BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
Phoenix Production Company WESCO Operating, Inc.	)	____ Appeal No. ____
NPDES Permit Nos. WY-0024945 (Rolff Lake Unit), WY-0024953 (Sheldon Dome Field), and WY-0025232 (Tensleep #1 (Winkleman Dome Field))	)	

PETITION FOR REVIEW

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INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), Natural Resources Defense Council (Petitioner or NRDC) petitions for review of the conditions of NPDES Permit Nos. WY-0024945, WY-0024953, and WY-0025232 (the Permits), issued to Phoenix Production Company and WESCO Operating, Inc. (collectively, Permittees) on March 12, 2015, by the Regional Administrator, U.S. Environmental Protection Agency Region VIII (Region). Ex. 1 (Rolff Lake Unit Permit); Ex. 2 (Sheldon Dome Field Permit); Ex. 3 (Winkleman Dome Field Permit).

The Permits authorize Permittees, operators of oil and gas wells on the Wind River Indian Reservation in Wyoming, to discharge wastewater containing toxic chemicals used in hydraulic fracturing and other oil and gas activities into tributaries within the Wind River watershed. The Region approved Permittees' discharges without knowing which chemicals Permittees would add to their wastewater and without assessing the impacts of these chemicals on wildlife and livestock. The Region based its approval of the Permits on clearly erroneous findings of fact and conclusions of law.

Specifically, NRDC challenges Section 1.3.1 of each permit, which allows Permittees to discharge "produced water" to waters of the United States. The Region based Section 1.3.1 on two clearly erroneous conclusions. First, the Region erroneously concluded that Subpart E of 40 C.F.R. part 435 authorizes Permittees to discharge well-treatment chemicals (chemicals used to stimulate oil and gas production) in addition to produced water (groundwater extracted along with oil and gas). In approving discharges of well-treatment chemicals to surface water, the Region expanded a narrow regulatory provision well beyond its intended scope. Second, the Region concluded that Permittees' discharged wastewater "is of good enough quality" for livestock and wildlife uses. The Region could not have reasonably reached this conclusion,

because it did not identify the chemicals that Permittees were likely to use and discharge nor did it evaluate whether those chemicals could adversely affect livestock or wildlife.

THRESHOLD PROCEDURAL REQUIREMENTS

NRDC satisfies the threshold requirements for filing a petition for review under 40 C.F.R. part 124. In particular:

1. NRDC is entitled to petition for review of the permit decisions because it filed timely public comments with the Region. *See* 40 C.F.R. § 124.19(a)(2). NRDC submitted its comments on July 25, 2013. Ex. 4 (NRDC Cmts.).

2. NRDC's written comments raised the issues in this petition, preserving them for review. *See id.* at 2-9. Citations to NRDC's comments and other comments are included below.

BACKGROUND

I. Petitioner

NRDC is a nonprofit organization dedicated to protecting public health and the environment through litigation, advocacy, and public education. NRDC has approximately 300,000 members nationwide, including more than 600 members in Wyoming. NRDC has worked for many years to protect public health and the environment from risks posed by oil and gas exploration and production operations.

II. Statutory and Regulatory Framework

"[T]o restore and maintain the chemical, physical, and biological integrity of the Nation's waters," 33 U.S.C. § 1251(a), the Clean Water Act authorizes only those discharges of pollutants into surface waters that comply with National Pollutant Discharge Elimination System (NPDES) permits, *id.* § 1311(a). Each NPDES permit includes performance standards for pollution control known as technology-based effluent limitations (TBELs). *Id.* §§ 1314(b)(1)(B), 1311(b)(1)(A)(i).

TBELs set the "minimum level of control" in NPDES permits. 40 C.F.R. § 125.3(a). In some cases, that minimum level of control will not prevent violations of the state, tribal, or federal water quality standards applicable to the water body receiving the discharge. *See id.* §§ 131.4, 131.5, 131.8. When there is a "reasonable potential" that discharges of a pollutant will cause or contribute to violations of water quality standards, a NPDES permit writer imposes "more stringent limitations" called water quality-based effluent limitations (WQBELs). *Id.* § 122.44(d)(1)(i); *see also* 33 U.S.C. § 1311(b)(1)(C).

EPA established TBELs for onshore oil and gas facilities in 1979. 44 Fed. Reg. 22,069 (Apr. 13, 1979). These effluent limitations are set forth at 40 C.F.R. part 435. Subpart C of Part 435, which governs most onshore oil and gas facilities, imposes an absolute prohibition on wastewater discharges: "[T]here shall be *no discharge of waste water pollutants* into navigable waters from any source associated with production, field exploration, drilling, well completion, or well treatment (i.e., produced water, drilling muds, drill cuttings, and produced sand)." 40 C.F.R. § 435.32 (emphasis added). EPA described this effluent limitation as a "zero discharge" limitation. 44 Fed. Reg. at 22,071. Facilities subject to the zero-discharge limitation must dispose of wastewater at approved underground injection wells or offsite treatment facilities. *See* 41 Fed. Reg. 44,942, 44,946 (Oct. 13, 1976).

Some onshore facilities located west of the 98th meridian, a line of longitude running through the Dakotas, Nebraska, Kansas, Oklahoma, and Texas, qualify for a narrow exception to Subpart C's zero-discharge limitation. Under Subpart E, onshore facilities in the arid western states may discharge "produced water," on the condition that it "is of good enough quality to be used for wildlife or livestock watering or other agricultural uses and . . . the produced water is actually put to such use during periods of discharge." 40 C.F.R. §§ 435.50-.52. Facilities may not

discharge produced water under this exception if the concentration of oil and grease in the produced water exceeds 35 mg/L. *Id.* § 435.52(b).

Subpart E's limited exception to Subpart C's zero-discharge standard preserves a source of water for livestock and wildlife in arid western states. 44 Fed. Reg. at 22,072. Much of the wastewater generated by oil and gas facilities is groundwater extracted along with oil and gas. *See* Ex. 5 at 38 (U.S. Envtl. Prot. Agency, EPA 440/1-76/055-a, *Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Oil & Gas Extraction Point Source Category* (1976) [hereinafter Technical Development Document]). Naturally occurring contaminants often render this produced water unsuitable for consumption by livestock or wildlife, but the produced water generated by some wells is of good enough quality that animals can drink it safely once operators have treated it to remove oil and gas. *See* 44 Fed. Reg. at 22,072. EPA intended the exemption in Subpart E to be "a relatively restrictive subcategorization based on the unique factors of prior usage [by agriculture and wildlife] in the region, arid conditions and the existence of low salinity, portable [*sic*] water." *Id.*

III. Factual Background

A. Oil and Gas Extraction

Oil and gas extraction involves many steps, including drilling, production, well completion, well maintenance, and well treatment. An operator drilling a well into an oil-and-gas-bearing formation circulates drilling muds down into the deepening well and then back up to the surface, removing from the well pieces of rock cut by the drill, known as "drill cuttings." Ex. 5 at 9 (Technical Development Document). Once the well reaches the oil-and-gas-bearing formation, operators complete the well by installing equipment to prepare it for oil and gas production. *Id.* at 21-22. During production, groundwater in the oil-and-gas-bearing formation,

known as "produced water," and unconsolidated sediment in the formation, known as "produced sand," are often extracted along with oil and gas. *Id.* at 13, 38-39. At the surface, physical and chemical treatments separate oil and gas from produced water. *Id.* at 14, 17.

Well-treatment activities, such as hydraulic fracturing and acidizing, stimulate additional oil and gas production. *Id.* at 22, 39. During hydraulic fracturing, or fracking, operators inject a mixture of well-treatment chemicals and water or another base fluid into a well at such a high pressure that the geologic formation cracks, or fractures. *Id.* The injection fluid also contains solids, such as sand, that prop the fractures open. *Id*. Oil and gas flow out of these fractures into the well. *Id.* Immediately after fracking, a mixture of oil and gas, well-treatment chemicals, injected water, produced water, and solids flow from the well. *Id.* at 12; Ex. 6 at 8 (Resp. to Gen. Cmts.). Over time, the quantity of well-treatment chemicals flowing from the well declines, until those chemicals are no longer detectable in the well's wastewater. *See* Ex. 4 at 6 (NRDC Cmts.); Ex. 7 at 1-2 (U.S. Gov't Accountability Office, GAO-12-156, *Information on the Quantity, Quality, and Management of Water Produced during Oil and Gas Production* (2012)).

Oil and natural gas production generates large amounts of solid and liquid wastes that can pollute surface waters if not properly handled. *See* Ex. 4 at 10 (NRDC Cmts.). Produced water, for instance, may contain naturally occurring pollutants, such as oil and grease, heavy metals, salts, oxygen-demanding wastes, radioactive material, and other toxics. Ex. 5 at 56-61 (Technical Development Document); *see also* Ex. 8 at 13 (Rolff Lake Unit Statement of Basis) (monitoring data recording various toxic pollutants in Permittee's discharges, including chemical oxygen demand, sulfide, metals, and radionuclides). In addition, oil and gas production uses hundreds of different chemicals, many of which present risks to humans, animals, and the environment. Ex. 9

at 1-4 (The Endocrine Disruption Exchange, *Chemicals Used in Oil and Natural Gas Operations: Wyoming* 1-4 (2009)); Ex. 4 at 7-8 (NRDC Cmts.); Ex. 10 at 5-6 (PEER Cmts.).

B. Permit History

1. Permittees' Operations

Phoenix Production Company and WESCO Operations, Inc. operate three oil and gas production facilities on the Wind River Indian Reservation in Wyoming, home to members of the Eastern Shoshone and Northern Arapaho Tribes. Ex. 6 at 2 (Resp. to Gen. Cmts.). Pursuant to EPA-administered[1] NPDES permits, Phoenix's Sheldon Dome and Rolff Lake facilities and WESCO's Winkleman Dome facility (collectively, the Facilities) discharge wastewater generated during oil and gas production into tributaries within the Wind River watershed on the Reservation. Ex. 12 at 1 (Sheldon Dome Field Statement of Basis); Ex. 11 at 1 (Winkleman Dome Field Statement of Basis); Ex. 8 at 1, 5 (Rolff Lake Unit Statement of Basis). Together, these Facilities have the capacity to discharge an average of more than 1.3 million gallons of wastewater per day into surface waters. *See* Ex. 13 at V-1 (Winkleman Dome Field Permit App.) (projecting 1.1 million gallons per day as long-term average flow of discharge volume); Ex. 14 at suppl. info 1 (Sheldon Dome Permit App.) (projecting 166,000 gallons per day as maximum average discharge volume); Ex. 15 at suppl. info 1 (Rolff Lake Unit Permit App.) (projecting 49,000 gallons per day as maximum average discharge volume).

Permittees' wastewater flows out of their wells as a mixture of oil and gas, "produced water," "dissolved or suspended solids," sand or silt, and "injected fluids and additives." Ex. 12

[1] Because EPA "has not approved the Eastern Shoshone or Northern Arapaho Tribes . . . or the State of Wyoming to implement the CWA NPDES program in Indian country," Ex. 11 at 1 (Winkleman Dome Field Statement of Basis), EPA is responsible for administering NPDES permits for facilities located on the Wind River Indian Reservation, *see* 33 U.S.C. §§ 1342, 1377(e).

at 4 (Sheldon Dome Field Statement of Basis); *see supra* at 5. Injected fluids and additives may include well-treatment chemicals used by Permittees during fracking, *see* Ex. 8 at 3 (Rolff Lake Unit Statement of Basis); Ex. 12 at 7 (Sheldon Dome Field Statement of Basis), and chemicals injected downhole for well maintenance, Ex. 12 at 4 (Sheldon Dome Field Statement of Basis); Ex. 8 at 3 (Rolff Lake Unit Statement of Basis).

After this mixture emerges from the well, it flows into tanks where Permittees add more chemicals to help separate the oil and gas from the other liquids. Ex. 11 at 1 (Winkleman Dome Field Statement of Basis); *see* Ex. 8 at 3 (Rolff Lake Unit Statement of Basis). After the oil and gas have been separated out, the resulting wastewater is discharged into "skim tanks" or "skim ponds," where vacuum trucks skim off additional oil floating on the surface. Ex. 11 at 1 (Winkleman Dome Field Statement of Basis); *see* Ex. 8 at 3 (Rolff Lake Unit Statement of Basis); Exhibit 14 at suppl. info 2 (Sheldon Dome Field Permit App.). The remaining wastewater contains produced water as well as chemicals used in well maintenance and produced-water treatment. In the weeks after Permittees frack their wells, the wastewater also contains well-treatment wastes. Permittees discharge this wastewater from skim ponds and pits into tributaries within the Wind River watershed. *See* Ex. 11 at 1 (Winkleman Dome Field Statement of Basis); Ex. 8 at 5 (Rolff Lake Unit Statement of Basis); Ex. 12 at 7 (Sheldon Dome Field Statement of Basis).

2. Permittees' Applications to Discharge Wastewater

In 2010, Permittees applied to EPA Region VIII to renew their Facilities' discharge permits. *See* Exs. 13, 14, 15 (permit applications). Permittees sought permission to continue discharging wastewater, including well-treatment wastes, into streams pursuant to Subpart E's exemption for "produced water." *See supra* at 5.

None of the permit applications contained detailed disclosures about the well-treatment, well-maintenance, and produced-water-treatment chemicals that Permittees will use and discharge. Although Permittees disclosed that they intend to frack their wells during the renewed permit terms, *see* Ex. 16 (EPA Information Request 2010), none of the Permittees provided information about their well-treatment chemicals. Ex. 4 at 7 (NRDC Cmts.). The permit applications for the Rolff Lake and Winkleman Dome facilities offered no information about the chemicals they use for well maintenance or produced-water treatment. Ex. 13 (Winkleman Dome Field Permit App.); Ex. 15 (Rolff Lake Unit Permit App.). And while the Sheldon Dome facility divulged the commercial names of some of its well-maintenance and produced-water-treatment chemicals, Ex. 12 at 6 (Sheldon Dome Field Statement of Basis), the full chemical composition of these disclosed additives remains unknown, because the additives' manufacturer withholds as "proprietary" the names of some of the additives' chemical constituents. *See* Ex. 17 at 1 (MSDS – EC1076A); Ex. 18 at 1 (MSDS – EC2462A).

The limited disclosures in the Sheldon Dome application indicate that Permittees use several toxic chemicals, including benzene, ethylbenzene, methanol, naphthalene, xylene, 1,2,4-trimethylbenzene, isopropanol, zinc chloride, benzyl chloride, and ethylene glycol. Ex. 4 at 8 (NRDC Cmts. (citing MSDSs)). Wastewater monitoring confirms that Permittees discharge many of these same toxic chemicals, including benzene, ethylbenzene, naphthalene, toluene, and xylene. Ex. 11 at 12-13 (Winkleman Dome Field Statement of Basis); Ex. 8 at 13-14 (Rolff Lake Unit Statement of Basis); Ex. 12 at 13 (Sheldon Dome Field Statement of Basis).

The chemical additives in Permittees' discharges present risks to livestock and human beings exposed to them. Ethylbenzene and naphthalene are both possible carcinogens, according to the International Agency for Research on Cancer. Ex. 19 at 2 (MSDS – EC2007A); Ex. 18 at 6

(MSDS – EC2462A). Benzyl chloride is listed as an "extremely hazardous substance" under EPA regulations implementing the Comprehensive Environmental Response, Compensation, and Liability Act and the Emergency Planning and Community Right-to-Know Act. *See* 40 C.F.R. pt. 355, Appendix A. Benzene, ethylbenzene, toluene, and naphthalene are also designated as "hazardous substances" under the Clean Water Act. 40 C.F.R. § 116.4.

3. Draft Permits

The Region issued draft permits that proposed allowing Permittees to discharge "produced water" into tributaries within the Wind River watershed. *See* Exs. 20, 21, 22 at § 1.3.1.1 (draft permits). The Region found that Permittees' discharges are of "good enough quality" for wildlife and livestock watering, and that livestock and wildlife do in fact drink the discharges. *See* Ex. 6 at 6 (Resp. to Gen. Cmts.); Ex. 8 at 7 (Rolff Lake Unit Statement of Basis); Ex. 12 at 8 (Sheldon Dome Field Statement of Basis); Ex. 11 at 6 (Winkleman Dome Field Statement of Basis). The draft permits also set out numeric effluent limitations for oil and grease, pH, specific conductance, total dissolved solids, chloride, sulfate, total radium, and sulfide. *See* Ex. 2 at §§ 1.3.1.2, 1.3.1.3 (Sheldon Dome Field Permit); Ex. 1 at §§ 1.3.1.2, 1.3.1.3 (Rolff Lake Unit Permit); Ex. 3 at §§ 1.3.1.2, 1.3.1.3 (Winkleman Dome Field Permit). The Sheldon Dome permit established an additional numeric limit for zinc. Ex. 2 at § 1.3.1.3 (Sheldon Dome Field Permit).

The Region found that, based on the single monitoring sample submitted with each permit application measuring volatile and semi-volatile organic contaminants in the discharge, benzene was present in concentrations that exceeded water quality criteria for human consumption. Ex. 11 at 16 (Winkleman Dome Field Statement of Basis); Ex. 8 at 17 (Rolff Lake Unit Statement of Basis); Ex. 12 at 16 (Sheldon Dome Field Statement of Basis). At two of the

Facilities, benzene concentrations exceeded EPA's Maximum Contaminant Levels for safe drinking water by a factor of more than one hundred. *See* Ex. 8 at 17 (Rolff Lake Unit Statement of Basis); 12 at 16 (Sheldon Dome Field Statement of Basis). Nonetheless, the draft permits set no effluent limitations for benzene or any of the other chemicals that Permittees add to their wastewater. Instead, EPA proposed requiring additional monitoring for organic compounds. *See, e.g.*, Ex. 20 at § 1.3.2 (Winkleman Dome Field Draft Permit).

4. NRDC's Comments

NRDC submitted comments on the draft permits on July 25, 2013, pursuant to 40 C.F.R. § 124.11. *See* Ex. 4 at 1 (NRDC Cmts.). NRDC challenged the Region's application of Subpart E's exemption. *Id.* at 2. NRDC argued that, based on the regulatory text and supporting technical documents, the exemption in 40 C.F.R. § 435.52 allowing discharges of "produced water" does not apply to well-treatment wastes. *Id.* at 2. Because the proposed discharges included well-treatment wastes in addition to produced water, NRDC argued that the discharges allowed by the draft permit were unlawful under 40 C.F.R. § 435.52.

The Region responded by citing to EPA's "long-standing interpretation of the regulatory text of Subpart E to allow the discharge of produced water that contains well treatment wastes." Ex. 6 at 7 (Resp. to Gen. Cmts.). The Region maintained that because well-treatment wastes are "part of the production waste stream," those wastes can be considered part of the "produced water" that emerges from a well. *Id.*

NRDC also contested the Region's finding, under 40 C.F.R. § 435.51, that the proposed wastewater discharges are "of good enough quality to be used for wildlife or livestock watering." Ex. 4 at 7 (NRDC Cmts.). NRDC explained that the Region could not "reasonably make a finding that the water is of good enough quality" because Permittees had "provide[d] no

information about well treatment chemicals that may be contained in the discharge." *Id*. NRDC further argued that the Region's good-enough-quality determination was unlawful because the Region did not analyze whether the chemicals in Permittees' well-treatment, well-maintenance, and produced-water-treatment fluids—chemicals the Region found were present in Permittees' discharges, *see, e.g.*, Ex. 8 at 17 (Rolff Lake Unit Statement of Basis)—may cause harm to livestock or wildlife. Ex. 4 at 8 (NRDC Cmts.). NRDC argued that "EPA has the legal obligation to evaluate these potential hazards [from the chemicals used and discharged by Permittees] before it makes a finding that the water is 'of good enough quality' for this purpose." *Id.* at 9. Other commenters echoed this concern, citing to evidence that livestock and wildlife suffer adverse health effects after exposure to fracking wastewater. *See* Ex. 10 at 5-6 (PEER Cmts.).

5. The Region's Response to Comments and Issuance of the Final Permits

In response to NRDC's comments, the Region recognized that Permittees will discharge chemicals used in well treatment, well maintenance, and produced-water treatment. Ex. 6 at 10-11 (Resp. to Gen. Cmts.). The Region also acknowledged that it had not identified any of the specific well-treatment chemicals that Permittees use and that it had "no specific information" about their well-maintenance and produced-water-treatment chemicals. *Id.* Even for the Sheldon Dome facility, for which the permittee provided some limited chemical information, the Region concluded that "there is insufficient data to fully characterize the effluent." Ex. 23 at 4 (Sheldon Dome Field Resp. to Specific Cmts.). Despite the Region's inability to "fully characterize" which chemicals Permittees would discharge, and at what concentrations, the Region concluded that the effluent limitations in the Final Permits will "ensure that the discharged produced water is [of] good enough quality for wildlife and livestock use." Ex. 6 at 6 (Resp. to Gen. Cmts.).

The Region's response to comments offered no analysis of the hazards to livestock and wildlife posed by the chemicals introduced into Permittees' wastewater from well-treatment, well-maintenance, and produced-water-treatment activities. Instead, the Region considered only a limited number of contaminants that occur naturally in produced water, citing a 2007 report titled "Water Quality for Wyoming Livestock & Wildlife: A Review of Literature Pertaining to Health Effects of Inorganic Contaminants." [2] *See, e.g.*, Ex. 11 at 7 (Winkleman Dome Field Statement of Basis); Ex. 24 at 6-7 (Rolff Lake Unit Resp. to Specific Cmts.); Ex. 25 (2007 Report). The Region's good-enough-quality analysis excluded the host of toxic chemicals that Permittees' add to produced water before discharge. In lieu of analyzing those pollutants *before* allowing Permittees' to discharge them, the Region chose to rely on *future* monitoring results to "establish limits to prevent the discharge of toxic substances in toxic amounts." Ex. 6 at 10 (Resp. to Gen. Cmts.).

On March 12, 2015, the Region issued the final permits, which, like the draft permits, allow Permittees to discharge both produced water and well-treatment wastes. Exs. 1, 2, 3 at § 1.3.1 (final permits). The Region did not add any effluent limitations to address the toxic chemicals that Permittees will use and discharge. *See id.* at §§ 1.3.1.2, 1.3.1.3.

The Region mailed notice of the final permits to Permittees via certified mail on March 12, 2015. *See* Ex. 26 (Cover Letters). The Region notified NRDC that it had issued the final permits via email on March 16, 2015. *See* Ex. 27 (Email Notice). NRDC filed this petition for review within the thirty-day deadline imposed by EPA's regulations. 40 C.F.R. § 124.19(a)(3).

[2] As noted above, the Region did consider whether Permittees' discharges of benzene may pose risks to livestock. Ex. 6 at 14 (Resp. to Gen. Cmts.). The Region expressed uncertainty about whether benzene in the wastewater discharges may have adverse impacts on wildlife and livestock, but still declined to place limitations on Permittees' benzene discharges. *Id.*

STANDARD OF REVIEW

The Board grants review of a petition if the permit condition at issue is based on (1) a clearly erroneous finding of fact or conclusion of law or (2) involves a matter of policy or exercise of discretion that warrants review. 40 C.F.R. § 124.19(a)(4)(i). When evaluating a challenged permit for error, the Board considers whether "the permit issuer 'duly considered the issues raised in the comments' and ultimately adopted an approach that 'is rational in light of all of the information in the record.'" *In re Charles River Pollution Control Dist.*, NPDES Appeal No. 14-01, slip.op. at 5 (EAB Feb. 2, 2015) (quoting *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002)). The permit issuer "must articulate with reasonable clarity the reasons for [its] conclusions and the significance of the crucial facts in reaching those conclusions." *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417 (EAB 1997) (alteration in original) (quoting *In re Carolina Power & Light Co.*, 1 E.A.D. 448, 451 (Acting EPA Adm'r 1978)). While the Board may defer to the permit issuer's technical judgments, it will not defer "where the permitting authority's rationale for its conclusions is weak or non-existent." *In re Chukchansi Gold Resort & Casino Waste Water Treatment Plant*, 14 E.A.D. 260, 280 (EAB 2009).

When the Board considers the meaning of an administrative regulation, it applies "normal tenets of statutory construction." *In re Bil-Dry Corp.*, 9 E.A.D. 575, 595 (EAB 2001). In addition to the plain meaning of regulatory language, the Board considers the entire regulation, the objective of the statute the regulation implements, and the regulatory history. *In re Howmet Corp.*, 13 E.A.D. 272, 282 (EAB 2007); *see also In re Morton L. Friedman & Schmitt Constr. Co.*, 11 E.A.D. 302, 328 (EAB 2004).

ARGUMENT

I. Part 435 Subpart E prohibits oil and gas facilities from discharging well-treatment wastes

Subpart E sets forth a narrow exception to the zero-discharge limitation on wastewater discharges from onshore oil and gas facilities: "[T]here shall be no discharge of waste water pollutants into navigable waters from any source (*other than produced water*) associated with production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands)." 40 C.F.R. § 435.52(a) (emphasis added). Well-treatment wastes, such as chemicals used in fracking, are a "source" of pollutants "associated with . . . well treatment." Therefore, unless well-treatment wastes are "produced water," Permittees may not discharge them. Industry usage of the term "produced water," the regulatory history of Subpart E, and the purpose of the exception for produced-water discharges demonstrate that Subpart E intended to prohibit the discharge of well-treatment wastes. *Cf. In re Howmet Corp.*, 13 E.A.D. at 282. The Region's decision to authorize Permittees' discharges is clearly erroneous because it incorrectly applies Subpart E's regulatory exemption for "produced water" to well-treatment wastes.

A. "Produced water" in Subpart E does not include well-treatment wastes

Neither the Clean Water Act nor Subpart E defines the term "produced water." *See* 33 U.S.C. § 1362; 40 C.F.R. §§ 435.50-.52. Because "produced water" is a technical term of art, the Board should interpret it "by reference to the trade or industry to which [it] applies," here, the oil and gas industry. *La. Pub. Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 372 (1986). As NRDC explained in its comments, a leading industry dictionary defines produced water as "water produced from a wellbore *that is not a treatment fluid*." Ex. 4 at 6 (NRDC Cmts. (quoting Schlumberger Oilfield Glossary) (emphasis added)).

The regulatory history of Subpart E confirms that the term "produced water" does not include well-treatment wastes. The preamble to the Subpart E regulations and EPA's Technical Development Document define produced water as the groundwater extracted along with oil and gas. 41 Fed. Reg. at 44,946 (defining "produced water" as the water "within the oil-gas bearing formations" generated when production activities disrupt the formations); Ex. 5 at 38 (Technical Development Document) (defining "produced water" as the "formation water" or "brine water" that is "associated with oil and gas producing formations"). By contrast, EPA defined well-treatment wastes as the chemicals used in, but not consumed by, fracking and acidizing operations. 41 Fed. Reg. at 44,946; Ex. 5 at 39 (Technical Development Document). These definitions do not overlap.[3]

The Technical Development Document relied on the distinction between produced water and well-treatment wastes to regulate them differently, applying different effluent limitations to the two sources of pollution. The document recommended allowing Subpart E facilities to discharge produced water if it is of good enough quality, but prohibiting all discharges of well-treatment wastes. *Id.* at 4; *see also* Ex. 4 at 4 (NRDC Cmts.). Additionally, the Technical Development Document and the preamble prescribe different methods of disposal for produced water and well-treatment wastes. 41 Fed. Reg. at 44,946; Ex. 5 at 125, 137 (Technical Development Document). In promulgating Subpart E, EPA chose to define and regulate produced water and well-treatment wastes as separate sources of pollution. As NRDC explained

[3] The regulations governing offshore and coastal oil and gas facilities—regulations not applicable to the Facilities at issue in this Petition—define "produced water" as "the water (brine) brought up from the hydrocarbon-bearing strata during the extraction of oil and gas, and can include formation water, injection water, and any chemicals added downhole or during the oil/water separation process." 40 C.F.R. § 435.11(bb); *id.* § 435.41(bb). The offshore and coastal regulations nonetheless regulate well-treatment fluids separately from produced water by setting different effluent limitations for each, indicating both an intent to distinguish between these two types of wastewater, and the technical feasibility of doing so. *See id.* §§ 435.12, 435.14, 435.42, 435.44.

in its comments, the Region's attempt to extend the concept of produced water until it swallows that of well-treatment wastes is inconsistent with the history of the regulation. *See* Ex. 4 at 2-6 (NRDC Cmts.).

In its response to NRDC's comments, the Region did not suggest that "produced water" has a technical meaning in the oil and gas industry that includes well-treatment wastes. *See* Ex. 6 at 7 (Resp. to Gen. Cmts.). The Region also acknowledged that the Technical Development Document in some places "appear[s] to state that well treatment and well workover fluids are a separate waste stream from produced water." *Id.* Nevertheless, the Region suggested that its authorization of the discharges was justified by EPA's "long-standing interpretation of the regulatory text of Subpart E." *Id.* This interpretation, whether longstanding or not,[4] is clearly erroneous.

B. Subpart E's list of four pollution sources is not exhaustive

The Region based its clearly erroneous regulatory interpretation on the contention that Subpart E's "parentheticals . . . identify the sole four pollutant sources associated with oil and gas activities subject to Subpart E." Ex. 6 at 7 (Resp. to Gen. Cmts.). Well-treatment wastes are not listed among those four sources. Because well-treatment wastes come out of the well mixed with produced water, the Region infers that the term "produced water" must also include well-treatment wastes. *Id.* at 7-8.

[4] That the Region's current interpretation may be "long-standing," *see* Ex. 6 at 7 (Resp. to Gen. Cmts.), does not conclusively demonstrate that it is not erroneous. The Board need not defer even to a longstanding agency interpretation of its own regulation when the interpretation is "plainly erroneous" or not reasonable. *See Auer v. Robbins*, 519 U.S. 452, 461 (1997); *cf. Legal Envtl. Assistance Found., Inc. v. U.S. E.P.A.*, 118 F.3d 1467, 1477 (11th Cir. 1997) ("Even contemporaneous and longstanding agency interpretations must fall to the extent they conflict with statutory language.") (quoting *Pub. Emps. Ret. Sys. v. Betts*, 492 U.S. 158, 171 (1989)). As explained *infra* at 16-19, the Region's regulatory interpretation here is plainly erroneous.

The Region's insistence that Subpart E's list of four sources of pollution is exhaustive is not reasonable. Although an "i.e." rather than an "e.g." precedes three sources of pollution that may not be discharged (drill cuttings, drilling muds, and produced sands), the broader regulatory framework, the regulatory history, and EPA's approach to oil and gas wastes in other contexts all demonstrate that the regulation's list of pollution sources is illustrative, not exhaustive. *See In re Howmet Corp.*, 13 E.A.D. at 282.

First, Subpart C establishes a zero-discharge limitation, but, like Subpart E, only lists four sources of pollution. If those were the only sources addressed, as the Region claims, Subparts C and E would authorize facilities to discharge pollutants from a host of other sources.

Moreover, the regulatory history of Subpart E shows that EPA identified more than four sources of pollution associated with oil and gas exploration and production. Namely, the Technical Development Document identified a fifth source: well-treatment wastes. *See supra* at 15. The document repeatedly lists "produced water" and "well treatment" as separate "wastes associated with [oil and gas extraction facilities]." Ex. 5 at 1 (Technical Development Document); *id.* at 37. It notes that produced water is a waste generated by production activities; whereas well-treatment wastes result from "[w]ell [c]ompletion and [w]orkover" activities. *Id.* at 32.

EPA's approach to oil and gas wastes in other contexts also undermines the Region's position. For example, in 1991, Region VI issued a general permit for onshore oil and gas facilities under Subpart C prohibiting all wastewater discharges and offering seven examples of sources of waste: the four listed in Subparts C and E, as well as well-treatment wastes, blowout-preventer fluid,[5] and deck and rig floor drainage.[6] 56 Fed. Reg. 7698, 7703 (Feb. 25, 1991).

[5] Blowout-preventer fluid is used to activate the blowout preventer. 56 Fed. Reg. at 7708.

EPA has also made clear under the Resource Conservation and Recovery Act that oil and gas facilities generate many forms of liquid wastes, including "produced water," "drill cuttings," "drilling fluids," and "produced sand," as well as "well completion, treatment, and stimulation fluids," "packing fluids," "pit sludges," "rigwash," "pigging wastes from gathering lines," and "gas plant sweetening wastes . . . including amines, . . . backwash, . . . and hydrogen sulfide scrubber liquid and sludge." Ex. 28 at 10 (U.S. Envtl. Protection Agency, Office of Solid Waste, EPA530-K-01-004, *Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations* (2002)).

The Region's construction of Subpart E conflicts with EPA's intent to impose a broad prohibition on wastewater discharges from onshore oil and gas facilities. Its contention that the four "sources of pollutants" listed in 40 C.F.R. § 435.52 are exhaustive is clearly erroneous.

C. That produced water and well-treatment wastes are commingled as they emerge from the well does not show that produced water encompasses well-treatment wastes

From the flawed premise that Subpart E addresses only four types of waste, the Region infers that produced water must include well-treatment wastes. Ex. 6 at 7 (Resp. to Gen. Cmts.). It points to statements in the Technical Development Document indicating that well-treatment wastes "do not appear as a discrete waste source" and that they "are moved through the production, process and treatment systems" with produced water. *Id.* (quoting Technical Development Document at 96, 23). These statements only confirm what NRDC does not contest: that well-treatment wastes are mixed in with produced water when they emerge from the well. But the fact that a waste is mixed with produced water does not dictate whether or not it can be discharged under Subpart E. Drill cuttings, drilling muds, and produced sands may also be mixed

[6] Deck and rig floor drainage is wastewater resulting from washing the deck and drilling rig. 56 Fed. Reg. at 7708.

with produced water when they come out of the well. Ex. 5 at 12 (Technical Development Document); Ex. 12 at 4 (Sheldon Dome Field Statement of Basis) ("When the formation fluid is brought to the surface, it contains a spectrum of substances including natural gas, produced water, sand, silt, and any additives used to enhance extraction."). And yet, that mixture may not be discharged. If chemical wastes could be disposed of by mixing them with produced water, Subpart E would no longer be a "relatively restrictive" exception to Subpart C's zero-discharge limitation. *See* 44 Fed. Reg. at 22,072. The Region's conflation of produced water with well-treatment wastes is clearly erroneous.

D. The exclusion of well-treatment wastes from Subpart E's produced-water exception comports with the exception's purpose

The differential treatment for produced water and well-treatment wastes described in the Technical Development Document and preamble accords with the purpose of Subpart E. Before well-treatment events, such as fracking, produced water will not contain well-treatment wastes. The produced water can be discharged if it is of good enough quality. 40 C.F.R. §§ 435.50-.52. Immediately after well-treatment events, the produced water flowing out of the well will be mixed with well-treatment wastes and may not be discharged. *Supra* at 5. Over time, however, the quantity of well-treatment wastes in the produced water will fall below detectable levels. *Id.* Discharges of produced water may then resume. *See* Ex. 4 at 6 (NRDC Cmts.).[7] This result

[7] EPA's March 2015 technical development document for discharges to municipal wastewater treatment plants from unconventional oil and gas facilities, which often engage in fracking, demonstrates that this approach is feasible. Ex. 29 (U.S. Envtl. Prot. Agency, EPA-821-R-15-003, *Technical Development Document for Proposed Effluent Limitations Guidelines and Standards for Oil and Gas Extraction* (2015)). The document states that operators often employ one system for capturing and disposing of fracking wastewater, generated by wells in high volumes for just a few weeks after fracking, and another system for handling formation water generated at much lower volumes over the entire life of the well. *Id.* at 27, 29, 45-47.

Like the offshore and coastal regulations, the document uses the term "produced water" to refer both to formation water and to chemical additives. *Id.* at xiv. To the extent that this definition of produced water is inconsistent with the one set out in the 1976 Technical

retains Subpart E as a "relatively restrictive" exception that allows livestock and wildlife to use "low salinity, po[]table" produced water. *See* 44 Fed. Reg. at 22,072.

In sum, the Region's response to comments does not demonstrate that its regulatory interpretation is reasonable. The text, regulatory history, and purpose of Subpart E all indicate that the exemption for produced water does not extend to well-treatment wastes. The Region's contrary conclusion was clearly erroneous.

II. The Region's conclusion that Permittees' discharges are of good enough quality for livestock and wildlife uses is clearly erroneous

A. The Region committed clear error by failing to consider whether chemical wastes from Permittees' operations could harm livestock or wildlife

The Region may authorize Permittees to discharge produced water, but only if the Region first analyzes that wastewater and determines that it "is of good enough quality" for livestock and wildlife watering or other agricultural uses.[8] 40 C.F.R. §§ 435.50-.52(a). This good-enough-quality finding is a prerequisite for *any* wastewater discharges. *See id.* § 435.32. Wastewater from oil and gas facilities is not of good enough quality if animals suffer acute or chronic health effects after drinking it. Ex. 6 at 3 (Resp. to Gen. Cmts.).

Permittees' produced water is contaminated by chemicals that Permittees inject into their wells and add to produced water above ground. Ex. 4 at 7-8 (NRDC Cmts.). But there is nothing in the record to indicate that the Region "duly considered" these chemical additives when selecting TBELs for the Permits. *See In re Charles River Pollution Control Dist.*, NPDES

Development Document for Part 435, the latter reflects the agency's "contemporaneous understanding of its proposed rules." *See Wyo. Outdoor Council v. U.S. Forest Serv.*, 165 F.3d 43, 53 (D.C. Cir. 1999). Subsequent constructions of Subpart E inconsistent with EPA's "intent at the time of the regulation's promulgation" are not entitled to deference. *See Gardebring v. Jenkins*, 485 U.S. 415, 430 (1988).

[8] The Region must also find that livestock or wildlife actually use Permittees' wastewater and that oil and grease concentrations in the wastewater are below 35 mg/L. 40 C.F.R. § 435.52(a), (b). NRDC does not contest these components of the Region's finding.

Appeal No. 14-01, slip.op. at 5 (EAB Feb. 2, 2015). This failure renders the Region's conclusion that Permittees' wastewater is of good enough quality clearly erroneous.

Permittees have discharged and will likely continue to discharge chemicals that they use in oil and gas production. Permittees plan to conduct fracking, well maintenance, and produced-water treatment—activities that add chemicals to the Facilities' produced water. Ex. 8 at 3 (Rolff Lake Unit Statement of Basis); Ex. 12 at 4-5, 7 (Sheldon Dome Field Statement of Basis); Ex. 6 at 10-11 (Resp. to Gen. Cmts.). Permittees have already detected some of these chemicals in their discharges. Ex. 8 at 17 (Rolff Lake Unit Statement of Basis); Ex. 12 at 16 (Sheldon Dome Field Statement of Basis); Ex. 11 at 16 (Winkleman Dome Field Statement of Basis).

Chemicals used in oil and gas production have the potential to harm livestock and wildlife. The Region itself described benzene, ethylbenzene, naphthalene, and toluene—pollutants detected in Permittees' discharges—as "known toxics." Ex. 24 at 4 (Rolff Lake Unit Resp. to Specific Cmts.); Ex. 23 at 4 (Sheldon Dome Field Resp. to Specific Cmts.). It also acknowledged that chemicals used in fracking, well maintenance, and produced-water treatment could cause toxicity in Permittees' wastewater. Ex. 6 at 10-11 (Resp. to Gen. Cmts.); *see also* Ex. 4 at 7-8 (NRDC Cmts.) (discussing warnings of aquatic toxicity and other environmental harms on material safety data sheets for products used at one facility for well maintenance and produced-water treatment).

Many chemicals used in oil and natural gas production also cause human health impacts, Ex. 4 at 7-8 (NRDC Cmts.), which in turn, suggests their potential to harm other organisms, including livestock and wildlife. Additionally, comments submitted by Public Employees for Environmental Responsibility discussed a study directly addressing the threat to livestock from oil and gas operations. Ex. 10 at 6 (PEER Cmts.) (discussing Michelle Bamberger & Robert E.

Oswald, *Impacts of Gas Drilling on Human and Animal Health*, 22 New Solutions 51-77 (2012)). The study documented twenty-four incidents in which livestock suffered adverse health effects following exposure to air and water contaminated by fracking operations. Ex. 30 at 54-59 (Bamberger & Oswald Study). The record thus demonstrated that the potential risks to livestock and wildlife from well-treatment wastes were "not so remote or speculative to be completely ignored." *Ctr. for Biological Diversity v. Bur. of Land Mgmt.*, 937 F. Supp. 2d 1140, 1158 (N.D. Cal. 2013) (holding, in a NEPA case, that an agency could not completely ignore the risks of water contamination from fracking in assessing the environmental impacts of selling oil and gas leases that could be used for fracking operations).

Despite clear evidence that Permittees will discharge potentially toxic chemicals, the Region declined to consider those chemicals before concluding that Permittees' wastewater is of good enough quality to discharge. The Region's discussion of technology-based effluent limitations (TBELs) in the Statements of Basis exclude any analysis of the potential impacts to livestock and wildlife from the toxic chemicals Permittees add to produced water as part of well-treatment, well-maintenance, and produced-water-treatment activities. Ex. 12 at 8-9 (Sheldon Dome Field Statement of Basis); Ex. 11 at 6-7 (Winkleman Dome Field Statement of Basis); Ex. 8 at 7-9 (Rolff Lake Unit Statement of Basis). The Region did consider certain pollutants that occur naturally in produced water—sulfate and salts, for instance—as part of its TBELs analysis. Ex. 12 at 8-9 (Sheldon Dome Field Statement of Basis); Ex. 11 at 6-7 (Winkleman Dome Field Statement of Basis); Ex. 8 at 7-9 (Rolff Lake Unit Statement of Basis). But that is not enough. Subpart E requires the Region to analyze the quality of Permittees' wastewater before authorizing its discharge. 40 C.F.R. §§ 435.50-.52. Because the record demonstrated that Permittees' proposed wastewater discharges would include the toxic chemicals added to

formation water during oil and gas production, Ex. 6 at 10-11 (Resp. to Gen. Cmts.), the Region was required to evaluate those chemicals when determining if the wastewater is of good enough quality. The Region clearly erred in neglecting to do so.

The Region's discussion of some[9] chemical additives in Permittees' wastewater in the context of water quality-based effluent limitations (WQBELs) does not substitute for the analysis that it was required to conduct when selecting TBELs. *See id.* at 10, 13. Under the Clean Water Act and the agency's regulations, the Region could only begin its WQBELs analysis of the chemicals used and discharged by Permittees after it had set TBELs for those chemicals. *See In re Town of Concord*, NPDES Appeal No. 13-08, slip.op. at 7 (EAB Aug. 28, 2014). But the Region never considered, let alone established, TBELs for chemicals used in well treatment, well maintenance, or produced-water treatment. Nor did its WQBELs analysis determine whether, given the presence of those chemicals in Permittees' wastewater, that wastewater is still of good enough quality for livestock and wildlife. The Region failed to comply with the procedures laid out in the Clean Water Act and the agency's regulations. As a result, the Region authorized discharges of toxic chemicals without a meaningful assessment of the impacts of those chemicals on livestock and wildlife.

The Region arbitrarily excluded chemical additives from its good-enough-quality analysis, and it did not respond to comments criticizing that exclusion. *See In re Charles River Pollution Control Dist.*, NPDES Appeal No. 14-01, slip.op. at 5 (EAB Feb. 2, 2015); *see also Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (holding that an agency's decision is "arbitrary and capricious if the agency . . . entirely failed to consider an important aspect of the problem").

[9] The Region could not have evaluated all of the chemical pollutants likely to be in Permittees' discharges in its WQBELs analysis because, as explained *infra* at 25-27, the Region did not identify which chemicals Permittees planned to use during hydraulic fracturing.

If, however, the Region did consider the chemicals that Permittees use and discharge, it failed to "articulate with reasonable clarity the reasons for [its] conclusions and the significance of the crucial facts in reaching those conclusions." *In re Ash Grove Cement Co.*, 7 E.A.D. at 417 (alteration in original) (quoting *In re Carolina Power & Light Co.*, 1 E.A.D. at 451). Aside from a reference to one industry-funded study of the effects on cattle from drinking benzene-contaminated water, Ex. 6 at 14 (Resp. to Gen. Cmts.), there is no discussion in the Statements of Basis or responses to comments about what specific literature the Region considered that was relevant to its conclusion that the chemicals in Permittees' well-treatment, well-maintenance, and produced-water-treatment wastes would be safe for livestock. There is likewise no discussion in the record reflecting the Region's analysis about the potential toxicity to livestock or wildlife of Permittees' well-treatment, well-maintenance, and produced-water-treatment chemicals. "Without an articulation by the permit writer of his analysis," the Board "cannot properly perform any review whatsoever of that analysis, and, therefore, cannot conclude that it meets the requirement of rationality." *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. at 342-43. This failure also renders the Region's finding clearly erroneous.

Subpart E requires the Region to make an affirmative finding that Permittees' wastewater discharges are of good enough quality for livestock and wildlife. If the Region cannot determine whether or not the wastewater is suitable for that use because it lacks scientific evidence about the impacts of Permittees' chemicals on livestock and wildlife, then the Region must either prohibit the discharge, or impose restrictions sufficient to justify the required finding.

B. The Region could not reasonably find that Permittees' wastewater discharges are of good enough quality for livestock and wildlife because it did not know which chemicals Permittees will discharge

Permittees did not provide, and the Region did not request, full disclosure of the chemicals that Permittees will use and discharge. Ex. 4 at 7 (NRDC Cmts.). None of the Permittees revealed *any* of the chemicals that they will use during fracking. *Id.* One permit application disclosed only some of the chemicals that the Permittee will use in well maintenance and produced-water treatment. *Id.* at 8. The other two permit applications disclosed nothing about the chemicals used in those activities. Ex. 6 at 10 (Resp. to Gen. Cmts.). Because Permittees will likely discharge these chemicals, the Region lacked information necessary to evaluate the quality of their wastewater for wildlife and livestock consumption.

The Region acknowledged that it lacked sufficient information to assess the concentrations at which chemicals used and discharged by Permittees will be present in their wastewater. The Region admitted, that for well-treatment activities, including fracking, it "did not have sufficient information on quantities and concentrations of chemical substances . . . to assess whether any of the pollutants potentially present in the well treatment fluids will . . . cause toxicity in the produced water discharge." *Id.* at 11. This lack of information extended to chemicals used in well maintenance and produced-water treatment. *See id.* at 13 ("EPA does not believe it has sufficient information on the concentrations of these constituents [glycol, xylene, ethylene glycol, benzyl chloride, isopropanol, naphthalene, and xylene] in the discharge to evaluate all applicable CWA requirements for establishing potential effluent limitations."). In sum, the Region concedes that it had "insufficient data to fully characterize the effluent." Ex. 23 at 4 (Sheldon Dome Field Resp. to Specific Cmts.); *accord* Ex. 24 at 3 (Rolff Lake Unit Resp. to Specific Cmts.).

Despite this fundamental lack of information about the contaminants in Permittees' wastewater, the Region determined that their wastewater is of good enough quality for livestock and wildlife to consume. This finding is irrational. Upon learning of the Region's decision to allow these discharges, an environmental contaminants specialist at the U.S. Fish and Wildlife Service asked in an email to EPA, "How could EPA possibly issue permits for waste water discharge without having any idea what contaminants might be in the waste water nor any idea what concentrations said unknown contaminants occur at?" Ex. 31 at 1 (E-mail from Joseph Skorupa, Environmental Contaminants Specialist, U.S. Fish & Wildlife Serv., to Tonya Fish, U.S. Envtl. Prot. Agency, (July 16, 2013 16:40 MT)).

In response to NRDC's comments raising these concerns, *see* Ex. 4 at 7-9 (NRDC Cmts.), the Region stated that, because it "lack[ed] . . . sufficient information" for well-maintenance and produced-water-treatment chemicals, it would rely on "monitoring requirements for metals, volatile and semi-volatile organics, and [Whole Effluent Toxicity]" to enable EPA to "establish limits to prevent the discharge of toxic substances in toxic amounts" in the future. Ex. 6 at 10 (Resp. to Gen. Cmts.). For fracking chemicals, the Region now requires Permittees to report to the Region the "quantities and chemical formulations used in well treatment . . . activities," but only after Permittees' discharge those chemicals. *Id.* at 11; *see* Exs. 1, 2, 3 at § 1.3.9 (final permits).

These responses do nothing to explain how the Region could have reasonably concluded that Permittees' wastewater discharges are of good enough quality for wildlife and livestock consumption without essential information about the chemical pollutants in the discharges. After-the-fact monitoring does not satisfy the Region's duty under Subpart E. The Region must determine that Permittees' wastewater is of good enough quality *before* it authorizes the

discharge. *See* 40 C.F.R. § 435.50-.51. The Region had the authority to gather the information essential to make this determination in advance of developing the permits. *See* 33 U.S.C. § 1318(a) (authorizing EPA, "[w]henever required to . . . develop[]. . . any effluent limitation," to require operators of facilities subject to NPDES permits to submit reports, retain records, and "provide such other information as [EPA] may reasonably require"). Instead, without collecting even the most basic information about Permittees' wastewater, the Region has allowed Permittees to discharge wastewater with no limits on the chemical additives that may be present in the discharge. Permittees' applications indicate that they will continue to discharge as much as 1.3 million gallons of wastewater each day for the five-year term of the Permits. *Supra* at 6. Because the Region does not know what is in Permittees' wastewater, its finding that the wastewater is of good enough quality for livestock and wildlife is clearly erroneous.

RELIEF SOUGHT

NRDC respectfully requests that the Board hold Section 1.3.1 of the Permits invalid and remand the Permits to the Region to correct the deficiencies described above. *See* 40 C.F.R. § 124.19(*l*)(2)(iii). NRDC requests that the Board order the Region to prohibit discharges of well-treatment wastes.

In the alternative, NRDC requests that the Board order the Region to reconsider whether Permittees' proposed discharges are of good enough quality for agricultural and wildlife uses. The Region should provide a thorough explanation of its process and its ultimate finding. If the Region cannot make an affirmative finding, based on the evidence before it, that the discharge is of good enough quality, then it must prohibit the discharge.

Respectfully submitted this 14th day of April, 2015,

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STATEMENT OF COMPLIANCE WITH WORD LIMITATION

This document contains 9,909 words, including headings, footnotes, and quotations.

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LIST OF ATTACHMENTS

Exhibit 1 Rolff Lake Unit Permit

Exhibit 2 Sheldon Dome Field Permit

Exhibit 3 Winkleman Dome Field Permit

Exhibit 4 NRDC Comments

Exhibit 5 U.S. Envtl. Prot. Agency, EPA 440/1-76/055-a, *Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Oil & Gas Extraction Point Source Category* (1976); Technical Development Document

Exhibit 6 Response to General Comments

Exhibit 7 U.S. Gov't Accountability Office, GAO-12-156, *Information on the Quantity, Quality, and Management of Water Produced during Oil and Gas Production* (2012)

Exhibit 8 Rolff Lake Unit Statement of Basis

Exhibit 9 The Endocrine Disruption Exchange, *Chemicals Used in Oil and Natural Gas Operations: Wyoming* 1-4 (2009)

Exhibit 10 PEER Comments

Exhibit 11 Winkleman Dome Field Statement of Basis

Exhibit 12 Sheldon Dome Field Statement of Basis

Exhibit 13 Winkleman Dome Field Permit Application

Exhibit 14 Sheldon Dome Field Permit Application

Exhibit 15 Rolff Lake Unit Permit Application

Exhibit 16 EPA Information Request 2010

Exhibit 17 MSDS – EC1076A

Exhibit 18 MSDS – EC2462A

Exhibit 19 MSDS – EC2007A

Exhibit 20	Winkleman Dome Field Draft Permit
Exhibit 21	Sheldon Dome Field Draft Permit
Exhibit 22	Rolff Lake Unit Draft Permit
Exhibit 23	Sheldon Dome Field Response to Specific Comments
Exhibit 24	Rolff Lake Unit Response to Specific Comments
Exhibit 25	"Water Quality for Wyoming Livestock & Wildlife: A Review of Literature Pertaining to Health Effects of Inorganic Contaminants" (2007)
Exhibit 26	Cover Letters
Exhibit 27	Email Notice
Exhibit 28	U.S. Envtl. Prot. Agency, Office of Solid Waste, EPA530-K-01-004, *Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations* (2002)
Exhibit 29	U.S. Envtl. Prot. Agency, EPA-821-R-15-003, *Technical Development Document for Proposed Effluent Limitations Guidelines and Standards for Oil and Gas Extraction* (2015)
Exhibit 30	Michelle Bamberger & Robert E. Oswald, *Impacts of Gas Drilling on Human and Animal Health*, 22 New Solutions 51-77 (2012)
Exhibit 31	E-mail from Joseph Skorupa, Environmental Contaminants Specialist, U.S. Fish & Wildlife Serv., to Tonya Fish, U.S. Envtl. Prot. Agency, (July 16, 2013 16:40 MT)

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
Phoenix Production Company WESCO Operating, Inc.	)	____ Appeal No. ____
NPDES Permit Nos. WY-0024945 (Rolff Lake Unit), WY-0024953 (Sheldon Dome Field), and WY-0025232 (Tensleep #1 (Winkleman Dome Field))	)	

REQUEST FOR ORAL ARGUMENT

Petitioner Natural Resources Defense Council hereby requests that the EAB order oral argument in the above-captioned matter. Oral argument would assist the Board in its deliberations on the issues presented by the case for two reasons. First, neither the Board nor the courts have had cause to interpret the meaning of the regulations at issue in this appeal, 40 C.F.R. §§ 435.50-.52, since their promulgation in 1979. Second, the appeal addresses the technically complex operations of oil and gas facilities. For these reasons, oral argument would materially assist in the resolution of the issues presented by this appeal.

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Date: April 14, 2015

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Petition for Review and Exhibits attached thereto in the matter of Phoenix Production Company and WESCO Operating, Inc. were served by United States First Class Mail on the following persons, this 14th day of April, 2015:

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