER ORTH: All right.

12 Even a brief description of how  
13 the exhibits are relevant.

14 Understanding that the Rules of  
15 Civil Procedure don't apply, one of the  
16 reasons we usually step through that  
17 exercise regardless, even if it's brief,  
18 is just to make sure that the Boards and  
19 Commissions are relying on reliable  
20 documents.

21 MS. OLSON: Understood. I'm happy  
22 to discuss relevance to the proceedings.

23 HEARING OFFICER ORTH: All right.

24 I need to swear in Dr. White.

25 Do you swear or affirm to tell

1 the truth?

2 THE WITNESS: Yes.

3 HEARING OFFICER ORTH: Thank you.

4  
5 AMANDA B. WHITE, PH.D.,

6 after having been first duly sworn,  
7 was examined and testified as follows:

8  
9 EXAMINATION

10 BY MS. OLSON:

11 Q. Okay. Dr. White, thank you for  
12 being here this morning.

13 Will you please state your full  
14 name for the record and spell it.

15 A. Sure. Amanda White; A-M-A-N-D-A  
16 W-H-I-T-E.

17 Q. Dr. White, what is your current  
18 profession?

19 A. I am the Tech2 Solutions Water  
20 Program Director, and that is a  
21 subcontractor to N3B.

22 Q. Do you have before you what has  
23 been identified as Petitioners' Exhibit 3?

24 A. Yes.

25 Q. Do you recognize this as your



1 Prefiled Direct Technical Testimony?

2 A. Yes.

3 Q. Was that Technical Testimony  
4 drafted by you or under your direct  
5 supervision?

6 A. Yes.

7 Q. Do you have any corrections to your  
8 testimony?

9 A. No.

10 Q. Is the testimony that you prepared  
11 true and accurate to the best of your  
12 knowledge and belief?

13 A. Yes.

14 Q. If you were asked these same  
15 questions today would you give the same  
16 answers under oath?

17 A. Yes.

18 MS. OLSON: Madam Hearing Officer,  
19 N3B offers Petitioners' Exhibit 3.

20 HEARING OFFICER ORTH: Okay. I  
21 will pause for a moment in the event there  
22 are objections.

23 Exhibit 3 is admitted.

24 (Water Quality Control  
25 Commission Technical Hearing N3B Exhibit 3

1 was received in evidence.)

2 MS. OLSON: While I have the mic,  
3 let me offer 2 things.

4 HEARING OFFICER ORTH: Those of you  
5 at the table have the option of using the  
6 handheld mic if that's easier. If you  
7 don't use a handheld mic, please don't  
8 turn your head while you're speaking.  
9 Thank you.

10 MS. OLSON: Thank you for that  
11 reminder.

12 Q. Okay. Moving on to some of the  
13 other exhibits that were referenced in  
14 your testimony do you have before you  
15 what's been identified as Petitioners'  
16 Exhibit 5?

17 A. Yes.

18 Q. Do you recognize that document as  
19 your Resumé?

20 A. Yes.

21 Q. Is that Resumé true and accurate to  
22 the best of your knowledge and belief?

23 A. Yes.

24 MS. OLSON: Madam Hearing Officer,  
25 or Hearing Officer, we would move to admit

1 Petitioners' Exhibit 5.

2 HEARING OFFICER ORTH: Thank you.

3 I'll pause for a moment in the  
4 event there are objections.

5 Exhibit 5 is admitted.

6 (Water Quality Control  
7 Commission Technical Hearing N3B Exhibit 5  
8 was received in evidence.)

9 Q. BY MS. OLSON: Dr. White, do you  
10 also have before you what has been  
11 identified as Petitioners' Exhibit 2?

12 A. Yes.

13 Q. Do you recognize that as  
14 Petitioners' Proposed Changes to Part 4?

15 A. Yes.

16 Q. Were you involved in the  
17 development of this document?

18 A. Yes.

19 MS. OLSON: Madam Hearing Officer,  
20 N3B offers Petitioners' Exhibit 2.

21 HEARING OFFICER ORTH: I'll pause  
22 for a moment in the event there are  
23 objections.

24 Exhibit 2 is admitted.

25 (Water Quality Control

1 Commission Technical Hearing N3B Exhibit 2  
2 was received in evidence.)

3 Q. BY MS. OLSON: Dr. White, do you  
4 have before you what's been identified as  
5 Petitioners' Exhibit 7?

6 A. Yes.

7 Q. Do you recognize that as a Notice  
8 of Public Meetings and Comment Period for  
9 the Draft Demonstration Report?

10 A. Yes.

11 Q. What is the relevance of that  
12 Notice document to the Proposal and  
13 Petition?

14 A. Sure.

15 The Demonstration Report lays  
16 the foundation of the proposed change, and  
17 this was a notification of a Public  
18 Meeting on the Demonstration Report, as  
19 well as the kickoff of the Comment Period,  
20 the 45-day Comment Period.

21 MS. OLSON: Madam Hearing Officer,  
22 we would move for admission of  
23 Petitioners' Exhibit 7.

24 HEARING OFFICER ORTH: I'll pause  
25 for objections.

1 Exhibit 7 is admitted.

2 (Water Quality Control

3 Commission Technical Hearing N3B Exhibit 7  
4 was received in evidence.)

5 Q. BY MS. OLSON: Finally, Dr. White,  
6 do you have before you what's been  
7 identified as Petitioners' Exhibit 8?

8 A. Yes.

9 Q. Do you recognize that as the  
10 response to comments received during that  
11 Comment Period?

12 A. Yes.

13 Q. What's the relevance of including  
14 the response to comments in the record?

15 A. During the 45-day Public Comment  
16 period on the Demonstration Report the  
17 written comments that were received were  
18 from Communities For Clean Water, and  
19 these are DOEMLA's and N3B responses to  
20 those comments.

21 MS. OLSON: Madam Hearing Officer,  
22 we would finally move to admit  
23 Petitioners' Exhibit 8.

24 HEARING OFFICER ORTH: Thank you.  
25 I will pause in the event there are



1 objections.

2 Exhibit 8 is admitted.

3 (Water Quality Control  
4 Commission Technical Hearing N3B Exhibit 8  
5 was received in evidence.)

6 MS. OLSON: Thank you. I will  
7 reserve addressing the rest of the  
8 exhibits with our next witness.

9 At this time, Dr. White has  
10 prepared a summary of her Prefiled  
11 Technical Testimony, and so I would pass  
12 it to her to provide that summary.

13 Just as a reminder; everybody  
14 received via the Dropbox link a copy of  
15 the presentation that accompanies that  
16 summary. I do have a couple of paper  
17 copies if anyone did not receive that.

18 HEARING OFFICER ORTH: Would any  
19 Commissioner want to see a paper copy?

20 All right. Thank you very  
21 much.

22 MS. OLSON: Okay. Ms. Jones, if  
23 you could give, I believe it's identified  
24 as Petitioner's witness permission to  
25 share the screen.

1 MS. JONES: You have it.

2 THE WITNESS: All right.

3 Is everyone able to see that?

4 Okay. All right. Thank you,  
5 and good morning, Chair Thomson and  
6 members of the Commission:

7 I appreciate you allowing me to  
8 present. My name is Amanda White, as I  
9 stated previously, and I am here to  
10 discuss the Petition to Amend the  
11 standards for Interstate and intrastate  
12 Surface Water, 20.6.4 New Mexico  
13 Administrative Code.

14 The purpose of my testimony  
15 today is to provide background information  
16 on Surface Waters within the Pajarito  
17 Plateau to which the proposed copper  
18 Site-Specific Water Quality would apply.

19 I will also summarize the  
20 reasons for developing the proposed copper  
21 Site-Specific Water Quality Criteria for  
22 the Surface Waters and describe the data  
23 collection used to support it.

24 I will summarize Petitioners'  
25 outreach and extended engagement with

1 NMED's Surface Water Quality Bureau, EPA,  
2 stakeholders, and tribes, in developing  
3 these proposed copper Site-Specific Water  
4 Quality Criteria.

5 Okay. I wanted to provide a  
6 geographic backdrop of the Pajarito  
7 Plateau:

8 If you look in the upper  
9 right-hand corner you will recognize the  
10 State of New Mexico outline, and Los  
11 Alamos is indicated there.

12 In the lower right-hand corner  
13 you can see Los Alamos County situated  
14 between Sandoval County and Santa Fe  
15 County.

16 If you look at the map on the  
17 left-hand side you will see the  
18 Laboratory, which is the yellow-shaded  
19 boundary, and that is Los Alamos National  
20 Laboratory. I'll most likely refer to it  
21 as "LANL" or "the Laboratory." You can  
22 see the landholders ownership.

23 To the south is Bandelier  
24 National Monument.

25 To the north-northwest is Santa

1 Fe National Forest.

2 To the north-northeast and east  
3 is the Pueblo San Ildefonso, as well as  
4 the Los Alamos town site to the north, and  
5 White rock to the east.

6 All right. I wanted to  
7 describe the Surface Waters within the  
8 Pajarito Plateau:

9 The Pajarito Plateau is defined  
10 as the "outer boundary," which is the  
11 watershed. It's the delineation of the  
12 watershed that delineates the boundary, so  
13 it is that outer brown area that is the  
14 Pajarito Plateau as we are defining it.

15 The Surface Waters within the  
16 Pajarito Plateau that we are incorporating  
17 into it are the 20.6.498, which is the  
18 deep blue areas.

19 Located to the north, so that's  
20 Water Canyon up there, Pueblo Canyon. In  
21 the headwaters to the west of the  
22 Laboratory property are these  
23 classifications, which are intermittent  
24 unclassified waters.

25 The next classification is

1 20.6.4.121, which is a perennial stream in  
2 Frijoles Canyon to the south and  
3 perennial. It is in Bandelier National  
4 Monument.

5 We have 20.6.4.126, which are  
6 perennial reaches within Los Alamos  
7 National Laboratory. They are the red and  
8 little bits and pieces here, which are  
9 stream segments, and they are either  
10 spring-fed or effluent-fed.

11 20.6.4.127 is the light green  
12 area to the northwest, and that is Los  
13 Alamos Reservoir, and the stream from Los  
14 Alamos Reservoir downstream to the ice  
15 rink if you're familiar with Los Alamos.

16 By and large 20.6.4.128, which  
17 are the darker green segments are  
18 ephemeral intermittent streams. By and  
19 large these are the most common streams  
20 that are in the Laboratory and across the  
21 Pajarito Plateau. They are ephemeral or  
22 intermittent streams.

23 We have 20.6.4.140 which are  
24 the purple sections, and they are  
25 intermittent.

1 All right. Just to drive that  
2 point home, we have intermittent waters,  
3 we have perennial waters, we have  
4 ephemeral and intermittent waters, and  
5 different hydrologies that are represented  
6 across the Pajarito Plateau.

7 All right. Knowing the  
8 hydrologic Water Quality Standards  
9 conditions and the geographic setting that  
10 we're looking at, Water Quality Management  
11 Planned to discuss the Copper Criteria,  
12 the current criteria and the proposed  
13 criteria.

14 The current criteria is  
15 Hardness-Based and only accounts for the  
16 affects of Hardness toxicity to Aquatic  
17 Life. It does not consider other water  
18 parameters, such as pH or water carbon,  
19 and are under-protective or not stringent  
20 enough, or overprotective or too stringent  
21 depending on Site-Specific Water  
22 Chemistry.

23 The proposed criteria is a  
24 Site-Specific Water Quality Criteria for  
25 copper in surface waters within the

1 Pajarito Plateau. It uses the EPA's  
2 Biologic Ligand Model, or BLM software  
3 that accounts for multiple water chemistry  
4 parameters on bioavailability and toxicity  
5 of copper to Aquatic Life. The proposed  
6 equations accurately replicate the BLM  
7 software criteria.

8 I would like to note that the  
9 EPA, in their 2007 recommendations on the  
10 Copper Criteria, recommended using the  
11 BLM, which incorporates the effects of  
12 multiple water chemistry parameters and  
13 imparts the latest scientific knowledge on  
14 appreciation and bioavailability.

15 All right. That's the  
16 criteria. Now I want to talk about the  
17 very robust data set that we started  
18 collecting 20 years ago:

19 In 2005 we started to collect  
20 the parameters needed for the BLM model  
21 across the Laboratory. You can see,  
22 again, the Pajarito boundary outlined in  
23 yellow this time, and the gauging stations  
24 are indicated with green triangles. They  
25 are USGS-style gauging stations.

1           We monitor streamflow at all of  
2 those different locations, and we also  
3 sample at those locations when there is  
4 flow. Again, these are ephemeral, so  
5 you're familiar with arroyos and when they  
6 flow, so this is precipitation, frozen  
7 snow melt, sometimes if we're lucky.

8           The red triangles are reference  
9 locations, so they are considered  
10 background locations either upwind or not  
11 on Laboratory property. At all these  
12 locations we have sampled across the  
13 Pajarito Plateau, so spatially and  
14 temporally this dataset is very robust.

15           I wanted to get into a little  
16 bit about the areas that we have  
17 collected, and now I want to talk about  
18 how we collected the samples.

19           For the sample collection  
20 process we have field collection. Because  
21 we have storm water, again, they are  
22 mostly ephemeral streams and intermittent,  
23 so we are using automated samplers.

24           The pump is triggered in the  
25 sampler when there is streamflow. If



1 there is streamflow, you start sampling.

2 The arm starts swinging inside the  
3 automated collection, and you start  
4 collecting samples, and that triggers.

5           When a sample is collected we  
6 go to the field and retrieve it, so we  
7 have the sample inspection and sample  
8 retrieval form, which initiates the Chain  
9 of Custody process. The Chain of Custody  
10 is exactly what it says; an unending chain  
11 documenting the custody as a record of  
12 maintaining custody.

13           From there the samples are  
14 delivered to the storm water processing  
15 facility. The Chain of Custody is  
16 relinquished to the processing facility, a  
17 storm water sample processing log is  
18 created, and sample filtration or  
19 preservation are performed as required for  
20 the analysis.

21           Chain of Custody analysis  
22 request forms are then completed and the  
23 shipping form is created. Then the sample  
24 and those forms are transferred to the  
25 Sample Management Office and the Chain of

1 Custody is relinquished to the SMO, or  
2 Sample Management Office, and the samples  
3 are shipped to the analytical laboratory.

4 I wanted to get into the  
5 collection process of the samples, and now  
6 I'm going to discuss a little bit about  
7 the Quality Assurance and Quality Control  
8 associated with the analytical data:

9 The Chain of Custody forms  
10 track the collection and delivery of  
11 samples to laboratories. These are  
12 third-party analytical laboratories or  
13 contract laboratories. They follow  
14 standard QA/QC procedures for analysis and  
15 data reporting, and are accredited under  
16 the Department of Energy Consolidated  
17 Audit Program, otherwise known as DOECAP  
18 for the analytes of interest.

19 Detection reporting limits are  
20 provided with the samples from the third-  
21 party analytical laboratory. Non-  
22 detections are flagged at the laboratory  
23 and checked by independent data  
24 validators.

25 Analytical data is also

1 validated by N3B chemists' guidelines  
2 based on EPA QA/G-8 guidance on  
3 Environmental Data Verification and Data  
4 Validation, Department of Defense/  
5 Department of Energy Consolidated Quality  
6 System Manual for Environmental  
7 Laboratories, and EPA's national  
8 functional guidelines for data validation.  
9 All of these things combined together to  
10 create a very robust data set  
11 hydrologically, temporally, spatially, and  
12 it is high quality.

13           Now I want to move a little bit  
14 into touching on the point of our  
15 communications and interactions with the  
16 regulators over the course of the past 7  
17 years:

18           We've had numerous interactions  
19 and NMED Surface Water Quality Bureau, as  
20 well as the EPA has been involved, kicking  
21 off with a January 25, 2018, meeting in  
22 Santa Fe to provide overview of the Copper  
23 BLM and discuss its application to the  
24 Pajarito Plateau Surface Waters.

25           I will not go through all of

1 these, but the general rhythm of them is  
2 we met and we discussed what we were going  
3 to do with the regulators. They provided  
4 comments. We wrote the draft document  
5 incorporating their comments. We provided  
6 the draft to the regulators. They  
7 provided comments; we incorporated the  
8 comments.

9 Then we provided a final  
10 document, so we developed a Work Plan as  
11 well as the Demonstration Report. The  
12 final conference/teleconference to discuss  
13 the Draft Petition for the Copper  
14 Site-Specific Water Quality Criteria was  
15 in April 2024.

16 Okay. You can see that we have  
17 had a lot of interaction with the  
18 regulators. We've also had quite a bit of  
19 interaction with the public, stakeholders,  
20 tribes, and members of the public.

21 In December 2020 it was, you  
22 know, the middle of the pandemic. We had  
23 the individual NPDES Storm Water Permit  
24 public meeting, and that was targeted  
25 towards the general public. We presented

1 our Demonstration Report, which was in  
2 draft form at that point.

3           During our Public Meeting in  
4 May 2021 we were invited to present to the  
5 Northern New Mexico Citizens Advisory  
6 Board or NMCAB meeting, and the  
7 stakeholders there were the City of Santa  
8 Fe, Los Alamos County, various Pueblos and  
9 Tribes, as well as Universities and NGOs  
10 and private entities. Lots of different  
11 stakeholders there.

12           In June 2021 we presented again  
13 in our Individual Permit Public Meeting to  
14 discuss changes that had been made based  
15 on regular communications.

16           You can see an ongoing theme  
17 through here:

18           We presented at the IP Public  
19 Meeting, to keep the public abreast of any  
20 changes that were made to the standard as  
21 we went along.

22           In November 2021 we were  
23 invited to present at the Accord Pueblo  
24 Technical Exchange meeting with the Pueblo  
25 San Ildefonso, Pueblo Jemez and Pueblo

1 Santa Clara.

2 In November 2021 the Eastern  
3 Jemez Resource Council meeting. We were  
4 invited to present there, and that has  
5 with various federal, state, and local  
6 entities, as well as private and  
7 universities.

8 In November 2021, we again  
9 presented at the IP Public Meeting.

10 In March 2022 we were invited  
11 to present at the Los Alamos County Board  
12 of Public Utilities Working Session  
13 meeting. That was Los Alamos County and  
14 the general public, because it was open to  
15 the public, and we presented to them.

16 In March 2023 we held our  
17 Public Meeting on the Demonstration  
18 Report. That is the notification that was  
19 discussed in the exhibit, and that was  
20 open to the general public.

21 We noticed that in various  
22 assorted newspapers in Los Alamos, Santa  
23 Fe, Española, and it was held in September  
24 2023. As I stated previously it kicked  
25 off the 45-day Comment Period for the

1 Demonstration Report, a Public Comment  
2 Period in which we received in writing  
3 comments from Communities For Clean Water.

4 In summary I wanted to present  
5 to you an overview of the geographic  
6 setting, the robust data set that we  
7 developed hydrologically, spatially, and  
8 temporally.

9 It's a very high quality data  
10 set that was gathered. It was 18 years of  
11 data that was included in this analysis in  
12 development of this proposed change. I  
13 wanted to discuss our interactions with  
14 not only regulators, but the public and  
15 stockholders.

16 With that, I believe that ends  
17 my presentation.

18 MS. OLSON: Thank you, Dr. White.

19 Madam Hearing Officer, I don't  
20 have any further questions for this  
21 witness, so at this time I would tender  
22 her for Examination and questioning by  
23 yourself and the Commissioners.

24 HEARING OFFICER ORTH: Thank you  
25 very much, Dr. White and Ms. Olson.

1                   Mr. Scott, do you have  
2 questions of Dr. White?

3                   MR. MAXWELL: No questions.

4                   HEARING OFFICER ORTH: Okay.

5                   Mr. Maxwell, do you have  
6 questions for Dr. White?

7                   MR. MAXWELL: I do not have  
8 questions for Dr. White. Thank you.

9                   HEARING OFFICER ORTH: Thank you.

10                  Let me start, then, with  
11 Commissioner Moander.

12                  Do you have questions for  
13 Dr. White?

14                  COMMISSIONER MOANDER: I do not;  
15 thank you.

16                  HEARING OFFICER ORTH: Thank you.

17                  Vice Chair Zemlick.

18                  VICE CHAIRWOMAN ZEMLICK: No, thank  
19 you, I do not.

20                  HEARING OFFICER ORTH: Thank you.

21                  Commissioner Dominguez.

22                  COMMISSIONER DOMINGUEZ: No  
23 questions, Madam Hearing Officer.

24                  HEARING OFFICER ORTH: All right.

25                  Chair Thomson.



CHAIRMAN THOMSON: Yeah, I have one  
question:

///

///

///

EXAMINATION

BY CHAIRMAN THOMSON:

Q. You have a very impressive data set  
going back to 2005, and I appreciate that.

This is all Water Quality data.  
You don't have any toxicology data. Is  
that true?

A. That is untrue.

I'm going to defer to  
Mr. Fulton on that question if that's  
okay.

CHAIRMAN THOMSON: Okay. I'll ask  
him then. Thank you.

HEARING OFFICER ORTH: Okay. Thank  
you.

Commissioner Velasquez.

COMMISSIONER VELASQUEZ: Thank you.

EXAMINATION

BY COMMISSIONER VELASQUEZ:

1 Q. Thank you Dr. White.

2 First of all I want to thank  
3 you for the stakeholder outreach. It is  
4 clear that was a priority for this plan.

5 Being a resident of the  
6 Pojoaque Basin it was very clear we had  
7 the opportunity, and so I want to just say  
8 that I think that's good government and  
9 just good work for our public and I  
10 appreciate that.

11 My only other question -- and  
12 that was a comment.

13 My question is in the BLM  
14 sampling Plan, as you went from 2019 to  
15 2020 was there any interruption in the  
16 Plan due to the COVID pandemic being in  
17 place, or did the intent of the Plan carry  
18 through with no interruptions from 2019  
19 through the recovery period and people  
20 getting back after the pandemic?

21 A. Sure, yeah.

22 Thanks to this amazing  
23 technology we have we held everything  
24 online that was required, any meeting. In  
25 fact, several of those meetings were held

1 online, especially the early-on ones, the  
2 2020/2021, but the newer meetings were  
3 held hybrid as well as in person.

4 COMMISSIONER VELASQUEZ: Thank you,  
5 Mr. Chair.

6 Q. I'm getting to more of the on-the-  
7 ground sampling, the schedule of measuring  
8 the on-the-ground status. Was that  
9 interrupted in any way or did that carry  
10 through as planned?

11 A. No, we took a brief, very brief  
12 hiatus for, I think, 2 months and were  
13 back in the field from March 15 -- I don't  
14 even think it was 2 months. It had been  
15 very brief before it was decided that  
16 field work was safe as far as the  
17 transmission of COVID was concerned.

18 COMMISSIONER VELASQUEZ: Thank you.

19 Thank you, Mr. Chair.

20 HEARING OFFICER ORTH: Okay. Thank  
21 you.

22 Commissioner Brancard.

23 COMMISSIONER BRANCARD: Thank you.

24  
25 EXAMINATION

1 BY COMMISSIONER BRANCARD:

2 Q. Thank you for the presentation. I  
3 don't understand a lot of the science, but  
4 since you introduced the proposed  
5 regulatory changes, let me try to ask some  
6 questions of you about those:

7 I'm confused, but then again I  
8 keep thinking the BLM is a federal agency,  
9 so...

10 Under this provision, 10.4,  
11 20.6.4, when we adopt Site-Specific  
12 Criteria one of the things we have to do  
13 is find that these criteria fully protect  
14 the designated uses; okay?

15 A. Yes.

16 Q. We have in our stream standards  
17 here a whole long list of basins, et  
18 cetera, that are defined and that have  
19 designated uses.

20 I think, as you have sort of  
21 indicated, you are not applying this to  
22 specific basins that are currently in our  
23 standards, you're creating an entirely new  
24 geographic concept here called the  
25 Pajarito Plateau.

1 A. They will apply to the stream  
2 segments that I discussed.

3 Q. But you're not making any changes  
4 to those segments.

5 A. It was decided that instead of  
6 putting it in each and every one of those,  
7 and that was in cooperation with NMED,  
8 that it would make more sense to include  
9 it in the overarching .900 part:

10 Q. Okay. I'm looking, say, at:

11 "20.6.4.128: Rio Grande  
12 Basin."

13 A. Uh-huh.

14 Q. These are lands managed by DOE.  
15 Under "Criteria" it says:

16 "The use-specific criteria  
17 of 20.6.4.900 NMAC are  
18 applicable to the designated  
19 uses except that the following  
20 segment-specific criteria  
21 apply:

22 "The acute total ammonia  
23 criteria set forth in  
24 Subsection L of 20.6.4.900";

25 okay?

1 I mean would it be useful for  
2 each of these segments to also have a  
3 cross-reference like that in there?

4 A. Sure.

5 I will defer to the NMED on  
6 that. I think we discussed various  
7 different ways of incorporating the  
8 standards into it, but this was the  
9 preference, I think, by all of the parties  
10 involved.

11 Q. Okay. You have identified the  
12 different stream segments --

13 A. Uh-huh.

14 Q. -- that are within this larger  
15 Pajarito Plateau concept here, and each of  
16 them has different designated uses. I  
17 would assume that means that we, as the  
18 Commission, need to make a finding that  
19 what you're proposing protects each of  
20 those designated uses within those 6  
21 different segments. Is that correct?

22 A. That's correct.

23 If you look at the equations  
24 proposed, there is one for "Aquatic  
25 Acute," as well as "Chronic Aquatic Life,"

1 so those should capture what you're  
2 proposing.

3 Q. I see: "Limited Aquatic Life";  
4 and:

5 "Secondary Contact."

6 A. Uh-huh.

7 Q. I see: "Cold Water Aquatic Life."

8 I see: "Primary Contact."

9 A. Uh-huh.

10 Q. Is "Primary Contact" being  
11 protected by these?

12 A. (No audible response.)

13 Q. I mean is there evidence in your  
14 presentation that says that "Primary  
15 Contact" is being protected?

16 A. Sure.

17 Mr. Fulton's presentation will  
18 get a little bit more into the details of  
19 the protectiveness, as well as the details  
20 of the methodology of the Proposal.

21 Q. I would just think that when we do  
22 prepare a --

23 A. Sure.

24 Q. -- Statement of Reasons, we're  
25 going to have to check off a whole lot of

1 boxes here about all these different  
2 stream segments that are within this  
3 larger segment that you're creating, but  
4 you're not making one of our stream  
5 segments.

6 A. That's right.

7 Q. Okay.

8 I guess I'm just struggling a  
9 bit with that knowing all the blood,  
10 sweat, and tears that has gone into the  
11 many Triennial Reviews that this  
12 Commission has gone through to set forth  
13 all these stream segments, and we are now  
14 coming up with this entirely new concept  
15 of the Pajarito Plateau here, which is not  
16 a stream segment.

17 I hope somebody can explain how  
18 this works in our rules for us here.

19 HEARING OFFICER ORTH: We have 2  
20 more witnesses to hear from, including the  
21 NMED.

22 COMMISSIONER BRANCARD: I would  
23 love to hear from them.

24 Q. I was a little confused in the  
25 changes you proposed, if I can find them,



1 and I probably can't now, but in J(2)  
2 of .900 -- and you may not be the best  
3 witness to answer this question, but  
4 that's great. Let me see if I can find  
5 what I was looking for here.

6 HEARING OFFICER ORTH: Page 50  
7 maybe.

8 COMMISSIONER BRANCARD: I was  
9 looking at the Petition here, page 3 of  
10 the Petition.

11 MS. OLSON: I believe it's Bates  
12 number Petitioner 0411 of Exhibit 2 for a  
13 cross-reference.

14 Q. BY COMMISSIONER BRANCARD: You have  
15 "Use-Specific Numeric Criteria J," and  
16 then "(2)" is:

17 "Notes applicable to the  
18 Table..."; okay?

19 It says: "(a): When the  
20 letter 'a' is indicated, the  
21 criteria is based on receiving  
22 water characteristics," et  
23 cetera.

24 Now is that based only on  
25 copper?

1 A. Yes.

2 Q. Okay. Well that Table has a whole  
3 lot of "(a)'s" in it which are little.

4 A. No it's: "(a): Copper; Chromium";  
5 various assorted metals.

6 It was modified, I believe to  
7 the best of my knowledge, to remove the  
8 "Hardness" specificity because we'll be  
9 switching to using other parameters  
10 besides just "Hardness."

11 Q. All right. But I thought we were  
12 just talking about copper here.

13 A. Uh-huh.

14 Q. Now we are applying this to all the  
15 other metals.

16 A. No, that's not what I'm saying.

17 Q. Okay. But that little letter  
18 "a" --

19 A. Sure.

20 Q. -- appears next to a whole bunch of  
21 other metals in that Table.

22 A. Uh-huh.

23 It was just to remove the  
24 specificity because our criteria will be  
25 based on other parameters besides just

1 "Hardness." It won't modify the other  
2 ones.

3 Q. Okay. Okay.

4 A. To make it more generic.

5 Q. Just here's a little nib:

6 In J1 you refer to the end of  
7 that sentence. Subjection (a) through  
8 (i), (k), (l), and (m) of this Section I  
9 think are brethren. They State Records  
10 Center doesn't like you to use this  
11 Section anymore, they want you to put the  
12 actual number of the Section, but that's a  
13 holdover from a long time ago in this  
14 Rule. I hate for them to reject our  
15 submittal --

16 MS. OLSON: That's an interesting  
17 point, Commissioner Brancard, because we  
18 are not proposing to modify that language;  
19 that's the existing language in the  
20 regulation.

21 COMMISSIONER BRANCARD: Right.

22 MS. OLSON: I don't know what the  
23 State Records -- you know, when you modify  
24 a Section, if they propose changes to  
25 other not-modified language; I guess we'll

1 find out.

2 COMMISSIONER BRANCARD: You're  
3 forewarned that they may.

4 MS. OLSON: That's an interesting  
5 point.

6 COMMISSIONER BRANCARD: I don't see  
7 that as a substantive change, so thank  
8 you.

9 HEARING OFFICER ORTH: Okay. Thank  
10 you.

11 Commissioner Vigil.

12 COMMISSIONER VIGIL: I have no  
13 questions; thank you.

14 HEARING OFFICER ORTH: Thank you.

15 On the platform, Commissioner  
16 Frey.

17 COMMISSIONER FREY: Thank you.

18

19 EXAMINATION

20 BY COMMISSIONER FREY:

21 Q. I have a few questions that they  
22 really relate to the changes in the  
23 Administrative Code. Should I try them  
24 with you, or do we want those questions to  
25 be directed to one of the other witnesses?

1 A. It depends on what the question is.

2 Q. Okay.

3 Well my first question I  
4 suspect is going to be best answered by  
5 the next witness, but since Commissioner  
6 Brancard brought this up, on that same  
7 Section -- what is the number -- J, and I  
8 think it's J(2)(a), it's changing the  
9 language from "the criterion is  
10 Hardness-Based," so on and so forth, to  
11 the criterion "as based on receiving water  
12 characteristics."

13 What does that phrase mean;  
14 "receiving water characteristics"?

15 A. Sure.

16 For example, with our NPDES  
17 Permit, the individual Permit, it would be  
18 the "receiving waters" of that Permit.

19 Q. I still don't get it, I'm sorry.

20 You mean the water received to  
21 accept the Permit, or during the Permit?

22 A. So the water from each of our  
23 outfalls, if you will, is "received" by a  
24 stream downstream.

25 Q. Okay.

1 A. And the -- yeah, okay.

2 Q. Okay. That helps. Thank you.

3 A. Sure.

4 Q. I suspect my other question -- I  
5 can't find it, so that's all my questions.  
6 Thank you.

7 HEARING OFFICER ORTH: All right.  
8 Thank you.

9 Commissioner Harms.

10 COMMISSIONER HARMS: I have no  
11 questions; thank you.

12 HEARING OFFICER ORTH: All right.  
13 Thank you.

14 Ms. Olson, do you have any  
15 Redirect?

16 MS. OLSON: I do not have any  
17 Redirect for this witness.

18 HEARING OFFICER ORTH: All right.

19 Well this is an excellent time  
20 to stop for lunch. When we return at  
21 1:00, prior to moving to our next  
22 technical witness, I will invite Public  
23 Comment and accept any that is to be  
24 given. If there is none to be given, or  
25 when we have completed Public Comment, we

1 will return to the Technical case.

2 Let's come back at 1:00. Thank  
3 you.

4 (The Water Quality Control  
5 Commission Technical Hearing recessed from  
6 11:56 a.m. 1:09 p.m.)

7 HEARING OFFICER ORTH: All right.  
8 Let's prepare to begin again, please.

9 We are back after our lunch  
10 break in WQCC 24-31. We have come to the  
11 time we have reserved in the event there  
12 is Public Comment to be given.

13 Let me ask first if there is  
14 anyone in the room who is here to offer  
15 Non-Technical Public Comment; please just  
16 raise your hands.

17 No.

18 Is there anyone on the platform  
19 who is with us at this time to offer  
20 Public Comment?

21 Please turn on your camera,  
22 raise your hand, or otherwise indicate  
23 through chat that you would like to offer  
24 comment.

25 No.

1 Lisa, would you say something,  
2 please?

3 INTERPRETER O'GRADY: Yes, Spanish  
4 interpretation services are available.

5 If you are on line, if you want  
6 to choose your language channel, there is  
7 a globe at the bottom left corner of your  
8 screen, and you can click that and choose  
9 "English" or "Spanish."

10 (Speaking Spanish.)

11 HEARING OFFICER ORTH: Thank you  
12 very much.

13 INTERPRETER O'GRADY: There is  
14 Spanish Interpreter services for who is  
15 present if anybody would like it.

16 HEARING OFFICER ORTH: Thank you  
17 very much.

18 All right. It appears that we  
19 do not have anyone here to offer Public  
20 Comment either in the room or on the  
21 platform. I will ask once more before we  
22 adjourn, which may or may not be before  
23 5:00 p.m. Please listen for that  
24 opportunity.

25 Let's return to the Technical



1 case.

2 Ms. Olson.

3 MS. OLSON: Thank you, Madam  
4 Hearing Officer. We would like to call  
5 our next witness, Barry Fulton.

6 HEARING OFFICER ORTH: Mr. Fulton,  
7 do you swear or affirm to tell the truth?

8 THE WITNESS: Yes, I do.

9 HEARING OFFICER ORTH: Thank you  
10 very much.

11 Go ahead Ms. Olson.

12  
13 BARRY FULTON,  
14 after having been first duly sworn,  
15 was examined and testified as follows:

16  
17 EXAMINATION

18 BY MS. OLSON:

19 Q. Thank you Madam Hearing Officer.

20 Mr. Fulton, can you please  
21 state and spell your name for the record.

22 A. Yeah, my name is Barry Fulton;  
23 B-A-R-R-Y F-U-L-T-O-N.

24 Q. What is your current profession?

25 A. I am an environmental consultant



1 and owner of Benchmark Environmental, an  
2 affiliate of Windward Environmental.

3 Q. Do you have before you what has  
4 been identified as Petitioners' Exhibit 4?

5 A. Yes.

6 Q. Do you recognize that document as  
7 your Prefiled Technical Testimony?

8 A. I do.

9 Q. Was that testimony drafted by you  
10 or under your supervision?

11 A. Yes.

12 Q. Do you have any corrections to your  
13 testimony?

14 A. I do. I have one correction to  
15 make:

16 On page 14, line 20, there is a  
17 reference to an exhibit, and the reference  
18 to that exhibit on line 20, page 14, to be  
19 changed to "Exhibit 13."

20 MS. OLSON: Just for the benefit of  
21 the Court Reporter, that's Bates number  
22 Petitioners 0446, and so we're striking  
23 the number "14" and replacing it with the  
24 number "13."

25 Q. With that correction is the

1 testimony that you prepared true and  
2 accurate to the best of your knowledge and  
3 belief?

4 A. Yes.

5 Q. If you were asked those same  
6 questions today under oath would your  
7 answers be the same?

8 A. Yes.

9 MS. OLSON: Madam Hearing Officer,  
10 N3B offers Petitioners' Exhibit 4.

11 HEARING OFFICER ORTH: Pause for  
12 objections.

13 Exhibit 4 is admitted.

14 (Water Quality Control  
15 Commission Technical Hearing N3B Exhibit 4  
16 was received in evidence.)

17 MS. OLSON: Then I'll take a quick  
18 minute to walk through the rest of our  
19 exhibits.

20 Q. Mr. Fulton, do you have before you  
21 what's previously been marked as  
22 Petitioners' Exhibit 6?

23 A. Yes.

24 Q. Do you recognize that as your  
25 Résumé?

1 A. Yes.

2 Q. Is that a true and accurate copy of  
3 your Resumé?

4 A. It is, yes.

5 MS. OLSON: Madam Hearing Officer,  
6 N3B offers Petitioners Hearing Exhibit 6.

7 HEARING OFFICER ORTH: I'll pause  
8 for objections.

9 Exhibit 6 is admitted.

10 (Water Quality Control  
11 Commission Technical Hearing N3B Exhibit 6  
12 was received in evidence.)

13 Q. BY MS. OLSON: Moving to Exhibit 1,  
14 do you have before you what's been  
15 identified as Exhibit 1?

16 A. Yes.

17 Q. Can you identify what that document  
18 is.

19 A. It's referred to as the  
20 "Demonstration Report," and it provides  
21 the Technical and regulatory foundation  
22 for the proposed Site-Specific Water  
23 Quality Criteria.

24 Q. Were you involved in the  
25 preparation of this document?

1 A. Yes, I was.

2 MS. OLSON: Madam Hearing Officer,  
3 N3B offers Petitioners' Exhibit 1.

4 HEARING OFFICER ORTH: I'll pause  
5 for objections.

6 Exhibit 1 is admitted.

7 (Water Quality Control  
8 Commission Technical Hearing N3B Exhibit 1  
9 was received in evidence.)

10 Q. BY MS. OLSON: Do you have before  
11 you what has previously been identified as  
12 Petitioners Exhibit 9?

13 A. Yes.

14 Q. Can you please identify that  
15 document?

16 A. Exhibit 9 is the Work Plan for  
17 developing the proposed Site-Specific  
18 Water Quality Criteria. It just describes  
19 the planning, coordination, and the time  
20 line behind developing such proposed  
21 amendments.

22 MS. OLSON: Madam Hearing Officer,  
23 N3B offers Petitioners' Exhibit 9.

24 HEARING OFFICER ORTH: I'll pause  
25 for objections.

1 Exhibit 9 is admitted.

2 (Water Quality Control  
3 Commission Technical Hearing N3B Exhibit 9  
4 was received in evidence.)

5 Q. BY MS. OLSON: Do you have before  
6 you what's been identified as Petitioners'  
7 Exhibit 10?

8 A. Yes, I do.

9 Q. Can you identify what that document  
10 is.

11 A. Exhibit 10 is EPA's 2007 Copper  
12 criteria, and it is the basis for the  
13 proposed Site-Specific Water Quality  
14 Criteria.

15 MS. OLSON: Madam Hearing Officer,  
16 N3B offers Petitioners Exhibit 10.

17 HEARING OFFICER ORTH: I'll pause  
18 for objections.

19 Exhibit 10 is admitted.

20 (Water Quality Control  
21 Commission Technical Hearing NMED Exhibit  
22 10 was received in evidence.)

23 Q. BY MS. OLSON: Do you have before  
24 you what's been identified as Petitioners'  
25 Exhibit 11?

1 A. Yes.

2 Q. Can you identify what that document  
3 is.

4 A. Exhibit 11 is EPA's 1996 Copper  
5 criteria commonly referred to throughout  
6 the testimonies as the "Hardness-Based"  
7 criteria.

8 Q. What's the relevance to our  
9 Petition?

10 A. It sort of forms the rationale for  
11 why we're proposing an update of  
12 Site-Specific Water Quality Criteria  
13 because it is the current statewide  
14 criteria from which we're changing.

15 MS. OLSON: Madam Hearing Officer,  
16 N3B oars Petitioners Exhibit 11.

17 HEARING OFFICER ORTH: Pause for  
18 objections.

19 Exhibit 11 is admitted.

20 (Water Quality Control  
21 Commission Technical Hearing NMED Exhibit  
22 11 was received in evidence.)

23 Q. BY MS. OLSON: Mr. Fulton, do you  
24 have before you what's been identified as  
25 Petitioners Exhibit 12?

1 A. Yes, I do.

2 Q. Can you identify what that document  
3 is.

4 A. Exhibit 12 is Technical Testimony  
5 from the New Mexico Environment Department  
6 during the prior Triennial Review hearing.

7 MS. OLSON: For the record, that's  
8 WQCC 20-51R.

9 Q. Were you a witness in that  
10 proceeding?

11 A. I was.

12 Q. What is the relevance of this  
13 exhibit to the Petition?

14 A. It includes the Department's  
15 Petition for why we, the Petitioners, are  
16 doing this or proposing Site-Specific  
17 Water Quality Criteria on a Site-Specific  
18 basis.

19 MS. OLSON: Madam Hearing Officer,  
20 we move to admit Petitioners' Exhibit 12.

21 HEARING OFFICER ORTH: I'll pause  
22 for objections.

23 Exhibit 12 is admitted.

24 (Water Quality Control  
25 Commission Technical Hearing NMED Exhibit



1 12 was received in evidence.)

2 Q. BY MS. OLSON: Do you have before  
3 you what's been identified as Petitioners  
4 Exhibit 13?

5 A. Yes, I do.

6 Q. Can you identify what that document  
7 is.

8 A. Exhibit 13 is an EPA Approval  
9 Letter for another jurisdiction in Georgia  
10 describing the Approval of Site-Specific  
11 Water Quality Criteria for copper.

12 Q. What's the relevance to this  
13 Petition?

14 A. It just provides additional  
15 precedence for the approach that we've  
16 taken for developing Site-Specific Water  
17 Quality Criteria.

18 MS. OLSON: N3B would offer  
19 Petitioners Exhibit 13.

20 HEARING OFFICER ORTH: Pause for  
21 objections.

22 Exhibit 13 is admitted.

23 (Water Quality Control  
24 Commission Technical Hearing NMED Exhibit  
25 13 was received in evidence.)

1 Q. BY MS. OLSON: Finally do you have  
2 before you what's been identified as  
3 Petitioners Exhibit 14?

4 A. Yes.

5 Q. Can you describe what that document  
6 is.

7 A. Exhibit 14 is a 2018 Data Quality  
8 Objective, or "DQO," and Data Quality  
9 Assessment, or "DQA" Report.

10 Q. Why is this document relevant to  
11 the Petition?

12 A. It describes in detail the Quality  
13 Assessment procedures that the Petitioners  
14 conducted to ensure quality data to  
15 contribute to the proposed amendments.

16 MS. OLSON: Madam Hearing Officer,  
17 we move to admit Petitioners' Exhibit 14.

18 HEARING OFFICER ORTH: We will  
19 pause for objection.

20 Exhibit 14 is admitted.

21 (Water Quality Control  
22 Commission Technical Hearing NMED Exhibit  
23 14 was received in evidence.)

24 MS. OLSON: I believe that  
25 constitutes admission of all of our

1 exhibits.

2 Mr. Fulton has also prepared a  
3 summary of his Direct Testimony. You all,  
4 I believe, received the corresponding  
5 demonstrative PowerPoint through Dropbox.  
6 I will pass it to him to present that  
7 summary.

8 HEARING OFFICER ORTH: Thank you.

9 MS. OLSON: We're having technical  
10 issues.

11 We're going to rejoin the  
12 meeting.

13 Ms. Jones can let us back in  
14 the meeting? Just one second.

15 MS. JONES: Okay. You should be  
16 able to Share Screen.

17 THE WITNESS: Okay. Thank you.

18 Thank you, Madam Hearing  
19 Officer, Chair Thomson, and members of the  
20 Committee:

21 Thanks for your time today, and  
22 I appreciate also the opportunity to  
23 present my testimony in front of you guys  
24 today:

25 Again my name is Barry Fulton.

1 I am an environmental consultant with  
2 Benchmark Environmental, an affiliate of  
3 Windward Environmental. I played a role,  
4 as I will discuss today, in developing the  
5 proposed Site-Specific Water Quality  
6 Criteria.

7 To start off with just the  
8 topics for discussion today that's covered  
9 in my Direct Testimony, my written  
10 testimony, as well as the slides that will  
11 summarize my written testimony, I'll begin  
12 with just an introduction, including my  
13 role in the proposed amendments, and a  
14 description and summary of the rationale  
15 and the regulatory background for  
16 developing the proposed Site-Specific  
17 Water Quality Criteria.

18 COMMISSIONER MOANDER: Mr. Fulton,  
19 can you go full screen on that for us?

20 Thank you.

21 THE WITNESS: Unfortunately,  
22 Commissioner --

23 MS. OLSON: I have a copy of it.

24 HEARING OFFICER ORTH: The Slide  
25 show may be --

1 MS. OLSON: It shows up on his  
2 screen; it won't...

3 COMMISSIONER MOANDER: Don't worry  
4 about it, Mr. Fulton; I found a  
5 workaround. Thank you.

6 THE WITNESS: After getting into  
7 and describing the rationale and the  
8 regulatory background for the proposed  
9 amendments, I'll talk in detail about just  
10 the development of the copper  
11 Site-Specific Water Quality Criteria that  
12 is proposed for the geographic area  
13 referred to as the "Pajarito Plateau," and  
14 kind of conclude with recommendations to  
15 the Commission with regard to adoption of  
16 the proposed Site-Specific Water Quality  
17 Criteria.

18 An introduction for myself:

19 Again my name is Barry Fulton.  
20 I have undergraduate degrees in Ecology  
21 and Environmental Science, as well as a  
22 Masters Degree in Environmental  
23 Toxicology.

24 My professional experience  
25 includes 20 years as a research scientist,

1 as well as environmental consultant with a  
2 particular focus on water quality  
3 standards, and specifically water quality  
4 criteria for metals.

5 My Resumé is provided as  
6 Exhibit 6.

7 My role in the current proposal  
8 include the Technical lead for the  
9 development of the proposed copper  
10 Site-Specific Water Quality Criteria for  
11 the Pajarito Plateau, which included  
12 authorship of the Work Plan for the  
13 Site-Specific Water Quality Criteria and  
14 authorship of the Demonstration Report,  
15 which again kind of provides the Technical  
16 and regulatory foundation for the  
17 proposal, as well as participation in  
18 presentations to various stakeholders,  
19 including NMED, the public, and tribes, as  
20 summarized previously in Dr. White's  
21 testimony, which is provided as Exhibit 3.

22 The overall rationale I'd say  
23 for the proposed Site-Specific Water  
24 Quality Criteria is to ensure that the  
25 Copper Criteria applicable to the Pajarito

1 Plateau is based on the best available  
2 science and current EPA recommendations.

3 Our objective here was to  
4 incorporate copper Site-Specific Water  
5 Quality Criteria for the Plateau,  
6 according to EPA's most current  
7 recommended national criteria for copper  
8 published in 2007, as well as in  
9 accordance with procedures set forth in  
10 20.6.4.10 NMAC for developing Site-  
11 Specific Water Quality criteria in the  
12 State of New Mexico.

13 This Slide kind of further  
14 describes the rationale for developing the  
15 proposed Site-Specific Water Quality  
16 Criteria via a comparison of the current  
17 Statewide criteria shown on the left-hand  
18 side of the Slide, relative to how that  
19 differs from the proposed Site-Specific  
20 Water Quality Criteria.

21 The current statewide Water  
22 Quality criteria for copper are outdated  
23 EPA criteria published back in 1996. They  
24 are referred to commonly as "Hardness-  
25 Based" criteria because they only take

1 into account the effect that water  
2 Hardness -- which is really just the sum  
3 of calcium and magnesium in the water --  
4 has on the bioavailability and toxicity of  
5 copper to Aquatic Life.

6 EPA has since concluded, since  
7 it has published the Hardness-Based  
8 criteria and moved on to what is referred  
9 to the "Biotic Ligand Model" criteria,  
10 that the older Hardness-Based criteria can  
11 be either overprotective or  
12 underproductive based on the particular  
13 water chemistry of a given water body.

14 For those reasons, and based on  
15 decades of research in aquatic toxicology  
16 and chemistry, EPA, in 2007, published the  
17 copper Biotic Ligand Model. That is the  
18 basis of their current recommended Copper  
19 Criteria. It is also the basis for the  
20 proposed Site-Specific Water Quality  
21 Criteria in front of the Commission today.

22 Our proposed criteria, instead  
23 of just incorporating water Hardness, also  
24 considers the effect of multiple other  
25 water chemistry parameters, including



1 Dissolved Organic Carbon or DOC, pH, as  
2 well as Hardness. These are the 3 most  
3 influential water chemistry parameters  
4 with regard to how copper behaves in  
5 surface water, and ultimately interacts to  
6 cause toxicity to Aquatic Life.

7           The proposal utilizes  
8 equations, as I'll talk about in my  
9 testimony, to replicate EPA's software-  
10 based model, which is referred to as  
11 the Biotic Ligand Model or "BLM," because  
12 we were more comprehensively taking into  
13 account water chemistry parameters beyond  
14 just Hardness. It provides a more  
15 scientifically rigorous and up-to-date  
16 method to establish criteria to protect  
17 Aquatic Life.

18           And so, you know, you've heard  
19 the term "Hardness-Based" criteria. It is  
20 the basis of the current Statewide  
21 criteria.

22           Just for reference, this is a  
23 visual representation of the current  
24 statewide Hardness-Based criteria, along  
25 with the actual equations from NMAC for

1 the Hardness-Based criteria. It's showing  
2 an "Acute" criterion element for short-  
3 term exposures, and a "Chronic" criterion  
4 element for longer-term exposures. That  
5 is consistent with the "Aquatic Life"  
6 criteria for all constituents. We always  
7 have an "Acute" and "Chronic" criterion  
8 element.

9           On the X axis, or horizontal  
10 axis, is Hardness on this particular  
11 figure, and the vertical or Y axis is the  
12 "Copper" criteria values based on the  
13 "Hardness" criteria.

14           You can see in the figure that  
15 as Hardness increases, so does the  
16 magnitude or numeric value of the  
17 Hardness-Based criteria, because Hardness  
18 has an affect on the bioavailability and  
19 toxicity of copper.

20           Importantly, however, water  
21 chemistry parameters beyond Hardness,  
22 including Dissolved Organic Carbon and pH,  
23 have equal or greater affect on the  
24 toxicity of copper. By not incorporating  
25 other water chemistry parameters into the

1 Copper Criteria we end up with criteria  
2 that doesn't accurately account for the  
3 toxicity of copper in a given water.

4           This Slide just kind of depicts  
5 the EPA's history of nationally  
6 recommended Water Quality criteria for  
7 copper going back to 1976, commonly  
8 referred to as the Red Book criteria. All  
9 the way through 1996 EPA recommended  
10 Hardness-Based criteria for copper,  
11 similar to the equations that I just  
12 showed you. That evolved somewhat over  
13 time, but they were always just based on  
14 the input of copper utilizing, you know,  
15 an equation that is in a similar format.

16           In 2007 EPA transitioned to  
17 what is referred to as the copper Biotic  
18 Ligand Model, or BLM-based criteria, again  
19 in response to a growing body of  
20 scientific research that clearly  
21 demonstrates multiple water chemistry  
22 parameters affect the toxicity of copper.

23           Just a point of clarification  
24 here:

25           You will see in this Slide

1 under "1996," I'm referring to the  
2 statewide criteria as "1996 EPA criteria."  
3 The cover page of that criteria is  
4 entitled "1995 Updates," and people  
5 commonly refer to it as the 1995 criteria.  
6 It was published in January 1996, so that  
7 is why we are calling it the 1996  
8 criteria.

9           Some additional regulatory  
10 background:

11           With regard to the  
12 Hardness-Based criteria EPA has concluded,  
13 for reasons that I've already alluded to,  
14 and that I'll go into greater detail  
15 throughout my testimony, that the  
16 Hardness-Based criteria are potentially  
17 underprotective, so not stringent enough,  
18 or overprotective, or too stringent  
19 depending on the full water chemistry of a  
20 particular water body.

21           In contrast the EPA has  
22 concluded and shown that Copper Criteria  
23 calculated using the Biotic Ligand Model  
24 will more accurately yield the level of  
25 protection needed to protect and maintain

1 Aquatic Life Uses.

2           Some additional regulatory  
3 background here:

4           During the last Triennial  
5 Review in New Mexico in 2020 EPA had  
6 provided comments that recommended that  
7 New Mexico adopt the EPA 2007 copper  
8 Biotic Ligand Model. In respond the  
9 Department, while they recognize the EPA's  
10 2007 criteria provides a more accurate  
11 assessment of copper bioavailability, they  
12 decided not to adopt it statewide at that  
13 time primarily because the State lacked  
14 such water quality criteria, or water  
15 quality data to adopt it on a statewide  
16 basis. However they would continue to  
17 evaluate it on a segment-specific basis.

18           Importantly though, as  
19 Dr. White has testified previously, the  
20 Surface Waters on the Pajarito Plateau  
21 have been rigorously monitored for all of  
22 the BLM parameters necessary to generate  
23 BLM-based criteria. It is a suitable  
24 setting for adopting criteria that are  
25 calculated based on the copper Biotic

1 Ligand Model.

2 20.6.4.10(F) NMAC specifies

3 that:

4 "Site-Specific Water Quality  
5 Criteria may be developed based  
6 on relevant site-specific  
7 conditions," which are listed

8 here in this Slide. One such condition is

9 that:

10 "The physical or chemical  
11 characteristics of a water body  
12 alter or affect the  
13 bioavailability or toxicity of  
14 a chemical."

15 That's certainly true of  
16 copper. We know that water chemistry  
17 parameters, other than Hardness, have an  
18 important affect on copper bioavailability  
19 and toxicity.

20 20.6.4.10(F) NMAC also states  
21 that a derivation of Site- Specific Water  
22 Quality criteria needs to rely on a  
23 scientifically-defensible method. It  
24 lists several potential methods, one of  
25 which is the copper Biotic Ligand Model.

1           As I mentioned, that's the  
2 basis of EPA's current recommended  
3 criteria, and the basis of the criteria  
4 that's proposed by the Petitioners.

5           I want to provide some  
6 background on what the copper Biotic  
7 Ligand Model actually is:

8           The BLM itself is a software  
9 tool used in aquatic toxicology to  
10 evaluate the bioavailability of metals in  
11 Surface Water, or in the aquatic  
12 environment, and the affinity of metals to  
13 accumulate and therefore cause toxicity to  
14 Aquatic Life. It is based on the best  
15 available science, and again, it is the  
16 basis of this EPA 2007 criteria.

17           The schematic shown here in  
18 this Slide highlights the 3 primary  
19 mechanisms by which water quality or water  
20 chemistry has an effect on the  
21 bioavailability and toxicity of copper.

22 I'll start by just kind of describing what  
23 is a "Biotic Ligand."

24           An example of this would be  
25 like the gill of a fish or an aquatic

1 invertebrate. It is the site of uptake in  
2 an organism. It is a site where a given  
3 element, in this case copper, could bind  
4 to the organism and therefore be  
5 accumulated or incorporated, and thus be  
6 able to elicit a toxic affect.

7           The 3 mechanisms are depicted  
8 in this schematic. Those mechanisms are  
9 commonly referred to as "Competition,"  
10 "Speciation," or "Complexation."

11           Let's start with what is  
12 referred to as the "Competition pathway."  
13 That's shown by this green oval where you  
14 see:

15                   "Ca; Mg."

16           That's stands for "calcium" and  
17 "magnesium." That is representing water  
18 Hardness.

19           The way in which water Hardness  
20 has an impact mechanically with water  
21 toxicity is they interact with copper for  
22 binding sites on the gill of a fish or the  
23 gill of an aquatic invertebrate. That's  
24 why, in the case of the Hardness-Based  
25 criteria, as Hardness increases, the



1 Copper Criteria increases and copper is  
2 becoming less bioavailable, less toxic as  
3 you have more Hardness, because more  
4 calcium and magnesium ions in solution to  
5 compete with copper for uptake.

6 That's the "Competition  
7 Pathway." Again the Hardness-Based  
8 criteria is only reflecting that pathway.

9 Equally, or more important  
10 pathways include Speciation or  
11 Complexation.

12 Speciation is represented here  
13 by "pH." "pH" is kind of how acetic or  
14 how basic a Surface Water is.

15 pH has a significant affect on  
16 metal solubility, and therefore  
17 bioavailability, including copper. Acetic  
18 pHs, or as pHs drop below 7 or 6, more  
19 free copper is available. Copper  
20 disassociates in Surface Water, and the  
21 free copper, or copper ion, dominates in  
22 the water column. That means it's more  
23 soluble or more available for uptake to an  
24 organism.

25 That's the Speciation pathway.

1 That's why we see, in really acetic water,  
2 copper is more bioavailable or more toxic  
3 to organisms.

4           Conversely, as pH increases  
5 above 7, the solubility of copper  
6 decreases. As pH increases above 7,  
7 alkalinity also increases. That forms  
8 more carbonates that are available to bind  
9 with copper and become less bioavailable.

10           So the pH, that's the  
11 Speciation pathway.

12           The final pathway would be  
13 referred to as the "Complexation Pathway."  
14 That's indicated here with the blue oval  
15 that has "DOC" in it.

16           "DOC" is Dissolved Organic  
17 Carbon. That's just organic material  
18 that's dissolved in water that's  
19 impermeable to biological membranes.

20           The significance here is that  
21 Dissolved Organic Carbon or Dissolved  
22 Organic Material in the water has a high  
23 affinity to bind with copper. When copper  
24 is in the water along side DOC, copper  
25 really likes to bind to DOC. Once bound

1 to DOC it's not available to bind to the  
2 Biotic Ligand Model, and therefore it's  
3 not available for uptake into the  
4 organism.

5 As a result, as DOC in the  
6 water increases, more copper is bound to  
7 the DOC and less copper is available for  
8 uptake, so copper toxicity decreases as  
9 Dissolved Organic Carbon increases.

10 The proposed Site-Specific  
11 Water Quality Criteria today is  
12 incorporating these 3 mechanisms. It is  
13 incorporating Dissolved Organic Carbon to  
14 account for the Complexation pathway, pH  
15 to account for the Speciation pathway, and  
16 of course calcium and magnesium to account  
17 for the Competition pathway. It does  
18 account for a more scientifically rigorous  
19 method for calculating Copper Criteria,  
20 and certainly an improvement over the  
21 Hardness-Based criteria.

22 Continuing on with the BLM it  
23 itself, I mentioned it is software. This  
24 is just a screenshot of the user interface  
25 to the BLM software.

1           If one were to run the BLM  
2 software they would take their water  
3 chemistry parameters and they would plug  
4 it into the software, but they would first  
5 go through the training to figure out how  
6 to use the software. They would then plug  
7 their water chemistry parameters into the  
8 software, run the software, and the  
9 software would spit out a Copper Criteria  
10 value.

11           What's really important,  
12 however, is that the software has 10 input  
13 parameters to run the BLM model. What's  
14 important is that not all 10 of these  
15 parameters have an important impact on the  
16 BLM-based criteria, or have an important  
17 impact on the toxicity or bioavailability  
18 of copper. For that reason the BLM  
19 software itself can be simplified into an  
20 equation consistent in format with other  
21 equations for water quality criteria.

22           In doing so, or simplifying the  
23 BLM into an equation format does offer  
24 several advantages over utilizing the  
25 Copper BLM software itself:

1           One is that an equation is  
2 familiar and can be readily incorporated  
3 into Water Quality Standards.

4           It's transparent as well.  
5 Folks can see an equation and they can run  
6 and calculate what the Copper Criteria  
7 would be rather than having to have  
8 special access to the software and the  
9 special training required to run the  
10 software.

11           Dr. White mentioned or gave a  
12 brief overview of the lengthy kind of  
13 public outreach we did in this process.  
14 Early in that process the feedback we got  
15 was the BLM is kind of this Black Box  
16 because you can't see what's going on  
17 inside of it. It's hard to have access  
18 to. You have to have special training to  
19 run it, and so it's not very transparent.  
20 That is another advantage to expressing  
21 the BLM software criteria in an equation  
22 format.

23           Of course equations don't  
24 require special training to run, like the  
25 software does. Equations focusing on the

1 3 key parameters, rather than the 10  
2 parameters, streamlines monitoring  
3 assessment because they are really focused  
4 on the key parameters that are controlling  
5 Copper Criteria, and the bioavailability  
6 and toxicity of copper in Surface waters.

7 This Slide just sort of  
8 overviews the process that we undertook to  
9 develop the proposed Site-Specific Water  
10 Quality Criteria. We applied an EPA  
11 process referred to as the Data Quality  
12 Objective/Data Quality Assessment process  
13 or DQO/DQA process. Again, that's an EPA  
14 process. It's designed to go through a  
15 systematic review of data to ensure that  
16 the data is of good quality for the  
17 intended purpose.

18 After going through that  
19 process we ended up with a total of 517  
20 samples of sufficient quality data that  
21 contained all the parameters necessary to  
22 calculate Copper Criteria utilizing the  
23 BLM software.

24 We then took all of those 517  
25 samples that were validated and run

1 through the DQO/DQA process, input them  
2 into the BLM software itself, and then ran  
3 the software model to generate BLM  
4 software criteria.

5 We then conducted statistical  
6 evaluations of those BLM software criteria  
7 to determine which parameters are really  
8 controlling the BLM criteria across, in  
9 this case, the Pajarito Plateau. That  
10 evaluation showed, and I'll show these in  
11 subsequent slides, that a combination of  
12 Dissolved Organic Carbon, DOC, pH, and  
13 Hardness had the most significant overall  
14 impact on the BLM software criteria.

15 Therefore we developed what is  
16 called Multiple Linear Regression  
17 Equations, or "MLR Equations," with 3  
18 independent variabilities -- DOC, pH, and  
19 Hardness -- that were shown to accurately  
20 calculate BLM-based criteria across the  
21 range of conditions that are observed  
22 along the Pajarito Plateau.

23 This Slide here is kind of  
24 showing the output of the process that we  
25 went through, most of which Dr. White

1 described earlier in terms of the sampling  
2 locations, the number of samples, the time  
3 period.

4           On the right it's showing the  
5 spatial distribution of the samples. This  
6 is a map that was presented previously by  
7 Dr. White, and it shows the locations of  
8 where those 517 samples came from.

9           The figure on the left is  
10 showing the number or the count of samples  
11 by year going back to 2005. It is a bar  
12 chart, and the stacks to the bar chart are  
13 color-coded by watershed.

14           You can see by kind of  
15 combining the figure to the right that  
16 shows partially where those locations are,  
17 and the figure to the left that shows kind  
18 of frequency and duration from which we  
19 collected samples, that we have a very  
20 spatially and temporally robust data set  
21 that went into developing these proposed  
22 equations.

23           An example of kind of what it  
24 is that we're proposing versus what the  
25 current statewide criteria is, the current



1 statewide criteria is kind of illustrated  
2 here in the top row of this schematic  
3 where the copper Water Quality Criteria,  
4 or "WQC," is calculated solely as a  
5 function of Hardness; again going back to  
6 that older EPA 1996 criteria.

7           The proposed Site-Specific  
8 Water Quality Criteria for the Pajarito  
9 Plateau is in equation format including 3  
10 parameters, pH, DOC, and Hardness, that  
11 were developed to replicate the EPA 2007  
12 criteria.

13           These are the actual proposed  
14 equations that we're proposing as  
15 amendments:

16           There is an "Acute" and a  
17 Chronic criteria element. These are just  
18 the numerical equations for both those  
19 criteria elements.

20           As I'll show, in subsequent  
21 slides here, we validated and determined  
22 that these equations performed really  
23 well. What I mean by "performed well," is  
24 it accurately calculated BLM software  
25 criteria regardless of hydrologic regime.

1 It worked well or performed well across  
2 ephemeral, intermittent, and perennial  
3 streams on the Pajarito Plateau.  
4 Therefore it can be applied to surface  
5 waters on the Pajarito Plateau regardless  
6 of whether or not they are ephemeral,  
7 intermittent, or perennial.

8           The next Slide here is  
9 illustrating the accuracy with which our  
10 equations are calculating the BLM software  
11 criteria. There is a figure on the left  
12 for the Acute comparison, and a figure to  
13 the right for the Chronic comparison.

14           On each figure, on the  
15 horizontal axis is our MLR-based criteria,  
16 so our proposed equation, and the vertical  
17 axis is the BLM software criteria. There  
18 is a solid diagonal line here, that's not  
19 a regression line. That's a line  
20 representing a 1-to-1 fit or perfect  
21 agreement between the software and the  
22 proposed equations.

23           You can see that the sample  
24 points -- these are our 517 samples that I  
25 mentioned previously -- are tightly bound

1 along that solid line representing perfect  
2 agreement, with no systematic bias in  
3 terms of overprediction or  
4 underprediction. You can see here there  
5 is an adjusted R2 of 0.98. That indicates  
6 a combination of DOC, pH, and Hardness are  
7 accounting for 98% of the variation in the  
8 BLM-based software across the range of  
9 conditions for the Pajarito Plateau. It  
10 is a highly accurate and precise set of  
11 equations to generate this software  
12 criteria.

13 As a further step or additional  
14 step to further validate our equations we  
15 looked at different combinations and  
16 concentration ranges of key parameters.  
17 This is a difficult graph to evaluate in  
18 detail just given the size of the slides,  
19 but I can kind of walk through the method  
20 here and the outcome.

21 We looked at different  
22 concentration ranges for pH, DOC, and  
23 Hardness, and combinations of those. That  
24 is what is represented in the 3 panels.  
25 The BLM criteria are shown as dashed lines

1 and open circles.

2           The Site-Specific Water Quality  
3 Criteria equations are shown as solid  
4 lines and triangles.

5           You will see a series of  
6 different plots, blue, red, and green  
7 plots, which represent the 10th, 50th, and  
8 90th percentile for each parameter of the  
9 site-specific BLM data set.

10           On the X axis, the horizontal  
11 axis of each graph we're showing the 5th  
12 and 95th percentile of each parameter in  
13 the site-scientific data set.

14           The key takeaway here is that  
15 it's hard to differentiate a dashed line  
16 from a solid line, and that's because they  
17 are plotting on top of one another  
18 generally. That is just indicating that  
19 regardless of the concentration range, or  
20 the combination of parameters, the  
21 equations are replicating, with high  
22 accuracy, the BLM software.

23           The one where that maybe  
24 diverges a little bit is the panel on the  
25 bottom where we're comparing the 2 models

1 across different Hardness concentrations  
2 on the x axes.

3           You can see on the bottom here  
4 the solid lines are falling below the  
5 dashed and open-circle lines. Those solid  
6 lines and solid triangles, those are the  
7 Site-Specific Water Quality Criteria.

8 Those are below what the BLM software are  
9 predicting, so they are more conservative  
10 than what the BLM software would generate.

11           I spent some time here kind of  
12 talking through both the BLM software and  
13 then the methods and the process that we  
14 went through to develop equations to  
15 generate BLM software criteria. I just  
16 want to touch on kind of in general the  
17 use of these MLR or Multiple Linear  
18 Regression Equations to generate criteria,  
19 and there is precedence out there for  
20 doing this.

21           EPA recommended "Aquatic Life  
22 Criteria," for example, for ammonia and  
23 copper, they are based on Multiple Linear  
24 Regression Equations.

25           The equation for aluminum

1 utilizes DOC, pH, and Hardness, like we're  
2 proposing.

3 EPA has, in other  
4 jurisdictions, approved equations similar  
5 to ours that are simplifying or accurately  
6 calculating the BLM-based software in an  
7 equation format.

8 And finally EPA has come out  
9 and really made the point that these MLR  
10 equations are scientifically defensible  
11 approaches to calculate metal criteria for  
12 Aquatic Life.

13 I have kind of touched on the  
14 advantages of equations versus software  
15 for calculating criteria, and you will see  
16 here again, and I'll just reiterate them  
17 very quickly:

18 Equations are transparent.  
19 They are familiar to folks. They can be  
20 readily and easily incorporated into the  
21 Water Quality Standards.

22 Software is pretty complex and  
23 pretty complex to implement and  
24 incorporate into Water Quality Standards.

25 Equations don't require

1 training or special access to software.  
2 Equations also avoids potential issues  
3 with different versions of that software.

4 Finally, expressing Site-  
5 Specific Water Quality Criteria as  
6 equations based on 3 parameters really  
7 does streamline how we monitor and how we  
8 would assess copper, because again we're  
9 focusing on the 3 parameters that are  
10 really controlling the Copper Criteria  
11 values.

12 So wrapping up here with this  
13 Slide, and I think I have one more Slide  
14 after this, for recommendations to the  
15 Commission:

16 What we would recommend for  
17 spatial boundaries for the Site-Specific  
18 Water Quality Criteria is shown here in  
19 this figure. It is Surface waters within  
20 the Pajarito Plateau watershed.

21 I want to clarify from  
22 Commissioner Brancard, I think he had some  
23 questions previously. I want to clarify  
24 that we're not creating a new segment of  
25 water bodies within NMAC. We're just

1 defining...

2 Part of the process for  
3 developing Site-Specific Criteria is  
4 defining the boundary for the sites, or  
5 defining the boundary for which the  
6 Site-Specific Criteria would apply.

7 So the proposed boundary in  
8 this case is essentially the Surface  
9 Waters from which we collected the samples  
10 and developed the equations, the  
11 Site-Specific Water Quality Criteria  
12 equations. That boundary is kind of  
13 listed here in italic font:

14 "From Guaje Canyon in the  
15 north, to the Rito de los  
16 Frijoles watershed in the  
17 south, from their headwaters to  
18 their confluence with the Rio  
19 Grande, and all tributaries and  
20 streams thereto..."

21 The final recommendation to the  
22 Commission is I would recommend the  
23 adoption of the proposed Site-Specific  
24 Water Quality Criteria, these equations,  
25 as they are based on the best available



1 science, current EPA recommendations, and  
2 were really developed based on a robust  
3 site-specific study that's outlined in the  
4 Demonstration Report, as well as a robust  
5 Site-Specific Water Quality data set.

6 Thank you. That concludes my  
7 Slides, and I thank you again for your  
8 time.

9 Q. BY MS. OLSON: Thank you,  
10 Mr. Fulton.

11 In light of some of the  
12 questioning that we received this morning  
13 I just wanted to go over a couple of  
14 points that were covered in your slides:

15 I think the Commission has  
16 raised questions about the requirement  
17 under 10F(2):

18 "The Site-Specific Criteria  
19 must fully protect the  
20 designated uses to which it  
21 will apply."

22 Can you just reiterate for the  
23 Commission what the designated use for  
24 which this Site-Specific Copper Criteria  
25 will apply?

1 A. Yes.

2 The Site-Specific Water Quality  
3 Criteria would only apply to the Aquatic  
4 Life Use.

5 Q. And is the Proposal that's  
6 presented in this Petition fully  
7 protective of that designated Aquatic Life  
8 Use for Surface Waters within the Pajarito  
9 Plateau?

10 A. Yes.

11 Being based on the best  
12 available science and current EPA  
13 recommendations, the proposed  
14 Site-Specific Water Quality Criteria would  
15 be fully protective of Aquatic Life Uses  
16 to which they would apply.

17 Q. And are there other designated uses  
18 for Pajarito Plateau stream segments?

19 A. Yes, there are.

20 Q. Does the adoption of a  
21 Site-Specific Water Quality Criteria for  
22 copper impact any of those other  
23 designated uses?

24 A. No, it would not.

25 Q. And can you explain to the

1 Commission why it has no impact on other  
2 designated uses for waters within the  
3 Pajarito Plateau?

4 A. Yeah.

5 So again the Proposal is for  
6 Site-Specific Water Quality Criteria to  
7 protect just the Aquatic Life Uses. Other  
8 designated uses on the Plateau have only  
9 Copper Criteria to protect that designated  
10 use.

11 For example, drinking water  
12 supply would be an example of a designated  
13 use. There is a different Copper Criteria  
14 to protect that designated use, but we're  
15 not proposing any changes to that drinking  
16 water supply criteria. This Proposal is  
17 limited in scope to just the Aquatic Life  
18 Use for copper.

19 Q. When the Commission is evaluating  
20 whether or not this particular proposal  
21 satisfies that legal requirement under  
22 10F(2), do they need only look at the  
23 Aquatic Life designated use and whether  
24 this changed to the Site-Specific Water  
25 Quality standard for copper applicable to

1 that use continues to be protective?

2 A. That's correct.

3 In that context the primary  
4 concern would be does the proposed  
5 amendments protect the designated use to  
6 which it applies. In other words is what  
7 we're proposing going to protect Aquatic  
8 Life Uses?

9 MS. OLSON: Thank you, Mr. Fulton.

10 Madam Hearing Officer, that  
11 concludes our presentation of Mr. Fulton's  
12 testimony. We would Tender him for  
13 questioning and examination.

14 HEARING OFFICER ORTH: Thank you,  
15 Mr. Fulton and Ms. Olson.

16 Ms. Scott, do you have  
17 questions for Mr. Fulton?

18 MS. SCOTT: No questions.

19 HEARING OFFICER ORTH: All right.

20 Mr. Maxwell, do you have  
21 questions of Mr. Fulton?

22 MR. MAXWELL: I do not have  
23 questions for Mr. Fulton. Thank you.

24 HEARING OFFICER ORTH: All right.  
25 Thank you.



1                   Let's start on this side this  
2 time:

3                   Commissioner Vigil.

4                   COMMISSIONER VIGIL: I have no  
5 questions, thank you.

6                   HEARING OFFICER ORTH: Commissioner  
7 Brancard.

8  
9                   EXAMINATION

10 BY COMMISSIONER BRANCARD:

11                  Q. Okay. So I'm looking at the --  
12 sorry.

13                   I'm looking at the language  
14 proposed, 900L(4).

15                  A. Yeah.

16                  Q. In the first paragraph there it  
17 doesn't mention anything about Aquatic  
18 Life. I see the 2 examples in (a) and (b)  
19 are both Aquatic Life, but it doesn't  
20 mention this is limited to Aquatic Life.

21                   Just trying to be as clear as  
22 possible about what exactly you're  
23 proposing would be helpful, that's all.

24                  A. I appreciate the question,  
25 Commissioner Brancard:

1                   Yeah, I believe it is...

2                   Yeah, so Subsection (4), or  
3 Footnote 4 there, "Copper Criteria for  
4 Pajarito Plateau Surface Waters." The  
5 first part there is describing the kind of  
6 geographic region to which the criteria  
7 would apply, and then notes (a) and (b), I  
8 think the intent there is to specify it is  
9 "Acute Aquatic Life Criteria" and provides  
10 the equation, and "Chronic Aquatic Life  
11 Criteria" and the equation there is  
12 provided.

13         Q. So this would apply, or those 2  
14 equations would apply to all the various  
15 subcategories of Aquatic Life that are  
16 listed above under H?

17         A. Those 2 equations would apply to  
18 the subcategories of Aquatic Life Uses  
19 that exist within the Pajarito Plateau.

20         Q. There is a number of different  
21 Aquatic Life Uses. I assume that these  
22 equations would apply to all of them.

23         A. Well yeah, they would apply  
24 according to the subcategory of Aquatic  
25 Life Use. For example, in ephemeral

1 Surface Waters, only the Acute criteria  
2 apply, and so the ephemeral waters would  
3 be a limited Aquatic Life Use. That  
4 specifies Acute only criteria, so in such  
5 instances the Acute criteria would apply  
6 to those particular waters.

7 Q. Okay.

8 And I don't know. Again, I  
9 asked a previous witness about this, and  
10 I'm still scratching my head about it:

11 Looking down at Subsection J,  
12 and the change at the bottom of the Table  
13 there, J(2), are you familiar with that?

14 A. Yes, I am, Commissioner.

15 Q. It says:

16 "When a letter A is  
17 indicated in the cell, the  
18 criteria and hardnesses  
19 eliminated and replaced based  
20 on receiving water  
21 characteristics."

22 As I look at the table above, A  
23 is used for a number of different metals  
24 where there are still Hardness criteria;  
25 right?

1 A. Correct.

2 Commissioner, just to clarify,  
3 are you reviewing or do you have in front  
4 of you the supplement to our Petition?  
5 Are you looking at the redline amendments?

6 Q. Yeah, I'm looking at the redline  
7 amendments that's in your Exhibit 2.

8 A. Okay. I think the intent there in  
9 that 2a states, and just again:

10 "Where the letter A is  
11 indicated in a cell, the  
12 criterion is based on receiving  
13 water characteristics and can  
14 be referenced in Subsection I  
15 of 20.6.4.900."

16 Then we end up with with that  
17 letter A, to your point, being present for  
18 elements other than just copper.

19 Q. Right. Other metals.

20 A. Other metals, yeah.

21 I think the intent there is  
22 that Hardness is a receiving water  
23 characteristics, as is pH/DOC, and the  
24 parameters that we required, Hardness, pH,  
25 DOC.



1 I think the intent here is that  
2 for metals, the numeric value of the  
3 criteria for those metals are calculated  
4 based on a receiving water body  
5 characteristic, which could include  
6 Hardness for waters that are not on the  
7 Pajarito Plateau for copper, but for  
8 copper, the receiving water  
9 characteristics would include those 3  
10 parameters.

11 Q. Okay. And where are the receiving  
12 water characteristics set forth?

13 A. I'm sorry, Commissioner. Could you  
14 repeat that question?

15 Q. Well the language that you're  
16 proposing to add is the phrase "receiving  
17 water characteristics," and then it says  
18 it can be referenced in Subsection I of  
19 Section .900."

20 Where are the "receiving water  
21 characteristics" in Subsection I of  
22 Section .900?

23 A. In Subsection I of .900, Subsection  
24 I is providing for Hardness-Based metals  
25 criteria, and Subsection I is providing

1 the equations, the Hardness-Based  
2 equations.

3 Then further down in Subsection  
4 I for the Pajarito Plateau, it's providing  
5 the equations for the 3 parameters in  
6 addition to the Hardness.

7 Q. Okay. If I understand what you're  
8 saying, and maybe I'm taking a leap here,  
9 that the phrase "receiving water  
10 characteristics," includes the Hardness  
11 criteria combined with the additional  
12 Pajarito Copper Criteria. That would be  
13 what you would call "receiving water  
14 characteristics"?

15 A. Correct.

16 For Surface Waters outside of  
17 the Pajarito Plateau, Hardness would be  
18 the "receiving water characteristic" for  
19 the metals. Then within the Pajarito  
20 Plateau for copper, the "receiving water  
21 body characteristics" would be those 3  
22 parameters.

23 Q. Okay. Thank you.

24 HEARING OFFICER ORTH: Commissioner  
25 Velasquez.

1 COMMISSIONER VELASQUEZ: No  
2 questions.

3 HEARING OFFICER ORTH: Okay. Chair  
4 Thomson.

5  
6 EXAMINATION

7 BY CHAIRMAN THOMSON:

8 Q. Thank you very much. I appreciate  
9 your work.

10 Did you write or are you the  
11 principal author of the Windward reports?

12 A. Yes, Chairman Thomson.

13 Q. Thank you.

14 It's a very nice piece of work,  
15 and it appears about 5 different places in  
16 the written testimony, and I've become  
17 quite familiar with it.

18 So in Table 5-3 of the Windward  
19 report, which I think is on page 36, it's  
20 a Table that shows the statistical  
21 correlation with different parameters.

22 A. Yes.

23 Q. You make the point, and the Table  
24 makes the point that alkalinity is a more  
25 important parameter in the linear

1 regression than DOC. My question is why  
2 was alkalinity not included in the model,  
3 but DOC was?

4 A. I think these are the Spearman  
5 Correlation.

6 Thank you for the question  
7 first, Chairman:

8 These are the Spearman  
9 Correlation analyses, and so these are  
10 kind of univariant just comparing a  
11 couple, or 2 variables in this case to one  
12 another.

13 I think when you take it to a  
14 MLR, a multivariant step, alkalinity ended  
15 up not being a significant contributor as  
16 DOC to the BLM-based criteria.

17 Further more, pH and alkalinity  
18 are highly correlated with one another, so  
19 pH is accounted for and also the affect of  
20 alkalinity.

21 Q. Yeah, actually pH and alkalinity  
22 can be shown to be quite independent of  
23 one another, but that's another  
24 conversation, particularly in the really  
25 soft waters that they have up in some of

1 these watersheds.

2           Okay. So the Spearman is just  
3 the by-variant comparison, whereas with  
4 the multilinear regression, multiple  
5 variable linear regression showed that DOC  
6 is more important.

7       A. That's correct, Chair Thomson.

8           I would also agree with your  
9 comment there that pH and alkalinity can  
10 diverge from one another.

11       Q. I'm a alkalinity nerd.

12       A. I think for this particular data  
13 set, however, they were highly correlated  
14 with one another, which, as you probably  
15 know, creates an issue to incorporate  
16 multiple variables that correlate with one  
17 another.

18       Q. Sure. I agree in one watershed, so  
19 they are correlated, yeah.

20           Thank you. I appreciate that.

21           This proposed standard is  
22 intended to protect invertebrates and  
23 invertebrate species, but not plant  
24 species, algae, or macrophytes, or  
25 anything like that.

1       A. Thank you, again, for the excellent  
2 question, Chairman Thomson:

3               The criteria will protect all  
4 Aquatic Life, which includes aquatic  
5 plants.

6               Again, obviously they are  
7 developed to replicate the BLM software  
8 criteria, and so when EPA develops  
9 criteria for Aquatic Life, including the  
10 BLM software for copper, there is an  
11 evaluation to ensure that any numeric  
12 criteria developed for the Copper BLM in  
13 this case would also protect, although  
14 it's most directly -- the calculations are  
15 most directly focused on aquatic  
16 invertebrates and fish, there is a  
17 demonstration that those criteria would  
18 also be protective of aquatic plants.

19       Q. Thank you.

20               I scanned the EPA 2007 report,  
21 but I just ran out of time, but there is  
22 some protection against the plants.  
23 That's good. Thank you.

24               Because some plant species are  
25 especially sensitive to copper, although I

1 created a spreadsheet, and the copper  
2 concentrations predicted by this model for  
3 the water in the Pajarito Plateau are  
4 quite low.

5 So DOC is used as a surrogate  
6 for humic acid. Is that the intent?

7 A. It is used as a surrogate for  
8 dissolved organic matter, so organic  
9 material that's dissolved in water. Humic  
10 acid is a fraction of the total amount of  
11 dissolved organic matter in the water.

12 Q. But most organic matter has very  
13 little complex ability. Isn't that true?

14 A. I would say that the -- it depends  
15 on the composition of the organic matter  
16 in that it kind of depends on your  
17 definition of complex and which metal  
18 we're talking about.

19 What we are getting towards is  
20 the affinity towards a given organic  
21 matter to bind with copper in this  
22 example. The empirical data shows and the  
23 empirical data that went into developing  
24 EPA's Copper BLM show that even pretty low  
25 concentrations of Dissolved Organic

1 Carbon, using that as a surrogate for  
2 Dissolved Organic Material, has a strong  
3 affinity for copper binding, and that's  
4 borne out and proved out in empirical  
5 toxicity studies where they evaluate the  
6 toxicity of copper at varying  
7 concentrations of Dissolved Organic  
8 Carbon.

9 Q. Okay. I'll accept that.

10 My problem is, and I'm not all  
11 that familiar with the protocols that  
12 Surface Water Quality Bureau uses in their  
13 assessments, but collecting samples for  
14 DOC and analyzing it is somewhat  
15 challenging and a little bit expensive,  
16 and it requires special sample vials, no  
17 head space present, and things like that.  
18 In the perfect world we'd use a surrogate  
19 for DOC, but your work is pretty  
20 convincing.

21 Okay. Let me go to my last  
22 line of questioning. Let me see if I can  
23 find it.

24 Yeah, here it is:

25 I celebrate the fact that I'm



1 one of the last licensed engineers in the  
2 State of New Mexico that knows how to use  
3 a Slide Rule. I think in terms of 3  
4 significant figures. When you give me an  
5 equation with 5 significant figures, I  
6 think that's what I had, 22.914. That  
7 implies confidence that I don't think is  
8 justified either in the BLM or in the  
9 individual toxicity tests, or in the  
10 regression.

11 I would ask if you think that  
12 the proposed standard would be weakened if  
13 we stuck to 3 significant figures.

14 A. Chair Thomson, I really appreciate  
15 that question:

16 The reason for sticking with  
17 the number of significant digits that we  
18 did for criteria purposes is because it's  
19 built into EPA's original guidelines for  
20 calculating numeric criteria for Aquatic  
21 Life. That's why we've kind of carried it  
22 forward through the development of these  
23 equations.

24 But I would not disagree with  
25 you that it would be unjustified to change

1 the level or number of significant digits.

2 Q. One of the things that I did do was  
3 I looked at the regression curves in the  
4 2007 EPA guidance and, you know, there is  
5 a lot of scatter. They are coming up with  
6 R2s of .7, .8, .9, and when you have that  
7 much scatter, 5 figures seems just fine.

8 I also created a spreadsheet  
9 and ran several sample calculations with 3  
10 significant figures instead of 2, and the  
11 difference is about 3%, which again, we're  
12 comparing a BLM which is a statistical  
13 model with an MLR, which is another  
14 statistical model, and I think 3% is  
15 probably way more accurate than the  
16 original data justifying it.

17 I like the work you did. I  
18 would encourage the Commission to think in  
19 terms of 3 significant figures instead of  
20 5.

21 CHAIRMAN THOMSON: Thank you. Nice  
22 piece of work.

23 HEARING OFFICER ORTH: Okay.  
24 Commissioner Dominguez.

25 COMMISSIONER DOMINGUEZ: Thank you,

1 Madam Hearing Officer.

2  
3 EXAMINATION

4 BY COMMISSIONER DOMINGUEZ:

5 Q. Good afternoon, Mr. Fulton. Thank  
6 you for your testimony today.

7 My line of questioning shall be  
8 a little bit broader in scope than my  
9 colleague to your right. If my questions  
10 get outside the scope of your testimony,  
11 I'm sure that Ms. Olson will object.

12 With that leg out, if I heard  
13 you correctly, you provided testimony at  
14 the prior Triennial Review, or you were at  
15 or attended the Triennial Review. Is that  
16 correct?

17 A. That's correct, Commissioner  
18 Dominguez.

19 Q. So you probably recall there was a  
20 point in time where there was a fair  
21 amount of discussion about the best  
22 available science and what constitutes  
23 best available science.

24 The Copper Criteria that's  
25 being proposed in this Petition, in your

1 professional opinion, is this the best  
2 available science?

3 A. Yes. In my best professional  
4 opinion the Proposal in front of the  
5 Commission today, Site-Specific Water  
6 Quality Criteria for copper, was developed  
7 and reflects the best available science.

8 Q. Okay. Thank you.

9 Dr. White talked about, you  
10 know, there was 18-plus years of very  
11 robust data sets that were used to arrive  
12 at what you have arrived at. Is the 2007  
13 EPA guidance best suited for Site-Specific  
14 Criteria development partially due to just  
15 the sheer volume of data that's necessary  
16 to actually get to an end point?

17 A. That's a really good question; I  
18 think one can make that argument or come  
19 to that conclusion.

20 You know, there's a number of  
21 sites that probably have non-detect  
22 copper, and so copper is just no concern.  
23 You know, why would that particular site  
24 want to spend all the resources that is  
25 required in the Copper BLM?



1           As you saw today it takes  
2 effort to collect the data necessary to  
3 evaluate the BLM and to analyze the data  
4 necessary to evaluate the BLM.

5           Conversely, other states have  
6 fully adopted the BLM, but that's a  
7 complex process because it's, for some of  
8 the reasons I mentioned in my testimony, a  
9 complex piece of software. Adopting  
10 software creates challenges, and fully  
11 adopting the complex software requires  
12 pretty robust implementation guidance, and  
13 statewide implementation guidance.

14           In that regard there is  
15 probably something to be said for adopting  
16 it on a segment-specific basis.

17       Q. Thank you for laying a foundation  
18 to my next question:

19           If a state was going to look at  
20 adopting something statewide, is it more  
21 realistic to utilize the software versus  
22 developing equations like you have for  
23 these specific sites?

24       A. Well as you saw today there is a  
25 lot of work that went into developing

1 those equations. However, there is  
2 obvious benefit to it because of the  
3 reasons I've mentioned; it is fewer  
4 parameters. It's very transparent to look  
5 at an equation. I can see, you know, the  
6 appeal for statewide adoption of similar  
7 equations.

8           However I think that other  
9 states have shown that the software can  
10 effectively be adopted statewide. I think  
11 the question of adopting the software  
12 statewide, you know, depends on whether it  
13 could be streamlined by making assumptions  
14 for missing parameters.

15           For example, what does a site  
16 do if they don't have DOC, or a given Cad  
17 ion or N ion; would they use some  
18 reference value? I think it's entirely  
19 possible to do both. I think that just  
20 adopting the software version statewide  
21 requires a different set of analyses and  
22 uncertainties than we faced for the  
23 Plateau given the, you know, robustness  
24 and availability of data that we had for  
25 the Plateau.



1 Q. Okay. Thank you for that answer.

2 Part of where this line of  
3 questioning is coming from is, of course,  
4 EPA came out with this around 2007. That  
5 was probably about the time I started on  
6 this Commission, and I've sat through more  
7 Triennial Reviews than I care to remember,  
8 and there is a common thread through all  
9 of them that the amount of resources that  
10 it takes to adopt the 2007 guidance from  
11 EPA, this State has never really had the  
12 resources to do that. It's been a common  
13 theme up until the point where you guys  
14 have Petitioned for the site-specific.

15 My hat is off to the  
16 Petitioners for the amount of work that  
17 went into this site-specific, because I  
18 think we have to move towards the best  
19 science available.

20 I think that's what the public  
21 expects this Commission to do for  
22 protection of waters is to utilize the  
23 best science available, so I applaud the  
24 effort in moving that direction, realizing  
25 this is a fairly small step in the big

1 scheme of things statewide, but I think  
2 it's a proper step, so thank you.

3 That's all the questions I  
4 have.

5 HEARING OFFICER ORTH: Thank you.

6 Vice Chair Zemlick.

7  
8 EXAMINATION

9 BY VICE CHAIRWOMAN ZEMLICK:

10 Q. Thank you for your testimony.

11 They have asked a lot of my  
12 questions, but the one remaining is along  
13 the lines of what my colleagues asked:

14 Do you have a sense for what  
15 sort of threshold there may be in terms of  
16 the amount of data required to develop  
17 these site-specific thresholds for other  
18 locations in the state?

19 A. Yeah, good question. Thank you,  
20 Commissioner, for the question:

21 At a minimum, you know, any  
22 time we talk about Site-Specific Water  
23 Quality Criteria generally speaking, the  
24 objective is to capture the variation that  
25 may be expected within a given water body,



1 and that variation could be seasonal. It  
2 could be related to different types of  
3 flow, so base flow and high flow. As a  
4 general rule of thumb you want to capture  
5 multiple seasons for a given location.

6           You know, providing a  
7 particular number of samples I think is  
8 just difficult to do without knowing how  
9 big of a site we are talking about. Is it  
10 one particular stream or is it a big  
11 watershed?

12           But as a general position I  
13 would encourage anyone evaluating Site-  
14 Specific Criteria to capture seasonal  
15 variability and any variability that might  
16 be expected associated with that  
17 particular site.

18       Q. Thank you.

19           One thing you didn't mention,  
20 which I guess I would just throw out here,  
21 too, is because of the period of sample  
22 collection you also have incorporated  
23 post-fire response, too, which I think all  
24 across New Mexico we don't have those  
25 kinds of data sets. I just wanted to

1 point that out and say for that alone it's  
2 very interesting.

3 A. Great point. Thanks for that.

4 VICE CHAIRWOMAN ZEMLICK: Thank  
5 you.

6 HEARING OFFICER ORTH: Thank you.

7 Commissioner Moander.

8 COMMISSIONER MOANDER: After that  
9 thorough examination I don't have anything  
10 to ask you. Thank you again for your time  
11 today.

12 HEARING OFFICER ORTH: Okay. Let's  
13 go to the platform.

14 Commissioner Frey.

15 COMMISSIONER FREY: Thank you.

16 ///

17 EXAMINATION

18 BY COMMISSIONER FREY:

19 Q. Thanks for your testimony,  
20 Mr. Fulton, and thanks for all the work  
21 that you and your team has put into this.  
22 It's impressive.

23 I wanted to ask you, you  
24 brought up Figure 5-1 in your PowerPoint.  
25 I was just curious, because the Jemez

1 River only shows up in 2017. I don't know  
2 if it's because there was so little data  
3 on the other years, or was that just 1  
4 year that Jemez was looked at?

5 I also don't see it on the map.

6 A. Thank you, Commissioner, for the  
7 question:

8 I'm just pulling up Figure 5-1  
9 in the report so I can make sure I'm  
10 responsive to your question.

11 Just so I understand the  
12 question is why is there so few data  
13 points for the Jemez River?

14 Q. Yeah. Was it just like 1 year that  
15 they actually looked at it and what would  
16 be the reasoning?

17 A. Yeah, I believe that location...

18 I'm trying to refer myself to  
19 the map of sampling locations:

20 I believe that location is not  
21 necessarily part of some of the routine  
22 monitoring that's required under the  
23 existing regulatory programs, and so  
24 that's why it likely showed up as just  
25 that particular year.

1 Q. Yeah, it almost...

2 I don't see it on the map, so  
3 it almost seems like, I don't know, they  
4 are using another control or something. I  
5 don't know.

6 Okay. I was also looking at  
7 Figure 5-6, that's where you have the  
8 acute Copper Criteria again; Hardness, pH  
9 and DOC.

10 A. Yes.

11 Q. You talked a little bit about the  
12 last or bottom set of figures. I'm  
13 wondering if you can clarify:

14 If you can relate that to --  
15 and I'm looking at my other computer  
16 screen, otherwise I wouldn't be able to  
17 have all of this up to look at.

18 In the proposed changes, in,  
19 let's see, it's I(4), it states:

20 "In waters that contain DOC  
21 concentrations greater than  
22 29.7 mg/L, a value of 29.7 mg/L  
23 shall be used in the equation."

24 It is the same thing for  
25 Hardness. There is an upper limit of "207

1 mg/L" for use in the equations.

2 Is that based on that figure?

3 Because it almost looks like it is.

4 A. Thank you for the question; that's  
5 a great question:

6 Those limits specified in the  
7 proposed amendments, those were the  
8 maximum values from which we were able to  
9 develop those equations. As we, you know,  
10 walked through the process, we calculated  
11 BLM software criteria and then we  
12 developed these MLR models. Those models  
13 were developed over a particular range of  
14 water chemistries and validated over that  
15 same range, and so those values that you  
16 just referred to are the maximum values by  
17 which we developed and validated the  
18 equations.

19 It's a conservative step to  
20 avoid extrapolating a model beyond the  
21 range from which you develop it.

22 Q. What happens if your water exceeds  
23 that?

24 A. (No audible response.)

25 Q. I mean it seems like a lot of New

1 Mexico water -- and I don't know the area  
2 in question very well, but it seems like a  
3 lot of New Mexico waters would be in  
4 exceedance of the Hardness of 207 mg/L.  
5 Is that limit set for the area or could  
6 that be applied to any waters above that  
7 Hardness level?

8 A. No, and thank you again for the  
9 question; I think that is the limit in  
10 this particular area for this proposal.

11 As I discussed, as we increase  
12 Hardness, it reduces toxicity, so increase  
13 in the Hardness results in greater  
14 criteria.

15 If you have a particular water  
16 that had Hardness greater than "207 mg/L,"  
17 which was the upper limit of our data set,  
18 we don't -- it is -- we are not  
19 recommending applying our model to such  
20 waters, and so we are recommending you  
21 would cap it at "207," much like you do  
22 the current Hardness-Based criteria at  
23 "400," because we have not validated the  
24 performance of that model above that  
25 range.

1 Q. Would that also -- again going back  
2 to Figure 5-6 -- oh, shoot, I just lost  
3 it.

4 You see, above a hardness of  
5 "200," you see more of a divergence  
6 between the 2 methods of calculating it.  
7 Would that have something to do with  
8 setting that limit there?

9 A. Yeah, I think that divergence there  
10 that you're referring to, I mean that's  
11 where it diverges outside of kind of that  
12 range that I'm describing. It's outside  
13 of that site-specific chemistry range that  
14 we used to develop the model.

15 Q. Okay. Thank you.

16 COMMISSIONER FREY: That's all my  
17 questions. Thank you again.

18 THE WITNESS: Thank you.

19 COMMISSIONER FREY: Very  
20 interesting.

21 HEARING OFFICER ORTH: Commissioner  
22 Harms, any questions?

23 COMMISSIONER HARMS: Hi there.  
24 Thank you. I do have a couple questions  
25 mostly on slides 14 and 15 of the

1 presentation.

3 EXAMINATION

4 BY COMMISSIONER HARMS:

5 Q. The first one, Slide 14, is really  
6 just my curiosity, but it tags onto  
7 another question that was asked:

8 It says these:

9 "Equations were demonstrated  
10 to accurately calculate BLM-  
11 based criteria across the range  
12 of surface water conditions  
13 observed on the Pajarito  
14 Plateau."

15 Can you give us a sense?

16 A. (No audible response.)

17 Q. This is kind of an open-ended  
18 question, but can you give us a sense of  
19 the intra-annual versus interannual  
20 changes and variability that you see in  
21 those conditions?

22 A. Thank you for the question. I mean  
23 I can give a general sense and some  
24 general examples:

25 I mean the variation



1 variability that we see across the  
2 conditions, one example would be in that  
3 bar chart that's presented also in the  
4 slides. You know, there was 1 year, for  
5 example, where no samples were collected  
6 because it was a high drought year, and so  
7 that would have been 2012.

8           If you look at Slide 15, you  
9 can kind of see the distribution of  
10 samples collected across the watersheds  
11 over the years. In 2012 we don't have any  
12 samples. 2012 was a high drought year,  
13 and so conversely, comparing that to 2015,  
14 where we have a substantial number of  
15 samples, likely due to it just containing  
16 more precipitation events and therefore  
17 more Surface Water samples collected.

18           Speaking more specifically in  
19 terms of the inter versus intra-annual  
20 variability and water chemistry, I think  
21 it's difficult to provide too many  
22 specifics without having --

23       Q. Just on the 3 that were the driving  
24 force, so the pH, the DOC, and the  
25 Hardness, would that help? Those are kind

1 of the factors that I'm most curious about  
2 and how much those change over time and  
3 between years.

4 A. Yeah, I think they vary to a  
5 reasonable degree over time just depending  
6 on the season that we're in. For example,  
7 is it base flow in a perennial stream or  
8 are we in a monsoon season?

9 I think the extent and  
10 magnitude of that variation over the years  
11 is somewhat just based on flow and season  
12 and is condition-dependant, but I would a  
13 say it also varies spatially across the  
14 watershed depending on a given sub-  
15 watershed's characteristics.

16 Q. Okay. Thank you.

17 Staying on Slide 15, and I'm  
18 sorry if this is in the materials and I  
19 just didn't see it, but the BLM model was  
20 basically created with data from 2005 to  
21 2019, which is a great and long data set.  
22 Was there data taken after 2019 and would  
23 the MLR equations be updated accordingly  
24 in the future?

25 A. Yeah, thanks for the question:

1           The reason that the proposed  
2 amendments were developed utilizing data  
3 from 2005 to 2019 is because as you heard  
4 from Dr. White's testimony, we had a  
5 lengthy public outreach process.

6           This has been a multiyear  
7 process. We started that process, and we  
8 had to draw the line somewhere for how  
9 much data is enough data. We started the  
10 process back then, and so that's why we  
11 utilized the data up through 2019.

12           The answer to the second part  
13 of your question, "Are data still  
14 collected," you know, "post 2019," and the  
15 answer is yes, data are still collected  
16 pursuant to various regulatory programs  
17 and permits that exist on the Plateau.

18           Will the MLR Equations be  
19 updated with additional data? No, that's  
20 not the intent. That's because the MLR  
21 Equations are developed with such a robust  
22 data set that we have kind of captured  
23 just the range of conditions that one  
24 could reasonably expect to occur on the  
25 Plateau, and that's indicated several

1 times in the Demonstration Report.

2 I think this is one of the more  
3 robust applications of BLM data that  
4 exists out there, and I would not  
5 recommend continually updating it, you  
6 know, over a specified, you know, time  
7 period based on additional data.

8 Q. Okay. Okay. Great. That makes  
9 sense.

10 I guess from a regulatory  
11 perspective what I'm understanding is this  
12 is sort of a "Set and Forget" situation.  
13 Is that your understanding, too? With the  
14 MLR Equations and adopting these.

15 A. Yeah, I think that from a  
16 regulatory perspective, you know, we've  
17 got to ask the question as to whether it  
18 is scientifically defensible, and I think  
19 the answer is yes. We feel confident that  
20 the equations are defensible and  
21 appropriate for the Plateau, and moving  
22 forward those are the equations that can  
23 be in place for future assessments of  
24 copper and its protectiveness of the  
25 Pajarito Plateau Surface Waters.

1 Q. I'm just thinking ahead, and maybe  
2 it's too far ahead, but 15, 20 years, you  
3 know, say drought conditions change with  
4 climate, and EPA says, "Hey, we need to  
5 take a look at this," is there any  
6 mechanism to revise the equations?

7 A. To my knowledge, as the regulations  
8 currently stand, that mechanism would be  
9 going through another Rulemaking to change  
10 it, because if adopted these would be  
11 codified in Surface Water Quality Bureau  
12 standards. In using your example of 15,  
13 20 years from now changing them, then we  
14 are a changing water quality standards,  
15 which would require a Rulemaking.

16 Q. That's all. Thank you very much.

17 My last question had to do  
18 with...

19 My last question is more just  
20 out of curiosity, but looking at Slide 15,  
21 the "Natural Background Point" in "White  
22 Rock," I just wanted to know a little more  
23 information about how that was chosen,  
24 because I was trying to figure out where  
25 exactly it was and whether it was Upstream

1 potentially, or uphill from the drainage  
2 to the south.

3 I mean why that one point? Was  
4 it just convenient because it was in White  
5 Rock, and why aren't there other  
6 downstream points? Can you just enlighten  
7 us on the selection of that location for  
8 the "Natural Background"?

9 A. Yeah, thank you for the question:

10 I would actually have to maybe  
11 confer with my colleague, Dr. White, or  
12 maybe even defer to her, as I just was not  
13 directly involved with the selection of  
14 particular Surface Water locations back  
15 then. I apologize, but I don't know that  
16 I am able to give you a direct and  
17 accurate answer on that.

18 COMMISSIONER HARMS: Okay. Thank  
19 you. I'll just take a look back at the  
20 information to see if I can find it.

21 That is all my questions.  
22 Thank you very much.

23 HEARING OFFICER ORTH: Thank you.

24 Chair Thomson.  
25

1 FURTHER EXAMINATION

2 BY CHAIRMAN THOMSON:

3 Q. I would like to follow up on  
4 questions from Commissioner Frey; I  
5 flagged it and forgot to ask:

6 On the redline markup, 20.6.4  
7 .900.I(4), this is the Copper Criteria.  
8 Taking a look at this again, it states:

9 "For the purposes of this  
10 Section, Dissolved Organic  
11 Carbon (DOC) is in units of  
12 milligrams carbon per liter  
13 (mg/CL) [when containing] DOC  
14 concentrations greater than  
15 29.7 mg/L..."

16 Let's change that to "30."  
17 There is no measurable difference between  
18 "29.7" and "30." That's going to be an  
19 amendment I suggest when we consider the  
20 final document.

21 Let me ask first whether that  
22 will have any affect on the standard. Is  
23 there any measurable affect on the  
24 standard if we change that from "29.7" to  
25 "30"?

1 A. No significant impact on the  
2 numeric value of the data standard, yeah.

3 Is that 0.3 mg/L DOC?

4 Q. Actually my question wasn't  
5 "significant," it was "measurable." Would  
6 it be possible to measure the difference?

7 A. (No audible response.)

8 Q. I'll ask it: Would it be possible  
9 to measure the difference between "29.7"  
10 and "30," and the affects?

11 A. Well I think "29.7" versus "30" is  
12 within the measurement error of the  
13 analytical method itself.

14 Q. I agree. Thank you.

15 Then I have an editorial:

16 In that same sentence it says:

17 "In waters that contain DOC  
18 concentrations greater than  
19 29.7 mg/L, a value of 29.7 mg/L  
20 shall be used in the equation."

21 I think that should be  
22 corrected in the following equations.

23 A. I would agree.

24 Q. Thank you.

25 CHAIRMAN THOMSON: No more



1 questions.

2 HEARING OFFICER ORTH: Thank you.

3 Ms. Olson, do you have any  
4 Redirect?

5 MS. OLSON: I do not have any  
6 Redirect, Madam Hearing Officer, and I  
7 believe that concludes our case.

8 HEARING OFFICER ORTH: Thank you,  
9 very much.

10 COMMISSIONER FREY: Madam Hearing  
11 Officer, in light of what the Chairman  
12 asked may I ask a couple follow-up?

13 HEARING OFFICER ORTH: Yes, go  
14 ahead.

15 ///

16 ///

17 FURTHER EXAMINATION

18 BY COMMISSIONER FREY:

19 Q. Mr. Fulton, as I recall the EPA,  
20 and of course the NMED, have been looking  
21 over these suggested changes and going  
22 through your report. Do you think, just  
23 in terms of significant figures, would you  
24 want to go back to the EPA to have them  
25 review those changes? What's your

1 thought?

2 A. Thank you for the question.

3 Just to be clear, you're  
4 referring to the changes to the  
5 significant figures?

6 Q. Yes, that Chair Thomson just was  
7 discussing; instead of "29.7," using "30."

8 A. To me I don't think that would  
9 warrant or be necessary to trigger a re-  
10 review with EPA.

11 I would also be curious to hear  
12 what the Department thinks, but in my  
13 opinion that is not substantive or not  
14 significant enough to trigger a re-review  
15 with the EPA.

16 On the other significant figure  
17 question, when it comes to a criteria  
18 value, I understand Chairman Thomson's  
19 comments there absolutely, but if we are  
20 speaking about significant digits for a  
21 criteria, my recommendation would be to  
22 leave as is only because that probably  
23 would be something the EPA would comment  
24 on.

25 COMMISSIONER FREY: Okay. Thank

1 you.

2 Thank you Madam Hearing  
3 Officer. No more questions.

4 HEARING OFFICER ORTH: All right.  
5 Thank you.

6 Thank you, Ms. Olson and  
7 Mr. Fulton.

8 I think we need a short break.  
9 Let's come back at 3:00. It's now 10 of  
10 3:00, and we'll come back at 3:00 and hear  
11 from Mr. Baca.

12 (The Water Quality Control  
13 Commission Technical Hearing recessed from  
14 2:49 p.m. to 3:02 p.m.)

15 HEARING OFFICER ORTH: Okay. We  
16 are back after a short break for important  
17 reasons; one of our Counsel participating  
18 today has to be on break from 3:45 to  
19 4:15, and we will be taking another longer  
20 break then, but we'll see what we can  
21 accomplish here in 45 minutes.

22 Ms. Scott.

23 MS. SCOTT: Madam Hearing Officer,  
24 Chair Thomson, and members of the  
25 Commission:

1 I would like to call NMED's  
2 Technical witness.

3 Please state and spell your  
4 full name for the record.

5 THE WITNESS: Good afternoon, Madam  
6 Hearing Officer, Chair Thomson, and  
7 members of the Commission:

8 My name is Michael Baca; that's  
9 M-I-C-H-A-E-L, and "Baca" is spelled  
10 B-A-C-A.

11 HEARING OFFICER ORTH: Thank you,  
12 Mr. Baca.

13 Do you swear or affirm to tell  
14 the truth?

15 THE WITNESS: I do.

16 HEARING OFFICER ORTH: Thank you.  
17 Go ahead.

18  
19 MICHAEL G. BACA,  
20 after having been first duly sworn,  
21 was examined and testified as follows:

22  
23 DIRECT EXAMINATION

24 BY MR. SCOTT:

25 Q. Where are you employed?

1 A. I'm employed with the New Mexico  
2 Environment Department.

3 Q. How long have you worked for NMED?

4 A. I have worked for the Department  
5 since February of 2005 in the  
6 Environmental Health, Air Quality, and now  
7 with the Surface Water Quality Bureau.

8 Q. And what is your current role?

9 A. I'm with the Monitoring, Assessment  
10 and Standards Section, or MASS, and serve  
11 as a Standards and Outreach Team  
12 Supervisor, and the Water Quality  
13 Standards Coordinator for the Department.

14 Q. What are your current job duties?

15 A. In this position I lead the  
16 development, review, and revision and  
17 maintenance of Surface Water Quality  
18 standards, and supervise a staff of 4; 2  
19 Water Quality Standard Scientists, our  
20 Quality Assurance Officer, and our  
21 Volunteer Monitoring and Outreach  
22 Specialist.

23 Q. Please describe your educational  
24 qualifications?

25 A. I graduated in 2004 with a Bachelor

1 of Arts in Chemistry from Carleton  
2 College.

3 Q. Did you submit a copy of your  
4 Résumé as NMED Exhibit 2 in this matter?

5 A. I did.

6 Q. Do you have before you what has  
7 been identified as NMED Exhibit 2?

8 A. I do.

9 Q. Do you recognize that document as  
10 your Résumé?

11 A. I do.

12 Q. Is it a true and correct copy of  
13 your Résumé?

14 A. It is.

15 MS. SCOTT: Madam Hearing Officer,  
16 NMED moves to admit NMED Exhibit 2.

17 HEARING OFFICER ORTH: I'll pause  
18 for objections.

19 Exhibit 2 is admitted.

20 (Water Quality Control  
21 Commission Technical Hearing NMED Exhibit  
22 2 was received in evidence.)

23 Q. BY MS. SCOTT: Did you submit  
24 written Direct Testimony as NMED Exhibit 1  
25 in this matter?

1 A. I did.

2 Q. Do you have before you what has  
3 been identified as NMED Exhibit 1?

4 A. Yes, I do.

5 Q. Do you recognize that document as  
6 your submitted written Direct Technical  
7 Testimony?

8 A. Yes, I do.

9 Q. Was your written testimony drafted  
10 by you or under your supervision?

11 A. Yes, it was.

12 Q. Is it true and accurate to the best  
13 of your knowledge and belief?

14 A. Yes, it is.

15 Q. Did you submit written Rebuttal  
16 Testimony in this matter?

17 A. No, I did not.

18 Q. Do you have any corrections or  
19 changes to your written Direct Testimony?

20 A. Yes, I do; I have a couple of:

21 I have some additional  
22 information and exhibits regarding Public  
23 Notice. Otherwise I do not.

24 Q. Do you adopt the remainder of your  
25 written Direct Testimony here today?

1 A. I do.

2 MS. SCOTT: Madam Hearing Officer,  
3 NMED moves to admit NMED Exhibit 1.

4 HEARING OFFICER ORTH: I'll pause  
5 for objections.

6 Exhibit 1 is admitted.

7 (Water Quality Control  
8 Commission Technical Hearing NMED Exhibit  
9 1 was received in evidence.)

10 Q. BY MS. SCOTT: You cited and  
11 attached several exhibits to your written  
12 Technical Testimony and we'll work through  
13 those one at a time:

14 Do you have before you what has  
15 been identified as NMED Exhibit 5?

16 A. I do.

17 Q. Do you recognize that document as:

18 "EPA 1995 Updates: Water  
19 Quality Criteria Documents for  
20 the Protection of Aquatic Life  
21 in Ambient Water"?

22 A. Yes.

23 Q. What is the relevance of including  
24 this document into the record?

25 A. This document is the basis for New



1 Mexico's current Copper Hardness Water  
2 Quality Criteria.

3 MS. SCOTT: Madam Hearing Officer,  
4 NMED moves to admit NMED Exhibit 5.

5 HEARING OFFICER ORTH: I'll pause  
6 for objections.

7 Exhibit 5 is admitted.

8 (Water Quality Control  
9 Commission Technical Hearing NMED Exhibit  
10 5 was received in evidence.)

11 Q. BY MS. SCOTT: Do you have before  
12 you what has been identified as NMED  
13 Exhibit 6?

14 A. I do.

15 Q. Do you recognize that document as  
16 EPA:

17 "Aquatic Life Ambient Fresh  
18 Water Quality Criteria - Copper  
19 2007 Revision"?

20 A. I do.

21 Q. What is the relevance of including  
22 this document into the record?

23 A. This is just a fact sheet of the  
24 2007 Recommended Copper Criteria. This  
25 provides some very easily digestible

1 information regarding copper's background  
2 and EPA's recommendation to use the BLM in  
3 developing Copper Criteria.

4 MS. SCOTT: Madam Hearing Officer,  
5 NMED moves to admit NMED Exhibit 6.

6 HEARING OFFICER ORTH: I'll pause  
7 for objections.

8 NMED Exhibit 6 is admitted.

9 (Water Quality Control  
10 Commission Technical Hearing NMED Exhibit  
11 6 was received in evidence.)

12 Q. BY MS. SCOTT: Do you have before  
13 you what's been identified as NMED Exhibit  
14 7?

15 A. I do.

16 Q. Do you recognize that document as:

17 "EPA Aquatic Life Ambient  
18 Fresh Water Quality Criteria -  
19 Copper"?

20 A. I do.

21 Q. What is the relevance of including  
22 this document in the record?

23 A. This is the latest recommendation  
24 from EPA for Copper Criteria development,  
25 and this is the BLM recommendation.

1 MS. SCOTT: Madam Hearing Officer,  
2 NMED moves to admit NMED Exhibit 7.

3 HEARING OFFICER ORTH: Pausing for  
4 objections.

5 Exhibit 7 is admitted.

6 (Water Quality Control  
7 Commission Technical Hearing NMED Exhibit  
8 7 was received in evidence.)

9 Q. BY MS. SCOTT: Do you have before  
10 you what has been identified as NMED  
11 Exhibit 8?

12 A. I do.

13 Q. Do you recognize that document as:

14 "EPA Metals Cooperative  
15 Research and Development  
16 Agreement (CRADA) Phase I  
17 Report"?

18 A. I do.

19 Q. What is the relevance of including  
20 this document in the record?

21 A. This document identifies EPA's  
22 intent to develop MLR Equations or  
23 MLR-based equations for metals criteria in  
24 the future. It kind of sets us up to say  
25 where the science is leading and where EPA

1 is heading for recommended criteria  
2 development for metals.

3 MS. SCOTT: Madam Hearing Officer,  
4 NMED moves to admit NMED Exhibit 8.

5 HEARING OFFICER ORTH: Pausing for  
6 objections.

7 Exhibit 8 is admitted.

8 (Water Quality Control  
9 Commission Technical Hearing NMED Exhibit  
10 8 was received in evidence.)

11 Q. BY MS. SCOTT: Do you have before  
12 you what has been identified as NMED  
13 Exhibit 9?

14 A. I do.

15 Q. Do you recognize that document as:

16 "WQCC 24-31 NMED Provided to  
17 the Public Documentation"?

18 A. I do.

19 Q. What's the relevance of including  
20 this document in the record?

21 A. It shows some of the actions that  
22 the Department took to help the Commission  
23 to provide Public Notice to the public.

24 MS. SCOTT: Madam Hearing Officer,  
25 NMED moves to admit NMED Exhibit 9.

1 HEARING OFFICER ORTH: Pausing for  
2 objections.

3 Exhibit 9 is admitted.

4 (Water Quality Control  
5 Commission Technical Hearing NMED Exhibit  
6 9 was received in evidence.)

7 Q. BY MS. SCOTT: Do you have before  
8 you what has been identified as NMED  
9 Exhibit 10?

10 A. I do.

11 Q. Do you recognize that document as:

12 "WQCC 24-31 Public Notice

13 Documentation"?

14 A. I do.

15 Q. And what's the relevance of  
16 including this document in the record?

17 A. This demonstrates some of the  
18 additional actions that the Department  
19 took to provide Public Notice in this  
20 matter.

21 MS. SCOTT: Madam Hearing Officer,  
22 NMED moves to admit NMED Exhibit 10.

23 HEARING OFFICER ORTH: Pause for  
24 objections.

25 Exhibit 10 is admitted.

1 (Water Quality Control  
2 Commission Technical Hearing NMED Exhibit  
3 10 was received in evidence.)

4 Q. BY MS. SCOTT: Do you have before  
5 you what has been identified as NMED  
6 Exhibit 11?

7 A. I do.

8 Q. Do you recognize that document as  
9 the "Affidavit of Publication" for the New  
10 Mexico Register?

11 A. I do.

12 Q. And what's the relevance of  
13 including this in the record?

14 A. This shows that Public Notice was  
15 published in the New Mexico Register on a  
16 certain date.

17 MS. SCOTT: Madam Hearing Officer,  
18 NMED moves to admit NMED Exhibit 11.

19 HEARING OFFICER ORTH: Pause for  
20 objections.

21 Exhibit 11 is admitted.

22 (Water Quality Control  
23 Commission Technical Hearing NMED Exhibit  
24 11 was received in evidence.)

25 Q. BY MS. SCOTT: You also have 3

1 additional exhibits to introduce today  
2 which have been previously circulated to  
3 all parties to the Hearing Officer, and to  
4 the Commission Administrator.

5 Do you have before you what has  
6 been identified as NMED Exhibit 12?

7 A. I do.

8 Q. Do you recognize that document as  
9 the "WQCC Public Notice of Rescheduled  
10 Public Hearing" for this matter in English  
11 and Spanish?

12 A. Yes, I do.

13 Q. What is the relevance of including  
14 this in the record?

15 A. This provides the content of the  
16 Public Notice that was posted and  
17 published in the various locations.

18 MS. SCOTT: Madam Hearing Officer,  
19 NMED moves to admit NMED Exhibit 12.

20 HEARING OFFICER ORTH: Pausing for  
21 objections.

22 Exhibit 12 is admitted.

23 (Water Quality Control  
24 Commission Technical Hearing NMED Exhibit  
25 12 was received in evidence.)

1 Q. BY MS. SCOTT: Do you have before  
2 you what has been identified as Exhibit  
3 13?

4 A. I do.

5 Q. Do you recognize that document as  
6 the "WQCC Public Notice of Rescheduled  
7 Public Hearing" for this matter in both  
8 English and Spanish as published in the  
9 New Mexico Register?

10 A. Yes, I have.

11 Yes, I do.

12 Q. What is the relevance of including  
13 this in the record?

14 A. This shows that the Public Notice  
15 was published in the New Mexico Register  
16 and it provides the content of that Notice  
17 that was published.

18 MS. SCOTT: Madam Hearing Officer,  
19 NMED moves to admit NMED Exhibit 13.

20 HEARING OFFICER ORTH: Pause for  
21 objections.

22 13 is admitted.

23 (Water Quality Control  
24 Commission Technical Hearing NMED Exhibit  
25 13 was received in evidence.)



1 Q. BY MS. SCOTT: And lastly, do you  
2 have before you what has been identified  
3 as NMED 14?

4 A. I do.

5 Q. Do you recognize that document as  
6 the "Affidavit of Publication for the Los  
7 Alamos Daily Post of the WQCC Public  
8 Notice of Rescheduled Public Hearing"?

9 A. I do.

10 Q. And what is the relevance of  
11 including this in the record?

12 A. This shows that Public Notice was  
13 published in a newspaper of local  
14 circulation.

15 MS. SCOTT: Madam Hearing Officer,  
16 NMED moves to admit NMED Exhibit 14.

17 HEARING OFFICER ORTH: Pausing for  
18 objections.

19 Exhibit 14 is admitted.

20 (Water Quality Control  
21 Commission Technical Hearing NMED Exhibit  
22 14 was received in evidence.)

23 MS. SCOTT: I just want to make  
24 sure I hit all of those. I might have...

25 Let me, just for purposes of

1 clarity, go back to Exhibit 11. I don't  
2 think I completely titled that.

3           Actually I might want to catch  
4 something. Let me see what we filed  
5 really quickly. I want to make sure we  
6 have another "Affidavit of Publication,"  
7 because I'm only showing 1 page for  
8 Exhibit 11.

9           I'm just going to go back and  
10 change how I worded that just to be clear:

11       Q. Okay. Do you have before you what  
12 has been identified as NMED Exhibit 11?

13       A. I do.

14       Q. Do you recognize that document as  
15 the "Affidavit of Publication" for both  
16 the "Albuquerque Journal" and for the "New  
17 Mexico Register"?

18       A. I do.

19       Q. All right. What is the relevance  
20 of including both of these in the record?

21       A. This shows that notice was  
22 published in the "Albuquerque Journal" as  
23 well as the "New Mexico Register," and it  
24 was published in those newspapers in  
25 October.

1 MS. SCOTT: Madam Hearing Officer,  
2 NMED moves again to admit NMED Exhibit 11.

3 HEARING OFFICER ORTH: Pausing for  
4 objections.

5 Exhibit 11 is admitted.

6 MS. SCOTT: Okay. Then I have 2  
7 copies of each of those premarked NMED  
8 Exhibits 12, 13, and 14 for the Commission  
9 and for the Hearing Officer.

10 HEARING OFFICER ORTH: Thank you.

11 MS. SCOTT: May I approach?

12 HEARING OFFICER ORTH: Sure.

13 Thank you.

14 Q. BY MS. SCOTT: Can you provide a  
15 summary of your testimony starting with  
16 providing a summary of the regulatory  
17 context?

18 A. My testimony will provide a  
19 framework for quality standards including  
20 Site-Specific Criteria, outlining the  
21 administrative processes and procedures  
22 for establishing amendments, and the  
23 collaboration and coordination efforts  
24 with Petitioners to review their Criteria  
25 Development Proposal and Stakeholder

1 Engagement Plans, as well to provide  
2 Public Notice of the Rulemaking Hearing:  
3 State and Federal statutes and  
4 regulations outline the Requirements and  
5 Regulatory Framework for Quality  
6 Standards, and authorize states to adopt  
7 public standards to protect public health  
8 and welfare, enhance water quality, and  
9 serve the purpose of the law.

10 The goal of the Federal Clean  
11 Water Act, as stated in Section 101(a)(2)  
12 is to provide:

13 "... that wherever  
14 attainable, water quality ...  
15 for the protection and  
16 propagation of fish, shellfish,  
17 and wildlife, and recreation in  
18 and on the water."

19 Federal regulations direct  
20 states to adopt preset designated uses and  
21 criteria to protect those uses consistent  
22 with this goal.

23 New Mexico's Water Quality  
24 Standards are codified at 20.6.4 NMAC.  
25 The designated uses as set forth in

1 Section .900 include:

2 Fish culture;

3 Public water supply;

4 Industrial water supply;

5 Domestic water supply;

6 Irrigation and irrigation

7 storage;

8 Primary and secondary contact;

9 Livestock watering;

10 Wildlife habitat; and,

11 Aquatic Life.

12 These standards establish water  
13 quality criteria that protect the  
14 designated uses of a water body, and these  
15 can be general narrative criteria that  
16 apply to all waters, or these can be  
17 numeric criteria that apply to a specific  
18 designated use or water quality segment.

19 New Mexico's current Dissolved  
20 Copper Criteria are based on the U.S.  
21 Environmental Protection Agency, or EPA's  
22 1995 Hardness-Based Water Quality Criteria  
23 documents.

24 In 2007, EPA updated their  
25 Copper Criteria recommendations to use a

1 Biotic Ligand Model or BLM. The Copper  
2 BLM is a metal bioavailability model that  
3 requires 10 water quality input parameters  
4 to predict copper toxicity and calculate  
5 applicable criteria based on this  
6 toxicity.

7 New Mexico has not adopted the  
8 Copper BLM approach during prior Triennial  
9 Reviews due to programmatic constraints  
10 with limited staff and funding that  
11 prohibits consistent, reliable, and  
12 concurrent data collection of sufficient  
13 quality for use in our programs.

14 The BLM requires concurrent  
15 monitoring, or a database of default  
16 values based on high quality historical  
17 monitoring data. The standards allow any  
18 person to Petition the Commission to  
19 adopt, amend, or appeal a Water Quality  
20 Standard, including Site-Specific  
21 Criteria.

22 The Petition must:

23 1: Identify the specific  
24 waters to which the Site-Specific Criteria  
25 would apply;

1 Explain the rationale for  
2 proposing the site-specific criteria;

3 Describe the stakeholder  
4 engagement process;

5 Present and respond to the  
6 public input received; and,

7 The Petition must present and  
8 justify the derivation of the proposed  
9 Site-Specific Criteria.

10 In addition, the derivation of  
11 Site-Specific Criteria must be based on:

12 Scientifically defensible  
13 methods;

14 Clean Water Act Section 304(a)  
15 guidance, or modified 304(a) guidance to  
16 reflect site-specific conditions.

17 The condition may adopt  
18 Site-Specific Water Quality Criteria based  
19 on relevant site-specific conditions like  
20 physical, biological, or chemical  
21 characteristics at a site that alter the  
22 toxicity, bioavailability, or  
23 bioaccumulation of the chemical to fully  
24 protect the designated use to which it  
25 applies.

1           The Petitioners streamlined  
2 EPA's BLM approach to propose Multiple  
3 Linear Regression, or MLR Equations, with  
4 pH, Dissolved Organic Carbon, or DOC, and  
5 Hardness input values to generate  
6 applicable acute and chronic criteria  
7 equations. This approach is consistent  
8 with EPA's intention to develop and  
9 propose MLR models for 8 metals using pH,  
10 DOC, and Hardness input values as the main  
11 drivers for criteria development.

12           NMED supports the scientific  
13 basis behind EPA's proposed MLR approach,  
14 and will assess the feasibility of  
15 adoption and implementation in New Mexico  
16 after EPA issues a final report and  
17 recommendation.

18           Rulemaking before the  
19 Commission begins when a person files a  
20 written Petition and Statement of Reasons  
21 to Adopt, Amend, Or Repeal a Regulation in  
22 accordance with 20.1.6.200 NMAC. If the  
23 Commission grants a hearing, Notice of the  
24 Rulemaking must be provided to the public  
25 in accordance with State statute and



1 regulation.

2 The Agency must distribute  
3 Rulemaking information and provide Public  
4 Notice by publishing:

5 In the newspaper and the New  
6 Mexico Register;

7 Posting information on Agency  
8 websites; and,

9 Contacting interested and  
10 affected parties.

11 The Public Notice of Rulemaking  
12 must include:

13 The subject;

14 A summary and purpose of the  
15 proposed Rule;

16 The legal authority for the  
17 Rule and its adoption;

18 The Technical basis for the  
19 proposed Rule and how to find Technical  
20 information;

21 Governing laws of procedure and  
22 information on how to present information  
23 and participate in the hearing;

24 Examine documents; and,

25 Download information.

1           Although a Work Plan is not  
2     required for a Site-Specific Criteria  
3     Demonstration pursuant to 20.6.4.10F NMAC,  
4     the Department worked with the Petitioners  
5     to discuss expectations, development of a  
6     common understanding, and coordinate  
7     timelines and resources. The Department  
8     and EPA provided feedback and comments  
9     throughout the planning and Technical  
10    Demonstration Development process.

11           Based on this early engagement,  
12    an initial Draft Demonstration was  
13    developed and submitted to the Department  
14    for review. NMED provided formal comments  
15    on the Draft Demonstration on March 31,  
16    2023. The Petitioners addressed the  
17    comments in a subsequent Draft  
18    Demonstration and Response to Comments  
19    dated August 2023.

20           Throughout the process the  
21    Petitioners solicited input from the  
22    Department, EPA, stakeholders, and the  
23    general public, and they responded to all  
24    the input, feedback, and comments they  
25    received in their final Demonstration

1 Report provided with their Petition.

2 The Public Notice for the  
3 hearing was drafted and published by the  
4 Petitioners in the Albuquerque Journal and  
5 the New Mexico Register. The content of  
6 the Notice itself, which is the same  
7 version published in the New Mexico  
8 Register, are part of the updates I have  
9 to my written Direct Testimony. Those  
10 additional exhibits are NMED Exhibit 12  
11 for the concept of the Notice in English  
12 and Spanish; and,

13 NMED Exhibit 13 for the  
14 publication in the New Mexico Register.

15 The Petitioners' also published  
16 Notice in the Los Alamos Daily Post, which  
17 I am also presenting today as Exhibit 14.  
18 It is the "Affidavit of Publication" from  
19 the Los Alamos Daily Post.

20 The Department assisted the  
21 Petitioners and Commission with  
22 notification requirements and provided  
23 Rulemaking information to the public by  
24 posting a Notice of Rulemaking to the  
25 Commission's website;

1                   The New Mexico Sunshine Portal;  
2   and,

3                   NMED's District and Field  
4   Offices.

5                   We posted the Notice of  
6   Rulemaking by sending e-mails with the  
7   Public Notice of Rulemaking to the Surface  
8   Water Quality Bureau listserve  
9   subscribers; and,

10                  To the Legislative Counsel  
11   Service.

12                  Additionally the Department  
13   posted Public Notice and Rulemaking  
14   information on its Event Calendar;

15                  The Surface Water Quality  
16   Bureau website;

17                  The NMED Public Notice website;  
18   and,

19                  We created an entry on the  
20   Department's Public Comment portal.

21                  In conclusion, the Commission's  
22   regulations allow for the adoption of  
23   Site-Specific Criteria based on relevant  
24   Site-Specific Water Quality conditions and  
25   scientifically defensible methods when

1 Site-Specific Criteria fully protect the  
2 designated use. Adoption of Site-Specific  
3 Water Quality Criteria does not change the  
4 designated use of the water body.

5 The Department and Petitioners  
6 worked collaboratively on a Work Plan for  
7 stakeholder engagement and Technical  
8 Report Development, and NMED considers the  
9 Petitioners to have properly complied with  
10 the provisions of 20.6.4.10F NMAC for  
11 Site-Specific Criteria.

12 NMED recommends that the  
13 Commission adopt the proposed amendments.  
14 If the Commission so adopts the proposed  
15 amendments, the Surface Water Quality  
16 Bureau would submit the revised Water  
17 Quality Standards as published in the New  
18 Mexico Register to EPA for formal review  
19 and final approval action under Section  
20 303(c) of the Clean Water Act.

21 That concludes my testimony  
22 today.

23 MS. SCOTT: Mr. Baca is available  
24 for questions.

25 HEARING OFFICER ORTH: Thank you,

1 Ms. Scott and Mr. Baca.

2 Ms. Olson, do you have  
3 questions.

4 MS. OLSON: I do not.

5 HEARING OFFICER ORTH: All right.

6 Mr. Maxwell, do you have questions?

7 MR. MAXWELL: I have no questions  
8 for Mr. Baca today. Thank you.

9 HEARING OFFICER ORTH: All right.  
10 Thank you.

11 Commissioner Moander.

12 COMMISSIONER MOANDER: I do not  
13 have anything for the witness.

14 Thank you.

15 HEARING OFFICER ORTH: Vice Chair  
16 Zemlick.

17 VICE CHAIRWOMAN ZEMLICK: Thank  
18 you. I do not have any questions at this  
19 time.

20 HEARING OFFICER ORTH: Commissioner  
21 Dominguez.

22 COMMISSIONER DOMINGUEZ: No  
23 questions, Madam Hearing Officer.

24 HEARING OFFICER ORTH: Chair  
25 Thomson.

1 CHAIRMAN THOMSON: Thank you.

2 Thank you for your work, and  
3 your testimony is very helpful:  
4

5 EXAMINATION

6 BY CHAIRMAN THOMSON:

7 Q. Let me follow up on Commissioner  
8 Dominguez' comments regarding Number 6:

9 "Significant Figures in the  
10 Proposed Model."

11 Commissioner Dominguez thinks  
12 EPA would object to reducing the number of  
13 significant figures from 5 to 3. Do you  
14 have any opinions or thoughts or  
15 experience with limiting the number of  
16 significant figures in the modeling?

17 A. I do not have significant  
18 experience with that. I do have  
19 experience with submitting things to EPA  
20 for review, and I think that the changing  
21 of significant figures in the equations  
22 would create some difficulty in getting it  
23 approved. I think it would cause another  
24 thorough review of the equations and I  
25 think another review may be warranted.

1 CHAIRMAN THOMSON: Thank you.

2 Commissioner Dominguez,  
3 apparently I misrepresented his comment.

4 COMMISSIONER DOMINGUEZ: Yeah,  
5 Madam Hearing Officer or the record, I  
6 never said that EPA would object to  
7 proposed revisions.

8 HEARING OFFICER ORTH: Okay. Thank  
9 you.

10 CHAIRMAN THOMSON: Okay. Thank  
11 you. I apologize for misunderstanding  
12 that.

13 HEARING OFFICER ORTH: Okay.  
14 Commissioner Velasquez.

15 COMMISSIONER VELASQUEZ: No  
16 questions, thank you.

17 HEARING OFFICER ORTH: Commissioner  
18 Brancard.

19 COMMISSIONER BRANCARD: No  
20 questions.

21 HEARING OFFICER ORTH: Commissioner  
22 Vigil.

23 COMMISSIONER VIGIL: No questions.

24 HEARING OFFICER ORTH: On the  
25 platform, Commissioner Frey.



1 COMMISSIONER FREY: Thank you,  
2 Mr. Baca. I have a real quick question:

3  
4 EXAMINATION

5 BY COMMISSIONER FREY:

6 Q. You're familiar with the  
7 Petitioners' package, and of course I lost  
8 my place in there, dad gummit.

9 They have the response to  
10 the -- oh, my goodness; let me see if I  
11 can find it here.

12 Here it is, the Response to  
13 Clean Water, where they gave detailed  
14 responses. Are you familiar with the  
15 questions asked by the Communities for  
16 Clean Water and the responses from  
17 Petitioner?

18 A. I have read through this document.

19 Q. Okay. Was NMED a party to these  
20 comments and the responses throughout the  
21 procedure?

22 A. No. We have provided our formal  
23 comments in a separate enclosure; I  
24 believe they provided that. This was a  
25 separate, I think, effort by the

1 Petitioners to reach out to interested and  
2 affected parties where they sent this copy  
3 once they received input from us. They  
4 sent this to interested parties for  
5 comment.

6 I believe --

7 Q. Okay.

8 A. -- they sent this -- the  
9 demonstration that they sent that to CCW  
10 or Communities For Clean Water was after  
11 they received input from NMED and EPA.

12 Q. Okay. But I think NMED was  
13 somewhat involved in some of the Public  
14 Comments and the -- how can I put  
15 it -- the effort to get those comments.  
16 Is that correct?

17 A. We were part of maybe helping to  
18 identify some of the stakeholders that  
19 this may need to go to. We were cc'd on  
20 the letter that was sent to the  
21 Communities for Clean Water. I would say  
22 that we didn't solicit public input, but  
23 we were adjacent to the process.

24 Q. Okay. But it sounds like from your  
25 testimony that you feel they did a good

1 job or adequate job.

2 A. That is correct. I do believe that  
3 they addressed adequately all comments  
4 that they received from CCW.

5 Q. All right. Thank you very much.

6 COMMISSIONER FREY: As Chair  
7 Thomson said, I think your testimony was  
8 very valuable. Thank you.

9 HEARING OFFICER ORTH: All right.

10 Commissioner Harms.

11 COMMISSIONER HARMS: I don't have  
12 any comments.

13 Thank you for your  
14 presentation; I appreciate it.

15 HEARING OFFICER ORTH: All right.  
16 Thank you.

17 Ms. Scott, any Redirect?

18 MS. SCOTT: None. No Redirect.  
19 Thank you.

20 HEARING OFFICER ORTH: All right.

21 Mr. Maxwell, would you like to  
22 make a statement?

23 MR. MAXWELL: I have no statement  
24 for the record in this matter. Thank you.

25 HEARING OFFICER ORTH: Thank you.

1                   Is there any reason to do  
2 Closing Statements?

3           MS. OLSON: No.

4           HEARING OFFICER ORTH: Okay. Thank  
5 you.

6                   In that case let me ask one  
7 more time in the event there is anyone in  
8 the room or on the platform who would like  
9 to offer Non-Technical Public Comment.

10                   I see no hands, fleshy or  
11 otherwise.

12                   In that case, let's close the  
13 evidentiary record.

14                   Chair Thomson, the floor is  
15 yours.

16           CHAIRMAN THOMSON: Thank you.

17                   Okay. As was discussed at the  
18 beginning of the hearing it was hoped that  
19 we would be able to reach a conclusion on  
20 this proposal today.

21                   The first question before the  
22 Commission, I think, is do we want to  
23 request a report from the Hearing Officer?

24                   I see heads shaking, so...

25           COMMISSIONER MOANDER: Mr. Chair, I

1 think we have a quorum present today. I'm  
2 pretty confident we can discuss all of  
3 this in an educated fashion.

4 HEARING OFFICER ORTH: Okay. We  
5 will not request a report from the Hearing  
6 Officer. Fine.

7 Then I guess the next question  
8 is are there any points that Commissioners  
9 would like to discuss based on the  
10 testimony and the exhibits that were  
11 submitted?

12 Commissioner Dominguez.

13 COMMISSIONER DOMINGUEZ: I  
14 apologize. I didn't look at the  
15 Scheduling Order, so it's more of a  
16 question for the Hearing Officer.

17 I'm assuming there was not  
18 built in anything as far as post-hearing  
19 reports from the parties. Is that  
20 correct?

21 HEARING OFFICER ORTH: That's  
22 correct, Commissioner Dominguez.

23 COMMISSIONER DOMINGUEZ: Okay. I  
24 just wanted to make sure we checked all  
25 the boxes.

1 HEARING OFFICER ORTH: Yes.

2 Commissioner Brancard.

3 COMMISSIONER BRANCARD: Mr. Chair,

4 I don't have any concerns with the scope  
5 of the Rulemaking, and I certainly don't  
6 have any concerns with the science,  
7 because I don't understand it.

8 I am concerned about the  
9 language in the Rule in terms of how it  
10 fits within our existing standards. I  
11 just think that we could have some better  
12 language to clarify exactly what's going  
13 on here. I don't think that...

14 The Petitioner has created this  
15 whole new concept of Pajarito Plateau  
16 Surface Waters, which is not in our  
17 permeables, and I think we need to do a  
18 better job defining what that is because  
19 it does directly implicate things that are  
20 in our rules, certain stream segments that  
21 are already defined in our rules.

22 I don't want to change the  
23 scope of the proposal, I just want to make  
24 clearer language so anyone reading it who  
25 wasn't involved with the development of

1 the Rule would understand what they meant.

2 CHAIRMAN THOMSON: Could that be  
3 done simply by listing specific stream  
4 segments in 20.6.4.900I(4)? It references  
5 Copper Criteria for Pajarito Plateau  
6 Surface Waters. Could we put parentheses  
7 and list the specific stream segments?

8 COMMISSIONER BRANCARD: Yeah, I'm  
9 trying to work with language here that  
10 would combine language that is in the  
11 proposal with references to the segments  
12 that clearly defines what it is.

13 There is other concerns with  
14 the language in there, too; again, this  
15 whole thing about the aquatic criteria.  
16 It's like if this applies to aquatic  
17 criteria, let's say it. Let's just be  
18 really explicit about what we're doing;  
19 okay? So that there is no confusion.

20 You know, I'm concerned about  
21 people like me who can't understand "BLM"  
22 from the "BLM," and, you know, then of  
23 course the lawyers out there who will pick  
24 this apart some day and go "Oh, I don't  
25 think it says that," you know? So...

1 COMMISSIONER MOANDER: Mr. Chair,  
2 I'm inclined to agree with Commissioner  
3 Brancard on this.

4 I mean Commissioner Brancard,  
5 just to clarify as well, I think you were  
6 focused at one point, I believe it was  
7 J(2)(a). Perhaps I'm misreading it, but I  
8 get the impression that change will apply  
9 wholesale to everything in the above  
10 table, or at least the single table.  
11 That's not necessarily what we're here to  
12 discuss today, so I can see where that can  
13 be extrapolated well beyond its intention.

14 COMMISSIONER BRANCARD: If I may,  
15 Mr. Chair, I mean I asked that question of  
16 both witnesses. None of them seem  
17 bothered by their "only" language and the  
18 implications that I saw in it, so I don't  
19 know that I have a better answer to that  
20 than what they provided. I mean obviously  
21 they have an opinion about that language.

22 I don't know. Commissioner  
23 Frey also raised some questions about that  
24 phrase in J(2), but...

25 COMMISSIONER FREY: May I jump in



1 here at this point?

2 CHAIRMAN THOMSON: Yes, please do.

3 COMMISSIONER FREY: I don't mean to  
4 interrupt you, Commissioner Brancard:

5 I also had some thoughts  
6 about... I don't think there is probably  
7 a significant issue with what Commissioner  
8 Brancard is suggesting, but I had some  
9 thoughts about like, what is it, J(2)(a),  
10 the "receiving water" characteristics.

11 "Receiving water," I suppose if  
12 I had gotten into more of all of the  
13 material we were given, I might know  
14 better what that means, but I realize, you  
15 know, I didn't know what "receiving water"  
16 meant.

17 I passed it by some of my  
18 colleagues from our Water Program here at  
19 the Bureau of Geology, and they didn't  
20 know what this meant either, so I would  
21 propose something so basic as putting that  
22 in the definitions.

23 Let's see where the  
24 definitions --

25 Oh, shoot, I lost my place

1 again.

2 For the Administrative Code,  
3 include those in the definitions. There  
4 is something as simple as "irrigation"  
5 defined in there, and I think most people  
6 have some idea of what "irrigation" is.  
7 The fact that I have, you know, some  
8 people that I consider experts that I work  
9 with who don't know what this is, I think  
10 it's important to define that.

11 Then the other thing was so the  
12 material provided, there's 2 EPA documents  
13 included, and I noticed in the Code that  
14 neither of those are included in the  
15 "References." If we're making these kind  
16 of changes, it seems to me that those  
17 should be included.

18 Those are my 2 points. I'll  
19 let Commissioner Brancard continue to  
20 address his other concerns as well. I  
21 think he's got more experience with those.

22 HEARING OFFICER ORTH: Yes, go  
23 ahead.

24 COMMISSIONER BRANCARD: Right.

25 Why don't I just throw

1 something out:

2 In Section .900.I it says, the  
3 relevant phrase:

4 "... excluding Copper  
5 Criteria for the Pajarito  
6 Plateau Surface Waters for  
7 and the Rio Grande Basin as  
8 described in Paragraph (4) of  
9 this Subsection."

10 I would put, at this point, a  
11 sentence in that follows:

12 "Pajarito Plateau Surface  
13 Waters, as used in 20.6.4.900  
14 NMAC, means those classified  
15 and unclassified waters of the  
16 State [those are defined terms]  
17 within the Pajarito Plateau,  
18 [and then use the language that  
19 was already presented before]  
20 from Guaje Canyon in the north,  
21 to Rito de los Frijoles  
22 watershed in the south, from  
23 their headwaters to their  
24 confluence with the Rio Grande,  
25 and all tributaries and streams

1 thereto [and then] including  
2 segments described in  
3 20.6.4.121, .126, .127, .128,  
4 and, .140 NMAC."

5 So it's everything within that  
6 area, so including both classified waters  
7 and the unclassified waters, an then  
8 specifically referring to the existing  
9 segments so it's clear we are modifying  
10 those existing segments.

11 I think that was the intent of  
12 what was proposed, so I just want to make  
13 really clear what we're doing here. Then  
14 we don't have to discuss the Pajarito  
15 Plateau and what it means in the next  
16 Section. That phrase can go out, I mean  
17 the "from Guaje Canyon" language can go  
18 out of, I think, I(4).

19 I would change I(4), too.

20 CHAIRMAN THOMSON: Okay. Thoughts.

21 COMMISSIONER MOANDER: I think  
22 that's a good idea to get clarity.

23 CHAIRMAN THOMSON: I agree.

24 That defines the boundaries,  
25 but also identifies the stream segments.

1 COMMISSIONER BRANCARD: If we keep  
2 the boundaries that the parties have  
3 proposed, that's fine. That's what they  
4 want. What is covered is everything  
5 basically inside of that, you know, so it  
6 doesn't look like we're conflicting with  
7 the existing stream segment provisions  
8 here.

9 I mean we had discussions about  
10 when to go back and modify .126, and I  
11 think if we do this, we don't need to  
12 necessarily go back and modify those  
13 sections.

14 CHAIRMAN THOMSON: All right. I  
15 agree.

16 Okay. Further discussion?

17 Based on Mr. Baca's response to  
18 my concern about the number of significant  
19 figures, I'm willing to concede that we'll  
20 keep all 5 in, which, again, I disapprove  
21 of, but I will support it.

22 The one issue regarding  
23 significant figures, though, let's do  
24 change that DOC limit from "29.7" to "30."

25 And then my other issue was an

1 editorial suggestion again in I.(4) that  
2 we refer to both equations for acute and  
3 chronic toxicity, as now it only refers...

4 It says "the equation," but  
5 it's not specific. Those are the 2  
6 suggestions that I would argue in favor  
7 of.

8 Commissioner Dominguez.

9 COMMISSIONER DOMINGUEZ: Okay. So  
10 questions for you on rounding that up:

11 As currently presented is there  
12 any negative outcome of using the equation  
13 as it's currently written?

14 CHAIRMAN THOMSON: I will give you  
15 my answer, and we can ask the experts.

16 COMMISSIONER DOMINGUEZ: We can't  
17 ask them; the record is closed.

18 CHAIRMAN THOMSON: Okay.

19 I ran the calculation using  
20 "30" instead of "29.7," and the difference  
21 is in the rounding error.

22 COMMISSIONER DOMINGUEZ: My  
23 concern, and the process is this  
24 Demonstration Report has probably been one  
25 of the most extraordinarily comprehensive

1 documents that's come before this  
2 Commission. I think the "29.7" depicts  
3 the finite accuracy that the Petitioners  
4 have tried to present to us.

5 I have concern with arbitrarily  
6 rounding figures because the courts see  
7 that as low hanging fruit of "We're not  
8 basing that on anything in the record."  
9 We're just making a change, and the courts  
10 are fairly clear that's arbitrary and  
11 capricious because it is just a subjective  
12 rounding.

13 I see no value in changing it,  
14 and I think that's just a principle  
15 approach of how the Commission needs to  
16 take a look at it. I would probably say  
17 that it gives me pause in supporting the  
18 Rulemaking if modified.

19 CHAIRMAN THOMSON: Commissioner  
20 Frey, go ahead.

21 COMMISSIONER FREY: Okay. Thank  
22 you.

23 I agree with the Commissioner,  
24 and understanding that...

25 Let's see; what's the value?

1           There you use "29.7" or "30" is  
2 not a big difference, then why not stay  
3 with the "29.7" since the people who have  
4 done this work have made some decision on  
5 how many significant figures, or how many  
6 decimal places should be used.

7           I would agree that let's just  
8 stick with what they have since it's not  
9 going to make a huge difference.

10         CHAIRMAN THOMSON: Let me respond:

11           I think using too many  
12 significant figures implies confidence in  
13 the results that are not justified by the  
14 experimental data or by the analyses.

15           If you look at virtually all of  
16 our drinking water standards, they are  
17 mostly 1 significant figure, some of them  
18 are 2 significant figures, but none of  
19 them that I am aware of are more than 2  
20 significant figures.

21           Again these were based on  
22 toxicological and epidemiological studies,  
23 and they are doing a statistical analysis  
24 and rounding to 1 or 2 significant  
25 figures.



1 I think we're in a position to  
2 do that with this standard, which is not  
3 even a number that is used.

4 Well, it is used to calculate a  
5 copper limit, and I just was checking. It  
6 changes from the example that I used in my  
7 spreadsheet. It changes the number, so I  
8 did a calculation using "29.7," and it  
9 gives me a copper concentration of "67.9."  
10 If I use "30," and it gives me "67.6." I  
11 mean the difference is tiny, less than 1%.

12 Again, I just am fundamentally  
13 opposed to using more significant figures  
14 than is justified by the studies.

15 HEARING OFFICER ORTH: Mr. Chair,  
16 to move on from this whirlpool, or tide  
17 pool, let me just suggest that you take a  
18 separate vote on that particular amendment  
19 since you have had a couple other  
20 Commissioners speak out. Then you can  
21 move on to different topics.

22 CHAIRMAN THOMSON: Okay. Fine.

23 COMMISSIONER FREY: May I make one  
24 follow-up comment to that?

25 CHAIRMAN THOMSON: Yes.

1 COMMISSIONER FREY: When you use  
2 either the "Acute Aquatic Life Criteria"  
3 equation or the "Chronic Aquatic Life  
4 Criteria," how many decimal places should  
5 you resolve with knowing that -- well  
6 sorry, not "decimal places," but  
7 significant figures knowing that 1 of  
8 their figures is ".045," which I read as 2  
9 significant figures?

10 CHAIRMAN THOMSON: I'll give you my  
11 opinion.

12 COMMISSIONER FREY: The calculation  
13 would come out to "68" either way, thus I  
14 don't see the importance of changing that,  
15 again because of all the work they have  
16 already put into this. They must have  
17 some reason for having 3 significant  
18 figures on that particular piece.

19 COMMISSIONER DOMINGUEZ: If I may,  
20 Mr. Chair, I'm looking back at the table  
21 of (4), so it would be Table 3 depicting  
22 Hardness and so many grams per liter, and  
23 there are some of those that are carried  
24 out to 3 decimal points. Are we going to  
25 round all of those up to --

1 CHAIRMAN THOMSON: Not today.

2 COMMISSIONER DOMINGUEZ: I'm just  
3 saying it's utilized that way and other  
4 ways. If we're going to take that path,  
5 then we need to revise all of them.

6 CHAIRMAN THOMSON: Okay. So the  
7 Hearing Officer has suggested that we move  
8 on. When we get to the point of the  
9 motion, perhaps we'll consider that  
10 separately.

11 HEARING OFFICER ORTH: Mr. Chair, I  
12 think you have Ms. Scott at the table.

13 MS. SCOTT: Yes, Madam Hearing  
14 Officer, Chair Thomson. I'm wondering if  
15 we could take a break.

16 CHAIRMAN THOMSON: Oh, yes.

17 MS. SCOTT: I also want to maybe,  
18 before we take a break, I don't want to  
19 interrupt the discussion, but I would want  
20 to make a motion to reopen the record for  
21 the purpose of providing further context  
22 to address Commissioner Brancard's  
23 concerns, and also to propose alternative  
24 language to the proposed amendment that we  
25 believe addresses Commissioner Brancard's

1 concerns.

2 HEARING OFFICER ORTH: Okay.

3 I think it might be helpful to  
4 invite her to speak to the alternative  
5 language so we can reflect on it over the  
6 break. Is that -- or no?

7 MS. SCOTT: We would potentially  
8 fine tune and polish that alternative  
9 language.

10 HEARING OFFICER ORTH: Over the  
11 break.

12 MS. SCOTT: Over the break.

13 HEARING OFFICER ORTH: Just trying  
14 to cut to the chase.

15 CHAIRMAN THOMSON: Let's take a  
16 break until I believe 4:15. Is that  
17 correct?

18 HEARING OFFICER ORTH: Yeah.

19 CHAIRMAN THOMSON: Okay. So we are  
20 adjourned until then.

21 (The Water Quality Control  
22 Commission Technical Hearing recessed from  
23 3:54 p.m. to 4:21 p.m.)

24 CHAIRMAN THOMSON: Okay. We are  
25 back in session at 4:20.

1                   Where were we?

2                   Ms. Scott, you had some  
3 alternative language.

4                   HEARING OFFICER ORTH: She was  
5 making a motion to reopen the record. I  
6 think the Commission needs to agree that  
7 it would be beneficial to reopen the  
8 record.

9                   CHAIRMAN THOMSON: Does she make  
10 the motion or does it have to be by a  
11 Commissioner?

12                   HEARING OFFICER ORTH: I would say  
13 that the Commission -- and Rebecca,  
14 correct me if I'm wrong.

15                   The Commission should vote to  
16 reopen the record.

17                   COMMISSION COUNSEL: Yes, upon  
18 their request.

19                   COMMISSIONER BRANCARD: Okay.  
20 Mr. Chairman, I voted to close the record,  
21 but I would vote to reopen the record.

22                   VICE CHAIRWOMAN ZEMLICK: I second.

23                   HEARING OFFICER ORTH: Role call.

24                   CHAIRMAN THOMSON: Ms. Jones.

25                   MS. JONES: Commissioner Brancard,

1 how do you vote.

2 COMMISSIONER BRANCARD: Yes.

3 MS. JONES: Commissioner Dominguez.

4 COMMISSIONER DOMINGUEZ: Yes.

5 MS. JONES: Commissioner Frey.

6 COMMISSIONER FREY: Yes.

7 MS. JONES: Thank you.

8 Commissioner Harms.

9 COMMISSIONER HARMS: Yes.

10 MS. JONES: Commissioner Moander.

11 COMMISSIONER MOANDER: Yes.

12 MS. JONES: Chair Thomson.

13 CHAIRMAN THOMSON: Yes.

14 MS. JONES: Commissioner Velasquez.

15 COMMISSIONER VELASQUEZ: Yes.

16 MS. JONES: Commissioner Vigil.

17 COMMISSIONER VIGIL: Yes.

18 MS. JONES: Vice Chair Zemlick.

19 VICE CHAIRWOMAN ZEMLICK: Yes.

20 MS. JONES: Thank you.

21 HEARING OFFICER ORTH: Okay. I can  
22 take it from here.

23 Ms. Scott, it appears you're  
24 presenting Ms. Lemon.

25 Ms. Lemon, do you swear or

1 affirm to tell the truth?

2 THE WITNESS: I do.

3 HEARING OFFICER ORTH: Thank you,  
4 go ahead.

5 SHELLY LEMON,  
6 after having been first duly sworn,  
7 was examined and testified as follows:

8  
9 DIRECT EXAMINATION

10 BY MR. SCOTT:

11 Q. Will you please state and spell  
12 your name?

13 A. My name is Shelly Lemon;  
14 S-H-E-L-L-Y L-E-M-O-N.

15 Q. Where are you employed?

16 A. I'm employed with the New Mexico  
17 Environment Department Surface Water  
18 Quality Bureau.

19 Q. And what's your current role?

20 A. I am the Surface Water Quality  
21 Bureau Chief.

22 Q. And what are your current job  
23 duties?

24 A. My Bureau administers and  
25 implements the Clean Water Act and Water

1 Quality Act in the State of New Mexico.

2 Q. And how long have you worked for  
3 NMED?

4 A. I've worked for NMED for a little  
5 over 20 years.

6 Q. Okay.

7 Did you submit a copy of your  
8 Resumé as NMED Exhibit 3 in this matter?

9 A. I did.

10 Q. And do you have before you what has  
11 been identified as NMED Exhibit 3?

12 A. Yes.

13 Q. Do you recognize that document as  
14 your Resumé?

15 A. It is.

16 Q. Is it a true and accurate copy of  
17 your Resumé?

18 A. It is.

19 MS. SCOTT: Madam Hearing Officer,  
20 NMED moves to admit NMED Exhibit 3.

21 HEARING OFFICER ORTH: Pause for  
22 objections.

23 Exhibit 3 is admitted.

24 (Water Quality Control  
25 Commission Technical Hearing NMED Exhibit



1 3 was received in evidence.)

2 MS. SCOTT: Sorry, we submitted  
3 that as Exhibit 4.

4 HEARING OFFICER ORTH: Okay.  
5 Exhibit 4.

6 MS. SCOTT: Yeah, so just a  
7 correction, clerical correction to move to  
8 admit NMED Exhibit 4.

9 (Water Quality Control  
10 Commission Technical Hearing NMED Exhibit  
11 4 was received in evidence.)

12 Q. BY MS. SCOTT: Okay. Will you read  
13 our proposed alternative language and then  
14 provide some context as to how NMED and  
15 the parties think this addresses  
16 Commissioner Brancard's concerns.

17 A. Yes.

18 The parties are proposing to  
19 amended language in 20.6.4.900I. In the  
20 first paragraph, starting with:

21 "Hardness-dependent Acute  
22 and Chronic Aquatic Life  
23 Criteria for metals are  
24 calculated using the following  
25 equations:"

1           This is where the additional  
2 language is:

3                   "... excluding Aquatic Life  
4 Criteria for Copper [Criteria  
5 for copper, sorry], for the  
6 Pajarito Plateau Surface Waters  
7 and the Rio Grande Basin as  
8 described in Paragraph (4) of  
9 this Subsection."

10           If we added "Aquatic Life  
11 Criteria for copper" and the descriptor of  
12 "in the Rio Grande Basin" to reference the  
13 Rio Grande Basin in Section .100, which is  
14 where these waters apply.

15           We did not want to include the  
16 classified segments that Commissioner  
17 Brancard suggested because those segments  
18 include additional waters besides Pajarito  
19 Plateau waters. They are more broad and  
20 we didn't want confusion related to that  
21 issue.

22           Referencing "Pajarito Plateau  
23 Surface Waters in the Rio Grande Basin" we  
24 thought was a good compromise to identify  
25 which Basins these waters are found in.

1 Then: "...as described in  
2 Paragraph (4) [we kept  
3 Paragraph (4) the same] Copper  
4 Criteria for Pajarito Plateau  
5 Surface Waters [and same  
6 descriptor] from Guaje Canyon  
7 in the north, to the Rito de  
8 los Frijoles watershed in the  
9 south, from their headwaters to  
10 their confluence with the Rio  
11 Grande, and all tributaries and  
12 streams thereto..."

13 We kept everything. We are  
14 adding, as recommended by the Commission:

15 "In waters that contain DOC  
16 concentrations greater than  
17 29.7 mg/L, a value of 29.7 mg/L  
18 shall be used in the following  
19 equations:"

20 That clarifies that the  
21 following equations in (a) and (b) are to  
22 be used for these criteria.

23 Q. And in the future how might the  
24 Department address clarifying in the  
25 specific stream segments that these

1 criteria apply?

2 A. I will -- what am I trying to say?

3 In the future we're required to  
4 review our Water Quality Standards every 3  
5 years, which is known as the Triennial  
6 Review. It is a requirement of the Clean  
7 Water Act. It doesn't quite happen every  
8 3 years; it's every 3 years from EPA  
9 approval.

10 We are initiating the Triennial  
11 Review this calendar year in 2025. We  
12 intend to have a hearing in calendar year  
13 2026 so we can address issues and add  
14 definitions as needed, to help clarify  
15 this proposal if that is needed for the  
16 Triennial Review to help clarify things.

17 Adding definitions are, at this  
18 time, problematic because those  
19 definitions didn't go through the public  
20 participation process, and we have to make  
21 sure that is followed in order to include  
22 any language or definitions that may be  
23 required to help implement these Water  
24 Quality Standards, but that's definitely  
25 something we can look at in the upcoming

1 Triennial Review.

2 MS. SCOTT: Okay. Ms. Lemon is  
3 open for further questioning.

4 HEARING OFFICER ORTH: Thank you,  
5 Ms. Scott?

6 Do Petitioners have any  
7 questions?

8 MS. OLSON: No.

9 HEARING OFFICER ORTH: Okay.

10 Mr. Maxwell, do you have any  
11 questions of Ms. Lemon?

12 MR. MAXWELL: I have no questions.  
13 Thank you.

14 HEARING OFFICER ORTH: Thank you.

15 I'll start with Commissioner  
16 Moander.

17 COMMISSIONER MOANDER: No  
18 questions.

19 HEARING OFFICER ORTH: Okay. Vice  
20 Chair Zemlick.

21 VICE CHAIRWOMAN ZEMLICK: No  
22 questions.

23 HEARING OFFICER ORTH: Commissioner  
24 Dominguez.

25 COMMISSIONER DOMINGUEZ: More of a

1 comment than a question:

2 I had already thought about, if  
3 we're really close on workable language,  
4 the next opportunity to tweak bigger  
5 issues is the Triennial Review. If it's  
6 not going to be problematic between now  
7 and the Triennial, it's a good step  
8 forward, so I agree with your point.

9 HEARING OFFICER ORTH: Okay. Chair  
10 Thomson.

11 CHAIRMAN THOMSON: I agree also  
12 with Commissioner Dominguez and I have no  
13 questions. Thank you.

14 HEARING OFFICER ORTH: Thank you.

15 Commissioner Velasquez.

16 COMMISSIONER VELASQUEZ: No  
17 questions. Thank you.

18 HEARING OFFICER ORTH: Commissioner  
19 Brancard.

20 COMMISSIONER BRANCARD: Thank you.

21  
22 EXAMINATION

23 BY COMMISSIONER BRANCARD:

24 Q. I guess I just still think that  
25 opening line of Subsection (4) is not

1 really much of a sentence.

2           What is the objection to  
3 including the phrase:

4           "Classified and unclassified  
5 waters of the State"?

6       A. Mr. Chair, Commissioner Brancard:

7           Are you referencing Subsection  
8 (4), or Paragraph (4), which starts with."

9           "Copper Criteria for the  
10 Pajarito Plateau..."?

11       Q. Yes, thank you. It starts with  
12 that phrase, and there is a Colón, and it  
13 goes "from Guaje Canyon" and it says at  
14 the end "as follows:" I don't think  
15 that's a sentence.

16           I'm more concerned about the  
17 phrase that I offered, or the "classified  
18 and unclassified" part.

19       A. I don't think the Department has  
20 any objection to adding it in Paragraph  
21 (4) to state:

22           "Copper Criteria for  
23 Pajarito Plateau Surface  
24 Waters..."

25       Q. (Reading:) "... which includes all

1                   classified and unclassified  
2                   waters from Guaje Canyon in the  
3                   north..."

4       A. Okay.

5       Q. That way we know the segments are  
6 included and we don't have to name the  
7 segments.

8                   You may have a problem naming  
9 the segments, but anything that's within  
10 an existing segment would be included  
11 within that "Pajarito Plateau" phrase.  
12 It's the concept that we're coming up with  
13 here.

14       A. Mr. Chair and Commissioner  
15 Brancard:

16                   That's why we added in "the Rio  
17 Grande Basin" in the first part in .900I,  
18 because the Rio Grande Basin is in Section  
19 .100.

20       Q. Uh-huh?

21       A. Both can work I believe.

22       Q. I agree with "in the Rio Grande  
23 Basin," but I think you're trying to cover  
24 waters that are within the existing  
25 segments, but I think you're also



1 covering, you know, streams that are not  
2 classified; correct? Because you included  
3 Section .98 earlier.

4 HEARING OFFICER ORTH: Commissioner  
5 Brancard, does it make a difference that  
6 "Surface Waters" is already defined in the  
7 definitions?

8 "Copper Criteria for  
9 Pajarito Plateau Surface  
10 Waters..."

11 "Surface Water" has a long  
12 definition:

13 "... which includes  
14 tributaries, wetlands, manmade  
15 waterways..."

16 COMMISSIONER BRANCARD: Madam  
17 Hearing Officer, I think that would be  
18 fine.

19 I mean the assumption is  
20 "Surface Waters" covers everything. You  
21 could start that provision saying, you  
22 know, what is it, "Copper Criteria for  
23 Pajarito Plateau Surface Waters,"  
24 which --

25 HEARING OFFICER ORTH: Which it

1 says.

2 COMMISSIONER BRANCARD: "... which  
3 extends..., " right.

4 HEARING OFFICER ORTH: That's what  
5 it's already proposed as.

6 COMMISSIONER BRANCARD: I guess I  
7 don't have the greatest version.

8 HEARING OFFICER ORTH: I'm going to  
9 give you this (indicating).

10 COMMISSIONER BRANCARD: Right.

11 The words "which extends." You  
12 said the words "which extends," which I  
13 think would make it more of a sentence.

14 THE WITNESS: Mr. Chair,  
15 Commissioner Brancard, Paragraph (4) was  
16 modeled after Paragraph (1) and (2), which  
17 have the title:

18 "Chronic Aquatic Life

19 Criteria for metals."

20 We are making a similar title,  
21 but I understand your concern that it's  
22 not starting off with a sentence. The  
23 bolded part, "Copper Criteria for Pajarito  
24 Plateau Surface Waters" is the topic.

25 Q. BY COMMISSIONER BRANCARD: That's

1 fine. You can start the sentence with  
2 "Pajarito Plateau Surface Waters extend  
3 from...", and just make it an entire  
4 sentence so that the bolded part is not  
5 part of the sentence.

6 A. Mr. Chair, Commissioner Brancard:

7 Beginning: "Paragraph (4),  
8 Copper Criteria for Pajarito  
9 Plateau Surface Waters:

10 "Pajarito Plateau Surface  
11 Waters include classified and  
12 unclassified waters extending  
13 from Guaje Canyon in the north,  
14 to Rito de los Frijoles in the  
15 south..."

16 Is that...

17 Q. Gorgeous.

18 COMMISSIONER DOMINGUEZ: Ms. Lemon,  
19 not to complicate things, but I think  
20 we've gone full circle that the term  
21 "Surface Waters" is already defined and  
22 includes everything. Adding "classified  
23 and unclassified" is redundant to the term  
24 Surface Waters.

25 HEARING OFFICER ORTH: That was my

1 point.

2 COMMISSIONER DOMINGUEZ: It appears  
3 one or the other is sufficient, but having  
4 "Surface Waters" and adding "classified  
5 and unclassified" seems redundant. I  
6 think it would be fine with just "Surface  
7 Waters" and strike "classified and  
8 unclassified," and just continue the  
9 sentence as it currently is.

10 COMMISSIONER BRANCARD: Well I  
11 think you can just drop that phrase  
12 because you start the sentence with  
13 "Pajarito Plateau Surface Waters extend  
14 from..."

15 COMMISSIONER FREY: This is  
16 Commissioner Frey.

17 I think we lost video, and I  
18 hope we haven't lost our -- we have video  
19 again.

20 HEARING OFFICER ORTH: Huh.

21 MR. MAXWELL: Commissioner, I  
22 second that.

23 COMMISSIONER FREY: Can you guys  
24 hear us from the platform?

25 HEARING OFFICER ORTH: Yes, and we

1 can see you as well.

2 COMMISSIONER FREY: Yes, whatever  
3 happened resolved itself. Thank you.

4 HEARING OFFICER ORTH: Have we come  
5 to an agreement?

6 MS. SCOTT: Okay. For purposes of  
7 clarity and for the record, I'll ask  
8 Ms. Lemon to re-read the proposed language  
9 in full.

10 THE WITNESS: (Reading:)

11 "20.6.4.900I.(4), Copper  
12 Criteria for Pajarito Plateau  
13 Surface Waters:

14 "Pajarito Plateau Surface  
15 Waters extend from Guaje Canyon  
16 in the north, to the Rito day  
17 Frijoles watershed in the  
18 south, from their headwaters to  
19 their confluence with the Rio  
20 Grande, and all tributaries and  
21 streams thereto..."

22 HEARING OFFICER ORTH: Commissioner  
23 Brancard.

24 COMMISSIONER BRANCARD: I'm fine  
25 with that. I don't know if you think you

1 need anything that sets up the 2 Criteria  
2 Subparagraphs, or Subsections or  
3 Paragraphs. I don't know where we are.

4 CHAIRMAN THOMSON: For the benefit  
5 of the folks in the video wilderness, the  
6 parties are discussing the language a  
7 little bit further.

8 MS. SCOTT: We're taking one more  
9 moment just to make sure.

10 CHAIRMAN THOMSON: Sure.

11 MS. SCOTT: Okay. One more slight  
12 clarification:

13 We want to add in or want to  
14 propose adding in another sentence in the  
15 Copper Criteria, or in the body of that  
16 Section just to be clear that it's also  
17 Copper Criteria.

18 Okay. One more time.  
19 Ms. Lemon, will you please read the  
20 proposed language.

21 THE WITNESS: (Reading:)

22 "Paragraph (4), Copper  
23 Criteria for Pajarito Plateau  
24 Surface Waters:

25 "Pajarito Plateau Surface

1 Waters extend from Guaje Canyon  
2 in the north, to Rito de los  
3 Frijoles watershed in the  
4 south, from their headwaters to  
5 their confluence with the Rio  
6 Grande, and all tributaries and  
7 streams thereto...

8 "Equations used to calculate  
9 Copper Criteria, for purposes  
10 of this Section, use Dissolved  
11 Organic Carbon (DOC) in units  
12 of milligrams carbon per liter  
13 (mg C/L); and Hardness is  
14 expressed in units of mg/L as  
15 CaCO<sub>3</sub>."

16 HEARING OFFICER ORTH: Commissioner  
17 Brancard, any questions about that.

18 Q. BY COMMISSIONER BRANCARD: I tend  
19 to get confused because there are 2 levels  
20 of criteria here. There is the "Aquatic  
21 Life Criteria," and the "Copper Criteria";  
22 okay? They are somehow linked, and I  
23 think we need to be explicit about that.  
24 There are changes to I initially  
25 clarifying that.

1 A. Mr. Chair and Commissioner

2 Brancard:

3 My understanding is that  
4 because Paragraph (4) is in Section I, it  
5 relates to "Aquatic Life Criteria." This  
6 is specific to 1 pollutant for the whole  
7 suite of "Aquatic Life Criteria" that  
8 exists.

9 Because it's a Subparagraph of  
10 Section I, it is "Acute and Chronic  
11 Aquatic Life Criteria" that we are talking  
12 about.

13 COMMISSIONER BRANCARD: I'll go  
14 with that. I prefer to be redundant,  
15 but...

16 HEARING OFFICER ORTH: All right.  
17 Thank you.

18 Commissioner Vigil.

19 COMMISSIONER VIGIL: I have no  
20 questions.

21 HEARING OFFICER ORTH: All right.

22 Did any of that discussion  
23 cause other Commissioners to have  
24 questions?

25 On the platform, Commissioner



1 Frey.

2 COMMISSIONER FREY: I think what  
3 was discussed is awesome. I did have a  
4 question about what I was suggesting for  
5 the -- let me see here.

6  
7 EXAMINATION

8 BY COMMISSIONER FREY:

9 Q. Thank you, by the way, for  
10 consideration of my suggestion for a  
11 definition. If that should be reviewed  
12 down the road, that's fine with me.

13 The "Publication Preferences"  
14 for the 1995 Water Quality Criteria and  
15 2007 EPA Copper Revision, it seems to me  
16 those should be in 20.6.4.901, and I'm  
17 happy to hear whether or not that's  
18 appropriate from Ms. Lemon.

19 A. Mr. Chair and Commissioner:

20 I believe that we can add those  
21 references to the "References" Section. I  
22 think that would be something that the  
23 Commission would have to request because  
24 it was not in the Petition, but it doesn't  
25 have any substantive effect on the Water

1 Quality Standards, it's just "Publication  
2 References" intended as guidance and  
3 available for public review.

4 I believe the Department does  
5 not have any objection to adding it to the  
6 reference Section in .901.

7 COMMISSIONER FREY: Okay. Thank  
8 you.

9 That was all.

10 HEARING OFFICER ORTH: All right.  
11 Thank you.

12 Commissioner Harms.

13 COMMISSIONER HARMS: I don't have  
14 any questions. Thank you very much.

15 HEARING OFFICER ORTH: All right.  
16 Thank you.

17 Ms. Scott, any follow-up?

18 MS. SCOTT: No follow-up.

19 HEARING OFFICER ORTH: All right.

20 MS. SCOTT: I think this concludes  
21 our further testimony in the case.

22 HEARING OFFICER ORTH: Okay. Thank  
23 you.

24 Let me ask if the Petitioners  
25 have anything to add while the record has

1 been reopened.

2 MS. OLSON: No; I apologize.

3 HEARING OFFICER ORTH: All right.

4 Mr. Maxwell, anything to add  
5 while the record has been reopened?

6 MR. MAXWELL: Nothing further, your  
7 Honor.

8 HEARING OFFICER ORTH: Thank you  
9 very much.

10 We will close the evidentiary  
11 record then once again.

12 Chair Thomson, the floor is  
13 yours.

14 CHAIRMAN THOMSON: Okay. Thank  
15 you. I'm glad we got that one resolved.

16 Okay. Are we ready to  
17 entertain a motion to act on this Petition  
18 or is there further discussion?

19 Commissioner Moander.

20 COMMISSIONER MOANDER: Just a point  
21 of Order, Mr. Chair:

22 Are we going to bifurcate this  
23 vote to discuss the "29.7" separate from  
24 the remainder of what I understand to be  
25 the proposal?

1 CHAIRMAN THOMSON: I would like to  
2 do that, yes.

3 I think I can make a motion,  
4 can't I?

5 HEARING OFFICER ORTH: Yes.

6 CHAIRMAN THOMSON: Commissioner,  
7 did you have something to add to that?

8 COMMISSIONER MOANDER: No,  
9 Mr. Chair. I was trying to think about  
10 how to phrase this.

11 If you have something ready to  
12 go, I'm happy to entertain.

13 CHAIRMAN THOMSON: Yeah, my motion  
14 will be that in Section I, Subparagraph  
15 (4), the sentence that reads:

16 "For the purposes of this  
17 Section, Dissolved Organic Carbon  
18 (DOC) is in units of milligrams  
19 per liter (mg/CL); and Hardness is  
20 expressed in units of mg/L as  
21 CaCO<sub>3</sub> in waters that contain DOC  
22 concentrations greater than 30  
23 milligrams per liter, a value of  
24 30 mg/L shall be used in the  
25 following equation:"

1                   And so the change would be "30  
2                   mg/L" instead of "29.7." That's  
3                   my motion.

4                   COMMISSIONER MOANDER: Second.

5                   COMMISSIONER BRANCARD: I second  
6 your motion for purpose of a vote.

7                   CHAIRMAN THOMSON: Okay. Thank  
8 you.

9                   Discussion:  
10                  Commissioner.

11                  COMMISSIONER DOMINGUEZ: Just to  
12 reiterate my point and place it on the  
13 record, I believe the Petitioning party  
14 with their extensive Demonstration Report  
15 that they submitted at the "29.7" depicts  
16 a finite accuracy of the data collection.  
17 That rounding up to "30" adds no real  
18 value to it, and I believe it's a  
19 subjective revision. As such, I probably  
20 could not support the entire position of  
21 the Petitioner.

22                  CHAIRMAN THOMSON: Okay.

23                  COMMISSIONER MOANDER: Just as a  
24 counterpoint and food for thought, part of  
25 the basis for forming Commissions like

1 this is the expertise is usually broad,  
2 and sometimes not, among the variety of  
3 members. I'm not speaking as an attorney  
4 here, just for clarification and ethical  
5 purposes as a Commissioner.

6 I think that with the  
7 scientific knowledge of the Commission, I  
8 think that a change as proposed by the  
9 Chair shouldn't pose a problem should  
10 there be a challenge of some kind because  
11 it's been backed by basically Technical  
12 thoughts and opinions. I think there is 2  
13 sides to this coin to be considered before  
14 it is passed.

15 CHAIRMAN THOMSON: Further  
16 discussion:

17 COMMISSIONER VELASQUEZ: Mr. Chair  
18 my perspective, from both the expert  
19 witnesses and the testimony, is they said  
20 that the ultimate goal is to get this  
21 through the EPA. The EPA will likely  
22 better receive the "29.7" than something  
23 we changed in a rounding. If the goal is  
24 to get this through EPA, I would vote in  
25 favor of keeping the "29.7."

1 Thank you, Mr. Chair.

2 CHAIRMAN THOMSON: Further  
3 comments:

4 COMMISSIONER FREY: Commissioner  
5 Thomson.

6 CHAIRMAN THOMSON: Yes, ma'am.

7 COMMISSIONER FREY: I would go back  
8 to my freshmen chemistry class where the  
9 importance of rounding is in the final  
10 number.

11 I think also that the expertise  
12 lies with the people who have written this  
13 equation and came up with these numbers,  
14 so I think we should go with their number  
15 with a lack of rounding if you will.

16 Thank you.

17 CHAIRMAN THOMSON: Okay. Further  
18 comments.

19 Are we ready to vote?

20 Ms. Jones.

21 MS. JONES: For Chair Thomson's  
22 motion, Commissioner Brancard, how do you  
23 vote?

24 COMMISSIONER BRANCARD: No.

25 MS. JONES: Commissioner Dominguez.

1 COMMISSIONER DOMINGUEZ: No.

2 MS. JONES: Commissioner Frey.

3 COMMISSIONER FREY: No.

4 MS. JONES: Commissioner Harms.

5 COMMISSIONER HARMS: No.

6 MS. JONES: Commissioner Moander.

7 COMMISSIONER MOANDER: No.

8 MS. JONES: Chair Thomson.

9 CHAIRMAN THOMSON: Yes.

10 MS. JONES: Commissioner Velasquez.

11 COMMISSIONER VELASQUEZ: No.

12 MS. JONES: Commissioner Vigil.

13 COMMISSIONER VIGIL: No.

14 MS. JONES: Vice Chair Zemlick.

15 VICE CHAIRWOMAN ZEMLICK: No.

16 MS. JONES: Chair Thomson, the  
17 motion fails.

18 CHAIRMAN THOMSON: Okay. With that  
19 out of the way, the second motion I think  
20 we need is whether or not to accept this  
21 Petition.

22 COMMISSIONER DOMINGUEZ: As amended  
23 or is that in the motion?

24 CHAIRMAN THOMSON: It would be the  
25 amended language that was presented to us



1 a few minutes ago by NMED staff.

2 Commissioner Dominguez, would  
3 you like to make the motion as your last  
4 motion?

5 COMMISSIONER DOMINGUEZ: I think  
6 Commissioner Brancard has his finger on  
7 the button.

8 COMMISSIONER FREY: May I make a  
9 comment before he does that, which I hope  
10 he says yes?

11 CHAIRMAN THOMSON: Sure.

12 COMMISSIONER FREY: Ms. Lemon  
13 stated that she doesn't think it would be  
14 a problem to add the "References," but let  
15 me get the numbers again.

16 It's way down here in the  
17 "Publication References" which is  
18 20.6.4.901. That, I believe, would not go  
19 in the motion, that would go in the  
20 Chair's letter to the NMED. Is that  
21 correct?

22 CHAIRMAN THOMSON: I'm looking to  
23 Counsel.

24 I think if we are adding  
25 language to a Rule, that would have to be

1 in the motion.

2 COMMISSION COUNSEL: Yeah, in terms  
3 of the --

4 They left the table.

5 -- the non-substantive changes  
6 in...

7 Is it the Appendix?

8 MS. SHELLY LEMON: "References."

9 COMMISSION COUNSEL: "References,"  
10 they are non-substantive, but I would add  
11 the language, yes. You can accept them  
12 because they are not substantive, but I  
13 would add the language that you're adding,  
14 correct.

15 If I'm correct --

16 COMMISSIONER FREY: I can't hear,  
17 sorry.

18 COMMISSION COUNSEL: I don't have a  
19 mic, so...

20 HEARING OFFICER ORTH: Commissioner  
21 Frey, Commission Counsel confirmed that in  
22 fact it would be wise to add the language  
23 to the motion that those 2 publications  
24 should be included among the "References."

25 COMMISSIONER FREY: Okay.

1           Then I just had another thought  
2 of, you know, since there has not really  
3 been a discussion about this, I'm the only  
4 Commissioner talking about it. The other  
5 Commissioners have not talked about this.  
6 Would it be a good idea to have a separate  
7 motion for that?

8           HEARING OFFICER ORTH: Let me just  
9 do a vibe check here:

10           Would anyone like to register  
11 an objection at this time? I think we can  
12 save a few minutes.

13           It seems good, Commissioner  
14 Frey.

15           CHAIRMAN THOMSON: Ma'am, I think  
16 it should be a separate issue.

17           Personally I think adding  
18 "References" to a particular standard is a  
19 slippery slope because we've got something  
20 like 120 criteria. If we had to have a  
21 "Reference" for every one, it would be a  
22 very, very long Appendix, and it would  
23 change frequently. I would prefer that we  
24 have that as a separate motion.

25           HEARING OFFICER ORTH: I invite

1 Commissioner Frey to make the motion  
2 maybe.

3 CHAIRMAN THOMSON: Commissioner  
4 Frey, would you like to make a motion to  
5 include "References" in the Appendix to  
6 the source of the data?

7 COMMISSIONER FREY: We know that  
8 I'm not great at that, but I can try it:

9 I will, if I may, point out  
10 that within the "References" there is:

11 "Reference I: Colorado  
12 River Basin Salinity Control  
13 Forum."

14 That would be specific to  
15 "Salinity," whereas we're speaking to  
16 something that is specific to "Copper," so  
17 that would be my comment.

18 If you are ready, I can try to  
19 make a motion.

20 CHAIRMAN THOMSON: Yeah, I think  
21 we're ready.

22 COMMISSIONER FREY: Okay.

23 I move to add to 20.6.4.901 the  
24 "Publication References," or the 2  
25 exhibits I believe that were given in both

1 parties' exhibits. The first is the "1995  
2 Water Quality Criteria Update," and the  
3 "2007 EPA Copper Revision."

4 CHAIRMAN THOMSON: I'm looking for  
5 a second.

6 VICE CHAIRWOMAN ZEMLICK: I'll  
7 second it.

8 CHAIRMAN THOMSON: Discussion.

9 Commissioner Dominguez.

10 COMMISSIONER DOMINGUEZ: Because  
11 I'm looking at Section .901, the  
12 "References" listed there are very  
13 specific to a particular page number of an  
14 individual document.

15 I'm looking quickly here, and  
16 we have no "References" in other documents  
17 to entire documents. I think this follows  
18 the Chair's comment that if we are trying  
19 to include entire documents in our  
20 "Reference" section, it is going to go off  
21 the charts because each one of these  
22 references a document, again, or a  
23 specific page number.

24 COMMISSIONER FREY: If I may, those  
25 are not page number references, I believe

1 those would be total pages in that  
2 document, now knowing, from experience,  
3 the standard methods for documents over  
4 1,000 pages.

5 COMMISSION COUNSEL: I have a  
6 question:

7 Are we cutting and pasting a  
8 list, or is it like incorporated by  
9 reference?

10 CHAIRMAN THOMSON: For the benefit  
11 of the folks in the audience, the question  
12 from General Counsel is are we cutting and  
13 pasting a list, or just adopting  
14 references by --

15 COMMISSION COUNSEL: What I mean is  
16 are we referring people to this  
17 information?

18 CHAIRMAN THOMSON: Referring people  
19 to the specific "References."

20 Commissioner Frey.

21 COMMISSIONER FREY: Yes, Chair  
22 Thomson, I'm sorry. Do you have a  
23 question for me?

24 HEARING OFFICER ORTH: Do you want  
25 me to try it?

1 Commissioner Frey, my memory is  
2 that you mentioned 2 exhibits that were in  
3 the record, the titles of which would be  
4 included among the "References." Do I  
5 remember that correctly?

6 COMMISSIONER FREY: Yes. There  
7 would be citations for each of those  
8 "References" in that "Reference" list.

9 HEARING OFFICER ORTH: I don't  
10 remember which exhibits they were, 8 and 9  
11 or --

12 COMMISSIONER FREY: They were  
13 Exhibit 5 and 6.

14 HEARING OFFICER ORTH: In the  
15 Petitioners' --

16 COMMISSIONER FREY: In the NMED  
17 Exhibit list, Exhibit Numbers 5 and 6.

18 HEARING OFFICER ORTH: Just the  
19 titles of those 2 exhibits would be  
20 included among the "References"; I think  
21 that was your question.

22 COMMISSION COUNSEL: They are  
23 pointing people to those documents.

24 HEARING OFFICER ORTH: Correct.

25 COMMISSION COUNSEL: I just needed

1 clarity.

2 COMMISSIONER FREY: Yes.

3 CHAIRMAN THOMSON: One concern I  
4 have is I believe that "Reference 6," this  
5 is the "2007 Revision," which refers to  
6 the BLM, or the Biotic Ligand Model, but  
7 does not refer to the MLR analysis which  
8 simplifies it to the 3 parameter model  
9 that's proposed. The "Reference" does not  
10 reference those 2 equations.

11 Those 2 equations, as I  
12 understand it, were generated by...

13 Is it Benchmark?

14 MR. FULTON: Windward.

15 CHAIRMAN THOMSON: I'm sorry?

16 MR. FULTON: "Windward."

17 CHAIRMAN THOMSON: "Windward."

18 Thank you.

19 If we wanted to make a proper  
20 "Reference," we should reference  
21 "Windward," which was -- I don't recall  
22 the number.

23 The problem there would be that  
24 "Reference" is not widely publicly  
25 available, and it's not a refereed



1 publication. It's not widely available.

2 COMMISSIONER FREY: I believe  
3 standard methods would not be either.

4 CHAIRMAN THOMSON: Oh, absolutely.

5 COMMISSIONER FREY: Not the  
6 Editions 18 through 20. Edition 23 you  
7 could probably still purchase on Amazon;  
8 the other 2, not so much.

9 I'll point out, you know, in  
10 the paragraph at the beginning of "Public  
11 References" it says:

12 "Copies of these documents  
13 have also been filed with the  
14 New Mexico State Records Center  
15 in order to provide greater  
16 access to this information."

17 The Code is already considering  
18 that people may not have easy access to  
19 these, and so they can be provided for  
20 public review.

21 CHAIRMAN THOMSON: Commissioner  
22 Dominguez.

23 COMMISSIONER DOMINGUEZ: Yeah,  
24 Mr. Chair, if I can offer up something  
25 that would keep the wheels moving forward:

1 Potentially this could be  
2 something the Environment Department could  
3 explore, and if there is merit to it, then  
4 at the Triennial Review it could be  
5 brought back before the Commission. I  
6 don't think anything will get lost in the  
7 shuffle between now and 2026.

8 COMMISSIONER FREY: I was coming to  
9 that conclusion, too. With the amount of  
10 discussion, this sounds like something  
11 along the lines of the "Definitions" that  
12 needs some deeper discussion.

13 CHAIRMAN THOMSON: Commissioner  
14 Brancard.

15 COMMISSIONER BRANCARD: Mr. Chair,  
16 once again Commissioner Dominguez has come  
17 up with the real solution to the issue,  
18 and this is why we're going to miss him.

19 I would support a proposal to  
20 refer this to the Environment Department  
21 for possible inclusion in the next  
22 Triennial Review.

23 CHAIRMAN THOMSON: Okay. But...

24 COMMISSIONER FREY: Would it be  
25 within the realm of possibility that I

1 withdraw the motion?

2 CHAIRMAN THOMSON: You made the  
3 motion; I believe it's within your purview  
4 to withdraw the motion.

5 COMMISSIONER FREY: I withdraw the  
6 motion.

7 CHAIRMAN THOMSON: Does the person  
8 who seconded also need to...

9 Okay.

10 VICE CHAIRWOMAN ZEMLICK: I do  
11 withdraw my second.

12 COMMISSION COUNSEL: You withdraw  
13 your second.

14 VICE CHAIRWOMAN ZEMLICK: I  
15 withdraw my second.

16 CHAIRMAN THOMSON: All right.

17 Where do we stand? Is anyone  
18 prepared to make a motion to take action  
19 on this Petition?

20 Again, I think I would prefer  
21 that it be made by Commissioner Dominguez,  
22 but Commissioner Brancard, you...

23 COMMISSIONER BRANCARD: I will try  
24 to channel Commissioner Dominguez here in  
25 my wording:

1 I move that the Commission, in  
2 the matter of WQCC 24-31, approve the  
3 proposal to amend Section 20.6.4.900 as  
4 proposed by Triad National Security, et  
5 al., and as amended by the New Mexico  
6 Environment Department in recent comments.  
7 Thank you.

8 CHAIRMAN THOMSON: Thank you.

9 Commissioner Dominguez, would  
10 you like to second?

11 COMMISSIONER DOMINGUEZ: Mr. Chair,  
12 if it would appease you, I will second.

13 HEARING OFFICER ORTH: Okay. It's  
14 been moved and seconded. Is there further  
15 discussion?

16 Are we ready to vote?

17 Ms. Jones, would you call the  
18 roll.

19 MS. JONES: Yes, sir.

20 Commissioner Brancard, your  
21 vote.

22 COMMISSIONER BRANCARD: Yes.

23 MS. JONES: Commissioner Dominguez.

24 MR. DOMINGUEZ: Yes.

25 MS. JONES: Commissioner Frey.

1 COMMISSIONER FREY: Yes.

2 MS. JONES: Commissioner Harms.

3 COMMISSIONER HARMS: Yes.

4 MS. JONES: Commissioner Moander.

5 COMMISSIONER MOANDER: Yes.

6 MS. JONES: Chair Thomson.

7 CHAIRMAN THOMSON: Yes.

8 MS. JONES: Commissioner Velasquez.

9 COMMISSIONER VELASQUEZ: Yes.

10 MS. JONES: Commissioner Vigil.

11 COMMISSIONER VIGIL: Yes.

12 MS. JONES: Vice Chair Zemlick.

13 VICE CHAIRWOMAN ZEMLICK: Yes.

14 MS. JONES: Motion passes.

15 CHAIRMAN THOMSON: I would like to  
16 thank everyone who participated in this,  
17 especially the witnesses and Counsel.  
18 It's been enlightening.

19 COMMISSIONER DOMINGUEZ: Mr. Chair  
20 to add to that, I would like to point out  
21 2 things:

22 Since 2007 EPA has been  
23 requesting that NMED and the Commission  
24 move forward with adopting those  
25 guidelines, and it's only taken us 18

1 years to actually do that.

2           The other point that became  
3 obvious to me, at least during the time  
4 that I have served on this Commission, is  
5 I cannot think of another time that LANL  
6 and the Environment Department were on the  
7 same side of an issue, so these are 2  
8 monumental steps that have been taken  
9 today.

10           CHAIRMAN THOMSON: Thank you.

11           HEARING OFFICER ORTH: Thank you.

12 That will end the record at this time.

13           (The hearing concluded at 5:12  
14 p.m.)



STATE OF NEW MEXICO  
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF TRIAD ) Docket No.:  
NATIONAL SECURITY, L.L.C.'S )  
NEWPORT NEWS NUCLEAR BWXT- ) WQCC 24-31  
LOS ALAMOS, L.L.C.'S, AND )  
THE UNITED STATES DEPARTMEN )  
OF ENERGY, OFFICE OF )  
ENVIRONMENTAL MANAGEMENT'S )  
PETITION FOR RULEMAKING )  
TO AMEND 20.6.4.900 NMAC. )  
\_\_\_\_\_)

HEARING RE THE MATTER OF TRIAD  
NATIONAL SECURITY, L.L.C.'S NEWPORT NEWS  
NUCLEAR BWXT-LOS ALAMOS, L.L.C.'S, AND THE  
UNITED STATES DEPARTMENT OF ENERGY, OFFICE  
OF ENVIRONMENTAL MANAGEMENT'S PETITION FOR  
RULEMAKING TO AMEND 20.6.4.900 NMAC.

BEFORE THE HONORABLE:

FELICIA L. ORTH

TUESDAY, JANUARY 14, 2025

10:47 A.M.

REPORTER'S CERTIFICATE

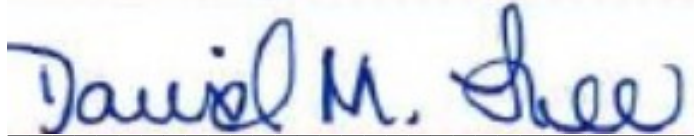
I, DAVID M. LEE, RMR, CRR,  
CERTIFICATE NUMBER 50391, NEW MEXICO CCR  
NUMBER 537, DO HEREBY CERTIFY that on  
TUESDAY, JANUARY 14, 2025, the Proceedings  
in the above-captioned matter were taken  
before me, and that I did report in  
stenographic shorthand the Proceedings set  
forth herein. The foregoing pages are a  
true and correct transcription, all done  
to the best of my ability.

I FURTHER CERTIFY that I am neither



1 employed by, nor related to, nor  
2 contracted with (unless excepted by the  
3 rules) any of the parties or attorneys in  
4 this case, and that I have no interest  
5 whatsoever in the final disposition of  
6 this case in any court.

7  
8 DATED at Santa Fe, New Mexico,  
9 this 4th day of March, 2025.

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DAVID M. LEE, RMR, CCR  
Arizona Certificate Number 50391  
New Mexico Certificate Number  
License Expires: 12/31/2025



Exhibits			
<b>N3B Exhibit 1 - Demonstration Report-c</b> 8:14 10:8 28:23 78:13,15 79:3,6,8 160:24 161:3 162:3,6,8,9	<b>N3B Exhibit 9 - Site Specific Water Quality Criteria Work Plan6-c</b> 8:21 11:5 79:12,16,23 80:1,3 166:13,25 167:3,5,6	<b>NMED Exhibit 7 WQ CC 24-31</b>	<b>0.98</b> 109:5
<b>N3B Exhibit 2 - Proposed Rule Change-c</b> 6:24 10:6 40:11, 20,24 41:1 67:12 122:7 160:4,7,16,19,21,22	<b>N3B Exhibit 10 - EPA 2007 Copper Criteria-c</b> 9:3 11:8 30:19, 20 80:7,11,16,19,21,22 167:9,22,25 168:2,3	<b>NMED Exhibit 8 WQ CC 24-31</b>	<b>0411</b> 67:12
<b>N3B Exhibit 3 - Direct Testimony White FINAL</b> 6:12 12:8 37:23 38:19,23,25 88:21 210:8,11,20,23, 25 211:1	<b>N3B Exhibit 11 - EPA 1996 Guidance-c</b> 9:8 11:11 80:25 81:4, 16,19,21,22 168:6,18, 21,23,24 172:1,8,12 173:2,5	<b>NMED Exhibit 9 WQ CC 24-31</b>	<b>0446</b> 76:22
<b>N3B Exhibit 4 - Direct Testimony Fulton</b> 8:1 12:10 76:4 77:10,13,15 211:3,5,8, 10,11	<b>NMED Exhibit 1 WQ CC 24-31</b> 9:13 11:14 81:25 82:4,20,23,25 83:1 169:6,19,22,24,25 181:10	<b>NMED Exhibit 10 WQ CC 24-31</b>	<b>045</b> 204:8
<b>N3B Exhibit 5 - Amanda White Resume</b> 6:20 10:11 39:16 40:1,5,7 162:15 163:4, 7,9,10 241:13	<b>N3B Exhibit 12- Direct Technical Testimony of-c</b>	<b>NMED Exhibit 11 WQ CC 24-31</b>	<hr/> <b>1</b> <hr/>
<b>N3B Exhibit 6 - Fulton Resume-c</b> 8:10 10:15 77:22 78:6, 9,11 88:6 163:13 164:5,8,10,11	<b>N3B Exhibit 13 - EPA approval of Georgia WQS Buffalo Creek SSC-c</b> 9:17 11:20 76:19 83:4,8,19,22,24, 25 170:2,3,19,24,25 181:13	<b>NMED Exhibit 12 Notice of Rescheduled Public Hearing Eng and Sp</b>	<b>1</b> 28:23 78:13,15 79:3, 6,8 141:3,14 147:4 160:24 161:3 162:3,6,9 172:7 176:23 202:17, 24 204:7 226:6
<b>N3B Exhibit 7 - Newspaper Announcement-c</b> 7:5 10:19 41:5,23 42:1,3 164:13, 14 165:2,5,7,8	<b>N3B Exhibit 14 - Windward_2018_DQO_DQA Report-c</b> 9:23 12:3 84:3,7,17,20, 22,23 171:16,19,21,22 181:17	<b>NMED Exhibit 13 NM Reg Vol XXXV Iss 20 10.22.</b>	<b>1%</b> 203:11
<b>N3B Exhibit 8 - Response to Public Comments w/o Demonstration Report-c</b> 7:11 10:22 42:7,23 43:2,4 165:11 166:4,7, 9,10	<b>NMED Exhibit 2 WQ CC 24-31</b>	<b>24 Notice of Rescheduled Public Hearing Eng and Sp</b>	<b>1,000</b> 240:4
	<b>NMED Exhibit 3 WQ CC 24-31</b>	<b>NMED Exhibit 14 Affidavit of Publication - Los Alamos Daily Post 11-1-24-c</b>	<b>1-to-1</b> 108:20
	<b>NMED Exhibit 4 WQ CC 24-31</b>	<hr/> <b>(</b> <hr/>	<b>10</b> 30:20 80:7,11,16,19, 22 102:12,14 104:1 157:9 167:9,22,25 168:3 176:3
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