STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF PROPOSED AMENDMENTS TO GROUND AND SURFACE WATER PROTECTION REGULATIONS, 20.6.2 NMAC

WQCC 17-03(R)

UNITED STATES AIR FORCE, DEPARTMENT OF DEFENSE'S NOTICE OF CORRECTED TECHNICAL TESTIMONY

The United States Air Force, Department of Defense ("USAF/DoD") submits the attached corrected testimony Samuel Brock, to replace USAF/DoD Exhibit 1 to its Notice of Intent to File Expert Testimony filed in this matter on September 11, 2017. The attached testimony corrects references to statutory authorities on page 4 and a reference to statutes on page 7 of Dr. Brock's previously filed testimony. USAF/DoD's Notice of Intent to File Expert Testimony and Exhibits 2, 3 (as amended by USAF/DoD's October 3, 2017 Notice of Corrected Technical Testimony) & 4 thereto are to remain unchanged.

DATED this 20th day of October 2017.

Respectfully submitted,

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United States Air Force, Department of Defense Corrected Written Technical Testimony of Samuel Brock

USAF/DoD EXHIBIT 1

STATE OF NEW MEXICO
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UNITED STATES AIR FORCE, DEPARTMENT OF DEFENSE

CORRECTED WRITTEN DIRECT TESTIMONY OF SAMUEL BROCK

I. BACKGROUND AND EXPERIENCE

My name is Samuel L. Brock and I am the Subject Matter Expert for Toxicology for the Environmental Management Directorate, Technical Support Division of the United States Air Force Civil Engineer Center, San Antonio, Texas. I am presenting this written testimony on behalf of the United States Air Force, Department of Defense (DoD). As Subject Matter Expert for Toxicology, I am responsible for, among other things, resolving problems or issues impacting toxicology and risk assessment concerning the conditions and vulnerabilities of systems extending across the Air Force and DoD. I received a Doctorate in Veterinary Medicine from Purdue University in 1970 and a Master of Public Health, Epidemiology from University of North Carolina, Chapel Hill in 1976. My experience, duties and responsibilities are outlined in my resume, which attached to my testimony as USAF/DoD Exhibit 2. As demonstrated in my resume, I have worked as a Subject Matter Expert for nearly ten (10) years. Prior to this, I worked as a Toxicologist for six (6) years at the Air Force Center for Engineering and the Environment (AFCEE), as a Toxicologist for WPI for seven (7) years, and as an Epidemiologist at the Texas Department of Health. My resume also identifies my specialized training, licenses/certificates, professional associations, written works, my past presentations and speaking engagements, as well as my duties representing the Air Force and DoD on various working groups and panels. My testimony will comment on Petitioner's proposed narrative standard for toxic pollutants.

II. INTRODUCTION

Petitioner proposes to add a narrative standard for toxic pollutants at Section 20.6.2.3103(A)(2) NMAC. As proposed, the standard would allow a toxic pollutant standard to be based on any scientific information that is publically available, regardless of whether or not

the scientific information is based on legitimate peer reviewed, and accepted scientific research. Such language is arguably contrary to the statutory requirements for best available science in the New Mexico Water Quality Act, NMSA 1978 74-6-1 to -17 (1963, as amended through 2013) (the "Act"), and proposes language that is, in my opinion, arbitrary in that it creates the possibility that a standard could be adopted based on scientific information that is incomplete or does not meet an acceptable standard of practice within the scientific community. The broad scope of the proposed language could lead to disparate and unreasonable standards or conversely to those that are not protective of human health and the environment because they are based on cursory scientific studies.

The intent of my testimony is to advocate for the adoption of toxic standards that are based on legitimate science rather than junk scientific information. To allow for the adoption of human health standards based on studies that are not rigorously vetted by generally accepted scientific methods is counterproductive to the goals of protecting human health and the environment and contrary to the very foundation of scientific reason and method. To be clear, I support the promulgation and adoption of adequately supported new toxic standards under the amended rules. It my position, however, that the adoption of those standards should give consideration to the weight of scientific evidence through a systematic process as is standard practice in the scientific community. Consequently, I am proposing language that would clarify the scientific basis for setting standards for toxic substances or pollutants to those that are from published sources that are credible, reproducible, accepted and peer reviewed. These revisions are aligned with the Act's requirements and recommendations for use of best science in rulemaking as stated in NMSA Sections 74-6-4(D), (E) & (K).

III. PROCEDURE FOR ADOPTING TOXIC POLLUTANT STANDARDS

A. STATUTORY CONSISTENCY

As stated in 20.6.2.3 NMAC, entitled "Statutory Authority," standards and regulations are adopted by the commission under the authority of the Act. Section 74-6-3(E) of the Act states that the Commission is the state water pollution control agency for all purposes of the [federal Clean Water Act, Sections 1251 through 1387 of the United States Code] and the wellhead protection and sole source aquifer programs of the federal Safe Drinking Water Act and has the authority to take all action for the benefits of the act and those programs. As such, water quality standards enforced as drinking water standards or for the protection of potential drinking water sources in the state will by statute invoke the authority of the federal Safe Drinking Water Act, Sections 300f through 300g-26 of Title 42 of the United States Code. With regard to the analysis of risks to human health, safety and the environment, the federal Safe Drinking Water Act mandates the use of "the best available, peer reviewed science and supporting studies conducted in accordance with sound and objective scientific practices; and data collected by accepted methods or best available methods." 42 U.S.C. § 300g-1(b)(3)(A) & (B). It would be inconsistent and contradictory with the underlying federal Safe Drinking Water Act to not require the use of scientifically accepted methodologies and peer review processes. These processes are arguably a factor for the Commission to consider under a NMSA Sections 74-6-4 (E)(7).

B. USE OF SCIENTIFIC METHODS IN RULE MAKING

The language of the proposed rule does not set a standard for the use of the highest quality, best available science in setting narrative toxic substances standards which will likely

lead to excess litigation. Toxic substance standards based on poor scientific methodology are subject to challenge because they are arbitrary. As an example, the EPA has seen multiple challenges when it has adopted standards which did not adhere to the scientific review required under the Information Quality Guidelines. The Information Quality Guidelines require Federal administrative agencies to ensure the quality, objectivity, and integrity of the scientific analysis that support regulatory decision making. *See* Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8,452 (Feb. 22, 2002). Additionally, the Frank R. Lautenberg Chemical Safety for the 21st Century Act, Pub. L. No. 114-182, 130 Stat. 448 (2016), recently amended the Toxic Substances Control Act, requiring Federal agencies to consider only the best available science but also the weight of the scientific evidence that they are relying on. *See* 15 U.S.C. § § 2617(f)(D)(i) (2016) & 2625(h) (2016).

The U.S. EPA's Integrated Risk Assessment (IRIS) database is another example of using the use of the highest quality, best available science to set risk based standards. EPA's IRIS Program supports EPA's mission to protect human health and the environment by identifying and characterizing the health hazards of chemicals found in the environment. Each IRIS assessment can cover a chemical, a group of related chemicals, or a complex mixture. The IRIS Program is located within EPA's National Center for Environmental Assessment (NCEA) in the Office of Research and Development (ORD). The placement of the IRIS Program in ORD is intentional. It ensures that IRIS can develop impartial toxicity information independent of its use by EPA's program and regional offices to set national standards and clean up hazardous sites. The Office of Research and Development (ORD) is the scientific research arm of EPA,

whose leading-edge research helps provide the solid underpinning of science and technology for the Agency.

C. TRANSPARENCY IN RULE MAKING

Transparency in toxic substance standards rule making is important in fostering public trust in its scientific health agencies. As an example, the IRIS process is very transparent. EPA announces the availability of the draft human health risk assessment and draft peer review charge questions for public review and comment on the IRIS website. A public meeting is held to discuss the draft assessment, draft peer review charge questions, and specific science questions raised by the assessment. The IRIS Program may revise the draft assessment and peer review charge questions in response to the public's comments. Additionally, EPA prepares a response to major public comments received during the public comment period.

EPA then releases the draft assessment and peer review charge questions for external peer review by the EPA's Scientific Advisory Board (SAB) Chemical Assessment Advisory Committee (CAAC). During external peer review, a public external peer review meeting is held and the public is allowed to attend the peer reviewers' discussion of the draft assessment and provide comments. The SAB announces the dates and location of the peer review meeting.

The IRIS Program revises the assessment to address peer review comments. They also prepare a written response-to-comment document. The revised assessment is reviewed by EPA's program offices and regions, other federal agencies, and the Executive Office of the President before the final assessment is posted on EPA's website.

As currently worded the toxic substances narrative standards which allow for the reliance on "any published scientific information" falls well short of scientifically accepted validation methods. Peer review is a necessary element in the evaluation of scientific

information used in the formulation of scientifically and legally defensible standards. Litigating narrative standards based on arbitrary scientific information would be a drain on NMED resources which can be better utilized in other areas.

Arbitrary scientific information also undermines the public trust. Reliance on anything but the best available, published and peer reviewed science can result in unnecessary costs and public confusion. The best available scientific information, verifiable data and weight of evidence should be the basis for regulatory decision making. Regulatory standards set based on arbitrary scientific information are based on mere assumptions rather than actual data and scientific interpretation. Such standards may be unreasonable leading to excess costs and denial of resources or conversely may not be protective enough. Estimates of risk based on limited, unverified, and non-peer-reviewed studies are often misleading and provide flawed information. Flawed information misinforms the public, leads to incorrect decisions and can undermine the integrity of the NMED.

IV. RECOMMENDED LANGUAGE

The internet has provided everyone access to a truly unlimited volume of information. Unfortunately, the volume of data available does not mean that all of the publicly available data is accurate or useful. The focus of the toxic standards should be on protecting the health of the residents of New Mexico by using the highest quality, verifiable scientific data. Establishing standards using publicly available information that has not undergone proper peer review creates the risk that limited resources will be directed to conditions that, after thorough review, are deemed not important or even worse increases the public's exposure to toxic chemicals. To respond effectively to human health risks NMED should adhere to standards based on reliable scientific information. Including the criteria for scientifically vetted information as part of the

development of toxic pollutant standards ensures the residents of New Mexico are protected using the best available science. Good science also prevents a conflict of law in the unlikely situation where the State of New Mexico establishes a standard based on scientific information that does not meet the legitimate scientific criteria mandated in the federal Safe Drinking Water Act.

Accordingly, we recommend that WQCC change 20.6.2.3103(A)(2) NMAC from what is proposed by Petitioner to the following:

> (2) Standards for Toxic Pollutants. A concentration upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains: (1) shown by human health risk assessments to warrant actions to reduce or prevent direct or indirect injury to human health, (2) creates a lifetime risk of more than one cancer per 100,000 exposed persons, or (3) produces harmful effects to the health of animals or plants which are commonly hatched, bred, cultivated, or protected for use by man for economic benefit. Appropriate sources of toxicological information for human health risk assessments, at a minimum, include the following elements: (1) based on the best science available, peer reviewed science and supporting studies conducted in accordance with sound and objective scientific practices, as well as data collected by accepted methods or best available methods, (2) available to the public, and (3) transparent about the methods and processes used to develop the values. Integrated Risk Informant System, the EPA's Provisional Peer Reviewed Toxic Values, Agency for Toxic Substances and Disease Registry Minimal Risk Levels and Human Effects Assessment Summary

Tables are examples of acceptable sources for toxicological information for human health risk assessments.

V. CONCLUSION

In conclusion, it is my hope that the Commission will consider requiring that the toxic standards be based on rigorously vetted, published, and peer reviewed science. NMED should evaluate risk based upon its best scientific judgement and consider all credible and relevant information available. The proposed paragraph above simplifies the standard by consolidating human health requirements and identifying the potential impact of contaminated plants and animals. The first sentence is ordered so that human health information, where risk based assessments are required, are elements 1 and 2, while the economic impact of contaminated plants and animals is identified as 3. The need to identify human consumption of plants or animals, as in the current New Mexico requirement, is not needed because the first sentence of the proposed alternative language includes direct and indirect ingestion. The third element of the first sentence recognizes the fact that the contamination of plants and animals may pose an economic hardship, as does the second part of the first element of the first sentence in the current regulation.

Thank you for your consideration. This concludes my written testimony.

CERTIFICATE OF SERVICE

I hereby certify that on October 20, 2017, a true and correct copy of the Notice of Corrected Technical Testimony were served via electronic mail to the following:

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