Texas Environmental Law Journal

Volume 45 February 2015 Number 1

Prepared through The University of Texas School of Law Publications Office
ISSN 0163-545X

Please cite as: Tex. Envtl. L. J.

Texas Environmental Law Journal

Volume 45 February 2015 Number 1

State Bar of Texas

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Texas Environmental Law Journal

Volume 45 February 2015 Number 1

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Square Pegs and Round Holes: Why The Environmental Protection Agency's New Section 111 Greenhouse Gas Regulations Do Not Fit In With Supreme Court Precedent or Congressional Intent in the Clean Air Act

By David Marshall Coover, III

I. INTRODUCTION

Congress has considered and rejected greenhouse gas (GHG)[1] reduction legislation several times over the last few years.[2] President Obama, a proponent of GHG reduction policies, has decided to pursue those same policies through the Executive Branch, the Legislature's refusal notwithstanding.[3] He made his intentions clear in his 2013 State of the Union Address, promising to "direct [his] Cabinet to come up with executive action . . . to reduce pollution, prepare . . . for the consequences of climate change, and speed the transition to more sustainable sources of energy."[4] These were not just empty words; in June of 2013, he formally directed the Environmental Protection Agency (EPA) to mandate significant carbon dioxide ("CO_2") reductions from the power sector under Section 111 of the Clean Air Act (CAA).[5] By 2014, the President had become more belli-

1 The EPA has defined greenhouse gases, for purposes of its regulatory activities, as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514, 31,518 (June 3, 2010) [hereinafter Tailoring Rule]. The most common, by far, of these compounds is carbon dioxide. The EPA's regulations affecting greenhouse gases have thus far relied on the use of carbon dioxide equivalence units, or $CO2_e$. In the interest of simplicity, this article only refers to "GHGs" or "CO_2," and uses them interchangeably.

2 *See, e.g.*, American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009); America's Climate Security Act of 2007, S. 2191, 110th Cong. (2007). Interestingly, the Congress that rejected the 2009 legislation was composed of a "supermajority" of the President's party and was the same Congress that passed the President's Affordable Care Act. *See also* WILLIAM J. HAUN, THE FEDERALIST SOC'Y, THE CLEAN AIR ACT AS AN OBSTACLE TO THE ENVIRONMENTAL PROTECTION AGENCY'S ANTICIPATED ATTEMPT TO REGULATE GREENHOUSE GAS EMISSIONS FROM EXISTING POWER PLANTS 4 (March 11, 2013), *available at* https://www.fed-soc.org/publications/detail/the-clean-air-act-as-an-obstacle-to-the-environmental-protection-agencys-anticipated -attempt-to-regulate-greenhouse-gas-emissions-from-existing-power -plants, *archived at* http://perma.cc/8JLC-PR97.

3 Barack H. Obama, President, Remarks by the President in the State of the Union Address (Feb. 12, 2013), *available at* http://www.whitehouse.gov/the-press-office/2013/02/12/remarks -president-state-union-address, *archived at* http://perma.cc/5P7D-QVTM.

4 *Id.*

5 *See* EXECUTIVE OFFICE OF THE PRESIDENT, THE PRESIDENT'S CLIMATE ACTION PLAN 6 (June 2013), *available at* http://www.whitehouse.gov/sites/default/files/image/president27s climateactionplan.pdf, *archived at* http://perma.cc/YP2C-97TQ; *see also* Presidential

cose, vowing in that year's State of the Union address, "wherever and whenever I can take steps without legislation . . . that's what I'm going to do."[6]

The EPA complied with the President's directive by proposing, on January 8, 2014, new source performance standards (the "proposed NSPS") for GHG emissions from new fossil fuel-fired electric generating units (EGUs).[7] More recently, the EPA proposed emission guidelines on June 18, 2014 for states to use in setting performance standards for existing fossil fuel-fired EGUs (the "proposed EGs").[8]

The EPA draws its authority to propose these regulations from Sections 111(b) and (d) of the CAA.[9] While Section 111(b) grants the EPA the authority to set emission standards for new sources of pollution, Section 111(d) allows the EPA to require states to set standards for existing sources.[10] The EPA has used Section 111 regularly to regulate conventional pollutants (lead, particulate matter, nitrogen oxides, sulfur dioxide, etc.), but never before has it been used to regulate the emissions of GHGs.[11]

The proposals have garnered much attention from the media, industry associations, elected officials, and environmental groups not just because of the relative novelty of GHG regulation in general, but also because of the potential environmental and economic implications of regulating GHGs.[12] Depending on one's perspective, these proposals might represent "the most direct assault yet on the energy providers that employ

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Memorandum, Power Sector Carbon Pollution Standards (June 25, 2013), *available at* http://www.whitehouse.gov/the-press-office/2013/06/25/presidential-memorandum-power-sector-carbon-pollution-standards, *archived at* http://perma.cc/DY2A-SLND (setting specific dates for proposals of pollution reduction standards by September 20, 2013 for new power plants and June 1, 2014 for existing power plants).

6 Barack H. Obama, President, President Barack Obama's State of the Union Address (Jan. 28, 2014), *available at* http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-state-union-address, *archived at* http://perma.cc/6A9S-GC36.

7 Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1,430, 1,430 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. pts. 60, 70, 71, and 98) [hereinafter Proposed NSPS]. The EPA had previously proposed a set of standards for new power plants on March 27, 2012, but after receiving over 2.5 million comments, the EPA scrapped the 2012 proposal and replaced it with the proposal currently pending.

8 Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830, 34,830 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60) [hereinafter Proposed EGs].

9 42 U.S.C. § 7411(b), (d) (1990).

10 *Id*.

11 Proposed EGs, 79 Fed. Reg. at 34,929.

12 *See, e.g.*, Institute for 21st Century Energy, U.S. Chamber of Commerce, Assessing the Impact of Potential New Carbon Regulations in the United States, *available at http://www.energyxxi.org/sites/default/files/file-tool/Assessing_the_Impact_of_Potential_New_Carbon_Regulations_in_the_United_States.pdf*, *archived at* http://perma.cc/9PHS-P45W; *see also* Timothy Cama, *Coal Rules Will Devastate, Say Biz Groups*, The Hill (May 13, 2014), http://thehill.com/regulation/energy-environment/205902-obama-coal-rules-will-devastate-say-biz-groups, *archived at* http://perma.cc/JER2-SXGY.

thousands of Americans, and fuel both our homes and our nation's economic growth."[13] On the other hand, proponents of the new regulations argue that the proposals "will deliver climate and health benefits of up to [ninety] billion dollars" and will position America to lead the global warming fight.[14]

Like the majority of the EPA's high-profile regulations, these will almost certainly face legal challenges. The untested application of Section 111 to GHGs only increases the probability that these proposals will face stiff opposition in the courts.

A primary component of the likely legal challenges, and of this article, is the doctrine of judicial deference to executive branch agencies.[15] Without a doubt, the EPA, as an executive branch agency, may properly use its discretion to interpret and apply the legislative mandates it is statutorily charged with implementing.[16] The question is, what are the bounds of that discretion? More importantly, what standard will courts use to determine if a given interpretation was a permissible one? The exact shape and limits of agency deference are constantly evolving as the courts continue to expound on the doctrine.[17] Furthermore, the amount of deference a court is willing to grant is highly dependent on the precise facts of each case.[18]

Gina McCarthy, the current EPA Administrator, is confident that the EPA's statutory interpretations in these two proposals are defensible.[19] Her confidence does not come as a surprise.[20] After all, the Supreme Court held, in 2007, that GHGs must be considered an "air pollutant" under the CAA.[21] Furthermore, the D.C. Circuit and the Supreme Court have reaffirmed the great deference to which the EPA is entitled in interpreting the CAA in a series of recent decisions relating to conventional pollutants.[22] Calling a particular decision "one of the biggest wins our agency has ever had," McCarthy claims the decision "provide[s] a wonderful platform and boost to the [EPA] as

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13 Press Release, Office of the Governor of Texas, Statement by Governor Perry on New EPA Rules (June 2, 2014), *available at* http://governor.state.tx.us/news/press-release/19748/, *archived at* http://perma.cc/8N6E-3LBP.

14 Gina McCarthy, Envtl. Prot. Agency Adminsitrator, Prepared Remarks Announcing Clean Power Plan (June 2, 2014), *available at* http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/c45baade030b640785257ceb003f3ac3!OpenDocument, *archived at* http://perma.cc/8N6E-3LBP.

15 *See, e.g.*, Cass Sunstein, *Interpreting Statutes in the Regulatory State*, 103 HARV. L. REV. 405, 409 (1989).

16 J.W. Hampton, Jr., & Co. v. U.S., 276 U.S. 394, 409 (1928) (allowing congressional delegation of legislative powers to the executive branch so long as the delegation includes an "intelligible principle to which [the executive branch agency] is directed to conform.").

17 Sunstein, *supra* note 15, at 409.

18 *See infra* Part II.

19 Lea Radick, *McCarthy Says High Court's CSAPR Ruling Boosts Authority For GHG Rules*, CLEAN ENERGY REPORT (Inside EPA, Arlington, Va.) May 13, 2014.

20 *Id.*

21 Massachussetts v. Envtl. Prot. Agency, 549 U.S. 497, 534-35 (2007).

22 Envtl. Prot. Agency v. EME Homer City Generation, L.P., 134 S.Ct. 1584 (2014); Nat'l Ass'n of Mfrs. v. Envtl. Prot. Agency, 750 F.3d 921 (D.C. Cir. 2014); White Stallion Energy Ctr. LLC v. Envtl. Prot. Agency, 748 F.3d 1222 (D.C. Cir. 2014); Heather Demirjian, Margaret Hill & Michael Krancer, *EPA Up 3-0 in Clean Air Cases: What it Means for Greenhouse Gas Regulations*, BLANKROME, LLP (May 2014), *available at* http://www.blank

we're going into rulemaking [for the Proposed EGs]."[23] Another environmentalist agreed, calling the decisions "encouraging signs for a carbon reduction program under the [CAA], including the justices' willingness to accord deference to EPA's expertise."[24]

However, shortly after McCarthy made these statements, the Supreme Court directly rebuked the EPA and struck down a GHG rule, finding it to be based on an improper interpretation of the CAA.[25] That decision indicates that the EPA may not be entitled to the same degree of deference in regulating GHGs as it is in regulating conventional pollutants.[26] Furthermore, neither the D.C. Circuit nor the Supreme Court have directly considered the EPA's authority to regulate GHGs under Section 111.[27] Accordingly, judicial approval of the new proposals is anything but certain.[28]

This article analyzes the proposed NSPS and EGs rulemakings in the context of the inevitable challenges they will face when finalized.[29] To be clear, this article is not an exhaustive analysis of the proposed rules in their entirety. Combined, the two proposals exceed 1,000 pages in length, not including appendices and technical support documents, with significant portions of the text detailing dense scientific data and analyses.[30] The proposed NSPS alone garnered well over 2,000,000 comments, and the proposed EGs for existing source performance standards (ESPS) are likely to surpass that number. It is not the author's intent to capture all of the potential objections to either of the proposed rules that have been publicly expressed. Rather, this article seeks to synthesize the existing scholarly articles, other periodicals, case law, and formal written comments to the EPA for the proposed NSPS, and point out the weaknesses in the basic assumptions and interpretations critical to the proposals' acceptance by the Courts.

Part II discusses the foundation and current status of the principle of judicial deference to the executive branch.[31] Part III lays out Congress' intent in creating Section 111, the genesis of using it to regulate GHGs, and the procedure the EPA follows in setting performance standards and emission guidelines.[32] Parts IV and V summarize the proposed NSPS and EGs, respectively, and then describe the two fundamental interpretations most vulnerable to attack.[33] Part VI concludes that the Supreme Court may well

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rome.com/index.cfm?contentID=37&itemID=3319, *archived at* http://perma.cc/QZC3-33Q6.

23 Radick, *supra* note 19.

24 *Id.*

25 *See* Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427, 2449 (2014).

26 *See id.*

27 *See id.*

28 *See* Demirjian et al., *supra* note 22.

29 *See id.* The proposals are not ripe for a challenge until the EPA makes them final. Accordingly, the details of the proposals may change. However, this article focuses on the major interpretations the EPA has had to make to support the claim that it has the authority to use Section 111 to make these regulations in the first place. It is highly unlikely that the EPA will change its perspective on these issues before finalization.

30 *See generally* Proposed NSPS, *supra* note 7; Proposed EGs, *supra* note 8.

31 *See infra* Part II.

32 *See infra* Part III.

33 *See infra* Parts IV & V.

find that the EPA's approach just does not fit within the bounds of the EPA's discretion.[34]

Furthermore, to borrow from Chief Justice Roberts, this article "involves no judgment on whether global warming exists, what causes it, or the extent of the problem."[35] The debate over anthropogenic global warming and the proper response has been, and continues to be, the subject of a myriad of other well-written and thoughtful analyses.[36] This article focuses strictly on the legality of one particular approach to regulating GHGs.[37]

II. THE EXECUTIVE BRANCH INTERPRETING THE LAW?

The idea of the executive branch interpreting an act of Congress seems antithetical to our constitutional structure.[38] Indeed, it contradicts Chief Justice Marshall's timeless rhetorical pillar of American jurisprudence: "It is *emphatically* the province and duty of the *judicial department* to say what the law is."[39] Nevertheless, the Supreme Court has long recognized that it is both wise and permissible under our constitution for the legislature to delegate some of its authority to the executive branch[40] and for the executive branch to use its discretion to interpret and apply the law relevant to the delegation, subject to certain limitations.[41] The proposed NSPS and EGs provide a unique case study on how those limitations on broad delegation on interpretation wax and wane over time.

A. JUDICIAL BRANCH WILL GENERALLY DEFER TO AGENCY INTERPRETATIONS

As early as 1827, the Supreme Court articulated the principle that remains in effect today: "In the construction of [an] ambiguous law, the contemporaneous construction of those who were called upon to act under the law, and were appointed to carry its provisions into effect, is entitled to very great respect."[42] Of course, the doctrine has evolved over time, but the principle remains the same.[43] As what scholars commonly refer to as

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34 *See infra* Part VI.

35 Massachussetts v. Envtl. Prot. Agency, 549 U.S. 497, 535 (2007).

36 *See, e.g.*, Camille Parmesan et al., *Beyond Climate Change Attribution in Conservation and Ecological Research*, 16 ECOLOGY LETTERS 58-71 (2013), *available at* http://onlinelibrary.wiley.com/doi/10.1111/ele.12098/full, *archived at* http://perma.cc/N8KW-EVTS.

37 *See infra* Parts IV & V.

38 Marbury v. Madison, 5 U.S. 137, 177 (1803).

39 *Id.* (emphasis added).

40 J.W. Hampton, Jr., & Co. v. U.S., 276 U.S. 394, 409 (1928) (allowing congressional delegation of legislative powers to the executive branch so long as the delegation includes an "intelligible principle to which [the executive branch agency] is directed to conform."); *see also* Whitman v. Am. Trucking Ass'n, 531 U.S. 457, 474 (2001) (finding Congress' delegation of authority to set national air quality standards to the EPA acceptable).

41 *J.W. Hampton*, 276 U.S. at 409.

42 Edwards' Lessee v. Darby, 12 Wheat 206, 210 (1827).

43 Sunstein, *supra* note 15, at 409.

"the modern administrative state" evolved over the 20th century,[44] the Supreme Court has refined the doctrine of judicial deference to executive branch agencies into a relatively coherent analytic framework.[45]

Today, the starting point for judicial evaluation of the EPA's interpretation of Section 111, and for any agency interpretation of a statute, is the familiar two-part test set out in *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*[46] Under *Chevron*, a court first looks to "whether Congress has directly spoken to the precise question at issue" in the legislation in question, commonly referred to as "Step One."[47] If congressional intent is clear, the analysis ends, and the expressed congressional intent controls the interpretation.[48] If the statute is "silent or ambiguous with respect to the specific issue," the question becomes whether the agency's interpretation "is based on a permissible construction of the statute," commonly known as "Step Two."[49]

Some scholars see *Chevron* as judicial endorsement of broad executive power to interpret the law.[50] In recognizing the Executive's prerogative to interpret ambiguous laws under prescribed circumstances, *Chevron* sought to replace what had been a case-by-case analysis with a more bright line rule.[51] That has not proven to be the case.[52] In fact, the opposite has occurred. In evaluating an agency's statutory interpretation, "a threshold question—the scope of judicial review—has become one of the most vexing in regulatory cases."[53]

Furthermore, since *Chevron*, the Court has made an "attempt to reassert the primacy of the judiciary in statutory interpretation."[54] For example, Justice Souter's opinion in *United States v. Mead Corp.* explicitly reduced the level of deference owed to an agency when the interpretation in question was not the product of any formal agency procedure.[55] That opinion added yet another layer to the two-step *Chevron* analysis, known as "*Chevron* Step Zero."[56]

The proposals at issue here are the result of formal agency action, so they surely pass the *Mead* test. But *Mead* and the innumerable other cases challenging agency actions illustrate that the assessment of the validity of an agency interpretation still remains very much a case-by-case analysis.[57]

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44 *See id.*
45 *See* Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984).
46 *See id.*
47 *Id.* at 842.
48 *Id.* at 842-43.
49 *Id.* at 843.
50 *See generally* Cass Sunstein, *Chevron Step Zero*, 92 VA. L. REV. 187 (2006).
51 *Id.*; *see also* Antonin Scalia, *Judicial Deference to Administrative Interpretations of Law*, 1989 DUKE L.J. 511, 516-17 (1989).
52 Sunstein, *supra* note 50, at 190.
53 *Id.*
54 *Id.*
55 United States v. Mead Corp., 533 U.S. 218, 229 (2001).
56 *Id.* at 226-29.
57 *Id.* at 229-31.

B. The Current Scope of the EPA's Discretion to Interpret the CAA

By virtue of the Court constantly refining the limits of agency discretion, the outcome of a challenge to an EPA rulemaking on the basis of an impermissible construction of a statute is highly dependent on the facts of each case.[58] Some recent decisions illustrate the judiciary's most recent interpretation of the limits of the EPA's discretion under the CAA.[59] Importantly, there is some indication that the Supreme Court could take an entirely different approach to the application of the CAA to GHGs than it does to conventional pollutants.

1. The EPA Still has Space to Regulate Conventional Pollutants

In *Environmental Protection Agency v. EME Homer City Generation, L.P.*, the Supreme Court upheld the EPA's interpretation of the "Good Neighbor Provision" of the CAA.[60] In that case, industry groups and states challenged the EPA's Transport Rule as a misconstruction and misapplication of the Good Neighbor Provision contained in the CAA. Specifically, they challenged the EPA's interpretation of the term "contributes significantly" as a measure of when regulation under the rule was needed.[61]

The Transport Rule used a two-pronged approach that: (1) excluded states contributing less than one percent of any air pollutant for which a downwind state was in nonattainment as *de minimis*; and (2) set a reduction target for those states based on cost effectiveness.[62] The D.C. Circuit found the EPA's approach unreasonable because it was not based on a state's proportional contribution of pollution to another state.[63] The Supreme Court disagreed, finding that, based on the "complex challenge for environmental regulators" presented by the problem of interstate transport of pollution,[64] the EPA deserved deference to devise the approach it deemed most appropriate.[65]

Furthermore, in *White Stallion Energy Center LLC v. Environmental Protection Agency*, the D.C. Circuit upheld the EPA's construction of an ambiguous term of Section 112 of the CAA.[66] Section 112 outlines setting emission standards for source facilities that emit hazardous air pollutants but creates a special process for setting those standards for

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58 *See infra* Part II.B.1-II.B.2.

59 *See generally* Envtl. Prot. Agency v. EME Homer City Generation, L.P., 134 S.Ct. 1584 (2014); Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427 (2014).

60 *EME Homer City Generation*, 134 S. Ct. at 1593, 1609-10. Under CAA § 110(a)(2)(D)(i), known as the "Good Neighbor Provision," states must ensure that they are taking steps that will prevent "emissions activity within the State from emitting any air pollutant in amounts which will contribute significantly to . . . ." degradation in air quality in another state.

61 *EME Homer City Generation*, 134 S. Ct. at 1587.

62 *Id.* at 1596; Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, Final Rule, 76 Fed. Reg. 48,208, 48,254 (August 8, 2011) (to be codified at 40 C.F.R. pts. 51, 52, and 72) [hereinafter Transport Rule].

63 EME Homer City Generation, L.P. v. Envtl. Prot. Agency, 696 F.3d 7, 36-37 (D.C. Cir. 2012) *rev'd & remanded sub nom*, Envtl. Prot. Agency v. EME Homer City Generation, L.P., 134 S.Ct. 1584 (2014).

64 *EME Homer City Generation*, 134 S. Ct. at 1593.

65 *Id.* at 1609-10.

66 White Stallion Energy Ctr. LLC v. Envtl. Prot. Agency, 748 F.3d 1222, 1241 (D.C. Cir. 2014).

EGUs.[67] Congress required the EPA to first conduct a study and then set emission standards for EGUs only if "such regulation is appropriate and necessary after considering the results of the study."[68]

The EPA conducted the required study and then set an emission standard for hazardous air pollutants emitted from EGUs that ignored the costs to the sources that would be incurred to comply with the standard.[69] States and industry groups challenged the rule, claiming that, in using the phrase "appropriate and necessary," Congress intended to require the EPA to consider costs in setting the emission standard.[70] The D.C. Circuit disagreed and concluded that the EPA's decision to set the standard based only on what it found to be the minimum requisite level to protect human health was reasonable under *Chevron*.[71]

Finally, in *National Ass'n of Manufacturers v. Environmental Protection Agency*, the D.C. Circuit again deferred to the EPA's implementation of the CAA.[72] In that case, the National Association of Manufacturers petitioned for review of the EPA's decision to lower the national standard for particulate matter and change the way in which fine particulate matter is measured.[73] The Supreme Court denied the petition, reasoning that the EPA "fulfilled its obligation to reasonably explain" its decisions and that the decisions it had made were reasonable.[74]

All three of these opinions were delivered in the span of several weeks and understandably buoyed the EPA's hopes for the then-unreleased proposed EGs. Unfortunately for the EPA, however, the Court was not finished rendering opinions for the 2013 term.

2. The Court Puts Down a Marker on the EPA's Discretion

Following this series of apparent victories, the Court handed the EPA a major defeat in the form of a significant limitation on the EPA's discretion under the CAA in the last month of the term.[75] In *Utility Air Regulatory Group v. Environmental Protection Agency*, the Court put a halt to the EPA's slow but inexorable enlargement of its own authority to regulate GHGs.[76] Additionally, the opinion includes limits that could prove to be crucial in the context of the proposed NSPS and EGs.[77]

In *Utility Air Regulatory Group*, the Supreme Court was confronted with the question of whether the EPA's regulation of GHGs from mobile sources automatically initiated

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67 42 U.S.C.A. § 7412(n)(1)(A).
68 *Id.*
69 *See* National Emission Standards for Hazardous Air Pollutants From Coal-and Oil–Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil–Fuel–Fired Electric Utility, Industrial–Commercial–Institutional, and Small Industrial–Commercial–Institutional Steam Generating Units, 77 Fed. Reg. 9304 (Feb.16, 2012) (to be codified at 40 C.F.R. pts. 60 and 63).
70 *White Stallion Energy Ctr.*, 748 F.3d at 1234-36.
71 *Id.* at 1241.
72 Nat'l Ass'n of Mfrs. v. Envtl. Prot. Agency, 750 F.3d 921 926-27 (D.C. Cir. 2014).
73 *Id.* at 924-25.
74 *Id.* at 925.
75 Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427, 2431 (2014).
76 *Id.*
77 *See id.* at 2443-2449.

permitting requirements under the CAA for stationary sources.[78] CAA Title I, Part C (Prevention of Significant Deterioration of Air Quality) requires major emitting sources to obtain a permit from the EPA prior to beginning construction (the "PSD Program").[79] A "Major emitting source" is defined as "any stationary source with the potential to emit 250 tons per year of 'any air pollutant.'"[80] The EPA claimed that, under the CAA and prior cases, namely *Massachusetts v. Environmental Protection Agency*, it was bound to include GHGs within the ambit of the definition.[81] Furthermore, because the PSD Program's statutory triggers would dramatically enlarge the universe of facilities that would be subject to regulation, the EPA claimed it was within its discretion to create new numerical thresholds applicable only to GHGs.[82] In the regulation at issue, the EPA created a "phase in" approach that would not, at least at first, include any facilities within the PSD program that did not already fall within the pre-existing numerical thresholds.[83] Then, over time, the EPA's new thresholds would take effect.[84]

Justice Scalia, writing for the majority, struck down the portion of the EPA's action that sought to rewrite the thresholds and did so in no uncertain terms.[85] After dismissing the proposition that the EPA was "compelled" to include GHGs in the PSD Program,[86] he first attacked as impermissible the EPA's interpretation of "any air pollutant" to include GHGs.[87] In his analysis, he focused on the number of facilities that would become subject to the EPA's regulation under this construction and concluded that it would affect "an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization."[88] Such an expansion, he explained, can only be effectuated by an express grant by Congress through statute.[89]

He then attacked the EPA's actions as indefensible under *Chevron*.[90] Finding "it . . . hard to imagine a statutory term less ambiguous than . . . precise numerical thresholds,"[91] Justice Scalia saw the rule purporting to change the thresholds as an "outrageous . . . seiz[ure] [of] expansive power."[92] In disallowing the EPA's rewriting, he invoked the

78 *Id.* at 2434.
79 42 U.S.C. § 7475(a)(1). Part C of Title I of the CAA created the preconstruction permitting requirement, commonly referred to as the "PSD Program."
80 42 U.S.C. § 169(1). Notably, however, some sources are considered major at only 100 tons per year, depending upon the pollutant emitted. *Id.*
81 Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs; Final Rule, 75 Fed. Reg. 17,004, 17,006-07 (April 2, 2010) (to be codified at 40 C.F.R. pts. 50, 51, 70, and 71). Part III.B., *infra*, discusses in greater detail the genesis and rationale of the EPA in considering GHGs an "air pollutant" under the CAA.
82 Tailoring Rule, 75 Fed. Reg. at 31,514.
83 *Id.* at 31,523.
84 *Id.* at 31,523-24.
85 Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427, 2445 (2014).
86 *Id.* at 2442.
87 *Id.* at 2339-42.
88 *Id.* at 2444.
89 *Id.*
90 *Id.* at 2446.
91 *Id.* at 2445.
92 *Id.* at 2444.

Constitution, saying that to accept the EPA's premise "would deal a severe blow to the Constitution's separation of powers."[93]

III. Regulating New and Existing Sources Under Section 111

The development and purpose of Section 111, coupled with the impetus for using it to regulate GHGs, play a critical part in the analysis of the extent of the EPA's discretion to promulgate the proposed NSPS and EGs rules.[94]

A. Congress Implements Section 111 to "Level the Playing Field"

The National Ambient Air Quality Standards (NAAQS) program, created by the 1970 Clean Air Act Amendments, is widely regarded as the cornerstone of modern air pollution control policy.[95] Contained in Sections 108-110 of the CAA, the program details setting and enforcement of national air quality standards for conventional pollutants at the requisite level to protect human health, regardless of economic ramifications.[96] States must work with the EPA to develop a plan that "provides for implementation, maintenance, and enforcement" of the NAAQS.[97] States that do not develop a satisfactory plan, or fail to enforce an approved plan, face sanctions and even more federal intervention.[98]

Congress realized that a natural result of the NAAQS program would be to drive the construction of new facilities from some states into others.[99] Therefore, in Section 111, Congress sought to protect against the creation of "pollution havens" that could form in relatively unpopulated states that had no problem attaining the NAAQS.[100] The rationale was that the NAAQS program would be highly effective at managing existing problematic areas, but that something more was needed to preclude the creation of new pollution problems.[101]

When Congress introduced the PSD Program in the 1977 CAA Amendments, it overlapped with the purpose of Section 111 by requiring the use of "Best Available Control Technology" (BACT) on a plant-by-plant basis for new construction.[102] How-

93 *Id.* at 2446.
94 42 U.S.C. § 7401 (2013).
95 Richard E. Ayres & Jessica L. Olson, *Setting National Ambient Air Quality Standards, in* The Clean Air Act Handbook 13-14 (Julie R. Domike & Alec C. Zacaroli eds., Am. Bar Ass'n 3d ed. 2011).
96 42 U.S.C. §§ 7408, 7409; *see also* Whitman v. Am. Trucking Ass'n, 531 U.S. 457, 465 (2001).
97 42 U.S.C. § 7410(a)(1).
98 *Id.* §§ 7410(c), 7413(a)(2).
99 Robert J. Martineau, Jr. & Michael K. Stagg, *New Source Performance Standards, in* The Clean Air Act Handbook 321-22 (Julie R. Domike & Alec. C. Zacaroli eds., Am. Bar Ass'n, 3d ed. 2011).
100 *Id.*
101 *Id.*
102 *Id.*; *see also* 42 U.S.C. § 7475(a)(4).

ever, Section 111 still serves the critical purpose of being the technological floor for the BACT analyses.[103]

B. *MASSACHUSETTS* CREATES SOME WIGGLE ROOM FOR GHG REGULATION

Section 111 provides a mechanism for proposing and adopting both NSPS and EGs.[104] In the case of NSPS, the EPA has exercised its authority routinely.[105] By contrast, intervention has been more infrequent for ESPS.[106] However, these two proposals mark the first time the EPA has used Section 111 to justify regulations limiting the emission of GHGs.[107]

In fact, for approximately forty years, the EPA did not regulate GHGs at all.[108] From its creation in 1970 until 2007, the EPA did not even consider GHGs to be air pollutants, much less harmful ones that needed regulation.[109] The Supreme Court's 2007 decision in *Massachusetts v. Environmental Protection Agency* interrupted the EPA's consideration of the best policy regarding GHGs.[110] Over the EPA's objection (under President Bush's direction), the Court mandated the inclusion of GHGs in the definition of "air pollutants" under the CAA.[111] Additionally, the Court required the EPA to assess whether, as an air pollutant, GHGs are an endangerment to human health and welfare.[112]

After *Massachusetts*, the EPA embarked on a course of regulation resulting in "the single largest expansion of the scope of the [Act] in its history."[113] This expansion culminated most recently in the proposed NSPS and EGs.[114] In 2009, the EPA (under the direction of President Obama) conducted the endangerment analysis required by the

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103 Martineau & Stagg, *supra* note 99, at 321-22.

104 42 U.S.C. § 7411(b), (d).

105 Martineau & Stagg, *supra* note 99, at 324.

106 Memorandum from the Am. Coll. of Envtl. Lawyers to the Envtl. Council of the States 5-8 (Feb. 22, 2014), *available at* http://acoel.org/file.axd?file=2014%2F9%2FACOEL+Master+Memo+2-22-14+(1).pdf, *archived at* http://perma.cc/CH9T-VQDA.

107 Kyle Danish, Tomás Carbonell, & Kevin Gallagher, *The Clean Air Act and Global Climate Change*, *in* THE CLEAN AIR ACT HANDBOOK 521, 535 (Julie R. Domike & Alec. C. Zacaroli eds., Am. Bar Ass'n, 3d ed. 2011).

108 *Id.* at 521 (noting it was not until the 2007 Supreme Court decision in *Massachusetts v. Environmental Protection Agency* that the EPA began regulating GHGs under the Clean Air Act).

109 *Id.* at 523-25.

110 Massachussetts v. Envtl. Prot. Agency, 549 U.S. 497, 501 (2007).

111 *Id.* at 532 ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate [them].").

112 *Id.* at 534-35.

113 Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427, 2436 (2014) (quoting Julie Domike & Alec Zacaroli, *Preface* to THE CLEAN AIR ACT HANDBOOK xxi (Julie R. Domike & Alec. C. Zacaroli eds., Am. Bar Ass'n, 3d ed. 2011)).

114 42 U.S.C. § 7411(b), (d).

Court in *Massachusetts*.[115] The EPA concluded that GHGs did pose a threat to human health based on their association with global climate change.[116]

Having made the Endangerment Finding, the EPA claimed that the language of the CAA required it to begin regulating the emission of GHGs from automobile tailpipes.[117] The Tailpipe Rule was the last logical step before the EPA promulgated the Tailoring Rule, which as discussed above, was recently struck down in *Utility Air Regulatory Group*.[118] The invalidation of the Tailoring Rule, however, will not necessarily preclude the EPA from claiming that it may still regulate GHGs under Section 111 pursuant to *Massachusetts* and the Endangerment Finding.

C. Finding the Standard with the Right Fit

The objective of both an NSPS and EG under Section 111 is to set a performance standard, typically expressed as an emission rate, that will apply to the sources to be regulated.[119] The standard is in turn based on the "best system of emission reduction" (BSER) that can be used at the source.[120] The D.C. Circuit is the only court with jurisdiction to hear challenges to Section 111 rulemakings under the CAA.[121] As a result, it has played a critical role in expounding on what it has called "[t]he extraordinary clumsiness" of Congress's use and definition of these terms.[122]

1. Measuring the Options for the BSER

Congress defined "standard of performance" as "the degree of emission limitation *achievable* through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the [EPA] determines has been *adequately demonstrated*."[123]

The D.C. Circuit's BSER opinions inevitably focus on the terms *achievable* and *adequately demonstrated*.[124] In general, the Court has interpreted those terms in light of what it has called the technology-forcing nature of Section 111.[125] At the same time, the

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115 Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009) (codified at 40 C.F.R. ch. I).

116 *Id.*

117 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010) (codified at 40 C.F.R. pts. 85, 86, and 600; 49 C.F.R. pts. 531, 533, 536 et al.).

118 *See supra* Part II.B.2.

119 42 U.S.C. § 7411(b), (d).

120 *Id.* § 7411(a).

121 *Id.* § 7607(b)(1). The Supreme Court, of course, may grant certiorari to review any of the D.C. Circuit's decisions. Interestingly, the Supreme Court has never granted certiorari in a case where the interpretation of the definition of standard of performance was an issue.

122 *See* Sierra Club v. Costle, 657 F.2d 298, 330 (D.C. Cir. 1981).

123 42 U.S.C. § 7411(a) (emphasis added).

124 *E.g. Sierra Club*, 657 F.2d at 319; Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 391 (D.C. Cir. 1973), *superseded by statute*, 15 U.S.C. § 793(c)(1), *as recognized in* Am. Trucking Ass'n, Inc. v. Envtl. Prot. Agency, 175 F.3d 1027 (D.C. Cir. 1999).

125 *Sierra Club*, 657 F.2d at 364.

Court has also recognized Congress's intent to protect the vibrancy of the country's industrial sector.[126]

In the first case that called on the D.C. Circuit to opine on the meaning of "standard of performance," *Portland Cement Ass'n v. Ruckelshaus*, the Court remanded for further development of an NSPS for Portland cement plants.[127] In its opinion, the Court held that, to be adequately demonstrated, a technology had to be "fairly . . . projected for the regulatory future."[128] Furthermore, while the EPA is allowed to "make a projection based on existing technology," the projection "cannot be based on 'crystal ball inquiry.'"[129] The Court found support for its conclusions in the House report on the bill expressing Congress's intent to exclude technologies from regulation under Section 111 that were merely theoretical or experimental.[130]

Later that year, the D.C. Circuit in *Essex Chemical Corp. v. Ruckelshaus* clarified that "it is the *system* which must be adequately demonstrated and the *standard* which must be achievable."[131] Furthermore, the system need not "be currently in operation [at a facility] that can at all times and under all circumstances meet the standards," nor does the standard need to "be routinely achieved . . . prior to its adoption."[132] But, like the court in *Portland Cement*, the Court in *Essex Chemical* also acknowledged Congress's intent to ensure the regulation was commercially viable and not exorbitantly costly.[133]

2. Leveling the Factors to Determine Which System is "Best"

Congress specifically requires the EPA to balance "cost, . . . non-air quality health and environmental impact[s] and energy requirement[s]" in selecting the BSER.[134] The D.C. Circuit has also allowed the EPA to include technological innovation in its list of factors used in selecting the BSER.[135]

In *Sierra Club v. Costle*, the Court emphasized the EPA's discretion to balance the various factors it deemed to be appropriate in setting the standard.[136] The Court ultimately affirmed an NSPS that had been challenged from both sides; environmental groups claimed it was not stringent enough, and industry groups claimed it was too strict.[137] In a lengthy opinion that found for neither group, the Court examined the challenged technical processes in great detail.[138] After concluding that the EPA had provided sound reasoning for all of its actions in conjunction with developing the NSPS, the Court refused to second guess the way the EPA chose to balance the various factors, so long as the EPA provided strong support for its conclusions.[139]

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126 *See id.* at 329.
127 *See Portland Cement*, 486 F.2d at 375.
128 *Id.* at 391.
129 *Id.*
130 *See id.* (quoting H.R. Rep. No. 91-1146 at 10 (1970)).
131 Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 434 (D.C. Cir. 1973).
132 *Id.*
133 *See id.* at 433.
134 42 U.S.C § 7411(g)(4)(b).
135 Am. Coll. of Envtl. Lawyers, *supra* note 106, at 25.
136 *See* Sierra Club v. Costle, 657 F.2d 298, 321 (D.C. Cir. 1981).
137 *See id.* at 311-12.
138 *See id.*
139 *See id.* at 330, 364.

3. Choosing the BSER and Setting the Standard

The processes for regulating both new and existing sources under Section 111 are substantially the same.[140] With both processes, it is the EPA's prerogative to evaluate and select the BSER.[141] The critical difference is in "how the standards . . . are made applicable to the sources."[142]

The EPA first reviews the different emission reduction systems for the source category that have been adequately demonstrated as well as the emission reductions those systems could achieve, consistent with the D.C. Circuit's interpretations of those terms.[143] Commonly referred to as the "technical review," the EPA can evaluate systems already in use by existing sources in the category, relevant technical literature, and any other available data that might be relevant.[144] Then, the EPA selects which systems could potentially serve as the BSER.[145] Finally, the EPA applies the factors to the potential emission reduction systems and selects the BSER based on its reasoned balancing of those factors.[146]

Once the EPA has selected the BSER, the difference between subsections (b) and (d) becomes apparent.[147] Under Section 111(b), the EPA, not the states, is empowered to set the standard.[148] First, the EPA must create a list of categories of sources that it determines "may reasonably be anticipated to endanger public health or welfare."[149] Once a category of sources has been listed, the EPA undertakes to set the standard for those sources pursuant to the analysis laid out in Part III.C.1-2 of this article; the standard then applies to any new source or source that started construction after the date on which the standard was proposed.[150]

Under Section 111(d), however, the EPA is relegated to creating emission guidelines that the states then use to set a standard of performance peculiar to each state.[151] After evaluating and selecting the BSER, the EPA creates the guidelines that the states use to fashion its own implementation plan unique to that state.[152] The implementation plan is similar to that required in the NAAQS program, and it must satisfactorily demonstrate

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140 Am. Coll. of Envtl. Lawyers, *supra* note 106, at 32.
141 *Id.*
142 *Id.*
143 *Id.* at 23.
144 *See, e.g.*, Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 435 (D.C. Cir. 1973) (approving of the EPA's method of selecting BSER "based on information and data derived from (1) inspections and stack tests of existing facilities; (2) consultations with operators, designers, and state and local control officials; and (3) review of available literature on the subject."); Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 379 (D.C. Cir. 1973) (approving NSPS selected based on source testing and a literature review).
145 Am. Coll. of Envtl. Lawyers, *supra* note 106, at 29-30.
146 *Id.* at 30.
147 *Id.* at 22, 33.
148 42 U.S.C. § 7411(b)(1)(B).
149 *Id.* § 7411(b)(1)(A).
150 *Id.* § 7411(e).
151 *Id.* § 7411(b), (d).
152 *Id.* § 7411(d).

that it provides a feasible path to achieving the standard in compliance with the guidelines.[153]

D. SECTION 111(D) IS A TIGHTER SQUEEZE FOR THE EPA

In drafting Section 111(b), Congress clearly wanted to subject a broad spectrum of pollutants and sources to regulation.[154] The only criteria it created for regulation under that subsection was that the source be found to potentially "endanger public health or welfare."[155] However, in writing Section 111(d), Congress sought to limit the pollutants that would be subject to regulation. First, the EPA can only regulate an existing source category under Section 111(d) if that same source category is already regulated under Section 111(b).[156] It also excludes from potential regulation those pollutants that are already covered under the NAAQS Program (the "NAAQS Limitation").[157]

Congress imposed a third limitation on the scope of Section 111(d) regarding the regulation of hazardous air pollutants under Section 112, but the peculiar legislative history of the section makes that limitation less clear. When Congress amended the CAA in 1990, the House and Senate both passed slightly different amendments to Section 111(d).[158] The difference in language was not resolved in the conference committee, and the final public law signed by the President contained both provisions.[159]

Prior to the 1990 amendments, the relevant limitation read, "[EPA may regulate a pollutant] which is not [regulated under the NAAQS program] or 112(b)(1)(A)."[160] The House clearly intended a broad prohibition in favor of source categories already regulated under Section 112; it exchanged "or 112(b)(1)(A)" with the phrase "or emitted from a source category which is regulated under section 112."[161] The effect of this change is to enlarge the limitation under Section 111(d) from prohibiting regulation only of pollutants already regulated under Section 112 to prohibiting regulation of a whole source category already regulated under Section 112.[162] The Senate's amendment simply replaced the reference to "112(b)(1)(A)" with "112(b)," effectively maintaining the prior prohibition against duplicative regulation of pollutants under Sections 111(d) and

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153 *Id.*

154 *See* 42 U.S.C. § 7411(b)(1)(A) (regulating any pollutants that "may reasonably be anticipated to endanger public health or welfare").

155 *Id.*

156 *Id.* § 7411(d)(1)(A)(ii).

157 *Id.* § 7411 (d)(1)(A)(i) (prohibiting regulation of "any air pollutant . . . for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title.").

158 Clean Air Act Amendments, Pub. L. No. 101-549, § 108(g), 104 Stat. 2399, 2467, 2574 (1990).

159 Am. Coll. of Envtl. Lawyers, *supra* note 106, at 2.

160 Haun, *supra* note 2, at 9-10; ENVTL. PROT. AGENCY, *Legal Memorandum for Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units* 24 (June 2014) [hereinafter *Envtl. Prot. Agency Legal Memo*], *available at* http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf, *archived at* http://perma.cc/D2Q3-PV56.

161 Haun, *supra* note 2, at 9-10; *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 25.

162 Haun, *supra* note 2, at 9-11.

112.[163] While the current United States Code contains only the House amendment,[164] the Statutes at Large control in the case of a conflict.[165]

Construing the conflicting amendments has been a subject of litigation in the past, but in the one case where it was briefed and argued, the D.C. Circuit vacated the rule in question on other grounds.[166] Therefore, any challenge to the EPA's interpretation under the current ESPS would be a question of first impression.

IV. Sizing Up the Proposed NSPS

Those seeking to challenge the proposed NSPS will undoubtedly raise a wide range of concerns, but the two most viable arguments focus on the EPA's technical feasibility analysis and the EPA's interpretation of the Energy Policy Act of 2005 (EPAct 05).

A. The EPA's Yardstick

Published for comment on January 8, 2014, the EPA's proposed NSPS set an emission rate limit of 1,100 lbs CO_2/MWh for Integrated Gasification Combined Cycle (ICGG) plants and utility boilers, a subset of fossil fuel-fired EGUs.[167] This standard of performance is based on partial implementation of carbon capture and storage (CCS) as the BSER for these sources.[168]

1. Components are Crucial to the EPA's Analysis

In the proposed rule, the EPA evaluated three alternative control technologies as potential BSER for fossil fuel-fired boilers and IGCC before finally determining that partial CCS is the BSER.[169] First, the EPA considered "[h]ighly efficient new generation technology without capture CCS," which are systems that would decrease emissions by requiring a lower heat input to generate the same amount of electricity.[170] However, the EPA discarded this alternative as BSER because, according to the EPA, it would not lead to sufficiently meaningful reductions in CO_2 and would not aid in the development and implementation of control technologies that reduce CO_2 emissions.[171] The EPA also briefly addressed complete CCS (90% capture rate), but discarded it as too expensive.[172]

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163 *Id* .

164 *See* 42 U.S.C. § 7411(d)(1)(A)(i).

165 Stephan v. United States, 319 U.S. 423, 426 (1943) (per curiam); 1 U.S.C. § 112 (1984) ("The United States Statutes at Large shall be legal evidence of laws . . . in all the courts of the United States, the several States, and the Territories and insular possessions of the United States.").

166 New Jersey v. Envtl. Prot. Agency, 517 F.3d 574, 583 (D.C. Cir. 2008).

167 Proposed NSPS, 79 Fed. Reg. at 1,433. The proposal also sets a separate standard for natural gas-fired stationary combustion turbines, which is based on a separate determination of BSER for those sources. *Id*. This portion of the proposal is relatively uncontroversial and is outside the scope of this article.

168 *Id*.

169 *Id*. at 1468.

170 *Id*.

171 *Id*. at 1468-69.

172 *Id*. at 1469.

Finally, after positing that partial CCS would achieve sufficiently meaningful CO_2 reductions, the EPA expounded on its rationale for determining that partial CCS is, in fact, a proven technology.[173] Because CCS technology is still in its early stages, fully integrated, operational, commercial scale electric generation projects implementing CCS do not exist.[174] Instead, the EPA acknowledged that its analysis must be relegated to an evaluation of scientific literature, pilot or demonstration-scale EGUs, commercial-scale processes that are not producing electricity, and several commercial-scale EGUs implementing CCS that are planned or under construction.[175]

Before turning to actual projects and facilities, the EPA first summarized its review of the relevant scientific literature it relied on in making its determination.[176] The EPA acknowledged the task force created by President Obama in 2010 charged with proposing a plan to make CCS technology more readily available commercially, which found that "early CCS projects face economic challenges related to climate policy uncertainty, first-of-a-kind technology risks, and the current cost of CCS relative to other technologies," but also concluded these and other challenges were not insurmountable.[177] The EPA also pointed to a study by the Pacific Northwest National Laboratory that found CCS is feasible because "key component technologies" have been proven "at scales large enough to meaningfully inform" a decision about the viability of integrated CCS at commercial scale.[178] Finally, the EPA devoted just a sentence to a joint report by the Department of Energy and the National Energy Technology Laboratory, saying only that it "further support[ed]" its determination.[179]

Regarding actual CCS operations that are proposed, planned, under construction, or operational, the EPA examined a total of twenty-five projects.[180] Of these, six were commercial-scale CCS systems integrated with coal-based EGUs.[181] None of those six are currently operational.[182] Eight of them were operational coal-fired EGUs with CCS, but none of those eight were commercial-scale projects that could demonstrate the ability to capture the vast quantities of CO_2 demanded by the standard.[183] The rest are various other pilot-scale projects implementing some combination of the components of CCS.[184] Of all the projects the EPA examined, the closest example of a real-world demonstration of the kind of CCS technology this proposal is prescribing is two facilities currently

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173 *Id.*
174 *Id.* at 1,468-69.
175 *Id.* at 1,471.
176 *Id.*
177 *Id.*
178 *Id.*
179 *Id.*
180 JOHN M. MCMANUS, VICE PRESIDENT, ENVTL. SERVS., AM. ELEC. POWER, Comments on Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1,430 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. pts. 60, 70, 71, and 98) 60-63, Docket ID No. EPA-HQ-OAR-2013-0495, *available at* http://perma.cc/92K8-RBTY.
181 *Id.* at 60.
182 *Id.*
183 *Id.* at 61.
184 *Id.* at 60-63.

under construction: the Kemper County Facility in Mississippi and the SaskPower project in Saskatchewan.[185]

In its analysis of both the literature and existing facilities, the EPA broke down the CCS process into its components: capture, compression, transportation and storage.[186] It reasoned that, even though the components have never been integrated into a functioning system at a fossil fuel-fired EGU operating at commercial scale, the various components have been successful in differing combinations.[187] It concluded that the success of the components provide assurance that commercial scale CCS is feasible at large coal-fired EGUs.[188] Furthermore, it claimed that it is "[un]necessary that the major components be demonstrated in an integrated process in order to determine the technical feasibility of each component."[189]

2. The Energy Policy Act of 2005 as Only a Partial Prohibition

The Clean Coal Power Initiative, codified in the EPAct 05, sought to provide federal funding to coal power facilities and technologies, such as CCS, that "advance efficiency, environmental performance, and cost competitiveness well beyond the level of technologies that are in commercial service or have been [commercially] demonstrated."[190] In furtherance of that purpose, the Initiative constrained the way in which the EPA made its BSER determination under Section 111 when reviewing technologies and facilities receiving funding under the Act:

> No technology, or level of emission reduction, solely by reason of the use of the technology, or the achievement of the emission reduction, by [one] or more facilities receiving assistance under this Act, shall be considered to be adequately demonstrated for purposes of section 111 of the Clean Air Act . . . .[191]

In its 2012 proposal, which was ultimately withdrawn and replaced with the current proposal, the EPA made no mention or attempt to interpret the EPAct 05.[192] Even after receiving comments raising concerns with the EPA's consideration of facilities receiving EPAct 05 funding, the EPA again failed to include any mention of the EPAct 05 in the current NSPS.[193] After realizing its oversight, the EPA quickly acted to issue a Technical

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185 Proposed NSPS, 79 Fed. Reg. at 1,474-75.

186 *Id.* at 1,471.

187 *Id.* at 1,471-72.

188 *Id.* at 1,471.

189 Envtl. Prot. Agency, *Technical Support Document, Effect of EPAct 05 on BSER for New Fossil Fuel-fired Boilers and Integrated Gasification combined cycle (IGCC)* 4 (Jan. 8, 2014) [hereinafter *TSD*], *archived at* http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2013-0495-1873.

190 42 U.S.C. § 15962(a).

191 *Id.* § 15962(i). EPAct 05 § 1307(b) also amended the Tax Code to create a nearly identical provision applicable to tax credits. The analysis here is the same for both provisions. In the interest of simplicity, this article only discusses § 15962(i).

192 *See* Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 77 Fed. Reg. 22,392 (proposed Apr. 13, 2012) (subsequently withdrawn Jan. 8, 2014).

193 *See generally* Proposed NSPS, 79 Fed. Reg. 1,430.

Support Document (TSD) addressing the issue and laying out the EPA's interpretation.[194]

In the TSD, the EPA proposed a reading of the EPAct 05 that "preclude[s] EPA from relying solely on the experience of facilities that received EPAct 05 assistance, but [does] not . . . preclude [the] EPA from relying on the experience of such facilities in conjunction with other information."[195] This reading is based on a broad application of the term "solely" as it is used in Section 402(i).[196] It takes the use of the term to apply to both preceding phrases, "technology" and "emission reduction," concluding that Section402(i) is only a partial prohibition that applies "to only the technology or emissions reduction for which the assistance was given."[197] The EPA claimed that the reading is a natural one and that a reading in which there is no connection is strained.[198] The EPA then concluded that, "[i]f the provision is ambiguous, the EPA's interpretation would be accorded deference."[199]

B. Problematic Measurements

The EPA claims that its technical feasibility analysis as well as its interpretation of the EPAct 05 were appropriate and should be respected as being within the agency's discretion.[200] A closer analysis, though, indicates that a court might disagree.

1. Proven CCS Components Do Not Equal Adequately Demonstrated CCS Systems

The EPA's analysis supporting its conclusion that partial CCS has been "adequately demonstrated" for use at the sources covered by the proposal is flawed in several ways. Primarily, the standard is not achievable because partial CCS technology is not "adequately demonstrated," as that term has been understood by the courts.[201]

The EPA's selection of partial CCS as the BSER necessarily depends on the assumption that, because the components of CCS have worked individually, they will work as a cohesive unit on a large scale at fossil-fuel fired IGCC plants. This is precisely the sort of "theoretical or experimental" standard Congress, as well as the courts in *Portland Cement* and *Essex Chemical*, sought to prohibit.[202]

This is far removed from the basis for setting the standard approved by the court in *Essex Chemical*. In that case, the court approved a standard that had only been "achieved

194 Review of the President's Climate Action Plan: Hearing Before the S. Comm. on Env't and Pub. Works, 113th Cong. (2014) (statements made by Gina McCarthy, EPA Administrator, in response to questioning by Sen. Vitter), http://www.epw.senate.gov/public/index.cfm?FuseAction=hearings.LiveStream&Hearing_id=E07101a7-0715-7690-b6e9-c39e56a3b468 at 1:45:15.

195 *TSD*, *supra* note 189, at 1-2.

196 *Id.* at 6.

197 *Id.*

198 *Id.*

199 *Id.*

200 *See id.*

201 *See supra* Part III.C.1.

202 *See id.*

. . . on . . . a *few* occasions" at the type of source covered by the regulation.[203] Here, the EPA used that conclusion as support for setting a standard that has been achieved on *zero* occasions at the type of source covered.[204] To conclude that a standard is achievable when it has *never* occurred requires the same sort of prognostication, or "crystal ball inquiry," that courts have expressly disallowed.[205]

Furthermore, the EPA's component approach contravenes the plain meaning of the word "system."[206] The Oxford Dictionary defines "system" as "a set of things *working together* as parts of a mechanism or interconnecting network; *a complex whole*."[207] Miriam-Webster defines "system" as "a *regularly interacting* or interdependent group of items *forming a unified whole*."[208] The EPA's conclusion that it does not need to show that the "components [have been] demonstrated in an integrated process" as a prerequisite to setting the standard flies in the face of both definitions.[209] The primary focus of both definitions is the functioning of a "complex" or "unified" operation. The components the EPA points to are not part of an operating "whole."

The EPA might claim that, because "system" is not given a specific definition in the CAA, its use of the component approach is entitled to *Chevron* deference, but that argument fails at "Step One" of *Chevron*.[210] Congress is presumed to intend that words be given their "ordinary or natural" meaning unless Congress provides otherwise in the legislation.[211] Accordingly, Congress can be said to have "directly answered the question" of whether the component approach is acceptable, thus tolling "Step One;" the EPA's new definition deserves no deference.

2. Properly Construed, EPAct 05 Seals Off From Consideration Facilities Receiving Federal Dollars

While Congress clearly wanted to encourage the development of clean coal technologies, it was also careful to ensure that it did not hinder the development of those technologies by regulating them before they were commercially viable without government support.[212] Accordingly, Congress created a broad prohibition in favor of businesses developing new technologies with federal support from the EPA.[213]

Broken down into its constituent parts, the relevant provision in the EPAct 05 forbids the EPA from considering any of the following as adequately demonstrated for purposes of Section 111:

1. Any technology receiving assistance under the EPAct 05;

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203 Proposed NSPS, 79 Fed. Reg. 1,430, 1,463; Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 437 (D.C. Cir. 1973).

204 Proposed NSPS, 79 Fed. Reg. at 1,471-72.

205 Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 391 (D.C. Cir. 1973).

206 Proposed NSPS, 79 Fed. Reg. at 1,464.

207 *System Definition*, Oxford English Dictionary, http://www.oed.com/view/Entry/196665?redirectedFrom=system#eid (last visited Sep. 20, 2014) (emphasis added).

208 *System Definition*, Merriam-Webster Online, http://merriam-webster.com/dictionary/system (last visited Sep. 20, 2014) (emphasis added).

209 *TSD*, *supra* note 189, at 4.

210 *See* 42 U.S.C.A. § 15801 (2005).

211 *See*, *e.g.*, Fed. Deposit Ins. Corp. v. Meyer, 510 U.S. 471, 476 (1994).

212 42 U.S.C.A. § 13571 (2005).

213 *See id.* § 15962 (2005).

2. Any level of emission reduction achieved solely by the use of a technology receiving assistance under the EPAct 05; and
3. The achievement of the emission reduction by one or more facilities receiving assistance under the EPAct 05.[214]

These three prohibitions are, understandably, comprehensive. The Congress that enacted the prohibitions surely realized that, to have one agency provide funding for the development of experimental technology while another considers that technology to be "adequately demonstrated," would be counterproductive at best. To do so would discourage the development of new technologies, rather than encourage it, as the Act was intended.[215]

Administrator McCarthy explains that, in the EPA's opinion, it can consider facilities receiving federal dollars ". . . in the context of a larger, more robust data set . . . ."[216] But to accept this interpretation, along with the one in the TSD, would render the EPAct 05's prohibitions meaningless.[217] Even without the provision in the EPAct 05, the CAA and D.C. Circuit already require the EPA to evaluate "a robust data set" in developing BSER for any source category.[218] It would defy common sense to consider only a set of facilities in a vacuum without considering academic literature, scientific reports, and the findings of other federal agencies, among others. This is what the EPA has always done, both before and after the EPAct 05. The EPA read the EPAct 05 as merely restating the law and thereby violates a central tenet of statutory interpretation.[219]

A proper reading of the EPAct 05 effectively takes facilities receiving federal money off the table for purposes of the EPA's consideration.[220] Once those projects receiving federal support under the EPAct 05 are removed from the EPA's review, its already tenuous case is left in shambles. The TSD illustrates that the EPA relied almost exclusively on the EPAct 05-funded facilities; of the twelve listed facilities, seven received EPAct 05 funding, and an eighth received similar funding from the Canadian government.[221] Furthermore, each one of the twelve facilities that was either a fossil fuel-fired EGU or a full-scale commercial CCS operation received federal support.[222]

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214 *Id.* § 15962(i).

215 *See id.* §§ 15962-15964.

216 Review of the President's Climate Action Plan: Hearing Before the S. Comm. on Environment and Public Works, (Jan. 16, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=hearings.LiveStream&Hearing_id=E07101a7-0715-7690-b6e9-c39e56a3b468 at 1:47:45.

217 *See* 42 U.S.C.A. § 15962.

218 *See* Sierra Club v. Costle, 657 F.2d 298, 330 (D.C. Cir. 1981).

219 *See* Inhabitants of the Twp. of Montclair v. Ramsdell, 107 U.S. 147, 152 (1883).

220 *See supra* Part IV.A.2.

221 *See TSD*, *supra* note 189, Appendix A; Mass. Inst. Tech., *Boundary Dam Fact Sheet: Carbon Dioxide Capture And Storage Project*, *available at* https://sequestration.mit.edu/tools/projects/boundary_dam.html, *archived at* http://perma.cc/GWR8-8BJG.

222 *See TSD*, *supra* note 189, at Appendix A.

V. Sizing Up the Proposed EGs

Like the proposed NSPS, the EPA will likely face two fundamental challenges to the proposed EGs.[223] Primarily, the EPA's interpretation of the BSER language in this context was not within its discretion.[224] There is also an argument that the language of Section 111(d) itself bars the EPA from regulating existing sources of GHGs at all.[225]

A. The EPA's Yardstick

Published amid great fanfare on June 2, 2014, the proposed EGs are undoubtedly ambitious. The proposal seeks to reduce nationwide carbon emissions from the power sector by 30% from 2005 levels by 2030.[226] The emission target varies from state to state, requiring as much as 72% and as little as 21% in reductions, depending on the projected result of applying the BSER.[227] The category of sources the proposal purports to regulate is "fossil fuel-fired EGUs;"[228] but the proposal actually encompasses the entire power sector, including nuclear, wind, and solar EGUs, in addition to regulating the demand for electricity and the way in which it is delivered.[229]

1. The EPA Crams Sector-Wide Regulatory Authority into Section 111

The EPA's determination of the BSER in this proposal is based on four strategies that it terms "building blocks" that either directly reduce emissions at the affected sources or displace the need for electricity from the affected sources and therefore reduce those sources' emissions.[230] The four building blocks are:

1. On-site heat rate improvements for coal-fired power plants;
2. Increasing the capacity factors for natural gas combined cycle units and shifting generation away from coal-fired power plants;
3. Setting renewable energy targets for the states; and
4. Demand side efficiency steps.[231]

Blocks 2 and 3 displace the need for electricity at affected sources by utilizing them only as a last resort.[232] Block 4 displaces the need for electricity by lowering the amount of electricity that is needed to power the grid, thereby lowering emissions from the affected sources.[233]

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223 *See supra* Part IV.
224 *See supra* Part IV.A.2.
225 *See infra* Part V.B.1.
226 Proposed EGs, 79 Fed. Reg. at 34931.
227 Stephen Munro, *EPA's Clean Power Plan: 50 Chefs Stir The Pot*, Bloomberg New Energy Finance (Jun. 3, 2014), *available at* http://about.bnef.com/white-papers/epas-clean-power-plan-50-chefs-stirs-pot/, *archived at* http://perma.cc/BL6N-3QEG.
228 Proposed EGs, 79 Fed. Reg. at 34,830.
229 *See infra* Part V.A.1.
230 Proposed EGs, 79 Fed. Reg. at 34,852.
231 *Id.* at 34,881-84.
232 *Id.*
233 *Id.* at 34,884.

Interestingly, the EPA proposes two alternative approaches to BSER in this rulemaking. The first approach involves a combination of all four building blocks.[234] Under the other approach, only the first building block plus the mass emissions that could be achieved by decreasing generation at the affected EGUs are considered as the potential BSER.[235] In this second approach, building blocks 2, 3, and 4 "instead would serve as bases for quantifying the reduction in emissions resulting from the reduction in generation at affected EGUs."[236] Under both alternatives, the state-level goal is the same, regardless of which alternative each state chooses to use.[237]

In the preamble, the EPA specifically analyzed each building block and concluded that they all meet the legal requirement that they be "adequately demonstrated" individually.[238] The EPA then used this determination as a basis for requiring states to consider each of the building blocks as part of their implementation plans and further concluded that the state goals are achievable based on the combination of all of them.[239] Furthermore, the EPA pointed to its claim that states have great flexibility in developing state plans to meet the EPA's-established goals as further evidence that the goals are achievable.[240]

The EPA has never attempted to use this approach in selecting the BSER.[241] Since its creation, the EPA has established emission guidelines for five source categories.[242] In none of those did the EPA purport to set the BSER based on anything besides systems that were available at the affected source.[243] The EPA has likewise never taken a similar position in any of the myriad performance standards for new sources it has promulgated over the years.[244]

But in this proposal, the EPA claimed that the "highly interconnected and integrated nature" of the power sector made reasonable its claim that it could legally base the emission guideline on steps states could take that have nothing to do with the affected sources.[245] The EPA defended the reasonableness of its conclusion by claiming that the states are left with a great degree of flexibility.[246] By flexibility, the EPA means the ability of states to set their own standards for emissions based on measures taken from any combination of the four blocks.[247]

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234 *Id.* at 34,885.
235 *Id.* at 34,884-85.
236 *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 15.
237 Proposed EGs, 79 Fed. Reg. at 34,889.
238 *Id.* at 34,852 ("[T]he measures in each of the building blocks are 'adequately demonstrated' because they are each well-established in numerous states, and many of them have already been relied on to reduce GHGs and other air pollutants from fossil fuel-fired EGUs.").
239 *Id.* at 34,851-53, 34,881-90.
240 *Id.* at 34,835 ("[I]n developing its plan, each state will have the flexibility to select the measure or combination of measures it prefers in order to achieve it CO2 emission reduction goal.").
241 *Id.* at 34,929.
242 *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 9-10.
243 *See* Am. Coll. of Envtl. Lawyers, *supra* note 106, at 5-10.
244 *See id.* at 5-8.
245 Proposed EGs, 79 Fed. Reg. at 34,879.
246 *Id.* at 34,881.
247 *Id.* at 34,926.

2. The EPA Construes Mismatched Amendments in Favor of Regulation

The EPA attempted to address the issue of the conflicting amendments to Section 111(d)(1)(A)(i) passed by the House and Senate by interpreting the conflict in a way that allows for the regulation of GHGs emitted by EGUs as proposed even though EGUs are already a regulated source category under Section 112.[248]

After concluding that the conflicting provisions in the statutes render them ambiguous,[249] the EPA laid out the factors it claimed support its interpretation.[250] First, the EPA claimed that its interpretation is consistent with "Congress' desire in the 1990 CAA Amendments to require the EPA to regulate more substances, and not to eliminate the EPA's ability to regulate large categories of air pollutants . . . ."[251] Also, the EPA pointed to "the fact that the EPA has historically regulated non-hazardous air pollutants under Section 111(d), even where those air pollutants were emitted from a source category actually regulated under Section 112."[252] Finally, the EPA concluded that its interpretation gives "some effect" to both amendments.[253]

B. Problematic Measurements

The existing source proposal will no doubt be challenged by both states and industry. Even one of the attorneys that worked on the drafting of the CAA has openly admitted that, "because he was not writing [Section 111(d)] with climate change in mind, the [Proposed EGs are] an 'imperfect and perhaps legally vulnerable' solution to regulating carbon pollution."[254]

1. Congress Did Not Hand Over the Keys to the Power Sector in Section 111

The EPA correctly points out that, because "system" is not defined, the general rule is that it should be given its plain and ordinary meaning.[255] However, under *Chevron* and other cases, the EPA's interpretation cannot be valid if it runs contrary to Congress's intent as expressed in the CAA.[256] Furthermore, the *Utility Air Regulatory Group* decision, which limits the EPA's regulatory authority with respect to GHGs under a different provision of the CAA, also includes some language that applies to the actions the EPA is proposing to take in this instance.[257] The Court emphasized its profound hesitance to allow such a sweeping interpretation of a statute as the EPA is now proposing.[258] As Justice Scalia wrote,

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248 *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 21-27.
249 *Id.* at 25.
250 *Id.* at 26-27.
251 *Id.*
252 *Id.*
253 *Id.*
254 Coral Davenport, *Brothers Battle Climate Change on Two Fronts*, N. Y. Times, May 10, 2014 http://www.nytimes.com/2014/05/11/us/brothers-work-different-angles-in-taking-on-climate-change.html?_r=0, at A20.
255 *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 36-37.
256 *See supra* Part II.A.
257 *See supra* Part II.B.2.
258 *See supra* Part II.B.2.

> When an agency claims to discover in a long-extant statute an unheralded power to regulate "a significant portion of the American economy," we typically greet its announcement with a measure of skepticism. We expect Congress to speak clearly if it wishes to assign to an agency decisions of vast "economic and political significance.[259]

The EPA could not plausibly argue that the power sector is not a significant portion of the American economy.[260] Americans spent approximately $1.205 trillion on electricity in 2010.[261] The electric power industry employs approximately 350,000 people that earn a median salary of $70,570.[262] Moreover, the industry is regulated by a sprawling federal agency with an annual budget of approximately $30 billion led by a cabinet-level officer.[263] The power sector is at least as economically significant as the tobacco industry, which the Supreme Court has explicitly found to be sufficiently significant to warrant the same level of skepticism.[264]

Congress has not spoken clearly to give the EPA the authority to regulate the way in which electricity is distributed and used. In fact, Congress found that "air pollution control *at its source*" was necessary for the CAA to successfully accomplish its goals.[265] Here, in building blocks 2, 3, and 4, the EPA purports to regulate a pollutant not at its source, but by regulating the product that necessarily creates the pollutant. The CAA is bereft of any authorization for the EPA to manipulate industrial economies as a means of achieving pollution reductions. These sorts of controls are undoubtedly outside the scope of what Congress intended the EPA to regulate.

The EPA will likely claim that, because the states have some "flexibility" in electing which formulation of the BSER to use and the proposal does not necessarily compel the states to use the building blocks in their implementation plan, this proposal does not seek to bring the power sector under the EPA's jurisdiction. But, even accepting this premise, the proposal would require drastic changes across states by affecting the way the power grid is operated and the way citizens use electricity, which are vast economic and political decisions the Court has refused to read into the CAA. For example, a state could theoretically meet its goal by not using building blocks 2, 3, and 4 at all. But, because the standard was calculated assuming high levels of reductions from each block, the only way a state could meet the goal would be to require the retirement of its entire coal fleet.

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259 Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427, 2444 (2014) (quoting Food & Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U. S. 120, 159-60 (2000)).

260 *See id.*

261 U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY REVIEW 77 (2012), *available at* http://www.eia.gov/totalenergy/data/annual/pdf/aer.pdf, *archived at* http://perma.cc/YF4E-HCKU.

262 Bureau of Labor Statistics , U.S. Dep't of Labor, Occupational Employment Statistics for May 2013, *available at* http://www.bls.gov/oes/current/naics4_221100.htm, *archived at* http://perma.cc/3MY2-FSLS (last modified Apr. 1, 2014).

263 White House Office of Mgmt. & Budget, Department of Energy Fact Sheet, http://www.whitehouse.gov/omb/factsheet_department_energy, *archived* at http://perma.cc/46N-E4PK.

264 *Brown & Williamson Tobacco Corp.*, 529 U.S. at 160.

265 42 U.S.C. § 7401(a)(3).

2. There is a Way to Equalize the Conflicting Amendments, and It is Fatal to the Proposal

The EPA claimed that its reading of the Section 112 conflict is entitled to deference because, among other things, it gives *some* effect to both amendments.[266] Even assuming this is true, there is also a way to interpret the conflict to give *full* effect to both amendments. Even with the discretion to interpret conflicting statutes, the EPA cannot elect to read a statute to only give some effect to Congressional intent when there is a way in which to read it that will give it full effect.[267]

The EPA correctly noted that, prior to 1990, the Section 112 limitation applied only to pollutants and not sources already regulated under Section 112.[268] The House amendment clearly and unambiguously expanded the limitation in favor of industry to preclude regulation under Section 111(d) of any source category already regulated under Section 112.[269] The Senate amendment clearly and unambiguously maintained the "pollutant only" limitation.[270] It is possible to give full effect to both provisions. Under the proper construction, the EPA is prohibited from regulating:

Pollutants already regulated under Section 112, regardless of the source category from which they are emitted; and

Source Categories already regulated under Section 112, regardless of the pollutants that they emit.

This interpretation does not create an exception that swallows the rule. It still leaves the EPA with the ability to use Section 111(d) to regulate pollutants that are not regulated under Section 112, so long as the source category is also not already regulated under Section 112. For example, the EPA may still use Section 111(d) to regulate pollutant *X* from source category *Y*, so long as there are no Section 112 regulations covering emissions of pollutant *W* (or any other pollutant besides *X*) from source category *Y* or emissions of pollutant *X* from source category *Q* (or any other source category besides *Y*). This construction would give full effect to both amendments, and the EPA has no authority to read it any other way.

VI. Conclusion

Both of the proposals that are the subject of this article suffer from two similar maladies. In its pursuit of an ambitious GHG reduction scheme, it appears the EPA simply pushed its authority too far. In both proposals, the EPA misconstrued and misapplied the

266 *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 26.

267 Thomas M. Cooley, A Treatise on the Constitutional Limitations Which Rest Upon the Legislative Power of the States of the American Union 58 (1868) ("[O]ne part is not to be allowed to defeat another, if by any reasonable construction the two can be made to stand together.").

268 *Envtl. Prot. Agency Legal Memo*, *supra* note 160, at 24.

269 Clean Air Act, Pub. L. No. 101-549, § 108(g), 104 Stat. 2399, 2467 (codified as amended at 42 U.S.C. §§ 7401-7431 (1990)).

270 *Id.* § 302(a), 104 Stat. at 2574.

term "system."[271] Also, in both proposals, the EPA misconstrued statutory language that bars the EPA from making the proposals in the first place.[272]

More specifically, in the case of the proposed NSPS, partial CCS is simply not proven to be a commercially viable technology at this point, and Congress did not intend to grant the EPA the authority to make the kind of predictions about future technology that it purports to make in that proposal.[273] Furthermore, in its use of the word "system," Congress did not mean to allow the EPA to require a system based on the demonstration of that system's individual parts when those parts have not been combined into a functioning whole.[274] Finally, the EPA's reliance on facilities receiving federal funds is entirely misplaced and contrary to the clearly expressed intent of Congress.[275]

In the case of the proposed EGs, Congress could never have intended the EPA to reach so much activity that is outside the scope of the facilities it is seeking to regulate.[276] The EPA can no more seek to reduce carbon emissions at fossil fuel-fired power plants by requiring the use of a different source of power or driving down the demand for electricity than it could seek to reduce sulfur dioxide emissions at a concrete plant by requiring states to take measures that will drive down the demand for cement.[277]

The EPA might have chosen a less controversial or ambitious route that would not have required it to take such poorly measured positions about the meaning of the critical statutes. For example, it could have found efficient generating technology to be the BSER in the proposed NSPS. Instead, it dismissed such a finding out of hand because it would not achieve sufficiently "significant" reductions. In the proposed EGs, the EPA could have decided to use only building Block 1 as the BSER. Taking that approach would not have required the EPA to assert such sweeping authority to set national energy policy that the EPA claimed justified its use of all four blocks as the BSER.

To borrow again from Chief Justice Roberts, "Global warming may be a crisis, even the most pressing environmental problem of our time. Indeed, it may ultimately affect nearly everyone on the planet in some potentially adverse way, and it may be that governments have done too little to address it."[278] He was arguing in favor of requiring the plaintiffs to seek redress of their grievances in the elected branches of government rather than the courts, which is a different context from that of the issues raised by these proposals.[279] However, his point remains valid: even conceding the necessity of GHG regulation, the perceived benefits of a given policy can never justify disregarding our constitutional structure. The ends do not necessarily justify the means.[280]

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271 *See supra* Part IV.B.1.
272 *See supra* Part V.A.2.
273 *See supra* Part IV.B.2.
274 *See supra* Part IV.B.1.
275 *See supra* Part IV.B.2.
276 *See supra* Part V.A.2.
277 *See supra* Part V.B.1.
278 Massachussetts v. Envtl. Prot. Agency, 549 U.S. 497, 535 (2007) (Roberts, C.J., dissenting) (internal quotations omitted).
279 *Id.*
280 *See id.* at 560 (Scalia, J. dissenting) ("No matter how important the underlying policy issues at stake, this Court has no business substituting its own desired outcome for the [outcome

The stubborn fact for those seeking to influence environmental policy in this regard is that Congress has considered several different methods of regulating and reducing GHG emissions and rejected all of them.[281] Furthermore, the CAA was not written to address GHG regulation, and its usefulness to address climate change was never vetted by Congress.[282] The EPA itself could not have said it better regarding the writing of the Clean Air Act: "Congress was focused on . . . [conventional] pollutants . . . and not GHG emissions."[283]

Common sense supports the proposition that Congress did not intend to regulate GHGs under Section 111. GHGs and conventional pollutants are drastically different substances. GHGs are not "exotic compound[s] produced in a few industrial processes" as are conventional pollutants.[284] Rather, GHGs are harmless gases distributed evenly throughout the planet.[285] Also, conventional pollutants cause "problems that occur primarily at ground level or near the surface of the earth," whereas GHGs are alleged to cause problems only "in the upper reaches of the atmosphere."[286] Finally, conventional pollutants are regulated because they directly impact human health through asthma, heart attack, etc.[287] GHGs are dangerous only indirectly because of their cumulative buildup over time that leads to atmospheric and climatic conditions that have negative health ramifications.[288]

Given Congress' focus on conventional pollutants and their differences from GHGs, Section 111 has been called an "awkward" and "perhaps legally vulnerable" tool for the EPA to use to regulate GHGs.[289] The Supreme Court seems to recognize this fact. After supporting the EPA's discretion in interpreting different portions of the CAA with regard to conventional pollutants in three consecutive decisions, the Court then shortly after struck down an EPA interpretation of the CAA with regard to GHGs.[290] In the

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compelled by the law]."); Food & Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U. S. 120, 161 (2000) ("Nonetheless, no matter how important, conspicuous, and controversial the issue . . . an administrative agency's power to regulate in the public interest must always be grounded in a valid grant of authority from Congress. And [i]n our anxiety to effectuate the congressional purpose of protecting the public, we must take care not to extend the scope of the statute beyond the point where Congress indicated it would stop.") (internal quotations and citations omitted).

281 *See* Haun, *supra* note 2 and accompanying text.

282 *Massachusetts*, 549 U.S. at 507, n. 8 ("Considerable uncertainty remained in those early years, and the issue went largely unmentioned in the congressional debate over the enactment of the Clean Air Act.").

283 Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 74 Fed. Reg. 55292, 55308 (proposed October 27, 2009).

284 Haun, *supra* note 2, at 8.

285 Envtl. Prot. Agency, Overview of Greenhouse Gases, http://www.epa.gov/climatechange/ghgemissions/gases.html, *archived at* http://perma.cc/D5HM-MK7J.

286 *Massachusetts*, 549 U.S. at 559 (internal citations omitted).

287 *See supra* Part III.A.

288 Envtl. Prot. Agency, *supra* note 285.

289 Haun, *supra* note 2, at 8; Davenport, *supra* note 254.

290 Util. Air Regulatory Grp. v. Envtl. Prot. Agency, 134 S. Ct. 2427, 2449 (2014).

same decision, the Court also severely limited the EPA's authority to regulate GHGs under a different provision in the CAA.[291]

As frustrating as this may be for proponents of a national carbon reduction policy, the Court's hesitance to let the executive branch intrude into the legislative function is a sign of the vitality of our constitutional structure. The maintenance of a healthy separation of powers between the branches requires delicate balancing and is undoubtedly a difficult task, but it also a task the Court has shown itself capable of meeting.

Mr. Coover is Special Counsel to the Chairman of the Texas Commission on Environmental Quality. The views and opinions expressed in this article are his own and in no way reflect the opinions of the Chairman or of the Commission.

291 *Id.* at 2447 (allowing EPA to require only a limited BACT analysis for GHGs).

Protecting the Lesser Prairie Chicken Under the Endangered Species Act: A Problem and an Opportunity for the Oil and Gas Industry

By Thomas Campbell, Brad Raffle, Anthony Cavender and Norman Carlin

I. Introduction

The brightest of President George H. W. Bush's thousand points of light were arrayed around the table. Those present included the Secretaries of the Departments of Interior and Agriculture and the Administrators of the Environmental Protection Agency and the National Oceanic and Atmospheric Administration. Principals sat at the table surrounded by their general counsels and scientists in the outer ring of chairs within whispering distance.[1] Convened for the Northern Spotted Owl, this was the "God Committee," so named because it held the god-like power to override the protections of the federal Endangered Species Act (ESA)[2] and allow actions that might cause the extinction of an entire species.[3]

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1 Author Thomas Campbell was present at this God Committee meeting as the General Counsel of the National Oceanic and Atmospheric Administration.

2 16 U.S.C.A. §§ 1531-1544 (2008).

3 Nat'l Ass'n of Home Builders v. Defenders of Wildlife, 551 U.S. 644, 687 (2007) ("Because it has the authority to approve the extinction of an endangered species, the Endangered Species Committee is colloquially described as the 'God Squad' or 'God Committee.'"); *see also* Erik M. Yuknis, Note, *Would a "God Squad" Exemption Under the Endangered Species Act Solve the California Water Crisis?*, 38 B.C. Envtl. Aff. L. Rev. 567, 582–83 (2011) (discussing the Northern Spotted Owl exemption process).

The lead up to this meeting was intense. The timber industry in the Pacific Northwest was suffering increasing constraints placed upon it by judicial protection of the Northern Spotted Owl under the ESA.[4] But the available data, and thus the opinions of the government's lead scientists, pointed the causal finger at the timber industry for the species' decline.[5] In the end, despite strong political pressure and the prospect of severe regional economic consequences, the God Committee chose not to allow the continued, unmitigated logging of old growth forests inhabited by Northern Spotted Owls.[6]

The timber industry had lost this battle long before the God Committee was convened. They first sought to improve their practices,[7] then sought the God Committee's override, but ultimately failed to effectively remedy the habitat fragmentation that had brought the owl to the brink of extinction.[8] Following the God Committee's decision, a forest management plan was implemented, limiting logging on federal lands and providing extensive reserves for the Northern Spotted Owl and other endangered species.[9] While the massive job losses predicted by the timber industry did not materialize, many local logging communities were economically devastated.[10]

Today, it is a different bird affecting a different industry in a different region: the Lesser Prairie Chicken (LPC), *Tympanuchus pallidicinctus*, and the oil and gas activities in the Southwest. Currently, it is early in the ESA process; the LPC was only recently listed as "threatened" under the ESA in April of 2014, and the consequences of that listing for

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4 *See, e.g.*, Seattle Audubon Soc. v. Evans, 771 F.Supp. 1081 (W.D. Wash. 1991), *aff'd in part, rev'd in part*, 952 F.2d 297 (9th Cir. 1991).

5 *See* INTERAGENCY SCIENTIFIC COMM. TO ADDRESS THE CONSERVATION OF THE N. SPOTTED OWL, A CONSERVATION STRATEGY FOR THE N. SPOTTED OWL 1 (1990) [hereinafter ISC REPORT] (concluding that the spotted owl was "imperiled over significant portions of its range because of continuing losses of habitat from logging . . . ."), *available at* http://www.fws.gov/wafwo/species/Fact%20sheets/NSO%20Interagency%20Conservation%20Strategy.pdf, *archived at* http://perma.cc/6XJ2-3LNP.

6 Notice of Decision, 57 Fed. Reg. 23405, 23405-08 (Endangered Species Committee June 3, 1992) (rejecting exemptions for thirty-one of forty-four proposed timber sales and requiring mitigation measures for the thirteen sales which were approved). For a discussion of the intense political and economic pressure surrounding the God Committee proceedings, *see* Oliver A. Houck, *The Endangered Species Act and its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277, 333–44 (1993).

7 *See, e.g.*, JAMES K. AGEE ET AL., CREATING A FORESTRY FOR THE 21ST CENTURY: THE SCIENCE OF ECOSYSTEM MANAGEMENT 431–33 (Kathryn A. Kohm & Jerry F. Franklin eds., Island Press 1997) (discussing the voluntary efforts of private forest landowners to establish new forestry practices to preserve wildlife habitat in the state of Washington during the late 1980s); Andrew Pollack, *Louisiana-Pacific Plans to End Clear-Cutting in California*, N.Y. TIMES (Mar. 7, 1991), http://www.nytimes.com/1991/03/07/business/louisiana-pacific-plans-to-end-clear-cutting-in-california.html.

8 ISC REPORT, *supra* note 5, at 22 (describing declining spotted owl populations due to habitat fragmentation caused by logging); Houck, *supra* note 6, at 288 ("Further information soon proved this confidence in existing management programs quite misplaced. The Owl was on the road to extinction and its listing could be avoided no longer.").

9 Erik Loomis & Ryan Edgington, *Lives Under the Canopy: Spotted Owls and Loggers in Western Forests*, 52 NAT. RES. J. 99, 112 (2012).

10 *Id.* at 115.

future projects have yet to be fully realized.[11] But those who fail to learn the lesson of history are doomed to repeat it. Before the LPC declines to the point that more drastic measures become warranted — as happened in the case of the Northern Spotted Owl — industry and the Department of Interior need a strategy that both ensures the species' continued existence and allows oil and gas development and other industrial activities to continue in the five-state area the LPC occupies.

This Article offers ideas for such a strategy. Part II provides a general description of the ESA process. Part III discusses recent developments in the oil and gas industry, the biology of the LPC, and the intersection between the two. Part IV describes the LPC's listing under the ESA and the Range-wide Conservation Plan (RWP), a novel, voluntary collaboration among the five states comprising the LPC's range. Part V identifies challenges and opportunities for the oil and gas industry to help ensure the success of the RWP approach and avoid the potentially more stringent regulatory consequences of further decline of the LPC. In Part VI, this Article concludes that, notwithstanding these challenges, if the RWP succeeds in arresting the species' decline, it would represent a substantial victory for the voluntary conservation movement and the fundamental values of the ESA.

II. The Endangered Species Act

The ESA was enacted "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species . . . ."[12] A species may be listed under the ESA as: (1) "endangered" if it is at risk of extinction throughout all or a significant portion of its range; or (2) "threatened" if it is likely to become endangered throughout all or a significant portion of its range.[13]

The U.S. Fish & Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) are authorized, on their own or upon petition by any person, to determine whether a particular species should be listed as endangered or threatened.[14] To make this determination, a species may be listed based on overexploitation, habitat loss, disease, predation, inadequate protection by other regulatory mechanisms, or other natural or artificial factors.[15] Listing determinations must be made "solely on the basis of the best scientific and commercial data available."[16] The law also directs the U.S. Secretary of Interior ("Secretary") to designate a "critical habitat," and authorizes the FWS and NMFS to take affirmative actions that "seek to conserve endangered species and

11 Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Lesser Prairie-Chicken, 79 Fed. Reg. 19,974, 19,974-20,070 (April 10, 2014) (codified at 50 C.F.R. § 17.11); Endangered and Threatened Wildlife and Plants; Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. 20,074-85 (April 10, 2014) (codified at 50 C.F.R. § 17.41).

12 16 U.S.C. § 1531(b) (1988).

13 *Id.* § 1532(6), (20).

14 *Id.* § 1533 (2003).

15 *Id.* § 1533(a)(1)(A)-(E); 16 U.S.C. § 1531(c)(1).

16 *Id.* § 1533(b)(1)(A).

threatened species."[17] Because of the ESA's expansive protections, these determinations are often contentious.[18]

Once a species is listed as endangered, the ESA prohibits the "taking" of that species, which can include "harm" through significant degradation of the species' habitat as well as killing, injuring, harassing or capturing the species, without an incidental take permit or other authorization.[19] Incidental take permits are available under the ESA for private projects, and cover takings that are incidental to otherwise lawful actions, known as incidental takings.[20] Incidental take applicants must prepare a habitat conservation plan that details: (1) the impacts of the taking; (2) measures to minimize and mitigate the impact, and funding to support those measures; (3) the alternatives to the taking that the applicant considered and reasons such alternatives were not used; and (4) other measures the government may require as being necessary or appropriate for the plan's purpose.[21] Mitigation measures are species-specific, and may include preserving existing habitat, enhancing or restoring degraded habitat, establishing buffer areas around existing habitat, or modifying land use practices.[22] The FWS or NMFS and designated state agencies monitor these projects for compliance.[23] In addition, other federal agencies must consult with the FWS or NMFS to ensure that their actions, including permit approvals, leasing of federal lands, and other authorizations granted to private parties, do not jeopardize listed species or adversely modify their critical habitat.[24]

Typically, incidental take authorizations for private industrial or other development projects are focused on the project application at hand.[25] So long as the project devel-

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17 *Id.* § 1532(5)(A), (C) (noting that critical habitat is "the specific areas within the geographical area occupied by the species at the time it is listed . . . [and] specific areas outside the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary that such areas are essential for the conservation of the species." However, "[e]xcept in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species."); *id.* § 1533(3)(A) (indicating that the designation of critical habitat shall be made "on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and other relevant impact, if specifying any particular areas as critical habitat . . . unless he determines . . . that the failure to designate such area as critical habitat will result in the extinction of the species concerned."); *id.* § 1531(c)(1).

18 *See, e.g.*, Tenn. Valley Auth. v. Hill, 437 U.S. 153 (1978) (addressing the controversy surrounding the listing of the snail darter); Loomis & Edington, *supra* note 9, at 102; Yuknis, *supra* note 3, at 578-583.

19 16 U.S.C. § 1538 (1988); 16 U.S.C. § 1532(19); Babbitt v. Sweet Home Chapter of Communities for a Great Or., 515 U.S. 687, 708 (1995).

20 16 U.S.C. § 1538.

21 16 U.S.C. § 1539(a)(2) (1988).

22 U.S. FISH & WILDLIFE SERV., ENDANGERED SPECIES PERMITS: HCP – FREQUENTLY ASKED QUESTIONS, http://www.fws.gov/midwest/endangered/permits/hcp/hcp_faqs.html (last updated June 10, 2014), *archived at* http://perma.cc/3BED-G6S8.

23 *Id.*

24 16 U.S.C. § 1536(a)(2) (1988).

25 *See* FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, HABITAT CONSERVATION PLANNING AND INCIDENTAL TAKE PERMIT PROCESSING HANDBOOK app. 17 (1996), *available at*

oper satisfies the requirements for avoidance, mitigation or compensation, or any combination thereof, of harm to the species as specified in the developer's permit or other approval, the developer will not be subject to agency enforcement action or citizen lawsuits.[26] In some circumstances, however, compliance with requirements established piecemeal, project-by-project, may not suffice to reverse a broad declining trend in a species' numbers.[27] If the population continues to diminish, notwithstanding project developers' full legal compliance with their permits and leases, the inevitable result is more extensive agency management actions and more stringent regulatory requirements imposed on future projects.[28] In such cases, more active attempts to promote coordinated, range-wide protection and sustainable population increases may better serve the long-term interests of both the species and the industry.

The case in point is the LPC, a widely distributed but declining species that has come into direct conflict with expansion of the oil and gas industry in the southwestern United States.[29]

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http://www.nmfs.noaa.gov/pr/pdfs/laws/hcp_handbook.pdf, *archived at* http://perma.cc/9XCC-ELZ3.

26 *See* 16 U.S.C. § 1538(a) (1988); 16 U.S.C. § 1540 (2002).

27 *See, e.g.*, Listing of Steller Sea Lions as Threatened Under Endangered Species Act with Protective Regulations, 55 Fed. Reg. 12,645, 12,645–62 (Apr. 5, 1990) (to be codified at 50 C.F.R. pt. 227); Threatened Fish and Wildlife: Change in Listing Status of Steller Sea Lions Under the Endangered Species Act, 62 Fed. Reg. 24,345, 24,345–55 (May 5, 1997) (codified at 50 C.F.R. at pts. 222 and 224); Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Loach Minnow, 51 Fed. Reg. 39,468, 39,468–78 (Oct. 28, 1986) (codified at 50 C.F.R. pt. 17); Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Spikedace, 51 Fed. Reg. 23,769, 23,769-81 (July 1, 1986) (codified at 50 C.F.R. pt. 17); Endangered and Threatened Wildlife and Plants; Endangered Status and Designations of Critical Habitat for Spikedace and Loach Minnow: Final Rule, 77 Fed. Reg. 10,810, 10,810–10,932 (Feb. 23, 2012) (codified at 50 C.F.R. pt. 17).

28 For example, after changing the listing of the western population of steller sea lions from threatened to endangered, the United States government expanded the restrictions on fishing for species that serve as a food resource for the sea lion. *See, e.g.*, Fisheries of the Exclusive Economic Zone off Alaska; Steller Sea Lion Protection Measures for the Pollock Fisheries Off Alaska, 65 Fed. Reg. 3,892, 3,892-3,900 (Jan. 25, 2000) (codified at 50 C.F.R. pt. 679); Fisheries of the Exclusive Economic Zone Off Alaska; Steller Sea Lion Protection Measures for the Pollock Fisheries Off Alaska, 64 Fed. Reg. 3,437, 3,437-46 (Jan. 22, 1999) (codified at 50 C.F.R. pt. 679).

29 Another such example is the dune sagebrush lizard. *See* Nicholas Parke, *The Texas Oil and Gas Industry vs. the Dune Sagebrush Lizard: How the Texas Habitat Conservation Plan Saved More Than Just a Lizard,* 43 Tex. Envtl. L.J. 71, 71-99 (2012).

III. The Oil Industry Encounters the Lesser Prairie Chicken

A recent article describes the spectacular, unanticipated surge in domestic U.S. oil and gas production as "nothing short of astonishing":[30]

> For the past three years, the United States has been the fastest growing hydrocarbon producer, and the trend is not likely to stop anytime soon. U.S. natural gas production has risen 25 percent since 2010 . . . [and] U.S. oil production . . . has grown by 60 percent since 2008, climbing by three million barrels a day to more than eight million barrels a day.[31]

The Southwest is among the major regions contributing to this growth. For example, the magnitude of oil and gas activity in the State of Texas is documented by the well permitting statistics maintained by the Texas Railroad Commission.[32] The widespread use of hydraulic fracturing and directional drilling techniques, enabling exploitation of the vast reserves of oil and gas that can be found in shale rock formations located deep beneath the surface is a key contributor to current growth in domestic oil and gas production.[33] In addition to advances in technology, two provisions of the Energy Policy Act of 2005, which amended the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA), assisted new development of domestic oil and gas reserves.[34] The Energy Policy Act largely eliminated hydraulic fracturing from the federal SDWA regulatory program, leaving such regulation primarily to state agencies.[35] In addition, the Energy Policy Act exempted from CWA permitting authority the discharge of uncon-

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30 Edward L. Morse, *Welcome to the Revolution: Why Shale is the Next Shale*, FOREIGN AFFAIRS 3-9 (May/June 2014), *available at* http://www.foreignaffairs.com/articles/141202/edward-l-morse/welcome-to-the-revolution, *archived at* http://perma.cc/9QTS-EUC6.

31 *Id*.

32 R.R. COMM'N OF TEX., SUMMARY OF DRILLING, COMPLETION AND PLUGGING REPORTS PROCESSED (Aug. 2014), *available at* http://www.rrc.state.tx.us/media/23445/ogdc0814.pdf, *archived at* http://perma.cc/8FZ6-S2JZ.

33 *See* MIT ENERGY INITIATIVE, THE FUTURE OF NATURAL GAS: AN INTERDISCIPLINARY MIT STUDY 17–52 (2011), *available at* https://mitei.mit.edu/system/files/NaturalGas_Report.pdf, *archived at* http://perma.cc/ZY59-YVYK.

34 U.S. SENATE COMM. ON ENERGY & NATURAL RES., THE ENERGY POLICY ACT OF 2005 ANNIVERSARY REPORT 16–18 (2006), *available at* http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=F3ef8500-1a60-4c8b-b455-4279b8f86e6d, *archived at* http://perma.cc/9EQ2-U6FX; Uma Outka, Symposium, *Environmental Law and Fossil Fuels: Barriers to Renewable Energy*, 65 VAND. L. REV. 1679, 1706–10 (2012) (discussing the provisions of the Energy Policy Act of 2005 meant to encourage oil and gas development); Carrie Covington Doyle, Note & Comment, *The Modern Oil Shale Boom: An Opportunity for Thoughtful Mineral Development*. 20 COLO. J. INT'L ENVTL. L. & POL'Y 253, 265–69 (2009) (discussing the effect of the Energy Policy Act of 2005 on the expansion of hydraulic fracturing in the oil and gas industries).

35 42 U.S.C. § 300h(d)(1)(B)(ii) (2005); *see also* Terry W. Roberson, *Environmental Concerns of Hydraulically Fracturing a Natural Gas Well*, 32 UTAH. ENVTL. L. REV. 67, 77–83 (2012) (discussing the litigation precipitating congressional action to exempt hydraulic fracturing from SDWA).

taminated stormwater that occurs during the setting up and construction of oil and gas production facilities.[36]

As the oil and gas industry continues to expand in the Southwest, it has encountered the LPC. The LPC is a reclusive, fifteen-inch-long bird known for dramatic mating behavior, in which males gather together in groups on a display ground, or "lek," collectively displaying to attract females.[37] The species' range includes eastern New Mexico and Colorado, west and northwest Texas (including the Permian Basin, an important region for oil and gas production), and western Oklahoma and Kansas.[38]

Human development and habitat fragmentation have greatly affected the LPC. The LPC lives in shortgrass prairie, a biome largely composed of sage and shinnery oak, a shrub-like tree that rarely grows over a few feet tall.[39] Given their preference for low-vegetation landscape, the LPC avoids tall vertical structures such as drilling equipment, telephone poles, and wind turbines, perceiving these structures as roosts for predators.[40] Additionally, the birds are low-flying and may collide with even relatively low obstructions.[41] The species tends to die off or migrate away from areas where more than 30% of the land has been disturbed.[42] Otherwise suitable LPC habitat adjacent to tall structures is often uninhabited, and the birds may abandon their lekking grounds when oil and gas activity occurs nearby.[43]

The LPC population has been declining; in 2012, only an estimated 45,000 LPCs remained in their original range.[44] Oil and gas exploration and production activities are not the sole contributors to this decline. Other threats to the LPC include habitat loss and fragmentation resulting from conversion of grasslands to agricultural uses, wind energy development, the presence of roads and other man-made structures, and the ongoing drought in the southern Great Plains.[45] Nevertheless, the LPC's wide range within the same region as booming oil and gas development activity, when combined with the LPC's sensitivity to disturbance, poses a particular problem for the industry. Accordingly, in 2012, when the FWS proposed listing the LPC as "threatened" under the ESA, oil and gas interests, as well as agricultural, wind energy and other stakeholders, were con-

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36 33 U.S.C. §§ 1342(a)(l) & 1362(24) (2014); *see also* Roberson, *supra* note 35, at 83–85 (discussing the effect of the Energy Policy Act of 2005 on the CWA).

37 Div. of Agric. Sci. & Natural Res., Okla. Coop. Extension Serv., Okla. State Univ., Habitat Evaluation Guide for the Lesser Prairie-Chicken 2-3 (2014), [hereinafter Habitat Evaluation], *available at* http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-6516/E-1014%20Lesser%20Prairie%20Chicken.pdf, *archived at* http://perma.cc/L8KX-7VV2.

38 *Id.* at 2.

39 *Id.*

40 *Id.* at 9-11.

41 *Id.* at 9 (depicting special visibility measures for fences in LPC habitat to avoid collisions).

42 *Id.* at 15.

43 *Id.* at 10.

44 Endangered and Threatened Wildlife and Plants; Determination of Status for the Lesser Prairie-Chicken, 79 Fed. Reg. 19,974, 20,010 (April 10, 2014) (to be codified at 50 C.F.R. pt. 17).

45 Habitat Evaluation, *supra* note 37, at 2.

cerned about the potential for new protective measures imposing constraints on their current and future operations.[46]

IV. PROTECTING THE LPC UNDER THE ENDANGERED SPECIES ACT

On April 10, 2014, the FWS published two final rules listing the LPC as "threatened" under the ESA and adopting a special rule for its protection (as discussed below).[47] The FWS determined that the LPC was threatened because of "the ongoing and probable future impacts of cumulative habitat loss and [habitat] fragmentation" caused by conversion of grasslands to agricultural use, the encroachment by invasive woody plants, and development associated with the energy industry, including roads and vertical structures such as towers, wells, fences, and buildings.[48]

As noted above, once a species is listed as endangered, the ESA prohibits the "taking" of that species, which includes harm through significant degradation of the species' habitat, without an incidental take permit or other authorization.[49] In contrast, when a species is listed as threatened (as is the LPC), section 4(d) of the ESA grants significant discretion to the FWS as to whether and to what extent the taking prohibition will apply.[50]

A. THE 4(D) RULE

Section 4(d) of the ESA authorizes tailored special rules that the FWS deems "necessary and advisable" for protecting threatened species.[51] Absent a Section 4(d) rule, threatened species are entitled to all of the same protections as endangered species under federal regulations.[52] Using its Section 4(d) authority, the FWS combined its LPC listing

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46 *See* Endangered and Threatened Wildlife and Plants; Listing the Lesser Prairie-Chicken as a Threatened Species, 77 Fed. Reg. 73,828, 73,828-88 (December 11, 2012) (to be codified at 50 C.F.R. pt. 17). The proposed listing received 57,350 comments and eighty-five organizations or individuals provided comments at the February 2013 public hearings. These included letters from trade associations such as the Colorado Oil & Gas Association, ID FWS-R2-ES-2012-0071-0273, the Texas Oil and Gas Association, ID FWS-R2-ES-2012-0071-0439, and individual companies and mineral rights holders throughout the LPC's range.

47 Endangered and Threatened Wildlife and Plants; Determination of Status for the Lesser Prairie-Chicken, 79 Fed. Reg. at 19,974-20,070; Endangered and Threatened Wildlife and Plants; Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. at 20,074, 20,074-85 (April 10, 2014) (to be codified at 50 C.F.R. pt. 17).

48 Determination of Status for the Lesser Prairie-Chicken, 79 Fed. Reg. at 19,974.

49 16 U.S.C. § 1538(a) (1988).

50 *See* 16 U.S.C. § 1533(d) (2003). The authority to promulgate special rules under this section applies only to threatened species. Species listed as endangered receive the full protection of the ESA, unmodified by any special rules. Additionally, a threatened species for which a special rule has not been promulgated enjoys the same protection as an endangered species. 50 C.F.R. § 17.31(a) (2012).

51 16 U.S.C. § 1533(d).

52 50 C.F.R. § 17.31.

with a special rule that "provides measures that are necessary and advisable to provide for the conservation" of the species.[53]

The Section 4(d) rule for the LPC is unique in that it effectively transfers most of the responsibility for protecting the birds from the FWS to a novel, voluntary, multistate collaboration among the five LPC range states. Specifically, the Western Association of Fish and Wildlife Agencies (WAFWA), a non-profit, quasi-governmental organization that relies on the efforts of member states and provinces to accomplish its objectives,[54] will administer the plan for the LPC, review and approve LPC protection plans submitted by private parties and provide oversight and enforcement against parties that fail to comply with their approved plans.[55] Such plan approval and enforcement authority is normally reserved for the FWS, which has never made such a broad delegation of responsibility for a listed species, threatened or endangered.[56]

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53 Endangered and Threatened Wildlife and Plants; Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. 20,074, 20,074 (April 10, 2014) (to be codified at 50 C.F.R. pt. 17).

54 Western Ass'n of Fish & Wildlife Agencies (WAFWA), Our Mission, http://www.wafwa.org/html/about.shtml (last visited Oct. 13, 2014), *archived at* http://perma.cc/7FEQ-T46E. WAFWA itself has no binding authority.

55 Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. at 20,075. The FWS will continue compliance monitoring activities in conjunction with WAFWA, but the lion's share of management activities for the LPC is now vested outside of the FWS. *Id.* at 20,082. WAFWA's role in the program is discussed in greater detail below.

56 The Section 4(d) rule has been challenged on these and other grounds by environmental groups. Complaint for Declaratory and Injunctive Relief, Defenders of Wildlife v. U.S. Fish & Wildlife Serv., No. 1:14-cv-1025 (D. D.C. June 17, 2014), *available at* http://www.biologicaldiversity.org/species/birds/pdfs/Complaint_lesser_prairie_chicken.pdf, *archived at* http://perma.cc/C88Z-GGMA. While the complaint specifically alleges violations of the Administrative Procedures Act, the National Environmental Policy Act, and the ESA, the initial sixty-day notice of intent to sue broadly asserted that the FWS had "unlawfully delegated its ESA authority to State wildlife agencies." Memorandum from Defenders of Wildlife et al. to Mr. Daniel M. Ashe, Dir., U.S. Fish & Wildlife Serv., and Sally Jewell, Sec'y, U.S. Dep't of the Interior, at 6 (April 10, 2014), *available at* http://www.biologicaldiversity.org/species/birds/pdfs/Lesser_Prairie_Chicken_60-day_Notice_4-10-2014.pdf, *archived at* http://perma.cc/E8MV-CLNR. Similarly, the FWS was challenged for relying on state conservation plans in withdrawing its proposed endangered listing of the dunes sagebrush lizard. Defenders of Wildlife v. Jewell, No. 13-0919(RC), 2014 WL 4829089, at *1 (D. D.C. Sept. 30, 2014). In that case, the court rejected plaintiffs' argument that implementation of the voluntary conservation plans was too speculative and uncertain, concluding that the FWS's reliance on the plans was reasonable and supported by the record. *Id.* at *8. *But see* Defenders of Wildlife v. Jewell, No 12-1833(ABJ), 2014 WL 4714847, at *13 (D. D.C. Sept. 23, 2014) (finding that the FWS inappropriately relied on state conservation measures for the gray wolf). Meanwhile, state, industry and rancher groups are challenging the listing of the LPC as threatened, charging that the FWS did not grant *enough* credence to conservation efforts already implemented at the state and industry level. *See* Amended Complaint for Declaratory and Injunctive Relief at 38-40, Oklahoma v. Jewell, No. 4:14-cv-00123-JHP-PJC (N.D. Okla. filed Apr. 1, 2014), *available at* http://ag.ks.gov/docs/default-source/documents/lesser-prairie-chicken-complaint.pdf, *archived at* http://perma.cc/Y6V4-JR2T; see also Oklahoma Independent Petroleum Association v. Department of Interior, No. 14-cv-307-JHP (N.D. Okla. filed June 8, 2014), Permian Basin Petroleum Association v. Depart-

B. The Range-Wide Conservation Plan

The centerpiece of the LPC's Section 4(d) rule is a highly detailed Range-Wide Conservation Plan (RWP) for the LPC developed by a group of state wildlife officials under the auspices of the LPC Interstate Working Group.[57] The RWP reflects a new trend at the FWS to use voluntary, market-based incentives for species conservation.[58] The FWS endorsed the RWP in October 2013, prior to listing the LPC as threatened.[59] However, the FWS has now formally recognized the RWP as the prime vehicle for implementing the LPC's Section 4(d) rule.[60]

To offset projected impacts to LPC habitat, the RWP forecasts a need to commit nearly six million acres of privately-owned land in Colorado, Kansas, New Mexico, Oklahoma, and Texas to LPC conservation over the next thirty years.[61] This acreage represents approximately 36% of the species' occupied range.[62] Because landowner participation is voluntary, the RWP cannot specify the precise location of the lands that will be enrolled. However, the RWP places priority on what are referred to as LPC Focal Areas and the Connectivity Zones that connect these Focal Areas and includes maps identifying Focal Areas and Connectivity Zones.[63]

The RWP depends on voluntary participation by two types of parties: 1) *private landowners* (offset unit generators) who will provide the conservation lands, and 2) *project developers* (impact unit generators) who will pay fees that will be used to fund the conservation efforts of participating landowners.[64] Developers whose projects cause unavoidable impacts to the LPC can remain in compliance with the ESA by paying mitiga-

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ment of Interior, No. 14-cv-0050 (W.D. Tex. Filed June 9, 2014) and Hutchinson v. Department of Interior, No. 14-cv-0509-JHP (N. D. Okla. Filed Aug. 27, 2014).

57 Endangered and Threatened Wildlife and Plants; Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. at 20,074. The LPC Interstate Working Group was formed under the auspices of WAFWA. LESSER PRAIRIE CHICKEN INTERSTATE WORKING GROUP, http://www.wafwa.org/html/prairie_chicken.shtml (last visited Oct. 13, 2014), *archived at* http://perma.cc/6R4L-BALJ. The Working Group is a technical group associated with the WAFWA Grassland Initiative with five states committing staff to the group. *Id.*

58 *See also* Policy Regarding Voluntary Prelisting Conservation Actions, 79 Fed. Reg. 42,525, 42,525-32 (July 22, 2014).

59 FISH & WILDLIFE SERV., U.S. FISH AND WILDLIFE SERVICE ENDORSES WESTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES LESSER PRAIRIE-CHICKEN RANGE-WIDE CONSERVATION PLAN 1 (Oct. 2013), *available at* http://www.fws.gov/southwest/es/Documents/R2ES/LPC_NR_WAFWA_ConservationPlan_23Oct2013.pdf, *archived at* http://perma.cc/NJM8-826X.

60 *See* Endangered and Threatened Wildlife and Plants; Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. at 20,074, 20,078-79 (fully adopting the RWP as a Section 4(d) special rule).

61 WESTERN ASS'N OF FISH & WILDLIFE AGENCIES, THE LESSER PRAIRIE-CHICKEN RANGE-WIDE CONSERVATION PLAN 27, 72 (2013) [hereinafter RWP], *available at* http://www.wafwa.org/documents/2013LPCRWPfinalfor4drule12092013.pdf, *archived at* http://perma.cc/C2H3-LQYH.

62 *Id.* at 72-73.

63 *Id.* at 79.

64 *Id.* at 1.

tion fees to fund offsite conservation lands.[65] Private landowners providing conservation lands, called "offset units," will receive cost-capped payments (akin to rental payments) for their participation, funded by the project developers' fees.[66] The targeted project developer categories include: oil and gas, electric transmission lines, wind power, cell and radio towers, agricultural activities, road construction and general construction.[67] The oil and gas industry and others remain free to pursue more conventional approaches to ESA compliance; in fact, several energy companies are pursuing incidental take permits under ESA Section 10 and a programmatic Habitat Conservation Plan for their anticipated LPC impacts.[68] Nevertheless, most companies appear likely to opt in to the RWP.[69]

As noted above, private landowners are incentivized to enroll in the RWP by the prospect of funding from project developer fees.[70] The amount paid to landowners is fixed as specified in the RWP and is quite modest, slightly above the per-acre price paid currently by the U.S. Department of Agriculture's Natural Resources Conservation Service to farmers and ranchers who agree to manage portions of their land for the benefit of the LPC.[71] In exchange, the landowner agrees to manage the affected acreage for the benefit of the LPC.[72] Landowners, with assistance from consultants and the staff of the non-profit organization that will administer the RWP, must submit site-specific plans to restore and protect LPC habitat on portions of their land, e.g. restricting cattle grazing and implementing measures to control invasive vegetation that threatens the particular vegetation species used by the LPC.[73]

A key goal of the RWP is the protection of large LPC "strongholds" in each of the four ecoregions wherein the LPC exists in significant numbers.[74] As envisioned by the RWP, each LPC stronghold would be in the 50,000-acre size range.[75] The RWP envisions that these strongholds would have long-term protections, either permanent or on a thirty-year term.[76] Each individual stronghold is intended to support a viable LPC population, requiring at least six to ten leks with an estimated minimum range of 25,000-

65 *Id.* at 273–76.
66 *Id.* at 262–63.
67 *Id.* at 274.
68 *Id.* at 103. The ESA provides for some exception from liability for acts otherwise prohibited by the ESA contingent on the actor's submitting and adopting an approved Habitat Conservation Plan. 16 U.S.C. § 1539; *see supra* notes 21–22 and accompanying text.
69 *See* RWP, *supra* note 61, app. L at 39 (LPC working group estimated that oil and gas companies would be willing to enroll a minimum of five million acres).
70 RWP, *supra* note 61 and accompanying text.
71 *Id.* RWP, *supra* note 61, at 294–97.
72 *Id.* at 298–99.
73 *Id.* at 1-55 app. J. The Natural Resources Conservation Service has published guidance for conservation plans. *Id.*
74 *Id.* at 84 (recommending "strongholds" in each of the four ecoregions, which are shinnery oak, sand sagebrush, mixed grass, and short grass). While initial plans are intended to target existing large contiguous blocks of LPC habitat, the RWP envisions giving increased conservation priority to newly discovered occupied LPC habitat.
75 *Id.*
76 *Id.*

50,000 acres depending on habitat quality.[77] Landowners would be paid a premium to conserve prime LPC habitat in stronghold areas.[78] Conversely, project developers would face higher mitigation expenses in stronghold areas.[79] The goal is to provide anchor habitat for the LPC that is protected from fragmentation in areas known to be favorable for LPC breeding success.[80]

C. Regulation Under WAFWA

The RWP is administered by the WAFWA, a non-profit organization founded in 1922 that today represents twenty-three fish and wildlife agencies across the western U.S. and Canada.[81] The organization encourages principles of sound resource management as well as inter-agency coordination for wildlife protection.[82] WAFWA is a strong advocate for state control of fish and wildlife resources.[83] Decision-making authority within WAFWA for the LPC has been delegated to the heads of the fish and wildlife agencies of the five LPC range states, forming the LPC Initiative Council.[84] Routine administrative matters are managed by the WAFWA staff, several of whom are housed within the various state fish and wildlife offices of the five states.[85] Though WAFWA is not a governmental entity, it will perform quasi-governmental functions under the RWP, such as approval of conservation plans, collection of mitigation fees, distribution of mitigation payments to landowners, and enforcement of the RWP in cases of non-compliance.[86] In short, it will look and act like a regional, single-purpose natural resource agency.

With respect to the LPC, to provide the funds needed to make the landowner payments, WAFWA collects fees from participating project developers whose activities affect LPC habitat.[87] To ensure a net benefit for the bird, an offset ratio of greater than 1:1 is used to calculate the amount of conservation funding needed to offset each acre of impact.[88] As part of the RWP's impact minimization plan, developers are required to avoid or minimize their own adverse impacts on LPC habitat to the extent practical and to mitigate any unavoidable impact by paying the fees to WAFWA.[89] WAFWA selects

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77 *Id.*

78 *Id.* at 84, 100.

79 *See id.* at 98, 235–37, 262 (giving higher habitat quality scores to lands within one mile of other potential habitat and using a habitat score to calculate the maximum mitigation fees).

80 *Id.* at 5, 93-94.

81 *Id.* app. L at 1, 4; WESTERN ASS'N OF FISH & WILDLIFE AGENCIES, OUR HISTORY, http://www.wafwa.org/html/history.shtml (last visited Oct. 13, 2014), *archived at* http://perma.cc/V67N-FCD4.

82 WESTERN ASS'N OF FISH & WILDLIFE AGENCIES, OUR MISSION, http://www.wafwa.org/html/about.shtml, *archived at* http://perma.cc/7FEQ-T46E.

83 *Id.*

84 RWP, *supra* note 61, at 1, 111.

85 WESTERN ASS'N OF FISH & WILDLIFE AGENCIES, *supra* note 82.

86 *See* RWP, *supra* note 61, at app. L at 3.

87 *Id.* at 92–102.

88 *Id.* at 92.

89 *Id.* at 102–10. Avoidance measures include avoiding siting projects in focal areas or within 1.25 miles of known leks, focusing development on already altered or cultivated lands. *Id.* at 107. Where avoidance is not possible, developers must minimize their impacts including

the lands that will receive payments based on a priority ranking process.[90] Project developers do not select the land that will receive payments from WAFWA.[91]

To participate in the RWP, landowners and project developers must submit a detailed Certificate of Participation to WAFWA.[92] In addition, project developers must accept the terms of a standard form Conservation Agreement with WAFWA that details the parties' rights and responsibilities.[93] For landowners, primary obligations include performing the specific habitat protection measures for which they will be paid and allowing access to the land for WAFWA inspection.[94] The details of the landowner's LPC-related commitments are embodied in a site-specific Conservation Plan.[95]

For project developers, the initial enrollment process entails: (1) identifying the land that will be enrolled; (2) paying a $2.25 per-acre annual enrollment fee to WAFWA for the first three years of enrollment; and (3) identifying the developer's required mitigation (in dollars) for unavoidable impacts to LPC habitat.[96] Project developers must also follow practices to avoid or minimize adverse impacts to LPC habitat, such as focusing development on lands that have already been altered or cultivated.[97]

Most of the complexity of the enrollment process is associated with the highly detailed metrics of computing the number of offset units that a particular landowner will create through the Conservation Plan or the number of impact units that a project developer will create by its project.[98] These units must then be converted to dollars that must be paid by project developers or paid to conservation landowners.[99]

Four factors are considered in computing a project developer's required mitigation fees under the RWP.[100] The first factor is the cost of implementing habitat conservation practices as determined by the U.S. Department of Agriculture.[101] The RWP contains tables that list these cost factors for 2013/2014 for each of the four ecoregions covered by the RWP.[102] Costs range from approximately $20 to $50 per acre per year.[103] This cost factor is also used to calculate the amount that a developer must pay to WAFWA for its administrative fees, currently 12.5% of the average habitat management cost for the ecoregion in question.[104]

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using common rights of way for new infrastructure like roads, fences, and well pads. *Id.* at 108. Specifically, oil and gas developers may minimize their impacts by using directional drilling and clustering *Id.* at 108. When a developer still faces unavoidable impacts, the developer then mitigates through participation in the RWP. *Id.* at 108.

90 *Id.* at 262.
91 *Id.*
92 *Id.* at 1, 48, 215-30.
93 *Id.* at 1, 99, 183-214.
94 *Id.* at 193–94.
95 *Id.* at 100.
96 *Id.* at 212.
97 *Id.* at 107.
98 *Id.* at 232–43, 252–74.
99 *Id.* at 252–74.
100 *Id.* at 232.
101 *Id.*
102 *Id.* at 236.
103 *Id.*
104 *Id.* at 261.

For the second factor, the RWP includes various "impact multipliers" designed to discourage development (i.e. require more mitigation) in higher priority LPC areas.[105] This aspect of the RWP relies on the Southern Great Plains Critical Habitat Assessment Tool (CHAT), which establishes four categories of areas in the five-state area in terms of their general value as LPC habitat.[106] The mitigation ratio in CHAT category I, for example, is 2.5 to 1, meaning that 2.5 acres of mitigation funding must be provided by the developer for each acre of impact.[107] In CHAT category IV, the lowest value class, the ratio is 1.6 to 1.[108]

The third variable in computing a developer's mitigation fee is an assessment of the condition of the specific site or sites that the developer plans to develop, not just the CHAT category of the site.[109] Sites that score higher on this Habitat Evaluation Guide (HEG) test will require a higher mitigation fee than lower-ranking sites.[110] The HEG test is based primarily on the amount and quality of a site's vegetation as LPC habitat, as well as the quality of vegetation in the surrounding one-mile radius.[111]

The fourth factor is the degree to which the developer provides buffer space in its development plan to ensure that new structures, such as well pads, do not adversely affect LPC habitat suitability.[112] For well pads, the buffer is 200 meters.[113] The RWP presumes that all land within the buffer area is completely unusable by LPCs.[114]

Similar factors go into calculating the amount of money that a landowner can expect to generate by committing to the conservation of LPC habitat on his or her land.[115] The process begins by determining the amount of un-impacted land that the landowner proposes to include in the Conservation Plan.[116] The buffer distances mentioned above are used to determine whether land is or is not impacted by development infrastructure, such as well pads and transmission lines.[117] Next, the landowner performs the HEG test for each parcel of land in the Conservation Plan and proposes actions that could elevate the HEG score.[118] Higher-scoring land receives a higher payment than lower-scoring land.[119] Next, the landowner uses the CHAT map to determine the offset multiplier that applies.[120] In CHAT category I, the offset multiplier is 1.25, whereas in CHAT category IV, the multiplier is 0.8.[121] Finally, the RWP weighs certain practices more heavily than

105 *Id.* at 232.
106 *Id.* at 100, 232
107 *Id.* at 236.
108 *Id.*
109 *Id.* at 232.
110 *Id.* at 235–37.
111 *Id.* at 98–99.
112 *Id.* at 232.
113 *Id.* at 95.
114 *See id.* at 234.
115 *Id.* at 94–99.
116 *See id.* at 95.
117 *Id.*
118 *Id.* at 98.
119 *See id.* at 257–58.
120 *Id.* at 100.
121 *Id.*

others based on the cost of carrying that practice out; this is taken into account in calculating the payment that the landowner can expect to receive.[122]

Once enrollment in the RWP is confirmed by WAFWA, following receipt of the party's Certificate of Participation and execution of the WAFWA Conservation Agreement, project developers are entitled to *assurance* from the FWS that they have satisfied the requirements of the ESA and that any incidental taking of LPCs in connection with their project will not be treated as a violation of the ESA Section 9 taking prohibition.[123] This assurance is the prime motivation for project developers to enroll in the RWP since, without the assurance, the developer could additionally be required to obtain an ESA incidental take permit.[124] To qualify for such assurance, the developer must comply with the LPC impact avoidance and minimization requirements of the WAFWA Agreement[125] in addition to paying the required fees to WAFWA. WAFWA then must secure mitigation sites for which developers have paid by signing up landowners in a timely manner.[126]

Oversight and enforcement rests with WAFWA.[127] If a landowner participant is found to be out of compliance, WAFWA's prime tool is to discontinue or reduce payments to that landowner.[128] For project developers, WAFWA has the authority to issue non-compliance letters and to seek resolution of the matter within a forty-five-day period.[129] Receipt of three unresolved non-compliance letters within a three-year period will constitute grounds for WAFWA to withdraw the participant's coverage under the RWP and the ESA assurances that go with it.[130]

In sum, the RWP envisions an elaborate voluntary market for LPC conservation, funded by developer impact fees and drawing participation by landowners who own LPC habitats and are willing to protect and enhance that habitat in return for cost-capped payments from WAFWA.[131] WAFWA takes administrative fees out of the incoming revenue to cover its program operating costs.[132] Compliance monitoring is based largely on self-reporting with WAFWA oversight.[133] WAFWA itself conducts compliance

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122 *Id.* at 262–63.

123 *Id.* at 2, 205–09. To enroll in the RWP program, a non-federal property owner must complete a WAFWA Conservation Agreement (WCA) and a WAFWA Certificate of Participation (WCP) signed by WAFWA. *Id.* at 189.

124 *See generally id.* at 1–154.

125 *Id.* at 102–10, 197–201; *see also supra* note 89 and accompanying text.

126 *See* Endangered and Threatened Wildlife and Plants; Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. 20,074-85 (April 10, 2014) (codified at 50 C.F.R. § 17.41).

127 RWP, *supra* note 61, at 122–27, 213–14, 227.

128 *See id.* at 124 (requiring compliance monitoring with a new habitat evaluation guide score which can be used to reduce the offset payment as discussed above).

129 *Id.* at 227.

130 *Id.*

131 *See id.* at 262–71. Payments are determined based on the ecoregion in which the offset unit is located and on the cost associated with implementing the prescribed conservation practice for the area. *Id.* at 263. Additionally, landowners placing their land under a perpetual conservation easement are entitled to a maximum of 50% of the fair market value for the area. *Id.* at 269.

132 *Id.* at 212.

133 *See id.* at 228.

monitoring, both for private landowners and project developers.[134] WAFWA member state agencies are responsible for monitoring the overall success of the RWP.[135]

D. Challenges Ahead

Notwithstanding the RWP's positive elements, its design presents important challenges. First, the sheer complexity of the Plan document, which is over 300 pages in length, makes it difficult for most readers to understand.[136] As noted previously, the RWP is built around a highly detailed set of criteria for project developers to determine the fees they must pay and an equally detailed set of criteria for determining the value of the conservation commitments made by participating landowners.[137] If developers and landowners cannot understand the structure and metrics of the RWP, enrollment and Plan execution could be difficult to sustain.

Second, the RWP places its primary reliance upon enrolling landowners under five- or ten-year contracts.[138] While the RWP presumes that most adverse impacts will be permanent, only 25% of the projected conservation acres will be protected by perpetual easements.[139] The RWP targets the other 75% of conservation efforts to be in the form of term contracts that generate annual payments to participating landowners.[140] This strategy presumes that protected LPC habitat will shift to new locations as landowner participants move in and out of the program.[141] While the RWP describes this feature as positive for LPC conservation,[142] it is not clear how this approach to mitigation will achieve optimal or predictable long-term conservation outcomes for the species.

Third, it is not clear that WAFWA will have the resources to ensure that RWP participants will be held accountable for failure to fulfill the obligations to which they have committed under their enrollment submissions. The limited staff resources that will be assigned to the RWP effort, including two technical or biologist positions per ecoregion,[143] may not be sufficient to support an aggressive enforcement program. In addition, it is not clear how WAFWA may be held accountable if the RWP does not meet its LPC habitat protection goals or the population target of 67,000 birds.[144] The RWP proposes a highly detailed adaptive management process to address these kinds of uncertainties, and

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134 *Id.* at 124. Private landowners must grant WAFWA personnel access to confirm compliance with RWP specifications. *Id.* Project developers are also monitored for compliance with their avoidance and mitigation measures. *Id.* If the project developer exceeds three notices of noncompliance and fails to address those measures within the allotted timeframe, the developer can be terminated from RWP coverage. *Id.* at 124–25.

135 *Id.* at 122.

136 *Id.* at 1–308.

137 *See id.* at 237–41, 262–71.

138 *Id.* at 93, 213.

139 *Id.* at 91.

140 *Id.*

141 *Id.*

142 *Id.* at 26 (indicating that range shifts may be beneficial due to changing climatic conditions).

143 *Id.* at app. L at 24.

144 *Id.* at 71.

it will be important to watch how aggressively the organization moves to follow this process.[145]

Finally, there is a question as to whether the relatively low prices currently being offered to landowners by the RWP will entice significant numbers of landowners to participate on a long-term basis. The RWP's price structure is based on government-established payment levels as opposed to prices that landowners are necessarily willing to accept.[146] In other words, the RWP is not a wholly market-based framework.[147]

V. Opportunities for the Oil and Gas Industry

If the RWP and other voluntary LPC protection programs do not achieve meaningful long-term benefits, it is unlikely that the federal government will simply let the species continue to decline toward endangerment and, potentially, eventual extinction. If voluntary action fails to protect the LPC, industry will most likely face the consequences of stricter, less flexible regulation, such as a future petition to list the LPC as endangered and court challenges to implementation of the LPC's Section 4(d) rule. Because either outcome could significantly disrupt oil and gas development as well as other economic activity in the region, it is in the industry's long-term interest for the RWP program to work effectively to increase the LPC population and avoid such disruption. Annual surveys of estimated LPC population numbers will take on heightened significance in this respect. Likewise, the RWP's adaptive management procedures will be an important tool for addressing possible under-performance of the Plan.

Companies can consider prudent steps to help ensure that they gain the benefits of the RWP — regulatory certainty at a reasonable price — without contributing to outcomes that could be detrimental to the species' prospects and increase the likelihood of an eventual endangered listing.

First, developers operating in LPC country, especially those in prime LPC habitat, should consider active measures to limit the impacts of their activities on the species.[148]

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145 *Id.* 116–21. For instance, in the event that an enrollee is not in compliance, the adaptive management plan requires sending a noncompliance letter or removal of certification. *Id.*,at 118. If the quality of offset acreage is less than that of impacted acreage on average, the RWP adaptive management plan calls for adjusting offset ratios, mitigation unit values, and prioritizing habitat quality when ranking landowner offers. *Id.* at 119.

146 *See id.* at 262–71.

147 The FWS acknowledged the potential success of the program is dependent on adequate enrollment. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Lesser Prairie-Chicken, 79 Fed. Reg. 19,974, 19,980 (Apr. 10, 2014) (codified at 50 C.F.R. pt. 17) ("In conclusion, we have a high level of certainty that the rangewide plan will improve the status of the species into the future if sufficient enrollment occurs and the plan is implemented accordingly. However, the rangewide plan has not contributed to the elimination or adequate reduction of the threats to the species at the current time to the point that the species does not meet the definition of threatened or endangered.").

148 *See supra* note 89.

The RWP provides a comprehensive list of measures that project developers can take to avoid or minimize their adverse impacts on the LPC.[149]

Second, where oil and gas development in LPC habitat cannot be avoided or minimized, companies may wish to take steps to ensure that WAFWA uses their fees for permanent, as opposed to temporary, habitat conservation. In particular, companies can urge WAFWA to adopt procedures that give developers a voice on the use of their payments for permanent protection of identified lands. As noted above, the RWP strategy presumes that protected LPC habitat will shift over time as participant landowners move in and out of the program, but it is not clear how this approach will achieve the maximum results for the species.

The RWP specifies that permanent conservation is to be carried out in accordance with the same standards that must be achieved by ESA "conservation banks."[150] Conservation banks are regulated enterprises that take advantage of growing private sector interest in the ecosystem conservation space.[151] In part because the creation and sale of species credits is a conservation bank's primary function, not just an ancillary source of revenue, such banks have been recognized as a superior approach to mitigation.[152] This recognized approach to conservation would be in the long-term best interest of industry, as it appears more likely to lead to sustainable LPC population increases and reduced risk of future, stricter regulation. Further, it is possible that, either the pending litigation (which challenges the promulgation of the LPC's Section 4(d) rule on its face), or future challenges to actions under the RWP may ultimately be successful.[153] Companies that have provided for designated permanent mitigation may find themselves less vulnerable to challenges to their reliance on the RWP than companies that undertook only temporary habitat conservation.

Third, companies should consider pursuing permanent conservation, in part, because this approach has worked before for the oil and gas industry for other ESA-listed species. For example, in 2012, TransCanada sought to complete the southern portion of its controversial Keystone XL pipeline running from Cushing, Oklahoma to Nederland, Texas.[154] A federally-listed endangered species, the American Burying Beetle, is present

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149 *Id.* at 197–201; *see also supra* note 89 for listed measures.

150 RWP, *supra* note 61, at 93. Conservation bank guidance requires a robust management plan, careful site selection, a sufficient buffer area around the bank, and extensive monitoring. U.S. FISH & WILDLIFE SERV., GUIDANCE FOR THE ESTABLISHMENT, USE, AND OPERATION OF CONSERVATION BANKS 1-18 (2003) *available at* http://www.fws.gov/endangered/esa-library/pdf/Conservation_Banking_Guidance.pdf, *archived at* http://perma.cc/68UB-688A; U.S. FISH & WILDLIFE SERV., CONSERVATION BANKING: INCENTIVES FOR STEWARDSHIP 1-2, (2012), *available at* http://www.fws.gov/endangered/esa-library/pdf/conservation_banking.pdf, *archived at* http://perma.cc/H5H3-QZWR.

151 *See* CONSERVATION BANKING: INCENTIVES FOR STEWARDSHIP, *supra* note 150, at 1-2.

152 *See* Gregory M. Parkhurst & Jason F. Shogren, *Evaluating Incentive Mechanisms for Conserving Habitat*, 43 NAT. RESOURCES J. 1093, 1147 (2003) ("When markets have many buyers and sellers such that the developmental pressure in the region is strong, conservation banking is the preferred mechanism for species protection.").

153 Defenders of Wildlife v. U.S. Fish & Wildlife Serv., No. 1:14-CV-1025 (D. D.C. filed July 17, 2014).

154 TRANSCANADA KEYSTONE PIPELINE, LP, FINAL HABITAT CONSERVATION PLAN: TRANSCANADA KEYSTONE PIPELINE, LP GULF COAST PROJECT 3 (2012) [hereinafter TRANS

in an area in eastern Oklahoma through which the pipeline was sited to cross, potentially resulting in an incidental take of the species.[155] Working closely with FWS, TransCanada established a permittee-responsible conservation plan that protected prime beetle habitat in perpetuity.[156] The Keystone McAlester Conservation Area (KMCA) was created as a result.[157] Not only was TransCanada able to satisfy regulators and obtain an incidental take permit for this portion of its pipeline, but future permittees now have a vehicle for similar, permanent conservation measures at an American Burying Beetle Conservation Bank located adjacent to the KMCA.[158] While the species still faces challenges, this effort highlights an approach to protection of an ESA-listed species that enhances long-term recovery prospects.

Finally, industry needs to carefully monitor the success of the overall RWP effort and be prepared to reinforce weak spots that might develop during its implementation. For example, it may turn out that WAFWA lacks adequate staff resources to administer a voluntary program involving hundreds of participants and millions of dollars spread across five states. If so, it may be in the industry's best interests to provide technical or even financial support, over and above the administrative fees it is initially required to pay into WAFWA.

VI. Conclusion

Few species have presented conservation challenges under the ESA that are as difficult as those the LPC presents given the size of the bird's range and the overlap of its range with competing land uses, including, but by no means limited to, oil and gas development. The FWS may have disappointed the states and industry by listing the LPC as threatened, but it has crafted a plan that delegates unprecedented implementation authority to a quasi-governmental, state-led authority, WAFWA. WAFWA will in turn administer a massive voluntary program to protect the LPC from habitat loss and fragmentation, its primary threats.[159]

This Article identifies several key challenges facing the RWP, primarily its reliance upon many short-term, low-cost, voluntary contracts with landowners to protect LPC habitat. It is not yet clear how such a decentralized approach to conservation can effectively combat habitat fragmentation to a degree large enough to protect the entire species. If the experiment does not succeed, and the LPC's numbers decline over the coming years, the LPC could indeed become a growth-limiting factor for the oil and gas

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Canada HCP] http://www.fws.gov/southwest/es/oklahoma/documents/te_species/keystone/final%20keystone%20hcp%2020121029.pdf, *archived at* http://perma.cc/796Z-N3MW.

155 *Id.*; Notice and Request for Comment for Draft Environmental Assessment and Draft Habitat Conservation Plan for TransCanada Keystone Pipeline's Gulf Coast Project in Oklahoma, 77 Fed. Reg. 49,824, 49,824 (August 17, 2012).

156 Notice and Request for Comment for Draft Environmental Assessment and Draft Habitat Conservation Plan for TransCanada Keystone Pipeline's Gulf Coast Project in Oklahoma, 77 Fed. Reg. at 49,824.

157 TransCanada hpc, *supra* note 154, at 64–65.

158 *Id.* at 64.

159 RWP, *supra* note 61, at 3.

industry in the economically active five-state region that the species inhabits. On the other hand, if LPC numbers rise significantly, the RWP will represent a victory for the voluntary conservation movement and the fundamental values of the ESA. Such a success could then be replicated as an innovative approach to conservation for other wide-ranging species under the ESA.

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Desalination in Texas: Struggling to Cope

By Markus A. Goll

I. INTRODUCTION

Water scarcity is a considerable problem in Texas. The global population has increased at a faster rate over the last two centuries than at any other time in history, and although this trend is expected to decline in the future,[1] this population boom could have major implications for water availability looking forward. Although extremely noble and of the utmost importance to the short-term sustainability of life, current conservation efforts rely on methods of reducing use that only delay the inevitable.[2] As the population multiplies, one can only divide the pie into so many slices before it becomes worthless. It is therefore necessary to develop strategies to ensure long-term water availability to support our large and growing community.

One way to accomplish this goal is to combine conservation efforts with alternative resources. Ethanol, solar power, and wind energy are a few examples of many potential alternative methods to satisfy these needs.[3] Although alternative methods are usually not perfected, are difficult to implement, and are not very cost-effective,[4] they should still be viewed as necessary for future development. After all, much of what people consider a natural resource is refined in some way into usable products through technological innovation, similar to the way people develop alternative sources.[5]

Desalination poses many of the same challenges as other alternative sources and innovative methods, but in reality, most of what people consider "fresh water" is filtered and chemically treated or is a product of innovation.[6] Few people would dip a glass into the local reservoir and take a big swig. The likely resulting intestinal disorder is enough to deter even the bravest soul.[7] So, how is filtration and chemically treating water to make it safe for human consumption any different from desalination, which is similarly a process to treat water to make it safe for human consumption?[8] Even considering rapid

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1 *Population Growth Over Human History*, http://www.globalchange.umich.edu/globalchange2/current/lectures/human_pop/human_pop.html (last visited Sept. 13, 2014), *archived at* http://perma.cc/LN68-CDHX.

2 *Economic Incentives for Water Conservation*, http://science.jrank.org/pages/7306/Water-Conservation-Economic-incentives-water-conservation.html (last visited Sept. 13, 2014), *archived at* http://perma.cc/KN9C-JGJB.

3 *Alternative Forms of Energy*, BENEFITS OF RECYCLING (Sept. 13, 2014, 1:02 PM), http://www.benefits-of-recycling.com/alternativeformsofenergy/, *archived at* http://perma.cc/Y6YN-LL4F.

4 *Id.*

5 *See Making Fuels and Products*, BRITISH PETROLEUM (Sept. 13, 2014, 1:20 PM), http://www.bp.com/en/global/corporate/about-bp/what-we-do/making-fuels-and-products.html, *archived at* http://perma.cc/RB9W-CUZY.

6 *Water Treatment Process*, ENVTL. PROT. AGENCY (Sept. 13, 2014 1:29 PM), http://water.epa.gov/learn/kids/drinkingwater/watertreatmentplant_index.cfm, *archived at* http://perma.cc/8EWL-8CMM.

7 Charles Duhigg, *That Tap Water is Legal but May be Unhealthy*, N.Y. TIMES, Dec. 16, 2009, http://www.nytimes.com/2009/12/17/us/17water.html?pagewanted=all&_r=0, *archived at* http://perma.cc/6RN2-LENX.

8 *Saline Water: Desalination*, U.S. GEOLOGICAL SURVEY (Sept. 13, 2014 1:58 PM), http://water.usgs.gov/edu/drinkseawater.html, *archived at* http://perma.cc/CQ3K-GHXT.

population growth and drought conditions, hope in an abundant water supply exists with desalination—if only Texas can change its view toward producing water.

This Note explores some disadvantages, but primarily advocates for the expansion of desalination efforts in Texas. Although this Note does not explore the infinite uses of water, common sense dictates that water is a part of much that we do in Texas. Whether to sustain life, business, or even society in general, water is an essential resource that many may take for granted. To illustrate, a commercial advertisement for broadband service shows a carrier delivering a package in the middle of nowhere to signify that people can run a business from anywhere. But there is a reason why there are not more businesses in the middle of deserts, and it is doubtful that the lack of broadband or delivery service is the reason. However, a desalination facility that taps into underground brackish aquifers could possibly allow businesses to thrive in the desert. And if implemented here, it would allow Texas to take advantage of its wide-open spaces. The phrase "if you build it, he will come"[9] does not have to symbolize only businesses such as Wal-Mart, but can also apply to desalination. This fact should reverberate in the Texas legislature. After all, would not most people find a way to use water if more were available?

After assessing Texas's water needs and critiquing the 2012 State Water Plan in Part II, this Note provides a brief historical context and a basic understanding of the desalination process in Part III. Part IV frames the current regulatory structure and explains how regulation adds to the existing natural impediments of desalination. It further examines the relationship between regulatory action and desalination, emphasizing how various authorities and their respective regulations are either promoting or impeding desalination efforts in Texas. This Note further suggests that a regulatory and legislative disconnect exists that contributes to the natural impediments preventing desalination from being a more viable source of usable water. This Note is not the solution to every obstacle desalination faces. Rather, when it identifies an impediment, the Note examines possible regulatory changes to promote desalination as a usable water source for Texas in Part V. This Note concludes with a discussion in Part VI of the benefits Texas might enjoy from increased use of desalination technology and suggests in Part VII possible legislative changes that could assist with those efforts.

II. Texas's Water Need

Water covers over 70% of the planet's surface, yet water usable for human consumption represents less than 1% of this vast resource.[10] The greatest portion of the world's total water volume, over 96%, forms the world's oceans.[11] Unfortunately, seawater is essentially useless for human consumption in its raw form due to its high salinity.[12] For

9 Field of Dreams (Universal Studios 1989).

10 Nikolay Voutchkov, Desalination Engineering Planning and Design 1 (Larry S. Hager et al. eds., 2013).

11 *Id.*

12 *Can Humans Drink Seawater?*, Nat'l Oceanic & Atmospheric Admin. http://oceanservice.noaa.gov/facts/drinksw.html (last visited Nov. 30, 2013), *archived at* http://perma.cc/7HZP-LZ56; Rachel Cassidy, Greg Noelken, & Regina Frey, *Treating the Public Water Supply: What Is In Your Water, and How Is It Made Safe to Drink?*, http://www.chemistry.wustl

emergency needs or basic human survival, a person needs a relatively small amount of water, but as a society develops and expands, total water requirements increase exponentially.[13] Texas is a prime example in which rapid population expansion has created a natural increase in demand for water for applications such as agriculture, manufacturing, utilities, business, industry, power generation, and household use.[14] Historically, Texas once enjoyed the availability of inexpensive surface and groundwater, however, relatively recent population growth and drought have strained much of these existing sources.[15] The strain is so severe that the 2012 State Water Plan projects that Texas will need an additional three million acre-feet beyond its current supply of water by 2060.[16] The Texas Water Development Board (TWDB) bases this projection on models that estimate an 82% increase in population over the same period to roughly 46.3 million people.[17] However, an increase of three million acre-feet in additional water supply is only a part of Texas's water story.

A. POPULATION GROWTH

The impact of population growth is already negatively affecting our current water supply.[18] In fact, the 2012 State Water Plan estimates that existing water supplies will decline steadily over the next fifty years.[19] Taking into account the current and anticipated depletion of groundwater aquifers throughout the state, a more accurate estimate of Texas's water needs in 2060 would actually be 8.3 million acre-feet beyond its current supply.[20] This estimate reflects the need to compensate for the declining water supply and ensure that the water supply is sufficient to meet future needs.[21] This additional supply equates to 2.7 trillion gallons of water or roughly 160 gallons per person per day

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.edu/~edudev/LabTutorials/Water/PublicWaterSupply/PublicWaterSupply.html (last updated Sept. 5, 2008), *archived at* http://perma.cc/6PGZ-8NAQ.

13 Brian Reed & Bob Reed, World Health Org., Technical Notes on Drinking-Water, Sanitation and Hygiene in Emergencies 1-2 (2011), *available at* http://www.who.int/water_sanitation_health/publications/2011/tn9_how_much_water_en.pdf, *archived at* http://perma.cc/Z4HP-NXBF.

14 TEX. WATER DEV. BD., WATER FOR TEXAS: 2012 STATE WATER PLAN 129 (2012) [hereinafter 2012 STATE WATER PLAN], *available at* http://www.twdb.state.tx.us/publications/state_water_plan/2012/2012_SWP.pdf, *archived at* http://perma.cc/NZG3-R87P.

15 JORGE ARROYO, TEX. WATER DEV. BD., DESALINATION: WHERE DO WE GO FROM HERE? 6 (2011), *available at* http://www.twdb.state.tx.us/innovativewater/desal/doc/2011_0629_vdesal_whereto.pdf, *archived at* http://perma.cc/A559-SXU5.

16 2012 STATE WATER PLAN, *supra* note 14, at 137.

17 *Id.* at 29.

18 *Id.* at 164.

19 *Id.*

20 *Id.* at 163-70, 176.

21 *Id.* at 176.

based on estimated figures.[22] The concept is simple enough: Texas's use of surface and groundwater sources is outpacing Mother Nature's replenishment.[23]

According to the TWDB, which authors the state water plan, irrigation use accounts for the majority of water use in the state, followed by municipal and manufacturing uses.[24] In 2010, these three categories made up roughly 92% of all water demand in Texas.[25] The TWDB projects these categories will continue to dominate in 2060, despite the prediction that demand for irrigation will decline 17% from 2010 quantities.[26] This significant decline in irrigation seems unimaginable considering that the TWDB predicts such an enormous population growth and estimates water demand for the majority of other categories will steadily increase based on the same population estimates.[27] In sum, the TWDB estimates only a 22% total increase in water demand by 2060, derived from the per capita use in a dry year minus an estimated conservation quantity divided by the population estimates.[28] But considering the much-publicized damage of the 2011 drought and continued water shortages throughout much of the state, perhaps we should be skeptical of correlating an 82% population increase to only a 22% increase in demand.

B. Agriculture Concerns

The TWDB's answer to the disparity between increasing population and the reduction of irrigation is that demand for irrigation will decline due to: (1) increased efficiencies in irrigation, (2) retreating farmland, and (3) an increased cost of pumping water.[29] While these reasons seem compelling, the report further states that "[p]rojections also are intended to reflect the water use that would take place if there were no supply restrictions."[30] This is somewhat inconsistent when agricultural loss was $7.2 billion in 2011

22 *Convert Acre-Feet to Gallons*, Convertunits.com, http://www.convertunits.com/from/acre-feet/to/gallons (last visited Nov. 30, 2013), *archived at* http://perma.cc/697Q-4LEF (This simple online conversion program is used to convert acre-feet to gallons and vice versa. After the conversion is made to gallons, the number is divided by the estimated population, which is then divided by 365).

23 2012 State Water Plan, *supra* note 14, at 163-70.

24 2012 State Water Plan, *supra* note 14, at 137 tbl.3.3 & fig.3.6; Cameron G. Turner et al., Tex. Water Dev. Bd., Report 378: Irrigation Metering and Water Use Estimates: A Comparative Analysis, 1999-2007 11 (2011), *available at* http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R378_IrrigationMetering.pdf, *archived at* http://perma.cc/3WXT-W3C5.

25 2012 State Water Plan, *supra* note 14, at 137 tbl.3.3 & fig.3.6.

26 *Id.*

27 *Id.*

28 *Id.* at 137.

29 *Id.* at 141.

30 *Id.* at 142.

because of a statewide drought.[31] Moreover, the TWDB claims that it assembles the report "under the assumption that all water users are *in drought conditions*."[32]

The language of the 2012 State Water Plan leads one to believe that Texas plans for 100% water delivery even under the worst drought conditions. This is not the case. Some might say 2011 was a drought of record, but even in 2012, the Lower Colorado River Authority stopped supplying water to most rice farmers because of low reservoir levels.[33] The reality is that much of Texas is still experiencing some form of water restriction, but the 2012 State Water Plan implies that the TWDB plans for an adequate water supply even under extreme conditions.

The TWDB attempts to reconcile this apparent conflict by dismissing a portion of genuine water need "because no feasible water management strategy could be implemented in the identified decades of needs."[34] In essence, the TWDB seems to define a water need not on the plain meaning of "water need," but rather qualifies a need on whether the management strategy is feasible. This is disturbing as thirsty people will likely do anything it takes to quench that thirst, but the TWDB's report, in effect, tells Texans when they are thirsty. Through its decision not to include needed water for irrigation, the TWDB is making business decisions for the agricultural industry and the rest of the state. In fact, the report all but states this proposition when it claims, "the return on the investment is not sufficient to support implementation of costly water management strategies."[35]

1. Irrigation Supply Issues

Undoubtedly, the agricultural sector has a significant need for irrigation that the state is not meeting, and worse, not even reporting as a legitimate need.[36] In a more convincing report from the TWDB tailored for irrigation, the main cause of reduced water demand for agricultural purposes is actually declining groundwater supplies from either depleted aquifers or the transfer of water rights away from irrigation for municipal purposes.[37] This theory of reduction is more consistent with the totality of the 2012

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31 *Report: Texas Agricultural Losses from Drought at $7.6 Billion*, NEWS-JOURNAL.COM (Mar. 22, 2012, 7:18 AM), http://www.news-journal.com/news/state/report-texas-agricultural-losses-from-drought-at-billion/article_8f631230-f4d3-57f4-b99b-5e351f07dca3.html (last updated Mar. 22, 2012, 7:18 AM), *archived at* http://perma.cc/CV7G-UEDT; Betsy Blaney, *Drought 2011: Texas Agriculture Losses Could Set New Record*, HUFFINGTON POST (July 27, 2011, 03:19 AM), http://www.huffingtonpost.com/2011/07/27/texas-agriculture-drought_n_910733.html, *archived at* http://perma.cc/F8CA-2YGU.

32 2012 STATE WATER PLAN, *supra* note 14, at 142 (emphasis added).

33 *See* Terrence Henry, *After Water is Cut Off, Texas Rice Farmers Say They Still Have a Future*, STATEIMPACT (Mar. 2, 2012, 12:12 AM), http://stateimpact.npr.org/texas/2012/03/02/how-rice-farming-in-texas-could-still-have-a-future/, *archived at* http://perma.cc/8NLX-MNTS; *see also* Terrence Henry, *How New Texas Water Supplies Could Help Both Farmers and Cities*, STATEIMPACT (Jan. 16, 2013, 12:53 PM), http://stateimpact.npr.org/texas/2013/01/16/how-new-texas-water-supplies-could-help-both-farmers-and-cities/, *archived at* http://perma.cc/8NA8-DPJX.

34 2012 STATE WATER PLAN, *supra* note 14, at 182.

35 *Id.* at 182.

36 *Id.*

37 *See* TURNER ET AL., *supra* note 24, at 8.

State Water Plan because both reports acknowledge that groundwater is dissipating at a rate faster than aquifers can recharge.[38]

Two agriculturally significant areas in Texas, the Panhandle and the Gulf Coast, will face significant future groundwater reductions.[39] In the Panhandle, the Ogallala Aquifer is dropping at an alarming rate from overuse.[40] One study indicates that, within the next thirty years, "35% of the southern High Plains will be unable to support irrigation."[41] The state is also limiting the amount of water drawn from the Gulf Coast Aquifer because of land subsidence, which occurs when so much groundwater is removed that the land above the aquifer sinks.[42] In total, projections estimate a 30% reduction in groundwater by the year 2060.[43] This reduction will have devastating consequences for Texas's agricultural industry as well as the entire state, which gets 79% of its water supply from groundwater.[44]

This reduced water supply is forcing the agricultural industry to change its crop selection in favor of those that require little or no irrigation.[45] However, this transition to less or no irrigation produces crops of smaller yields compared to irrigated crops.[46] These facts are at odds with the basic law of supply and demand. Intuitively, as the population increases, the demand for agricultural products should not decline. In reality, an insufficient water supply will limit crop availability and ultimately jobs.[47] This will result in slower growth where Texans may simply look to out-of-state sources to obtain their needs, whether they be jobs or products.

The trend of smaller crop yields is evidence that water shortages are negatively affecting the agricultural industry. Essentially, the 2012 State Water Plan ignores the true agricultural water demand and use if water were available, the very thing it purports not to do because of "costly water management strategies."[48] In this way, the TWDB evades objective reporting of Texas's real water needs that would allow water suppliers and their users to determine if a management strategy is feasible. Instead, the TWDB implements a system that decides who should get water by determining if the strategy to implement is cost-effective.

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38 Turner et al., *supra* note 24, at 13; 2012 State Water Plan, *supra* note 14, at 166 fig.5.7.

39 Turner et al., *supra* note 24, at 164.

40 Turner et al., *supra* note 24, at 8, 13; 2012 State Water Plan, *supra* note 14, at 164.

41 Bridget R. Scanlon et al., *Groundwater Depletion and Sustainability of Irrigation in the U.S. High Plains and Central Valley*, 109 Proc. Nat'l Acad. Sci. 9320, 9320 (2012); *see also* Sandra Postel, *Drought Hastens Groundwater Depletion in the Texas Panhandle*, Nat'l Geographic: Water Currents (July 24, 2014).

42 Turner et al., *supra* note 24, at 8.

43 Turner et al., *supra* note 24, at 8; 2012 State Water Plan, *supra* note 14, at 167 tbl.5.3.

44 Turner et al., *supra* note 24, at 1; Joan F. Kenny et al., U.S. Geological Survey, Estimated Use of Water in the United States in 2005 23 (2009), *available at* http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf, *archived at* http://perma.cc/M97K-ACSS.

45 Turner et al., *supra* note 24, at 11.

46 *Id.*

47 *Id.* at 10.

48 2012 State Water Plan, *supra* note 14, at 142, 182.

2. POTENTIAL AGRICULTURAL DAMAGE

By not accurately reporting the water supply needs of the agricultural sector, which is significantly tied to the health of livestock, adhering to the 2012 State Water Plan jeopardizes the overall health and financial security of Texas, not to mention the negative repercussions to total U.S. agricultural output.[49] Although the 2012 State Water Plan briefly summarizes the potential economic loss if Texas does not procure the "needed supply," it articulates nothing about the economic loss for the unmet water needs the TWDB deems unworthy of reporting.[50] As one might believe, "irrigated land is more than twice as productive as rain fed cropland . . . ."[51] Consequently, this unmet need is significant in economic terms. It suggests a certain future economic loss from the 17% reduction in irrigation and points toward a lack of water supply for any potential economic growth in the agricultural sector that would otherwise keep pace with the population.[52]

This reduction and stifling of future growth would be devastating to Texas because agriculture is the state's second largest industry, employing one out of every seven working people.[53] The Texas Department of Agriculture asserts that Texas is "one of the largest agricultural states in the nation," and gains $100 billion in economic benefit from agriculture.[54] The devastating economic consequences of an inadequate water supply are not hard to imagine, especially in rural communities where 99% of the agricultural activity is performed by individuals or families.[55] Moreover, the rest of the state, much of the nation, and even foreign countries rely on Texas's agricultural products, such as livestock, cotton, milk, eggs, wheat—the list is endless.[56] Agriculture provides society with not only food, but also with derivative products such as clothing, livestock feed, and biofuel.[57]

Technically, the 2012 State Water Plan categorizes water need for livestock separately than the need for irrigation, but these two categories are inherently linked.[58] Unfortunately, livestock also shares the commonality of relying on groundwater just as irrigation does, and like irrigation, the 2012 State Water Plan projects a reduction of needed supply as well as an unmet need for livestock.[59] This could be devastating for the Texas cattle herd, which drought has already diminished to a sixty-year low.[60] For exam-

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49 TURNER ET AL., *supra* note 24, at 10.

50 2012 STATE WATER PLAN, *supra* note 14, at 181-83.

51 LUTHERAN WORLD RELIEF, LWR & IRRIGATION 1 (2012), *available at* http://programs.lwr.org/atf/cf/{8ed291f8-702d-4e2c-9821-68d75e0105d2}/R_TP_LWR_IRRIGATION.pdf, *archived at* http://perma.cc/Y6T2-8BNK.

52 2012 STATE WATER PLAN, *supra* note 14, at 182-83.

53 TEX. DEP'T OF AGRIC., STRATEGIC PLAN FISCAL YEARS 2013-2017 11 (2012), *available at* http://www.texasagriculture.gov/Portals/0/Publications/FIN/tda_strateplan13%20Final.pdf, *archived at* http://perma.cc/9XW4-5EGB; TURNER ET AL., *supra* note 24, at 10.

54 TEX. DEP'T OF AGRIC., *supra* note 53, at 11.

55 TEX. DEP'T OF AGRIC., *supra* note 53, at 11; TURNER ET AL., *supra* note 24, at 11.

56 TEX. DEP'T OF AGRIC., *supra* note 53, at 11.

57 TURNER ET AL., *supra* note 24, at 9.

58 2012 STATE WATER PLAN, *supra* note 14, at 179.

59 *Id.* at 179, 182.

60 Jeff Wilson, *Record-Low Texas Water Reservoirs May Halt Cattle-Herd Expansion*, BLOOMBERG (Sept. 10, 2013, 5:44 PM), http://www.bloomberg.com/news/2013-09-10/record-low-

ple, Cargill Beef closed its beef plant in Lubbock in 2013 because of the shrinking cattle herd, which is at its lowest since 1952.[61]

The undeniable truth is that, regardless of whether the 2012 State Water Plan classifies needed water as an included "supply need" or excludes it as an "unmet need," the conclusion that Texas needs water for irrigation and livestock remains unchanged.[62]

C. Drought Conditions

When considering water supply and demand in Texas, along with its long history of droughts, water planners would be remiss in not accounting for severe dry conditions.[63] Climate models used to predict droughts suggest that droughts will continue well into the twenty-first century because of rising temperatures and global precipitation changes.[64] To its credit, the TWDB accounts for drought conditions when assessing the state's water needs and requires regional water planners to do the same.[65] This is important because much of Texas's climate is semiarid to arid, resulting more frequently in evaporation than precipitation.[66] However, a more relevant analysis of the 2012 State Water Plan would consider the degree to which drought conditions and Texas's climate factor into the equation.

1. Effects on Surface Water

Surface waters are extremely susceptible to drought conditions and take the brunt of its effects throughout much of Texas.[67] In fact, at the time of this Note, Texas's reservoirs are at only 62.5% capacity while still suffering from lingering drought.[68] In light of this information, and as counterintuitive as it may sound, the 2012 State Water Plan has recommended that over 50% of Texas's projected "new water" come from new reservoirs, even though existing reservoirs are already depleted throughout most of the state.[69] However, this plan to add additional surface water for future supply is not entirely without merit. The majority of the proposed sites for new reservoirs are in the eastern half of the state where there is more precipitation.[70]

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texas-water-reservoirs-may-halt-cattle-herd-expansion.html, *archived at* http://perma.cc/4L7H-CMJD; Shruti Date Singh, *Cattle Herd at 60-Year Low Cuts Tyson Beef Margins*, Bloomberg (July 10, 2013, 12:49 PM), http://www.bloomberg.com/news/2013-07-09/cattle-herd-at-60-year-low-cuts-tyson-beef-margins.html, *archived at* http://perma.cc/6G8C-7X5A.

61 Lynn Brezosky, *Drought Costs Texas a Beef Plant*, Hous. Chronicle (Jan. 23, 2013), http://www.chron.com/business/article/Drought-costs-Texas-a-beef-plant-4218469.php (last updated Jan. 23, 2013, 6:47 PM), *archived at* http://perma.cc/S7KG-JNXP.

62 2012 State Water Plan, *supra* note 14, at 175-81.

63 *See id.* at 151.

64 *Id.* at 152.

65 *Id.* at 225.

66 *Id.* at 144-45.

67 *Id.* at 232.

68 *Texas Reservoirs*, Water Data for Texas, http://waterdatafortexas.org/reservoirs/statewide (last visited Nov. 23, 2013), *archived at* http://perma.cc/RUR7-LMQN.

69 2012 State Water Plan, *supra* note 14, at 190.

70 *Id.* at 190.

In total, the 2012 State Water Plan recommends implementing management strategies that will add 4.5 million acre-feet of surface water toward the estimated 8.3 million acre-feet needed by 2060.[71] The surface water strategies included in the 2012 State Water Plan are constructing new reservoirs, diverting streams, piping for untapped reservoirs, expanding water contracts, and implementing other operational changes.[72] These surface water strategies are excellent for parts of Texas that already enjoy somewhat reliable rainfall, but they do not address the majority of the state that has a semi-arid to arid climate where groundwater is the primary supply.[73]

2. EFFECTS ON GROUNDWATER

Although evaporation does not affect groundwater to the same extent as surface water,[74] aquifers are not altogether drought resistant. In times of drought, or even just insufficient rainfall, farmers tend to increase irrigation, which primarily comes from groundwater.[75] The extra pumping combined with inadequate recharge from a lack of rainfall and diminished surface water has a major impact on groundwater levels during times of drought.[76] The TWDB expects the level of existing surface water supply to remain relatively constant over the next half-decade.[77] However, it does not share the same optimism for fresh groundwater aquifers.[78]

This water shortage creates an undeniable problem because roughly 60% of the current water supply for Texas comes from groundwater.[79] Where will Texas find a replacement source? The blunt answer is that there are not sufficient natural quantities of usable water for replacement. By 2060, the TWDB estimates groundwater supplies will decline to 5.7 million acre-feet from the 8.1 million acre-feet Texans enjoyed in 2010 from existing wells and water rights.[80] Unfortunately, the 2012 State Water Plan has identified only 800,795 acre-feet of new supplies of groundwater sources via new wells and reallocation of water rights as replacement for the anticipated loss of 2.4 million acre-feet from existing sources.[81]

D. STATE WATER PLAN'S ESTIMATED WATER NEED

Even with very broad estimates, after the 10% decline in the primary supply of water,[82] the 2012 State Water Plan asserts that Texas will need an additional 8.3 million acre-feet of new water supply.[83] The recommendations to add this new supply, while not

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71 *Id.* at 176, 190.
72 *Id.* at 190.
73 *Id.* at 147-48.
74 *Id.* at 232.
75 *Id.* at 163, 231; *see also* U.S. Geological Survey, *Groundwater and Drought*, http://water.usgs.gov/ogw/drought/ (last visited Dec. 1, 2013), *archived at* http://perma.cc/LX6W-GZD3.
76 2012 STATE WATER PLAN, *supra* note 14, at 232; U.S. Geological Survey, *supra* note 75.
77 2012 STATE WATER PLAN, *supra* note 14, at 159 fig.5.3.
78 *Id.* at 164.
79 *Id.* at 163.
80 *Id.* at 164.
81 *Id.* at 194.
82 *Id.* at 157.
83 *Id.* at 176 tbl.6.1.

even considering the obvious irrigation needs,[84] maintain that the same limited water sources can add to the supply roughly 4.6 million acre-feet of needed water.[85] This begs the question: where will Texas get the remaining 3.7 million acre-feet?[86] According to the 2012 State Water Plan, roughly 2.2 million acre-feet is from conservation, 915,589 acre-feet is from reuse, and a meager 309,782 acre-feet is from desalination, while other miscellaneous strategies supply the remainder.[87]

The TWDB bases water supply and demand on various projections to the year 2060.[88] First, the 2012 State Water Plan estimates an 82% population increase.[89] Second, it calculates the current average water usage and deducts an estimated conservation quantity to establish the demand.[90] Third, it estimates the future availability of the current supply.[91] The "needed supply" is the difference between estimated supply and estimated demand.[92] The logic is straightforward enough.

The problem, however, is not in the plan's logic but in its details. First, the TWDB fails to account for an obviously needed supply for irrigation and altogether ignores a segment of unmet need as it substitutes its business judgment in place of the water consumer.[93] Quite simply, farmers are not reducing irrigation because they do not need additional water, as the plan would lead one to believe when it proclaims it calculates water need based on "watering under no supply restrictions."[94] On the contrary, supply restrictions are a significant explanation for why the 2012 State Water Plan estimates irrigation to steadily decline.[95] Second, surface and groundwater are limited in supply output and noticeably affected by drought.[96] Although surface water has the potential to meet demands in the eastern region of the state, it does the rest of the state little good where groundwater supplies are not adequate for demand.[97] Third, the TWDB relies too heavily on conservation.[98]

The plan first calculates estimated conservation to reduce the demand, which, along with the reduction in irrigation, explains why an 82% increase in population equates to only a 22% increase in water demand.[99] The plan then calculates an additional estimated conservation quantity of 2.2 million acre-feet to help meet the estimated needed supply.[100] To use conservation as a method to drastically reduce demand and at the same time add to the estimated supply is a bit peculiar. The 2012 State Water Plan maintains,

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84 *See supra* Part II.A.
85 2012 STATE WATER PLAN, *supra* note 14, and text accompanying notes 71-75.
86 *See supra* Part II.A.
87 2012 STATE WATER PLAN, *supra* note 14, at 189.
88 *Id.* at 187.
89 *Id.* at 129.
90 *Id.* at 136-37.
91 *Id.* at 157.
92 *Id.* at 176.
93 *See supra* Part II.A.
94 *See supra* Part II.A.
95 *See supra* Part II.A.
96 *See supra* Part II.B.2.
97 *See* 2012 STATE WATER PLAN, *supra* note 14, at 190.
98 *See id.* at 137, 189.
99 *Id.* at 189.
100 *Id.*

"[c]onservation focuses on efficiency of use and the reduction of demands on existing water supplies."[101] This proposition appears to be sound except that it is referring to management strategies for *new supply* and not for the stated reduction of demand, which the TWDB already factors into the equation.[102]

Although the TWDB's use of conservation is commendable and essential to estimating demand, its additional use to create some form of imaginary 2.2 million acre-feet pool of water from which to draw is misleading. This Note is not alone in questioning the reliability of the 2012 State Water Plan. Some reporting regions, for a number of reasons, intentionally have recommended strategies that produce more water than the reported need.[103]

III. DESALINATION IN TEXAS

Texas is not unique in the world regarding water shortages.[104] Many countries actively regard desalination as a major source of water beyond the traditional surface and groundwater sources to meet water demands.[105] However, in Texas desalination has become a novel concept to supplement less expensive, traditional sources.[106] While Texas has made noteworthy efforts with brackish groundwater desalination over the past decade, the state still does not have a single seawater desalination plant and anticipates obtaining only 3.44% of its estimated needed water to come from desalination by 2060.[107] In comparison, Texas supplied 2.7% of its needed water in 2010 from desalination.[108] This negligible increase in desalination efforts over fifty years is an indication that water planners do not believe that desalination is viable on a larger scale.

While at one time the most difficult obstacle to overcome with desalination was its cost, technological developments have significantly lowered costs of desalination.[109] Now those costs are more comparable with water costs for traditional water supplies such as dams and reservoirs.[110] Factoring in the virtually endless supply of seawater from the

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101 *Id.*

102 *Id.*

103 *Id.* at 198.

104 HISHAM T. EL-DESSOUKY & HISHAM M. ETTOUNEY, FUNDAMENTALS OF SALT WATER DESALINATION 5 (1st ed. 2002).

105 VOUTCHKOV, *supra* note 10, at 1-2. Toward the end of 2011, there were more than 16,000 desalination facilities worldwide producing roughly 19 billion gallons of usable water per day or 1.5% of the world's water supply. *Id.* at 1.

106 ARROYO, *supra* note 15, at 1; *see also infra* notes 127-130.

107 2012 STATE WATER PLAN, *supra* note 14 at 191 fig.7.2; ARROYO, *supra* note 15, at 2.

108 2012 STATE WATER PLAN, *supra* note 14, at 189 tbl.7.2.

109 Noreddine Ghaffour et al., *Technical Review and Evaluation of the Economics of Water Desalination: Current and Future Challenges for Better Water Supply Sustainability*, 309 DESALINATION 197, 198 (2012); *see also* ARROYO, *supra* note 15, at 1, 6; NRS CONSULTING ENG'RS, TEX. WATER DEV. BD., GUIDANCE MANUAL FOR BRACKISH GROUNDWATER DESALINATION IN TEXAS 2 (2008), *available at* http://www.desal.org/desaldemo/Desal%20PDFs%20for%20Site/GM%20-%20Full.pdf, *archived at* http://perma.cc/9JTG-U2WW.

110 Ghaffour et al., *supra* note 109, at 198; ARROYO, *supra* note 15, at 1, 6; NRS CONSULTING ENG'RS, *supra* note 109, at 2.

Gulf of Mexico and an estimated 2.7 billion acre-feet of brackish groundwater, Texas is in a position to expand its desalination output significantly.[111] However, whether impediments originate from high costs, unfamiliarity with desalination, regulatory hurdles, or a combination of effects, Texas has little overall production of desalinated water.[112]

Currently, Texas has a municipal production capacity of roughly 123 million gallons per day from forty-six desalination facilities that treat brackish groundwater, with an additional 60 to 100 million gallons per day capacity from the private industrial sector.[113] This amounts to less than 1% of the total water demand in Texas from 2010 projections,[114] which is curious for a state with 367 miles of coastline and 2.7 billion acre-feet of brackish groundwater.[115]

The amount of brackish groundwater alone is over 200 times the amount of estimated available fresh groundwater.[116] Hypothetically, the amount of brackish groundwater that could be desalinated could supply Texas with 2.7 million acre-feet of water annually for a thousand years. This amount is not only 10% of the estimated water needed by 2060, but it is over 10% of the estimated total water supply in Texas by 2060.[117] This calculation does not include the Gulf Coast region that would also benefit from seawater desalination. Moreover, increased use of seawater, and possibly brackish groundwater, could alleviate current pressures on fresh groundwater and alleviate related subsidence issues.

In fact, the depletion of groundwater throughout the state should be a substantial warning to legislators that traditional water supplies are not limitless.[118] In contrast, desalination has the potential to provide the state with enormous amounts of usable water, even under drought conditions.[119] Furthermore, aside from supplementing traditional water supplies, desalination can also help purify existing water supplies by removing harmful chemicals, viruses, bacteria, and other human pathogens, thereby increasing water quality and creating a more reliable water supply.[120]

A. History of Desalination in Texas

Historically, some might say Texas has led the nation with desalination efforts, while others might suggest uncertainty in its actions. In the early years of desalination, Freeport, Texas was one of the first sites in the United States to have a demonstration plant

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111 NRS Consulting Eng'rs, *supra* note 109, at 2; Voutchkov, *supra* note 10, at 1.

112 Arroyo, *supra* note 15, at 1.

113 Tex. Water Dev. Bd., Desalination: Brackish Groundwater 1 (2013) [hereinafter TWDB: Brackish Groundwater], *available at* http://www.twdb.state.tx.us/publications/shells/Desal_Brackish.pdf, *archived at* http://perma.cc/9AFZ-BWED.

114 2012 State Water Plan, *supra* note 14, at 137 tbl.3.3.

115 Tex. Water Dev. Bd., Desalination: Seawater 1 (2013) [hereinafter TWDB: Seawater] *available at* http://www.twdb.state.tx.us/publications/shells/Desal_Seawater.pdf, *archived at* http://perma.cc/U4UW-5YCH; *see also* TWDB: Brackish Groundwater, note 113, at 1.

116 2012 State Water Plan, *supra* note 14, at 165.

117 *See id.* at 137 tbl.3.3.

118 *See supra* notes 19-23.

119 Arroyo, *supra* note 15, at 1; Brent M. Haddad, *A Case for an Ecological-Economic Research Program for Desalination*, 374 Desalination 72, 73 (2013).

120 Haddad, *supra* note 119, at 72; Voutchkov, *supra* note 10, at 11.

for seawater desalination.[121] President Kennedy ceremoniously opened the plant via a button from the White House, and in his dedication speech, he stated, "No water resources program is of greater long-range importance than our efforts to convert water from the world's greatest and cheapest natural resources – our oceans – into water fit for our homes and industry. Such a break-through would end bitter struggles between neighbors, states and nations."[122]

The plant was a result of the Saline Water Act, which Congress originally passed in 1952, establishing the Office of Saline Water.[123] The act authorized research and development under an initial $2 million, five-year program.[124] Congress continued to increase funding for the program to the sum of $75 billion at the time President Kennedy gave his dedication speech for the Freeport facility.[125] Up until 1976, Congress continued to increase funding, but eventually closed the Office of Saline Water because conventional wisdom thought that desalination had advanced enough that private industry could continue development.[126]

In 2002, Governor Rick Perry picked up the 26-year-old desalination baton and charged the TWDB with development of seawater desalination.[127] The following year, Governor Perry signed House Bill 1370, authorizing the TWDB to conduct research and development of seawater desalination.[128] The TWDB has since expanded its duties to include research and development of brackish groundwater.[129] However, Texas has not yet reached the goal set by Governor Perry of a large-scale seawater desalination facility.[130]

On the other hand, by far Texas's greatest claim for success in the desalination arena is the Kay Bailey Hutchison desalination plant in El Paso, which became operational in

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121 Hari J. Krishna, *Introduction to Desalination Technologies*, *in* THE FUTURE OF DESALINATION IN TEXAS (VOUME 2): TECHNICAL PAPERS, CASE STUDIES, AND DESALINATION TECHNOLOGY RESOURCES 1 (2004), *available at* http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R363/C1.pdf, *archived at* http://perma.cc/BW2G-JZV5.

122 *Id.*

123 *Id.*; E. Delyannis & V. Belessiotis, *Desalination: The Recent Development Path*, 264 DESALINATION 206, 207 (2010).

124 Delyannis & Belessiotis, *supra* note 123, at 207.

125 *Id.*

126 *Id.* at 208.

127 Governor Rick Perry, Announcement in San Antonio on Securing Abundant Water Supplies for Texas' Future Needs (Apr. 29, 2002), *available at* http://governor.state.tx.us/news/speech/10593/, *archived at* http://perma.cc/2J73-EGYX; NRS CONSULTING ENG'RS, *supra* note 109, at 2.

128 Act of May 15, 2003, 78th Leg., R.S., ch. 49, § 2, 2003 Tex. Gen. Laws 49 (current version at Tex. Water Code Ann. § 16.060 (West 2013)).

129 Act of June 18, 2005, 79th Leg., R.S., ch. 1369, art. VI, p. VI-56, 2005 Tex. Gen. Laws 4324, 4967; NRS CONSULTING ENG'RS, *supra* note 109, at 2.

130 TEX. WATER DEV. BD., THE FUTURE OF DESALINATION IN TEXAS: 2012 BIENNIAL REPORT ON SALTWATER DESALINATION 2 (2012) [hereinafter TWDB: THE FUTURE OF DESALINATION], *available at* http://www.twdb.state.tx.us/innovativewater/desal/doc/2012_TheFutureofDesalinationinTexas.pdf, *archived at* http://perma.cc/42W3-3QKF.

2007.[131] The plant is the largest inland brackish water desalination facility in the United States, with a production capacity of 27.5 million gallons of usable water per day.[132]

Yet, even with such an impressive operation to its credit, Texas only obtains a very small percentage of its water from desalination.[133] In fact, the 2012 State Water Plan estimates Texas will only increase desalination output to 3.44% of the total water supply by 2060.[134] The positive legislation and acknowledgment of desalination's importance from leaders in Texas suggests that Texas would increase desalination use much greater than 3.44%.[135]

B. Desalination Technology

While there are multiple methods of desalination, the most common in Texas is reverse osmosis (RO).[136] Some examples of less common methods are thermal distillation, electro-dialysis, ion exchange, and freezing.[137] Each method serves a distinct purpose. For example, countries in the Middle East use mostly distillation because it is more efficient given the area's extremely high saline waters.[138] In another example, industries might use electro-dialysis to ultra-purify low saline water further for semiconductor manufacturing.[139] However, whatever the design, the primary concept of desalination is to separate fresh water from the brine concentrate to produce usable water for a particular application.[140]

1. Reverse Osmosis Process

RO involves forcing salty water through a semi-permeable membrane, resulting in fresh water on one side and a high salinity brine concentrate on the other.[141] RO is well-suited for general purposes in Texas because the total dissolved solids (TDS) found in Texas's brackish groundwater and the Gulf of Mexico fall within its effective range.[142] Generally, brackish waters contain TDS of more than 500 mg/l, whereas seawater contains an average TDS of 33,000 to 36,000 mg/l in U.S. waters.[143]

Both the quantity and the category of TDS in the source water is extremely crucial to system design; it determines the process of separation and characterizes the residual

131 TWDB: Seawater, *supra* note 115, at 1.
132 *Id.*
133 2012 State Water Plan, *supra* note 14, at 189 tbl.7.2; Arroyo, *supra* note 15, at 1-2.
134 2012 State Water Plan, *supra* note 14, at 191 fig.7.2; Arroyo, *supra* note 15, at 2.
135 Press Release, Office of the Governor Rick Perry, Gov. Perry Signs Landmark Water Legislation (May 28, 2013), *available at* http://governor.state.tx.us/news/press-release/18577/, *archived at* http://perma.cc/4XJR-VCQU; *see* Tex. Water Code Ann. § 16.060.
136 NRS Consulting Eng'rs, *supra* note 109, at 16; Voutchkov, *supra* note 10, at 3.
137 El-Dessouky & Ettouney, *supra* note 104, at 11-12; Voutchkov, *supra* note 10, at 2-3.
138 Voutchkov, *supra* note 10, at 3.
139 El-Dessouky & Ettouney, *supra* note 104, at 4.
140 NRS Consulting Eng'rs, *supra* note 109, at 16; El-Dessouky & Ettouney, *supra* note 104, at 4, 12.
141 El-Dessouky & Ettouney, *supra* note 104, at 12.
142 El-Dessouky & Ettouney, *supra* note 104, at 4; Voutchkov, *supra* note 10, at 2-3, tbl.1.1.
143 Voutchkov, *supra* note 10, at 2; El-Dessouky & Ettouney, *supra* note 104, at 4.

brine concentrate, thereby shaping the plan for the disposal process.[144] For example, seawater that contains abundant sodium and chloride does not scale the membranes as easily as brackish water that contains minerals with less ionic strength.[145] Brackish water requires different pretreatment methods to prevent scaling.[146] On the other hand, because of its high TDS, seawater requires more energy to maintain higher pressures in the RO process, and results in lower total fresh water production compared to RO processing of brackish water.[147] Of course, the actual process is far more complicated and beyond the scope of this Note, but a basic overview follows.

2. Desalination Process Overview

An overview of a desalination process using RO may include an inlet method, pretreatment system, a series of RO membranes, a post-treatment system, and a waste disposal process.[148] The two types of inlets are an open intake for surface water and a subsurface intake for groundwater aquifers.[149] Although groundwater aquifers operate as natural filtration systems, both types of inlets use some form of screening mechanism to screen out large particles.[150] The pretreatment system further filters out suspended particles and may use a chemical treatment to prevent scaling of the RO membranes.[151] Next, the RO process forces water through a membrane while rejecting the dissolved solids, thereby creating two separate water streams.[152] Osmosis occurs naturally as water moves under osmotic pressure from low salinity through a cell membrane to high salinity until an equilibrium is reached.[153] The skin, kidneys, and lungs are textbook examples of natural membranes that allow certain particles or gases to pass while restricting others.[154] The RO process artificially increases the pressure on the high salinity side of a membrane, creating a reversed natural osmotic process.[155]

Manufacturers have produced artificial, commercial grade RO membranes since 1970,[156] which today can filter out virtually any size particle.[157] After the desalination process extracts the fresh water, the brine concentrate, pretreatment backwash, and periodic cleaning solutions remain.[158] The facility must dispose of these residuals in a legally responsible manner, which in Texas is the regulatory responsibility of the Texas Commission on Environmental Quality (TCEQ).[159] This presents a significant obstacle to

144 VOUTCHKOV, *supra* note 10, at 13, 94, 491.
145 *Id.* at 16, 27, 94.
146 NRS CONSULTING ENG'RS, *supra* note 109, at 30-31.
147 NRS CONSULTING ENG'RS, *supra* note 109, at 36; VOUTCHKOV, *supra* note 11, at 27.
148 NRS CONSULTING ENG'RS, *supra* note 109, at 30-34.
149 VOUTCHKOV, *supra* note 10, at 13.
150 VOUTCHKOV, *supra* note 10, at 13, 91; EL-DESSOUKY & ETTOUNEY, *supra* note 104, at 421.
151 VOUTCHKOV, *supra* note 10, at 77-78; EL-DESSOUKY & ETTOUNEY, *supra* note 104, at 422.
152 VOUTCHKOV, *supra* note 10, at 43.
153 *Id.*
154 EL-DESSOUKY & ETTOUNEY, *supra* note 104, at 410.
155 VOUTCHKOV, *supra* note 10, at 43.
156 EL-DESSOUKY & ETTOUNEY, *supra* note 104, at 8.
157 VOUTCHKOV, *supra* note 10, at 11.
158 *Id.* at 492.
159 30 TEX. ADMIN. CODE § 279.2 (2013) (Tex. Comm'n on Envtl. Quality, Water Quality Certificaiton, Purpose and Policy); NRS CONSULTING ENG'RS, *supra* note 109, at 48.

desalination as the TCEQ permits and regulates each method differently.[160] For example, at the Kay Bailey Hutchison desalination plant in El Paso, TCEQ regulates the deep injection wells that the plant uses to dispose of the brine concentrate.[161] In addition, there are several other methods of disposal that include surface water discharge, sewer disposal, land application, evaporation ponds, and even zero-liquid discharge where the brine is continually mixed with the incoming stream.[162]

Whatever the disposal process or overall desalination design, the trend toward constructing large facilities capable of producing vast quantities of usable water with desalination is significantly increasing.[163] Unfortunately, as desalination produces more water it also produces more waste for disposal,[164] which regulators will have to address. Ultimately, however, decisions to increase desalination efforts in Texas reside with the TCEQ, the TWDB, and the Texas legislature.

IV. Oversight of Desalination in Texas

Texas's current scheme regarding implementation and regulation of desalination is quite complicated. It seems as though every governmental control that exists plays some role with water regulation in Texas. Bits and pieces are sprinkled everywhere from the Texas Constitution to the local water authorities. Rather than discuss every possible avenue of regulation and risk confusion, this Section focuses on the roles of the TWDB, the TCEQ, the Texas Water Code, and the state water planning process,while discussing related control mechanisms as needed.

A. Texas Water Development Board

The TWDB holds the purse strings and provides local political subdivisions that supply water with grants and loans for projects in areas such as wastewater treatment, conservation, flood control, and agriculture, among others.[165] Additionally, it collects data from Texas's surface and groundwater resources and assists regions in developing regional water plans, which the TDWB assembles and analyzes every five years into a fifty-year state water plan.[166] For planning purposes, Texas has sixteen regional planning groups that consist of members who "represent a variety of interests, including agricul-

160 NRS Consulting Eng'rs, *supra* note 109, at 48.

161 Tex. Water Code Ann. § 27.021; 30 Tex. Admin. Code § 331.1 (2013) (Tex. Comm'n on Envtl. Quality, Underground Injection Control, Purpose, Scope, and Applicability).

162 NRS Consulting Eng'rs, *supra* note 109, at 33-34.

163 Voutchkov, *supra* note 10, at 430.

164 Robert E. Mace et al., Tex Water Dev. Bd., Please Pass the Salt: Using Oil Fields for the Disposal of Concentrate from Desalination Plants 1 (2005), *available at* http://www.usbr.gov/research/AWT/reportpdfs/report112.pdf, *archived at* http://perma.cc/MVV7-9SHT.

165 Tex. Const. art. III, § 49-c; Tex. Water Code Ann. § 6.012; Tex. Water Dev. Bd., *About Texas Water Development Board*, http://www.twdb.state.tx.us/about/index.asp (last visited Dec. 1, 2013) [hereinafter *About TWDB*], *archived at* http://perma.cc/GXF3-A8CY.

166 Tex. Water Code Ann. § 6.012; *About TWDB*, *supra* note 165.

ture, industry, environment, public, municipalities, business, water districts, river authorities, water utilities, counties, groundwater management areas, and power generation."[167]

In 2013, the legislature restructured the TWDB's management from six voluntary, part-time members with no particular area of expertise into three specialized, full-time members on salary.[168] Later that year, Texas voters passed Proposition 6, which moved $2 billion dollars from the state's Rainy Day Fund to the State Water Implementation Fund and the State Water Implementation Revenue Fund that the TWDB may use for projects in the state water plan.[169]

For desalination purposes, the legislature specifically tasked the TWDB in 2003 with "undertak[ing] or participat[ing] in research, feasibility and facility planning studies, investigations, and surveys as it deems necessary to further the development of cost-effective water supplies from seawater desalination in the state."[170] It further required the TWDB to submit a "biennial progress report on the implementation of seawater desalination activities . . . to the governor, lieutenant governor, and speaker of the House of Representatives."[171] In 2005, the TWDB expanded its desalination efforts to include brackish groundwater.[172] Currently, groundwater conservation districts have joint planning responsibilities with the TWDB,[173] but proposed legislation in 2013 would have included and expanded brackish groundwater under the TWDB's direct authority for desalination.[174] Nevertheless, the Texas Water Code requires water planners to "consider the implementation of a desalination program if practicable" when planning for general water development.[175]

B. The Texas Commission on Environmental Quality

The TCEQ has broad authority to regulate the quality of water and wastewater in the state.[176] Moreover, the TCEQ has authority over state water rights permits.[177] The permitting processes that affect desalination over which TCEQ exercises authority are discussed more in Section IV.D below.

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167 TEX. WATER DEV. BD., WATER FOR TEXAS: REGIONAL WATER PLANNING IN TEXAS 1 (2013), *available at* http://www.twdb.texas.gov/publications/shells/RegionalWaterPlanning.pdf, *archived at* http://perma.cc/7ANG-7NBL.

168 TEX. WATER CODE ANN. §§ 6.052-6.053, 6.056, 6.061; SUSAN COMBS, TEX. COMPTROLLER OF PUB. ACCOUNTS, TEXAS WATER REPORT: GOING DEEPER FOR THE SOLUTION 20 (2014), *available at* http://www.window.state.tx.us/specialrpt/water/96-1746.pdf, *archived at* http://perma.cc/3M2Y-J5NG.

169 *Id.*

170 TEX. WATER CODE ANN. § 16.060.

171 *Id.*

172 NRS CONSULTING ENG'RS, *supra* note 109, at 2.

173 TEX. WATER CODE ANN. §§ 36.1071-36.109.

174 Tex. H.B. 24, 83rd Leg., R.S. (2013).

175 TEX. WATER CODE ANN. § 16.054.

176 *Id.* § 26.023; 30 TEX. ADMIN. CODE § 1.1 (1996) (Tex. Comm'n on Envtl. Quality, Purpose of Rules).

177 *See generally* TEX. WATER CODE ch. 11.

C. Groundwater Conservation Districts

Texas further muddies the water when it factors in groundwater conservation districts and groundwater management areas. Currently, Texas has ninety-nine groundwater conservation districts, which "may be created under and subject to the authority, conditions, and restrictions of . . . [the] Texas Constitution," in which the TCEQ "has exclusive jurisdiction."[178] These fall under sixteen groundwater management areas created by the TWDB with the assistance of the TCEQ.[179] Texas prefers that these districts manage the groundwater for "conservation, preservation, protection, recharging, and prevention of waste of groundwater, and . . . to control subsidence caused by withdrawal of water . . . through rules developed, adopted, and promulgated by a district."[180] This means, quite possibly, that an entity that wants to construct a desalination facility has to comply with every layer of the aforementioned organizations and their respective regulations.

D. Permitting

Permitting issues related to desalination are so complex that, in 2004, the TWDB paid $50,000 for a professional study to establish a permitting guidance manual.[181] The study estimated the permit process for a brackish desalination facility could involve ten or more authorities and take approximately forty-six months for completion.[182] The process is further extended if a conflict over water rights arises; in such cases, the time frame could take an additional twenty-four months or more.[183] As for permitting types, the study identified three areas of concentration: source water, facilities, and waste disposal.[184] By far the two most complicated types are the source water and waste disposal, mainly as a consequence of the environmental issues and potential impacts surrounding that particular permit process.[185]

The primary permitting process for waste disposal in Texas is the National Pollutant Discharge Elimination System (NPDES), the Environmental Protection Agency's (EPA) program in the Clean Water Act that regulates waste discharge into surface waters via individualized permits for each discharging facility.[186] In 1998, the TCEQ assumed re-

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178 Texas Water Code Ann. § 36.011; Tex. Water Dev. Bd., *Groundwater Conservation District Facts*, http://www.twdb.state.tx.us/groundwater/conservation_districts/facts.asp (last visited Dec. 1, 2013), *archived at* http://perma.cc/CPG3-SUKF.

179 Tex. Water Code Ann. § 35.004.

180 *Id.* § 36.0015.

181 Tex. Water Dev. Bd., *Desalination Projects*, http://www.twdb.state.tx.us/innovativewater/desal/projects.asp (last visited Dec. 1, 2013) [hereinafter TWDB: *Desalination Projects*], *archived at* http://perma.cc/7TZF-K4WE; R.W. Beck, Inc., Guidance Manual for Permitting Requirements in Texas for Desalination Facilities Using Reverse Osmosis Processes ES-1 (2004), [hereinafter Guidance Manual for Permitting] *available at* http://www.twdb.state.tx.us/publications/reports/contracted_reports/doc/2003483509.pdf, *archived at* http://perma.cc/U3R-KTNW.

182 Guidance Manual for Permitting, *supra* note 181, at 7-13.

183 *Id.* at 7-13.

184 *Id.* at 7-1.

185 *Id.*

186 National Pollutant Discharge Elimination System, 33 U.S.C.A. § 1311 (2014); Ken Ramirez & Patrick Lee, *Desalination: Opportunities and Constraints*, 67 Tex. B. J. 194-95 (2004);

sponsibility for the NPDES program from the EPA.[187] The NPDES process can encompass a host of additional concerns and permitting areas.[188] For example, a permit could be required for a lengthy and costly environmental study even before obtaining the actual final permit for the overall process.[189]

A six-year project completion schedule with no assurance that the agency will even issue the final permit is not an ideal model of efficiency for delivering water. Furthermore, the TCEQ may impose annual water quality fees for items such as facility inspections and enforcement of the NPDES program or any other state-mandated water quality programs.[190] Depending on the scope of the project, these fees could easily exceed millions of dollars.[191] However, one should not view the NPDES program as a monumental obstacle or even an unavoidable evil. On the contrary, total deregulation would be preposterous, not to mention the fact that the NPDES serves a valid and necessary function to ensure environmental compliance.

Instead, Texas should learn how to institute the program under a desalination framework to make it more efficient. Sites in both Florida and California are real-world examples of difficult and risky permitting experiences with desalination projects.[192] In Tampa, Florida, the public utility "decided to proceed with project implementation under a [Build Own Operate Transfer or] BOOT method of delivery, which allows [the] risk and the associated permitting costs to be transferred to the private BOOT contractor."[193] Sites in California are also examples where environmental and permitting concerns have delayed the projects well over a decade, thereby adding to the financial risks.[194]

E. STATE FUNDING

The Texas Water Assistance Program (TWAP) is the program under which most state funding for water projects is evaluated.[195] Funding mechanisms are intermingled throughout several parts of the Texas Water Code.[196] For example, the financing of

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Tex. Comm'n on Envtl. Quality, *What Is the "Texas Pollutant Discharge Elimination System (TPDES)"?*, http://www.tceq.texas.gov/permitting/wastewater/pretreatment/tpdes_definition.html (last visited Feb. 16, 2014), *archived at* http://perma.cc/U74U-AJZD.

187 State Program Requirements; Approval of Application to Administer the National Pollutant Discharge Elimination System (NPDES) Program; Texas, 63 Fed. Reg. 51,164-01 (Sept. 24, 1998).

188 TEX. COMM'N ON ENVTL. QUALITY, TPDES APPLICATION FOR NPDES AUTHORIZATION 3-4 to 3-6 (1998), http://www.tceq.state.tx.us/assets/public/permitting/waterquality/attachments/municipal/c3fnl.pdf, *archived at* http://perma.cc/QR6A-E7S5.

189 TWDB: SEAWATER, *supra* note 115, at 9.

190 TEX. WATER CODE ANN. § 26.0291.

191 TEX. COMM'N ON ENVTL. QUALITY, TPDES APPLICATION FOR NPDES AUTHORIZATION 7-1 (1998), http://www.tceq.state.tx.us/assets/public/permitting/waterquality/attachments/municipal/c7fnl.pdf, *archived at* http://perma.cc/8J79-QRQD.

192 VOUTCHKOV, *supra* note 10, at 121.

193 *Id.*

194 *Id.*

195 *See* TEX. WATER CODE ANN. §§ 15.001-15.996.

196 *See, e.g.*, *id.* §§ 5.607, 9.014, 15.4063.

groundwater conservation districts and state financial assistance for groundwater studies are addressed by other programs.[197]

For purposes of this Note, and particularly for water development in Texas, statutory funding authority originates in Texas Water Code chapter 15 (TWAP) and chapter 17 (Public Funding).[198] Additionally, Texas Water Code chapter 20 creates and governs the Texas Water Resources Financing Authority (TWRFA).[199] The purpose of the TWRFA is to "increas[e] the availability of financing by purchasing political subdivision bonds" so that the state may further its water policy of development and protection of its water resources.[200]

In particular, and relevant to desalination efforts in Texas, the TWRFA reiterates the state's policy to "aid in flood control, drainage, subsidence control, recharge, chloride control, agricultural soil and water conservation, and *desalinization* by encouraging and assisting in the financing of projects necessary to those purposes."[201] The legislative purpose of the TWAP has similar language, which states in part:

It is in the public interest and to the benefit of the general public of the state to encourage and to assist in the planning and construction of projects to develop and conserve the storm water and floodwater as well as the ordinary flows of the rivers and streams of the state, to maintain and enhance the quality of the water of the state, to provide protection to the state's citizens from the floodwater of the rivers and streams of the state, to provide drainage, subsidence control, public beach nourishment, recharge, chloride control, brush control, weather modification, regionalization, and desalination, to provide for the management of aquatic vegetation, and other purposes as provided by law or board rule.[202]

The emphasis that legislators place on desalination is telling in two respects. First and most obvious, both statutes explicitly include the term "desalination," but it is at the end of the list.[203] Most would agree that trying to determine the legislature's intent, if any, of placing desalination at the end of the list is an impossible task. Nonetheless, the legislature clearly did not list the policy considerations alphabetically.[204] Second, desalination is arguably disparate from other considerations in the list as the list consistently focuses on methodology. Essentially, every policy concern listed is nothing more than a method of treatment for a greater interest.[205] After all, having a policy to protect

197 *Id.* § 35.015 ("A political subdivision . . . shall be given consideration to receive financial assistance from the state under Chapter 17 for funds to be used in addressing issues identified in the priority groundwater management area report in the manner provided by Sections 17.124 and 17.125."); *id.* § 36.159 ("The [TWDB] may allocate funds from the water assistance fund to a district to conduct initial data collections under this chapter, to develop and implement a long-term management plan under Section 36.1071, and to participate in regional water plans.").

198 *See id.* §§ 15.001-15.996, 17.001-17.994.

199 *Id.* §§ 20.001-20.117.

200 *Id.* § 20.001(c).

201 TEX. WATER CODE ANN. § 20.001(a)(4) (emphasis added).

202 *Id.* § 15.002(a) (emphasis added).

203 *See id.* §§ 20.001(a)(4), 15.002(a).

204 *Id.*

205 *See, e.g.*, *id.* § 20.001(a)(3) (declaring that the policy of the state is to "aid in the protection of the quality of the water resources of the state by encouraging and assisting in the

life and property is far too broad for a water code. In contrast, a policy to control floodwaters fits well under the greater interest to protect life and property. In this case, desalination is distinctive from the other policy considerations in the list because the meaning of desalination, in a regulatory framework, is more than the method that converts salt water to fresh water. It also includes the technology, the equipment, the facility, as well as the entire industrialized process.

Even if the idea of desalination as an industrialized process bewilders the legislature, under a methodology approach, the likely overlying policy concern is to safeguard against water shortages with desalination's ability to produce usable water. Some might consider the difference in classification between a method and an industrial process as insignificant, and indeed, from either viewpoint the greater concern is the need for fresh water. However, the comparison also illustrates the scope of water production.

While desalination as a method might produce some water, desalination as an industrialized process supplies water on a far greater scale.[206] If the legislature were to interpret desalination too narrowly, as merely a method that converts salt water to fresh water, the resulting action would likely be inadequate to solve any real statewide water shortage. On the other hand, even if the term were interpreted as an industrialized process, expecting desalination to solve all water shortages in Texas would likely end with results just as dismal.

In essence, the first scenario illustrates that Texas provides no real definition for desalination, and the second scenario illustrates that Texas also provides no real purpose for desalination. In fact, statutes throughout the Texas Water Code refer to desalination as a project, a program, a facility, an operation, as a stand-alone term, and even as desalinization, but not a single section exists defining desalination or outlining its purpose.[207] For these reasons, the term desalination, at least as the Texas legislature uses it in the Texas Water Code, is extremely ambiguous and does not coincide well with similarly listed policy considerations regarding funding.[208]

How can the legislature fund a desalination project when it does not understand the project or its intended purpose? A simple explanation might be that the legislature does not have to because it grants the TWDB the power of the purse in addition to the power to "define in greater detail" a project's purpose.[209] The power of the purse over water development, the power to define its purpose, and the power to assemble the state's entire water plan gives the TWDB enormous power.

Of the roughly thirty to forty loans, funds, programs, or other financing provisions in Chapters 15 and 17 of the Texas Water Code, the TWDB has authority over every one of them.[210] For example, "[t]he state water implementation fund for Texas is a special fund in the state treasury outside the general revenue fund to be used by the board,

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financing of water quality enhancement projects."); *id.* § 15.002(a) (futher declaring that the policy of the state is also "to maintain and enhance the quality of the water of the state.").

206 *See* Tex. Water Dev. Bd., *Desalination Facts*, http://www.twdb.texas.gov/innovativewater/desal/facts.asp (last visited Oct. 9, 2014), *archived at* http://perma.cc/E6XR-QD4P.

207 *See, e.g.*, TEX. WATER CODE. ANN. §§ 16.060, 36.1086.

208 *See generally id.* § 15.002.

209 *Id.* § 15.003.

210 *See id.*

without further legislative appropriation, for the purpose of implementing the state water plan as provided."[211] Even the TWRFA created under Chapter 20 is in essence the TWDB, as the TWRFA's board, by statute, is composed of the same board of directors that control the TWDB.[212] Unfortunately, the situation does not improve considering that in 2013 Texas voters passed Proposition 6 that poured $2 billion additional dollars into two major funds controlled by the TWDB.[213] Additionally, in 2013 the legislature restructured the TWDB's board reducing its members from six to only three full-time members.[214]

It would be irresponsible to suggest from these facts alone that any impropriety exists. However, in our system of check and balances, the amount of money controlled by only three persons may be unsettling. Combining the purse strings with the TWDB's ability to decide whether to include a valid water need or "unmet need" when compiling the state water plan creates an apparent conflict of interest.[215] On one hand, the TWDB is responsible for the administration of funding for water development projects.[216] On the other hand, Texas relies on the TWDB to assemble an unbiased report of the unadulterated water need for the state.[217] Furthermore, considering that the TWDB is not only the funding authority for all water development provisions but also for many other provisions throughout the Texas Water Code,[218] perhaps a greater change or higher level of scrutiny is in order.

V. Impediments to Desalination in Texas

So where does desalination fit in in Texas? In 2008, a leading author on desalination for the TWDB praised all of the well-meaning intentions in Texas and anticipated that:

[a]s Texas begins the next planning cycle leading to the 2012 State Water Plan, growing uncertainty about the impact of climate change, compounded by difficulties with and the length of time required to develop conventional water supplies such as reservoirs, will likely result in even greater consideration of the relatively more expeditious water supply options presented by desalination.[219]

This statement was considering the 2007 State Water Plan, which projected that 3.5% of new water would come from desalination by 2060.[220] With the benefit of hind-

211 *Id.* § 15.432.
212 *Id.* § 20.012.
213 Combs, *supra* note 168, at 20-21.
214 Tex. Water Code Ann. §§ 6.052-6.053, 6.056, 6.061; Combs, *supra* note 168, at 20.
215 *See supra* Parts II.A, III.B.2.
216 *See* Tex. Water Code Ann. § 20.012; Combs, *supra* note 168, at 20-21.
217 2012 State Water Plan, *supra* note 14, at 142.
218 Tex. Const. art. III, § 49-c; Tex. Water Code Ann. § 6.012; TWDB: *About TWDB*, *supra* note 165.
219 Jorge Arroyo & Sanjeev Kalaswad, Tex. Water Dev. Bd., Water Desalination in Texas 2 (2004), *available at* http://www.twdb.texas.gov/innovativewater/desal/doc/DesalTexasUSWaterNews.pdf, *archived at* http://perma.cc/F44U-3JMN.
220 *Id.*; Tex. Water Dev. Bd., Water for Texas: 2007 State Water Plan 260 fig.10.2 (2007), *available at* http://www.twdb.state.tx.us/publications/State_Water_Plan/2007/2007

sight in recalling the effects the 2011 drought had on Texas, this statement is a logical one.

In reality, however, Texas has not planned to increase desalination efforts as the article had predicted. Rather, the 2012 State Water Plan places the estimate of projected deslination use slightly lower at 3.44%, even after the lessons and hardships of the 2011 drought.[221] What is more astonishing is that this new estimated production percentage seems insignificant considering the 55% growth rate desalination is experiencing in other parts of the world.[222] Some attribute desalination's rapid expansion, in large part, to immense population growth across the globe and to technological advancements reducing its costs.[223]

A. Cost Impediments

The most significant and obvious reason for the lack of implementation in Texas is desalination's relatively elevated cost when compared with some traditional sources.[224] Desalination costs are rapidly declining to the level of some traditional methods, such as constructing dams and reservoirs, which is a notable part of Texas's 2012 State Water Plan.[225] Still, estimates for desalination projects vary greatly.[226]

These costs can be broken into two costs: initial capital costs and production costs. Initial capital costs, as the name implies, are those expended to start the project.[227] These costs might include land purchases; construction costs of the facilities, pipelines, and wells; disposal methods; and indirect capital costs associated with project administration and permitting.[228] Actual production costs are the costs required to operate and maintain the facility.[229] These include costs for power, labor, administration, chemicals, and equipment replacement.[230]

1. Capital Costs

Capital costs, which are essentially the upfront costs of constructing the facility, are difficult to estimate. In a sample study of six Texas brackish water facilities, the TWDB indicated that the estimated capital costs of these facilities ranged from $2.03 to $6.41 per gallon of the facility's total capacity.[231] For example, a facility with a 1 million gallon

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StateWaterPlan/CHAPTER%2010%20final_112706.pdf, *archived at* http://perma.cc/MH7N-YBAB (actual percentage is 3.46%).

221 2012 STATE WATER PLAN, *supra* note 14, at 191 fig.7.2; ARROYO, *supra* note 15, at 2.

222 Ghaffour, *supra* note 109, at 198.

223 *Id.* at 198.

224 ARROYO & KALASWAD, *supra* note 219, at 2.

225 Ghaffour, *supra* note 109, at 198; *see also* ARROYO, *supra* note 15, at 1, 6; NRS CONSULTING ENG'RS, *supra* note 109, at 2; ARROYO & KALASWAD, *supra* note 219, at 2.

226 JORGE ARROYO & SAQIB SHIRAZI, TEX. WATER DEV. BD., COST OF BRACKISH GROUNDWATER DESALINATION IN TEXAS 5 (2012), *available at* http://www.twdb.state.tx.us/innovativewater/desal/doc/Cost_of_Desalination_in_Texas_rev.pdf, *archived at* http://perma.cc/DEJ8-UD8C.

227 *See id.* at 2-3.

228 *Id.* at 3 fig.1; VOUTCHKOV, *supra* note 10, at 601-13.

229 ARROYO & SHIRAZI, *supra* note 226, at 2.

230 ARROYO & SHIRAZI, *supra* note 226, at 3; VOUTCHKOV, *supra* note 10, at 613-20.

231 ARROYO & SHIRAZI, *supra* note 226, at 5 tbl.1.

per day capacity that had a $2.03 per gallon cost theoretically would have a total capital cost of $2.03 million dollars. With the total capacity of these facilities ranging from 1.2 million to 27.5 million gallons per day, a few dollars per gallon can quickly double or triple the capital costs of a project for the same output capacity.[232]

In fact, an analysis of three other facilities indicates capital costs more than doubled from one facility to another with similar capacity, mostly due to the disposal method.[233] The construction of these facilities represents a significant investment for Texas. For example, the Kay Bailey Hutchison facility in El Paso, a joint venture with the Army and Ft. Bliss, cost just under $100 million dollars.[234] Consequently, with such a large sum of money for these facilities, Texas owes a duty to its citizens and taxpayers alike to approach these ventures in an informed and fiscally responsible manner.

Some governments recognize the improved management structure and technological developments that the private sector can offer and use a "Build Own Operate Transfer" (BOOT) or a "Build Own Operate" (BOO) contract.[235] Under a BOO contract, a private entity builds and operates the facility, whereas under a BOOT contract, the private entity transfers the operations back to a government entity at the expiration of the term of the contract.[236] This type of private-government cooperation significantly reduces capital costs and is the most cost-effective way of controlling risk and expense.[237] The Texas legislature also recognized this benefit and, in 2007, began a gradual change to allow municipalities to enter into these types of contracts based on the size of the municipality and the number of contracts involved.[238]

However, simple direct capital costs do not tell the complete story. Those types of costs are relatively stable compared with indirect capital costs. For example, the market drives the price of land, equipment, material, and construction contracts. Consequently, planners should have a good understanding of these types of fixed capital costs. Indirect capital costs, however, do not necessarily originate from the free market and can be much more difficult to anticipate. Preliminary engineering and design, construction management, project administration management, pilot testing, permitting, legal services, and even interest and financing are a few examples of indirect costs.[239] A better representation of desalination's true costs would include these types of costs.

Although desalination has existed for centuries, mass-producing usable water through desalination is relatively new to the regulatory world.[240] In 2008, a report to Congress acknowledged, "existing laws and policies often do not address the unique is-

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232 *Id.*

233 *Id.* at 6-7 tbl.2.

234 *Id.* at 5 tbl.1; *see also* El Paso Pub. Utils. Bd., *Water*, http://www.epwu.org/water/desal_info.html (last visited Jan. 12, 2014), *archived at* http://perma.cc/GF4U-KTYN.

235 Ghaffour, *supra* note 109, at 199; VOUTCHKOV, *supra* note 10, at 121.

236 Ghaffour, *supra* note 109, at 199.

237 WATEREUSE ASS'N, SEAWATER DESALINATION COSTS 12 (Sept. 2012) [hereinafter WATEREUSE White Paper], *available at* http://www.watereuse.org/sites/default/files/u8/WateReuse_Desal_Cost_White_Paper.pdf, *archived at* http://perma.cc/AZN3-F58V.

238 NRS CONSULTING ENG'RS, supra note 109, at 69.

239 VOUTCHKOV, *supra* note 10, at 610-12.

240 *Id.* at 121.

sues raised by desalinated water."[241] The report reiterated a National Research Council report in recommending "research funding be targeted at long-term, high-risk research not likely to be attempted by the private sector that could significantly reduce desalination costs," which seems to contradict a scattered research and development approach.[242] The report further suggested that little value existed for incremental research that the private sector can perform.[243]

To its credit, Texas (through the TWDB) has invested close to $8 million dollars in twenty-five projects or studies over the past ten years.[244] Although this increase in funding represents progress with desalination efforts in Texas, the amount of money scattered over a decade in various projects and studies might also suggest that Texas is unsure how to proceed.

To illustrate this point, in 2004 Texas paid $1.5 million dollars for three separate feasibility studies of seawater desalination at Freeport, Corpus Christi, and Brownsville.[245] Normally, feasibility studies precede a project and are part of the indirect capital costs for preliminary engineering.[246] However, a decade later Texas has no operational facility in any of these three sites even though studies of all three sites garnered positive results.[247] This might be analogous to proposing, picking out the rings, the dress, the reception hall, ordering the invitations, and even buying the plane tickets for the honeymoon only to tell the guests or even the other party that there is no date for the wedding. By any standard, a ten-year engagement is a long time to wait, not to mention the time, effort, and money spent for mere planning that may have little residual value.

Such a small return on investment from these projects is a quintessential example of why government should not invest in research and development that the private sector can adequately manage.[248] If Texas were serious about investing in desalination, an experienced private company under a BOOT or BOO form of contract could easily perform the required feasibility studies along with any other requirement to fully implement a project. This would prevent cost escalations due to lack of experience, outdated research, and lack of funding, as was reported in the Texas 2012 biennial report on seawater desalination.[249]

2. PERMITTING COSTS

Although the permitting process is unnecessarily complicated, the 2004 TWDB study to develop permitting guidelines is a good example of how the government, through research and development, can help reduce costs where private entities are un-

241 NICOLE T. CARTER, CONG. RESEARCH SERV., R40477, DESALINATION: STATUS AND FEDERAL ISSUES 5 (2009), *available at* http://www.cnie.org/NLE/CRSreports/10Jan/R40477.pdf, *archived at* http://perma.cc/36HG-YWYH.

242 *Id.* at 5.

243 *Id.*

244 *See* TWDB: *Desalination Projects*, *supra* note 181.

245 *See id.*

246 VOUTCHKOV, *supra* note 10, at 610.

247 *See* TWDB: SEAWATER, *supra* note 115, at 1.

248 *See* CARTER, *supra* note 241, at 5.

249 TWDB: THE FUTURE OF DESALINATION, *supra* note 130, at 9.

likely to invest. The very nature of this study confirms the challenges permitting poses in Texas.

The risk associated with the permitting process for a desalination project is one of the sources of significant delays and increased costs.[250] Some estimates put permitting costs at up to 5% of the project, with cost variations based on the project's scope.[251] Other estimates associate permitting under a total indirect capital cost that range from 10% to 20% of the total cost of the project.[252] To give perspective and exemplify the extreme, estimates place the cost of permitting the Tampa site at $2.5 million to $5 million dollars, whereas estimates for the California site are a staggering $10-20 million, with no end in sight ten years after the project began.[253]

Not only does permitting add a potentially disastrous indirect capital cost to desalination projects, as was the case in Florida and California, lending and public institutions recognize this enormous risk of uncertainty, making it that much more difficult to obtain funding.[254] With such uncertainty for potential costs overruns, delays, and a lack of funding, one need not speculate long why water suppliers in Texas are not rushing to sign contracts for a bright and shiny desalination facility, especially when the 2012 State Water Plan reports no real need to do so.

3. Operation and Maintenance Costs

Production cost estimates generate additional problems for planners. While some estimates place the costs for brackish water desalination under $1.90 per 1,000 gallons,[255] other estimates place the cost between $2.60 and $3.40 per 1,000 gallons.[256] In the same sample study used for capital costs in the preceding section, the production costs in Texas range from $1.09 to $2.40 per 1,000 gallons.[257] Although these estimates may seem similar, a seemingly small disparity indicates a significant problem with long-term project performance. When multiplied by millions of gallons per day, even a small miscalculation of a penny could represent a multimillion-dollar problem over time.[258]

Seawater is even more expensive to desalinate than brackish groundwater, costing an average of $4.20 per 1,000 gallons.[259] However, as with brackish water facilities, seawater desalination also has many variables that affect its production costs. For example, the facility in Tampa, Florida operates at an estimated $2.08 per 1,000 gallons, whereas one of the largest seawater facilities in the world runs as low as $2.01 per 1,000 gallons.[260] These two examples cost less than half to operate than the average facility in

250 Voutchkov, *supra* note 10, at 121.
251 WateReuse White Paper, *supra* note 237, at 12.
252 Voutchkov, *supra* note 10, at 599-601 figs.17.1, 17.2 & 17.3.
253 WateReuse White Paper, *supra* note 237, at 12.
254 Voutchkov, *supra* note 10, at 121.
255 Ghaffour, *supra* note 109, at 197 (converted to gallons from cubic meters).
256 Voutchkov, *supra* note 10, at 599.
257 Arroyo & Shirazi, *supra* note 226, at 5 tbl.1.
258 Ghaffour, *supra* note 109, at 199.
259 Voutchkov, *supra* note 10, at 600.
260 Akili D. Khawaji et al., *Advances in Seawater Desalination Techniques*, 221 Desalination 47, 59 (2008) (converted to gallons from cubic meters).

Texas.[261] This is no small amount when considering the Tampa Bay site produces 25 million gallons of usable water per day.[262] The difference of the $2.12 per 1,000 gallons per day below average equates to roughly $19 million dollars annually.

With such significant implications even a penny per 1,000 gallons has over the operations of the entire project, one would expect more consistency from production costs estimates. This begs the question whether these are actual estimates or simply result-orientated costs. In any case, Texas can learn much from facilities that have lower production costs.

The problem is, however, that there is not a single reliable way to perform production cost estimation.[263] Private companies and consultants employ their own confidential methods and a couple of well-known software tools for estimation do exist.[264] The TWDB uses software available through the U.S. Bureau of Reclamation to assist with project estimates, but even it does not account for all the variables that a project may entail.[265] Among many others, some common variables to the industry are the source water chemistry, energy costs, brine disposal strategy, labor costs, desired recovery rate of usable water, blending ratio of the source water, and energy recovery system.[266] Frankly, a desalination facility is not a cookie-cutter franchise at the corner of First and Main that can consider the same variables as the facility next door. While we all hope the final product is reliable, the reality is that each project is unique with too many variables for even the best software to estimate production costs accurately.[267]

B. Regulatory Uncertainty

In addition to financial concerns, Texas is still learning how to implement desalination projects.[268] Is the problem a technical matter of science or an insufficient regulatory process? With more than 16,000 desalination facilities worldwide,[269] and with the largest inland brackish desalination facility located in Texas,[270] it seems technology is not the problem. In fact, in 2012, the TWDB participated in a study with the WateReuse Foundation to explore the regulatory challenges to seawater desalination.[271] No one disputes that Texas has the right and responsibility to regulate potential hazards for the health and welfare of its citizens and the environment. However, is a four-, six-, or even a ten-

261 *See* Tex. Water Dev. Bd., *General FAQs*, http://www.twdb.state.tx.us/innovativewater/desal/faq.asp, *archived at* http://perma.cc/486U-2Y3A.

262 *Tampa Bay Seawater Desalination Plant*, TAMPA BAY WATER (last visited Jan. 12, 2014), http://www.tampabaywater.org/tampa-bay-seawater-desalination-plant/index.aspx, *archived at* http://perma.cc/VG32-DUW6.

263 ARROYO & SHIRAZI, *supra* note 226, at 1 (noting that "capital cost of desalination plants is site specific.").

264 Ghaffour, *supra* note 109, at 197.

265 ARROYO & SHIRAZI, *supra* note 226, at 2.

266 ARROYO & SHIRAZI, *supra* note 226, at 7; Ghaffour, *supra* note 109, at 198.

267 Ghaffour, *supra* note 109, at 197; ARROYO & SHIRAZI, *supra* note 226, at 2.

268 TWDB: THE FUTURE OF DESALINATION, *supra* note 130, at 2.

269 Brandon Griggs, *How Oceans Can Solve Our Freshwater Crisis*, CNN (Sept. 21, 2014, 1:51 PM), http://www.cnn.com/2014/05/26/tech/city-tomorrow-desalination/, *archived at* http://perma.cc/V9QR-2SGM.

270 El Paso Pub. Utils. Bd., *supra* note 234.

271 TWDB: THE FUTURE OF DESALINATION, *supra* note 130, at 2.

year permitting process for desalination realistic considering Texas needs water now, especially since technology is progressing so rapidly and becoming even less of an impediment? Evidently, financial institutions have their doubts when they weigh the risks of the permitting process.[272]

Is the identification of a permitting process in 2004 still suitable nine years later, especially when its conclusion is that the process is risky, and its only recommendation is a good plan?[273] Cost problems are generally solved by crafting ways to reduce those costs. So, if the permitting process were so complex and costly, the primary solution would not be to accept the situation but rather to simplify the process, thereby reducing costs. This leads to the question whether the same regulatory process that the legislature designs for traditional water supplies is sufficient for the desalination industry or if an overhaul is warranted.

VI. Reasons for Policy Change

Texas is slowly but surely running out of water. Texans are depleting groundwater faster than aquifers can recharge,[274] surface water is subject to a certain amount of rainfall and near constant evaporation,[275] and Texas's population is rapidly increasing.[276] All of these factors equate to imminent future water shortages in the absence of another supply. As the possibility is unlikely that Mother Nature will create a new source of fresh water on the planet, or specifically for Texas, it is the responsibility of people to find a new supply through technology.

One method is for Texans to insist on policy changes that promote desalination projects that actually produce significant quantities of water beyond the policy that only promotes desalination in theory. What is apparent from the preceding discussion is that desalination is costly and regulation significantly adds to these costs.[277] Policy change, therefore, might appear complicated because Texas charges the legislature with "the conservation and development of the state's natural resources."[278] In essence, lawmakers must both conserve and develop water in a cost-effective manner so that they do not sacrifice one goal for the other. Using desalination to create fresh water and rely less on natural fresh water supplies is an ideal method to balance these resource objectives.

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272 Voutchkov, *supra* note 10, at 120-21.

273 *See* R.W. Beck, Inc., *supra* note 182, at 1-1 to 1-2.

274 *See* 2012 State Water Plan, *supra* note 14, at 32; U.S. Geological Survey, *Groundwater Depletion*, (Sept. 21, 2014, 2:42 PM), http://water.usgs.gov/edu/gwdepletion.html, *archived at* http://perma.cc/6EZM-EHKY.

275 *See* 2012 State Water Plan, *supra* note 14 at iii ("As the state continues to experience rapid growth and declining water supplies . . . .").

276 Michael E. Young, *Texas Population Increase Leads U.S. in Latest Estimates*, Dall. Morning News (Dec. 30, 2013, 11:21 PM), http://www.dallasnews.com/news/local-news/20131230-texas-population-increase-leads-u.s.-in-latest-estimates.ece, *archived at* http://perma.cc/RZ6-YXHN.

277 *See supra* Part V.A.

278 Tex. Water Code Ann. § 1.003.

A. Restriction on Innovation

Too much regulation stifles innovation, yet not enough devastates the environment.[279] In Texas, at least initially, desalination projects suffer from overregulation. For example, the TWDB classifies desalination as an "innovative water technolog[y]" or a "nontraditional" supply, just as it classifies rainwater harvesting.[280] Nevertheless, as desalination is synonymous with water technology, regulation will generally impede its improvement when no further innovation is required for compliance.[281]

For illustrative purposes, say a widget producer had a shop producing widgets at a facility in New Zealand. The producer wishes to open production facilities in Texas because all the great minds for these particular widgets live in Texas, but regulations on these widgets require all widget producers to be born in Texas and nothing more. On one hand, the New Zealander's products will never achieve greatness because whatever the New Zealander does, he can never comply with the initial requirement of being born in Texas. On the other hand, the subpar widget producer, which happens to be born in Texas, will also never achieve greatness because the regulation does not require further innovation or other technological effort for compliance.

This issue arises because, although industry must establish a method of compliance, regulation could also be a vehicle to actually stimulate innovation.[282] The widget example represents both extremes: regulations that serve as an initial barrier to entry and regulations that do not enhance existing capabilities, both of which can impede success. Unfortunately, in Texas, desalination falls into the former category mainly because regulations are severely restricting its implementation. If instead the regulation in the widget example were to ban a particular chemical, it would encourage the Texas producer to change the widget's composition, thereby presumably improving its product.

Essentially, because desalination cannot even get off the ground, the industry cannot improve upon anything. However, if allowed to develop, regulations could actually stimulate growth and innovation by allowing enough flexibility thereby ensuring compliance while incrementally raising the bar.[283] The theory is not novel; developing technology tends to develop at a faster rate when it feeds off itself.[284] The 2012 Biennial Report on Seawater Desalination advanced this very idea when it declared, "by identifying and addressing challenges to seawater desalination, the demonstration project could serve as a roadmap for future, more cost-effective projects."[285]

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279 LUKE A. STEWART, INFO. TECH. & INNOVATION FOUND., THE IMPACT OF REGULATION ON INNOVATION IN THE UNITED STATES: A CROSS-INDUSTRY LITERATURE REVIEW 2 (2010), *available at* http://www.iom.edu/~/media/Files/Report%20Files/2011/Health-IT/Commissioned-paper-Impact-of-Regulation-on-Innovation.pdf, *archived at* http://perma.cc/3PLS-M3M7.

280 Tex. Water. Dev. Bd., *Innovative Water Technologies*, http://www.twdb.state.tx.us/innovativewater/index.asp (last visited Dec. 1, 2013), *archived at* http://perma.cc/QHP9-WHZ2; JORGE A. ARROYO, TEX. WATER. DEV. BD., UPDATE ON TWDB'S INNOVATIVE WATER TECHNOLOGY PROGRAMS 4-5 (2011), http://www.twdb.state.tx.us/innovativewater/doc/20110405_Updates_IWT_Program.pdf, *archived at* http://perma.cc/3FM5-WZUS.

281 STEWART, *supra* note 279, at 2.

282 *Id.* at 10.

283 *Id.* at 5.

284 Mark Buchanan, *The Law of Accelerating Returns*, 4 NATURE PHYSICS 507, 507 (2008).

285 TWDB: THE FUTURE OF DESALINATION, *supra* note 130, at 10.

In the area of product development, private industry has significantly improved desalination technology, thereby decreasing its costs over the last decade.[286] The development of energy recovery devices, improved reverse osmosis membranes, and nanofiltration methods are all products of innovation that have reduced costs and increased recovery ratios.[287] As commercial companies will likely continue to develop innovative products for their customers worldwide, the largest benefit to Texas will not be through regulation that spurs component-level innovation more suited to private industry. On the contrary, where Texas can benefit most is through process and regulation reform for the implementation of the complete facility. This method will not only encourage private industry to develop improved products for a larger customer base in Texas, but it will also spur facility development beyond the component level of private industry that will ultimately lead to improved processes and procedures for future facilities.

B. Increased Water Disputes

There are other reasons to change the desalination policy in Texas as water disputes are becoming more frequent in courts. As recently as November of 2013, environmentalists and fishermen held a meeting to discuss possible legal action to save Matagorda Bay from increased levels of salinity due to the lack of fresh water from the Colorado River.[288] In another situation, the Sierra Club has argued TCEQ's adopted environmental flow standards for the Guadalupe-San Antonio river basin are inadequate.[289] In yet another example, the San Saba River ranks third in the nation for the most endangered rivers.[290] Concerns over the ecological consequences of these changes in Texas's river systems have, in some cases, prompted environmentalists to sue the TCEQ.[291]

Surface water is not the only area of contention. People have also been suing groundwater conservation districts for taking their private property without just compensation by restricting water use under permits. In *Edwards Aquifer Authority v. Day*, the Texas Supreme Court held that the groundwater under the subject land was the property of the landowner, so that property interest is compensable under the takings clause of the Texas Constitution.[292] In addition, in *Edwards Aquifer Authority v. Bragg*, the court upheld the trial court's finding that the groundwater conservation district was in violation of the takings clause when the "permitting system imposed" an unreasonable restriction "on the amount of water the Braggs could draw from their own well."[293] Individuals

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286 Ghaffour, *supra* note 109, at 199

287 Khawaji et al., *supra* note 260, at 56-57.

288 Neena Satija, *Advocates: Saving Matagorda Bay Could Take Legal Action*, The Texas Tribune (Nov. 14, 2013), http://www.texastribune.org/2013/11/14/advocates-suggest-lawsuit-pressure-save-matagorda-/, *archived at* http://perma.cc/DMM3-HNKM;

289 Elizabeth Koh, *Environmental Concerns Rise as Brazos Levels Fall*, The Texas Tribune (Aug. 13, 2013), http://www.texastribune.org/2013/08/13/environmental-concerns-entangled-fight-over-brazos/, *archived at* http://perma.cc/T38E-B5HZ.

290 Reeve Hamilton, *Debate Intensifies Over How to Save San Saba River*, The Texas Tribune (July 19, 2013), http://www.texastribune.org/2013/07/19/debate-intensifies-over-how-save-san-saba-river/, *archived at* http://perma.cc/8RMX-C8A6.

291 *See* Aransas Project v. Shaw, 756 F.3d 801 (5th Cir. 2014).

292 Edwards Aquifer Auth. v. Day, 369 S.W.3d 814, 838 (Tex. 2012).

293 Edwards Aquifer Auth. v. Bragg, 421 S.W.3d 118, 122 (Tex. App.—San Antonio 2013, pet. filed).

are not the only ones squabbling over water. In *Tarrant Regional Water Dist. v. Herrmann*, Texas and Oklahoma squared off over water rights under the Red River Compact.[294] Even the planning arena is becoming hotly contested, as landowners from one regional planning group sued the TWDB for approving another regional group's plan that affected the first region's area.[295]

Why is everyone fighting over water when Texas simply has to get out of its own way, use its abundant supply of saltwater,[296] and start producing water through desalination facilities? For instance, in the Middle East, a region known for conflict, Israel uses desalination to not only supply its citizens with much needed water, but also as a peace initiative in hopes that an abundant source of water will help reduce conflict[297]—a practice Texas should, and could, adopt.

C. Outlying Benefits from Desalination Technology

If the lack of water, increased potential for innovation, environmental protection, and aid in reducing conflict are not enough to encourage increased desalination efforts in Texas, an additional benefit for increased desalination use is that the technology can help purify an increasingly contaminated water supply. Reverse osmosis membranes are already proven to filter out practically any size particle or dissolved solid.[298] Municipalities can use desalination technology to not only ensure delivery of the desired amount of water to its customers, but also reassure people of the water's quality. In fact, the RO membranes remove so many particles that facilities need post-treatment systems to add minerals back into the water before it can release the water into the municipal supply.[299] While that ability is encouraging, pharmaceuticals and pesticides are just two examples of contaminates that are not only difficult to remove with ordinary water treatment facilities, but also pose serious consequences to both humans and the environment.[300] However, if desalination technology were allowed to develop at a rate that is commercially feasible, further innovation could resolve this, too, which could make available even more water for human consumption.

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294 Tarrant Reg'l Water Dist. v. Herrmann, 656 F.3d 1222, 1226 (10th Cir. 2011), *cert. granted*, 133 S. Ct. 831, 184 L. Ed. 2d 646 (U.S. 2013), *aff'd*, 133 S. Ct. 2120, 186 L. Ed. 2d 153 (U.S. 2013).

295 Tex. Water Dev. Bd. v. Ward Timber, Ltd., 411 S.W.3d 554, 556 (Tex. App.—Eastland 2013, no pet.).

296 Jorge Arroyo, *Water Desalination*, *in* CONFERENCE PROCEEDINGS: AQUIFERS OF THE EDWARDS PLATEAU 293 (2004), *available at* https://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R360/Ch15.pdf, *archived at* http://perma.cc/MUD7-D9NR.

297 Nir Becker, Doron Lavee, & David Katz, *Desalination and Alternative Water-Shortage Mitigation Options in Israel: A Comparative Cost Analysis*, 2 J. WATER RES. & PROT. 1042, 1042 (2010), *available at* http://file.scirp.org/Html/5-9401207_3509.htm, *archived at* http://perma.cc/S442-WCWT.

298 VOUTCHKOV, *supra* note 10, at 48.

299 *Id.* at 445.

300 Joseph Behnke, *Pharmaceuticals in the Water: The Albatross around Texas's Neck*, 13 TEX. TECH. ADMIN. L.J. 325, 326 (2012); Konstantinos V. Plakas & Anastasios J. Karabelas, *Removal of Pesticides from Water by NF and RO Membranes — A Review*, 287 DESALINATION 255 (2011).

VII. Possible Suggested Changes

To solve a problem, one must first identify the problem. Although this may seem obvious, not everyone agrees on what the problem is, or whether a problem even exists with desalination in Texas. The consensus in the latter opinion, those who probably do not give desalination much thought or believe that development is currently acceptable, likely feels secure with the TWDB's management strategy and estimation that Texas will have a sufficient water supply in fifty years. Those that struggle to agree on the problem, the direction, methodology, or even the intensity at which development must occur are only trying to unlock the benefits of an enormous resource. Curiously, both groups may not even realize that they are relying on the 2012 State Water Plan, which is where the problem actually begins.

A. Improved Reporting

Desalination must first overcome this impediment of lack of concern or awareness before Texas will ever expand the use of desalination. To do so, the TWDB needs improved reporting requirements.

The TWDB reports the state's water need subjectively, in conflict with its stated goal of objectivity, and then determines an "unmet" need is not even worthy of reporting because "the return on the investment is not sufficient."[301] The TWDB would likely base the defense of that statement on the viability of the particular water management strategy. However, this viewpoint assumes too much authority as it removes the profitability decision from the water supplier and the end users, who ultimately carry the financial burden of implementing the strategy. For the TWDB to substitute its judgment in place of the water supplier and the consumer is troublesome because it is the TWDB's duty to report the water need objectively assuming zero supply restrictions.[302]

Additionally, few would likely say the report assembled every fifth year making fifty-year projections[303] is the epitome of accuracy. On the contrary, the five-year period covered by the state water plans suggest much flexibility. If flexibility is the reason behind the lengthy period, who benefits from this flexibility when the legislature needs a firm report on which it may act? Like many of the reporting requirements currently in Texas statutes,[304] the legislature should require the TWDB to submit a more refined *biennial* report coordinated around the legislative biennium. The Texas Utility Code, Agriculture Code, Education Code, Occupation Code, and other sections of the Texas Water Code are examples that share this common biennial reporting theme.[305]

By requiring the TWDB to update the state water plan once every five years, does the Texas legislature take water for granted? What would happen to a company that assembled a business plan once every five years? Moreover, who would invest in a com-

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301 2012 State Water Plan, *supra* note 14, at 181; *see supra* Part II.B.

302 2012 State Water Plan, *supra* note 14, at 176.

303 *Id.* at 19.

304 *See* Tex. Util. Code Ann. § 12.203 (West 2013); Tex. Agric. Code Ann. § 15.006 (West 2013); Tex. Educ. Code Ann. § 39.332 (West 2013); Tex. Occ. Code Ann. § 651.162 (West 2013); Tex. Water Code Ann. § 5.178.

305 *See* Tex. Util. Code Ann. § 12.203; Tex. Agric. Code Ann. § 15.006; Tex. Educ. Code Ann. § 39.332; Tex. Occ. Code Ann. § 651.162; Tex. Water Code Ann. § 5.178.

pany that continually exposes itself year after year to reoccurring pitfalls without hope for timely self-evaluation and adjustment? In the real world, people plan meticulously for mishaps because the unexpected happens, and when a plan fails, adjustments are made, especially when the stakes are high.

Although economic concerns are much more prevalent when water shortages cause disastrous effects like the $7.2 billion agricultural loss from the 2011 drought,[306] Texas should be more cognizant that water and its economy are intertwined. In fact, water is so essential that not a penny of Texas's gross domestic product would be possible without direct or indirect assistance from water. Consequently, whether the concern is to prevent economic loss or safeguard current economic output, with such immense economic consequences at stake, Texas deserves a more frequent, more reliable, and more attentive state water plan.

B. CENTRALIZING CONTROL

Once Texas has a more robust state water plan that outlines a genuinely objective and accurate water need, the legislature could also create special law districts specifically for desalination with the power and responsibility to manage large geographic areas.[307] This theory aligns with Texas's preference that groundwater conservation districts have a significant level of power, responsibility, and control.[308] For example, the legislature could create a single desalination district that would have jurisdiction over the coastal deep-water brackish aquifers, as well as the seawater in the Gulf of Mexico for the purposes of water production. In addition, the legislature could create special districts on a regional scale strategically throughout the state with jurisdiction over the inland brackish water aquifers. This idea is not entirely original as the guidance manual on brackish groundwater proposes a regional approach to desalination, even though it does not go as far as to promote the use of special districts for that purpose.[309] Under this regional approach, a single water project would serve multiple municipal areas instead of the current Texas scheme in which each local water supplier must fend for itself without much benefit of coordination with surrounding water suppliers.[310]

This model has obvious cost benefits. Currently, a single water supplier that may not be able to afford a desalination facility by itself, faces continual water shortages, and has no recourse other than to live with the water shortage.[311] Under a regional approach, the local water supplier could purchase the needed water from the overlying special district.[312] In essence, Texas could use the combined purchasing power of the local water suppliers to both reduce desalination costs and promote desalination use. Overall costs would decline because larger facilities tend to have lower production costs,[313] which in turn would entice local water suppliers to purchase water to fill its need, which otherwise would be unmet, thereby perpetuating desalination production.

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306 *See supra* Part II.B.1.
307 *See supra* Part IV.B.
308 TEX. WATER CODE ANN. § 16.060.
309 NRS CONSULTING ENG'RS, *supra* note 109, at 22.
310 *Id.*.
311 *See id.*
312 *See id.*
313 VOUTCHKOV, *supra* note 10, at 118-19 fig.4.12.

The side benefits are a bit more obscure, but worth noting, as desalination projects are in large part driven by costs. Simply stated, business and industry need water, which in turn supplies jobs to the community. Consequently, communities with water shortages will have a difficult ordeal raising additional tax revenue from these sources, much less keeping the revenue they do have. "If you build it, he will come" has considerable meaning to communities throughout Texas that want to attract business and industry.[314]

This aggressive approach of creating special law districts has another benefit besides the ability to pool water suppliers' demands and money. The legislature creates a special law district by statute and it therefore constructs the district's powers and responsibilities.[315] This approach empowers the district for the purpose of desalination efforts, and even though it would still be accountable to the TCEQ for environmental concerns, the district would have a specified level of primary authority. Most notably, the legislature could remove the water development authority from the TWDB as it pertains to desalination, thereby empowering and tasking the special district with the exploration, development, implementation, and operation of all desalination facilities.

In essence, Texas currently has a fragmented approach to desalination in which planning and development are under the TWDB, the permitting process involves countless authorities and is so complex it requires a process just to identify the process, and then the local water suppliers get to bear the burden of funding and implementation. Centralizing authority would enable planners to focus on an entire desalination project from start to finish, as well as give them the ability to construct a more efficient permit process. Although this Note asserts that special districts are feasible and will benefit Texas, before desalination flourishes, the legislature must acknowledge it as a separate industry with unique challenges.

VIII. Conclusion

While this Note does not directly demonstrate the effect science has on the law, it does demonstrate how the law reacts to science that is new to the regulatory world. In doing so, it reveals the law's hesitation when faced with the unfamiliar science that is desalination. Texas has a fragmented approach to desalination where regulation and authority is scattered across different organizations.

If, by the slight chance, desalination is a recommended new source of water, it faces considerable regulatory hurdles that add to the natural impediments, such as cost and environmental concerns. The actual process to produce usable water from saltwater on a large scale is difficult enough, but Texas regulates desalination as if it were a traditional source (despite being called "nontraditional"), thereby increasing cost and feasibility of many projects. One could only imagine the legislative heartache if Texas put the oil and gas industry through a four- to ten-year permitting process. Perhaps this is because the oil and gas industry drives the Texas economy. Nevertheless, water is required for everything, even to drill, and sadly, some do not acknowledge that a problem exists.

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314 *See Population Growth Over Human History*, *supra* note 1.

315 *See supra* Part IV.A.

The TWDB's responds to Texas's water needs like an ostrich when faced with insurmountable fear. When some water needs are difficult to fulfill, the TWDB labels the need as "unmet" and simply does not include it in the state water plan. This process has to stop. When change does occur with desalination, as it must, it needs to come first in the form of a more reliable state water plan. The legislature must recognize an objective, accurate, and unbiased need for water that reflects actual current needs. More importantly, it must realize that, because of climate change and population growth, traditional sources will not fulfill this need forever.

Once legislators identify a more reliable way of calculating need, it can move forward constructing truly favorable legislation, such as special law districts for brackish groundwater and seawater desalination. By centralizing control of desalination, legislators and administrators can then focus on streamlining regulatory processes specifically tailored for desalination, thereby reducing the impediments with improvements such as a more efficient and cost effective permitting process.

Under this scenario, costs will decline, uncertainty will dissipate, and Texas will build upon each success more rapidly than the last, effectively perpetuating progress throughout the entire state and possibly the nation. In essence, regulation will drive innovation instead of what Texas has today in which regulation adds just enough resistance to prevent any significant growth in desalination. If Texas uses regulation to break the inertia, it might find desalination to be the next major economic catalyst for Texas.

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Sifting through Smog: Examining Public Participation and Standards of Judicial Review in Texas Greenhouse Gas Litigation

By Michael Reer

I. Introduction

The U.S. Environmental Protection Agency's (EPA) 2009 decision to regulate greenhouse gases (GHGs) has resulted in the nation-wide alteration of Clean Air Act State Implementation Plans (SIPs). All fifty states have modified their implementation plans to reflect the EPA's designation of GHG emissions as pollutants in the New Source Review and the Title V permitting programs. One state, Texas, refused to recognize the pollutant status of GHG emissions until 2013. In response to Texas's prior refusal to recognize GHG emissions as pollutants, in late 2010, the EPA mandated a partial Federal Implementation Plan (FIP) designed to fill the gaps in Texas's regulation of air pollutants. The FIP temporarily created a dual-track permitting process by which the EPA directed applicants to apply for federal GHG-related permits at the EPA's Region 6 office. Simultaneously, applicants would apply for a parallel permit for all other pollutants from the Texas Commission on Environmental Quality (TCEQ), the state's environmental regulatory agency.

Texas House Bill (H.B.) 788, introduced and passed in 2013, ended the dual-track permitting process by giving the TCEQ the authority to regulate GHGs to the extent mandated by federal law and to issue pre- and post-construction air permits.[1] While the

1 Act of June 14, 2013, 83rd Leg., R.S., ch. 272, § 4, 2013 Tex. Gen. Laws 1024.

TCEQ has submitted a modified SIP, which the EPA approved and published in the Federal Register, several unresolved issues raise substantial questions regarding Texas's regulatory scheme. Although Texas law typically gives interested parties the right to a contested case hearing when an agency determines whether an application for a permit should receive approval, H.B. 788 peremptorily disallows contested case hearings for GHG permits. This Note examines H.B. 788's scheme to determine: (1) how public involvement in GHG permits might occur; (2) what standard of review courts will use for Prevention of Significant Deterioration (PSD) permits granted without contested case proceedings; and (3) how courts will manage administrative records compiled partly through contested case hearings and partly through the notice and comment process.[2]

II. BACKGROUND

This Part surveys the background issues necessary to understand GHG regulations and the potential problems that the TCEQ might encounter in adopting a hybrid permitting system. Part II.A briefly examines the short history of federal regulation of GHGs under the Clean Air Act (CAA). It emphasizes the EPA's method of implementing new GHG regulations into the existing Title I pollution control matrix. Part II.B describes Texas's historical approach to GHG regulation, from the state's initial refusal to participate in GHG emissions regulation to its current effort to unify stationary source permitting at the TCEQ. Finally, Part II.C outlines the anticipated controversy Texas's removal of contested case hearings for GHG emissions will cause as courts struggle with conflicting statutory standards of judicial review for the same permit or group of permits.

A. REGULATION OF GREENHOUSE GASES UNDER THE CLEAN AIR ACT

When human activities release GHGs into the atmosphere, the gases act "like a ceiling of a greenhouse, trapping solar energy and retarding the escape of reflected heat."[3] A wide variety of modern human activities, including driving cars, operating fossil-fueled power plants, and creating and running industrial sites, release GHG emis-

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2 GHG regulation remains a rapidly evolving field in Texas. Unless otherwise noted, the information contained in this article is current as of September 30, 2014.

3 Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 505 (2007). It seems difficult to begin a discussion about the regulation of greenhouse gases without assuming that greenhouse gases contribute to global warming, an assumption the Supreme Court found warranted *Massachusetts v. Envtl. Prot. Agency*. A vocal minority of skeptics remain, however, and contribute to the complex dynamics surrounding the development of pollution regulations. Texas Governor Rick Perry recently reiterated his skepticism of climate change science by stating that "we are seeing almost weekly, or even daily, scientists are coming forward and questioning the original idea that man-made global warming is what is causing the climate to change." Maeve Reston, *Rick Perry calls global warming an unproven, costly theory*, L.A. TIMES (Aug. 17, 2011), *available at* http://articles.latimes.com/2011/aug/17/nation/la-na-0818-perry-global-warming-20110818, *archived at* http://perma.cc/B73C-X9RQ; David G. Savage, *Justices push EPA to act on car emissions*, L.A. TIMES (Apr. 3, 2007), *available at* http://articles.latimes.com/2007/apr/03/nation/na-scotus3, *archived at* http://perma.cc/PPZ8-GJMP.

sions.[4] In recent years, a well-documented rise in global temperatures has coincided with a significant increase in the concentration of GHGs in the atmosphere.[5] Some scientists believe that human-created GHGs have driven this rise in global temperatures and further predict that the rising temperatures will "cause a host of deleterious consequences, including drought, increasingly severe weather events, and rising sea levels."[6]

Section 202(a)(1) of the CAA provides that the EPA shall regulate the emission of any air pollutant arising from motor vehicles, which, in the EPA's judgment "may reasonably be anticipated to endanger public health or welfare."[7] Congress added the phrase "reasonably be anticipated" in 1977 to give the agency the ability to regulate pollutants with suspected, but not scientifically proven, adverse effects.[8] The CAA's broad definitions of "air pollutant" and "welfare" supplement the discretion given to the agency by the phrase "reasonably be anticipated."[9] "Air pollutant" includes "any air pollution agent or combination of such agents, including any physical . . . substance or matter which is emitted into . . . the ambient air."[10] The statute also broadly defines "welfare" to include effects on the "weather . . . and climate."[11]

In *Massachusetts v. Environmental Protection Agency*, the U.S. Supreme Court found that the CAA authorized the regulation of GHGs as a "pollutant" and branded the EPA's reasoning for not exercising its regulatory authority as arbitrary and capricious.[12] The EPA subsequently issued an Endangerment Finding for GHGs.[13] An Endangerment Finding acts as the EPA's official designation of a substance as a "pollutant" as required

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4 Coal. for Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102, 114 (D.C. Cir. 2012), *cert. granted in part and denied in part*, 134 S. Ct. 2427 (2014).

5 *See Massachusetts*, 549 U.S. at 504-05.

6 *See Climate Change Impacts in the United States: U.S. National Climate Assessment*, U.S. Global Change Research Program (2014), *available at* http://nca2014.globalchange.gov/downloads.

7 *See Massachusetts*, 549 U.S. at 514 (quoting 42 U.S.C. § 7521(a)(1), the Clean Air Act Amendments of 1977).

8 *See id.*; *see also* Ethyl Corp. v. Envtl. Prot. Agency, 541 F.2d 1, 25 (D.C. Cir. 1976) (en banc) (holding that the Clean Air Act and common sense "demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable.").

9 *See Massachusetts*, 549 U.S. at 506.

10 42 U.S.C. § 7602(g) (1990).

11 *Id.* § 7602(h).

12 *Massachusetts*, 549 U.S. at 506. As the Clinton Administration drew to a close, some nineteen organizations petitioned the EPA to regulate GHGs from motor vehicles under the agency's Section 202 powers. The George W. Bush Administration eventually responded that the agency did not possess power under the Clean Air Act to regulate GHGs as an air pollutant. Alternatively, the administration argued that even if the EPA had the power to regulate GHG emissions, the Clean Air Act also gave the EPA the discretion not to regulate and therefore the administration could reasonably elect not to regulate them as a matter of prudence.

13 *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,496-01 (Dec. 15, 2009) (codified at 40 C.F.R. ch. I) [hereinafter Endangerment and Cause or Contribute Finding].

by the agency's CAA mandate to identify pollutants that "contribute to air pollution [and] may reasonably be anticipated to endanger public health or welfare."[14]

The Endangerment Finding defined, as a single air pollutant, six "long-lived and directly-emitted" GHGs that mix together in the atmosphere and collectively cause climate change.[15] The EPA theorized that, while carbon dioxide, methane, nitrous oxide, hydroflourocarbons, perflourocarbons, and sulfur dioxide might seem harmless when considered separately and individually, they create a greenhouse effect when mixed in the atmosphere and therefore collectively constitute a potential hazard to human health and welfare.[16] The Endangerment Finding set off a cascade of regulations that fundamentally altered the agency's approach to GHG control.[17]

First, the Endangerment Finding had the formal effect of classifying the six GHGs as pollutants.[18] The agency's finding automatically triggered certain regulations based on the EPA's established powers under section 202 of the CAA relating to mobile sources.[19] The Endangerment Finding under section 202 not only allows, but also mandates, the agency to establish motor-vehicle emissions standards for the classified pollutant.[20] The agency accordingly promulgated the "Tailpipe Rule" for GHGs, setting federal emissions standards for cars and light trucks.[21]

In turn, the Tailpipe Rule triggered the mandatory regulation of stationary GHG emitters under two separate provisions of the CAA: the New Source Review (NSR) program and Title V.[22] Congress enacted NSR to ensure that additional new major sources do not degrade air quality and that growth in industrial production reflects advances in air pollution control technology.[23] The PSD program is a critical component

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14 Ctr. for Biological Diversity v. Envtl. Prot. Agency, 794 F. Supp. 2d 151, 152 (D.D.C. 2011). The statutory provision which allows the EPA to issue an Endangerment Finding applies to pollutants emitted by mobile sources such as cars, trucks, and airplanes. 42 U.S.C. § 7547 (1990).

15 *See* Endangerment and Cause or Contribute Findings, *supra* note 1313, at 66,497.

16 *See id*.

17 *See generally* Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102, 114-116 (D.C. Cir. 2012), *cert. granted in part and denied in part*, 134 S. Ct. 2427 (2014).

18 *Id*. at 115.

19 *See* 42 U.S.C. § 7521(a)(1) (1990).

20 *Id*.

21 49 C.F.R. § 575.401 (2011); *see* Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule, 75 Fed. Reg. 25,324, 25,324 (May 7, 2010) (to be codified at 40 C.F.R. pts. 85, 86, & 600; 49 C.F.R. pts. 531, 533, 536, 537, & 538).

22 *Responsible Regulation*, 684 F.3d at 115; *see also* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 67 Fed. Reg. 80,186, 80,239-40, 80,264 (Dec. 31, 2002) (codified at 40 C.F.R. pts. 51 & 52).

23 *See New Source Review*, U.S. ENVTL PROT. AGENCY, http://www.epa.gov/nsr/ (last visited Oct. 15, 2014), *archived at http://perma.cc/CY4E-EJRL*. NSR consists of the Prevention of Significant Deterioration of Air Quality program (PSD) and the non-attainment NSR program. PSD standards apply to those air quality control regions that have consistently main-

of NSR.[24] Generally speaking, the PSD program requires an applicant to: (1) use the best available control technology (BACT) for preventing or reducing air emissions; (2) conduct an air quality impact analysis; (3) assess the impacts of additional air pollution on the surrounding soil, vegetation, and visibility; and (4) provide for public participation in the permit process.[25]

Federal regulations require preconstruction NSR permits only for major sources of air pollution.[26] Currently, two different sections of the NSR program determine whether a stationary source can qualify as a major source.[27] First, the NSR program requires state-issued pre-construction permits for certain categories of listed industrial sources that emit over 100 tons per year (tpy) of any regulated pollutant.[28] Second, stationary sources outside the listed categories must file as a major stationary source under NSR if they have the potential to emit over 250 tpy of any air pollutant.[29]

When the Tailpipe Rule was issued, it also triggered stationary source regulation through the Title V Permit program.[30] The Title V operating permit program requires state-issued operating permits for stationary sources that have the potential to emit 100 tpy of a regulated air pollutant.[31] Whereas Congress designed the NSR permitting program to account for and minimize air pollution at the stationary source's inception through a pre-construction review mechanism, it wrote Title V to ensure post-construction monitoring and compliance with federal and state air quality efforts.[32] The EPA

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tained federal air quality standards while non-attainment NSR requirements apply to those areas that fail to consistently meet the minimum federal requirements.

24 *See National Enforcement Initiative: Reducing Air Pollution from the Largest* Sources, U.S. ENVTL. PROT. AGENCY, http://www2.epa.gov/enforcement/national-enforcement-initiative-reducing-air-pollution-largest-sources, *archived at* http://perma.cc/DSB4-MHBN.

25 *Air Permits*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/region9/air/permit/psd-public-part.html, *archived at* http://perma.cc/49VP-42HC.

26 42 U.S.C. § 7479(1) (1990).

27 *Id.*

28 *Id.*; *see* 40 C.F.R. 52.21(b)(1)(i) (2014); *Fact Sheet – PSD and Nonattainment Significant Emissions*, TEX. COMM'N ON ENVTL. QUALITY, *available at*, http://www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-na-sigemiss.pdf, *archived at* http://perma.cc/K66B-RBDJ.

29 *See* 42 U.S.C. § 7475 (1977); 42 U.S.C. § 7479(1); *see generally* 40 C.F.R. § 60. Once a stationary source enters the PSD program, the applicant must determine whether the Clean Air Act or the accompanying regulations have heightened standards for its industrial category.

30 Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102, 115 (D.C. Cir. 2012), *cert. granted in part and denied in part*, 134 S. Ct. 2427 (2014).

31 42 U.S.C. §§ 7475, 7479(1).

32 *Compare Prevention of Significant Deterioration (PSD) Basic Information*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/NSR/psd.html, *archived at* http://perma.cc/U8QQ-ESDQ (stating that the PSD program revolved around the installation of best bvailable control technology, air quality analysis, additional impacts analysis, and public involvement), *with* 42 U.S.C. § 7661(c) (1990) ("Each permit issued under this subchapter shall include enforceable emission limitations and standards, a schedule of compliance, a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of any required monitoring, and such other conditions as are necessary to assure compliance with applicable requirements of this chapter, including the requirements of the

interprets the Title V regulations to encompass any air pollutant regulated under the CAA, which includes pollutants identified by the Endangerment Finding.[33]

When the EPA issued an Endangerment Finding to regulate tailpipe emissions, therefore, it also committed to regulating stationary sources through delegation to responsible state environmental agencies within the NSR and Title V programs.[34] Concerned with the administrative complexities raised by suddenly adding potentially millions of stationary sources that emit more than 100 tpy of any one of the six GHGs to the air pollution control matrix, the EPA issued the Tailoring Rule.[35]

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applicable implementation plan."). In Texas, this dualistic scheme ensures review of a stationary source's CAA compliance at two stages: once before construction and once before operation. *Compare Federal Operating Permit (FOP) Application Procedures and Timelines*, TEX. COMM'N ON ENVTL. QUALITY, http://www.tceq.state.tx.us/permitting/air/titlev/apps_timelines.html, archived at http://perma.cc/7GP9-39FM, *with* Air Permit Reviewer Reference Guide: Major New Source Review – Applicability Determination, TEX. COMM'N ON ENVTL. QUALITY, http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/fnsr_app_determ.pdf, *archived at* http://perma.cc/4GG6-JEC9.

33 Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,513, 31,521 (June 3, 2010) (codified at 40 C.F.R. pts. 51, 52, 70 & 71) [hereinafter Tailoring Rule] ("Under EPA's long-standing interpretation, a pollutant, such as a GHG, is subject to regulation when it is subject to a CAA requirement establishing actual control of emissions. Title V generally does not add new pollution control requirements, but it does require that each permit contain all pollution control requirements or applicable requirements required by the CAA (e.g., New Source Performance Standard (NSPS), and SIP requirements, including PSD), and it requires that certain procedural requirements be followed, especially with respect to compliance with these requirements.") (internal quotations omitted). Generally speaking, Title V permits must contain: (1) emissions limitations and standards that will ensure compliance with applicable requirements; (2) monitoring, recordkeeping, and reporting requirements necessary to meet those requirements; (3) fee payment; and (4) annual certification of compliance by a responsible corporate official. 40 C.F.R. § 70.6. In addition to these substantive Title V requirements, several procedural requirements govern the regulatory process by which the TCEQ and the EPA issue and monitor Title V permits. The issuing agency must determine that: (1) the application is complete; (2) public notice and a thirty-day public comment period, including an opportunity for a public hearing, on draft permits has occurred; (3) the permit has been adequately reviewed; and (4) a statement of the legal and factual basis for the draft permit has been issued.

34 *See id*.

35 *See id*. at 31,514, 31,553-54; *see* Robin Bravender, *EPA Issues Final 'Tailoring Rule' for Greenhouse Gas Emissions*, N.Y. TIMES (May 13, 2010), *available at* http://www.nytimes.com/gwire/2010/05/13/13greenwire-epa-issues-final-tailoring-rule-for-greenhouse-32021.html, *archived at* http://perma.cc/4PD5-39X4. The EPA estimated that without a tailoring rule, nearly six million entities would qualify as PSD-eligible stationary sources. By comparison, the tailoring rule regulated approximately 550 current stationary sources and nearly 900 new sources every year. Surprisingly, Texas's estimates have deviated significantly from the EPA's. The State estimates that the PSD requirements "could have expanded from approximately 500 issued permits annually to more than 81,000 nationwide." 38 Tex. Reg. 7846 (2013) (codified at 30 TEX. ADMIN. CODE §§ 39.411, 39.412, 39.419, 39.420).

The Tailoring Rule reflects the EPA's response to the nearly impossible administrative task of incorporating an enormous number of new stationary sources into the regulatory system within a reasonable period of time.[36] While still bringing over 70% of the nation's GHG emissions into the PSD program, the Tailoring Rule narrows the scope of GHG regulations to include only heavy industrial sources, such as power plants, cement production facilities, and refineries.[37]

When the EPA issued its Endangerment Finding and subsequently regulated GHG emissions under the NSR and Title V programs, it obligated the states to revise their respective implementation plans if they wished to continue their delegation of the federal CAA programs.[38] The CAA depends on a system of cooperative federalism to achieve air quality standards.[39] The federal government holds responsibility for dictating national standards, known as National Ambient Air Quality Standards (NAAQS),

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36 *See* Tailoring Rule, 75 Fed. Reg. at 31,514. In *Utility Air Regulatory Group v. Environmental Protection Agency*, 134 S. Ct. 2427, 2446 (2014), the Supreme Court of the United States found the Tailoring Rule an impermissible exercise of agency discretion. As a result, the EPA may no longer insist on Title V or PSD requirements for "non-anyway" sources – those sources formally subject to Title V and PSD requirements on the sole basis of GHG emissions. Subsequently, states and industry groups have argued that without the Tailoring Rule, Title V and PSD requirements do not apply to any GHG emissions sources. *See* Coalition for Responsible Regulation, Inc., et al. v. Envtl. Prot. Agency, No. 10-1092 *State, Industry, and Public Interest Parties' Joint Motion to Govern Future Proceedings* (D.C. Circuit Oct. 21, 2014).

37 The Tailoring Rule currently uses a two-pronged approach to regulation. First, the stationary source must emit more than 100 tpy of any pollutant. In the instance of GHGs, the regulations aggregate the six contributing compounds together for the purposes of the 100-tpy benchmark. If the 100-tpy benchmark is cleared, the regulating agency determines whether the stationary source emits greater than 100,000 tpy of carbon dioxide equivalent (CO2e). A stationary source must exceed both thresholds for PSD regulations to apply to the GHG emissions. In determining the amount of GHGs emitted, the regulations employ a CO2e basis equation, which compares the gases' warming effect relative to carbon dioxide over a specified timeframe to determine whether a stationary source exceeds the second regulatory threshold for GHG emission regulation. The CO2e basis equation multiplies the amount of each individual GHG pollutant emitted by a constant, which reflects the warming effect of the individual pollutant when compared to carbon dioxide. The use of the equation "converts" the other five GHGs into carbon dioxide, albeit on a somewhat imprecise basis. Tailoring Rule, 75 Fed. Reg. at 31,514; Joseph Mangino, *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/apti/video/TailoringRule/tailoring.pdf, *archived at* http://perma.cc/LJ5L-J2P4; *Glossary: Carbon Dioxide Equivalent*, EUROPEAN COMM'N: EUROSTAT, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:CO2_equivalent, *archived at* http://perma.cc/4LK2-AZP8; *see* Bravender, *supra* note 35 (noting that the EPA designed the Tailoring Rule to exclude small businesses, farms, and other emissions sources that do not significantly contribute to the nation's output of GHGs. The Tailoring Rule seeks to eventually phase in regulations for sources that emit greater than 50,000 tpy of carbon dioxide equivalent).

38 Texas v. Envtl. Prot. Agency, 726 F.3d 180, 183 (D.C. Cir. 2013).

39 William Session, *Cooperative Federalism and the Clean Air Act Encounter Turbulence*, AM. COLL. OF ENVTL. LAWYERS (2012), *available at* http://www.acoel.org/post/2012/12/14/CO

while the states determine how to achieve these standards.[40] States that wish to operate their own permitting processes must submit SIPs to the EPA.[41] These implementation plans, at a minimum, must meet the fundamental regulatory requirements set forth by the EPA.[42] If a state does not meet the minimum requirements, the EPA may impose a FIP to remedy the SIP's deficient aspects.[43] States try to avoid FIPs because they perceive the EPA's federal regulations and accompanying sanctions as more stringent and less flexible than equivalent programs implemented by delegated state agencies.[44]

In April 2010, the EPA gave formal notice that states must revise their previously-approved SIPs to account for the Endangerment Finding, Tailpipe Rule, and Tailoring Rule by January 2011 or face a partial FIP for GHG emissions.[45] On September 2, 2010, the EPA issued a SIP call, or notice of inadequacy, to thirteen states—including Texas—that had not updated their SIPs to regulate GHGs.[46] Texas responded by argu-

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OPERATIVE-FEDERALISM-AND-THE-CLEAN-AIR-ACT-ENCOUNTER-TURBULENCE.aspx, *archived at* http://perma.cc/W85B-3CCL.

40 *See id*.

41 *See* North Carolina v. Envtl. Prot. Agency, 531 F.3d 896, 902 (D.C. Cir. 2008); 42 U.S.C. § 7410 (1990). A state can have an approved SIP without federal delegation of the NSR and Title V programs. Texas, for example, has had an approved SIP since 1972, but federal delegation of the NSR program occurred in 1983.

42 42 U.S.C. §§ 7661a(d)(3), (i)(1)-(3) (1990).

43 42 U.S.C. § 7410(c)(1). 40 C.F.R. § 71 sets forth a comprehensive federal permit program consistent with the requirements of Title V and defines the procedures pursuant to which the EPA will issue Title V permits in the absence of an approved state or tribal program. To avoid a partial FIP of the state's NSR or Title V programs, a SIP must complete all the requirements of Chapter 85 of the CAA on pre-construction review of new, major, stationary sources of air pollution. *See* 42 U.S.C. §§ 7470–79 (1977); *see also Texas v. Envtl. Prot. Agency*, 726 F.3d at 183.

44 *See generally* EME Homer City Generation, L.P. v. Envtl. Prot. Agency, 696 F.3d 7 (D.C. Cir. 2012), *cert. granted in part*, 133 S. Ct. 2857 (U.S. 2013); Commonwealth of Va. v. United States, 74 F.3d 517, 520 (4th Cir. 1996); *see also* Commonwealth of Va. v. Envtl. Prot. Agency, 108 F.3d 1397, 1406 (noting that a state's failure to submit a qualified implementation plan could result in the loss of federal highway funds). In addition, when the EPA regulates emissions through a FIP, its decisions must satisfy the requirements of the Endangered Species Act and the National Environmental Policy Act. Both of these federal statutes regulate federal agency behavior to ensure compliance with the larger national environmental protection scheme but either do not apply at all or apply in a much less stringent manner to state agencies performing the same administrative review. *See* 16 U.S.C. § 1531 (1988); National Environmental Policy Act (NEPA), U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/compliance/nepa, *archived at* http://perma.cc/F8X6-CA53.

45 Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs; Final Rule, 75 Fed. Reg. 17,004, 17,022 (April 2, 2010) (to be codified at 40 C.F.R. pts. 50-51 & 70-71).

46 Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call, 75 Fed. Reg. 53,892, 533,892-99 (Sept. 2, 2010) (to be codified at 40 C.F.R. pt. 52); Action to Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call, 75 Fed. Reg. 77,698, 77,699-00 (Dec. 13, 2010) (to be codified at

ing that the Texas Constitution prohibited the state from adopting open-ended rules that would incorporate by reference undefined future federal rules, and therefore the EPA could not interpret Texas's SIP to automatically regulate new pollutants that the EPA chose to define in future Endangerment Findings.[47] In response, the EPA retroactively disapproved part of Texas's PSD SIP submission on the basis that the SIP failed to assure the application of the PSD program to all pollutants, current and future, now subject to regulation.[48] The supplemental FIP required new source applicants to receive GHG permits from the EPA before beginning construction.[49]

B. Overview of Texas's Greenhouse Gas Controversy

The institution of a partial FIP for GHG emissions created a dual-track permitting process for major stationary sources in Texas.[50] The bifurcated approach to NSR and Title V permitting compelled new source applicants to seek a GHG permit from EPA Region 6 in Dallas while simultaneously applying for a permit for all other pollutants from the TCEQ in Austin.[51] The EPA's assumption of responsibility with respect to GHG permits became especially problematic for new sources because the EPA's permit review process lagged significantly behind that of the TCEQ and added time and delay costs to already-expensive project proposals.[52]

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40 C.F.R. pt. 52); *see* Limitation of Approval of Prevention of Significant Deterioration Provisions Concerning Greenhouse Gas Emitting—Sources in State Implementation Plans, 75 Fed. Reg. 82,536 (Dec. 20, 2010) (to be codified at 40 C.F.R. pt. 52). The EPA additionally issued a "narrowing rule" for another twenty-four states that had not narrowed their implementation plans to reflect 75,000/100,000 tpy of carbon dioxide equivalent threshold rather than the 100/150 tpy threshold.

47 38 Tex. Reg. 7846, 7846-48 (2013) (to be codified at 30 Tex. Admin. Code §§ 39.411, 39.412, 39.419, 39.420) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality).

48 Determinations Concerning Need for Error Correction, Partial Approval and Partial Disapproval, and Federal Implementation Plan Regarding Texas Prevention of Significant Deterioration Program, 75 Fed. Reg. 82,430, 82,456-58 (Dec. 30, 2010) (to be codified at 40 C.F.R. pt. 52).

49 *Id.*

50 *Id.* at 82,448 ("The appropriate revision is to convert the previous approval to a partial approval and a partial disapproval. The partial approval applies to the extent that Texas's PSD program actually covers pollutants that are required to be included in PSD. The partial disapproval applies to the extent that Texas failed to address or to include assurances of adequate legal authority (required under CAA section 110(a)(2)(E)(i)) for the application of PSD to each newly regulated pollutant, including non-NAAQS pollutants, under the CAA. Note that as an alternative basis to CAA section 110(k)(6) for taking these first two steps, the EPA relies on its inherent administrative authority to reconsider its previous action.").

51 House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 788, 83rd Leg., R.S. (2013).

52 *See id.*; Neena Satija, *Businesses Back Greenhouse Gas Emissions Law*, N.Y. Times (Aug. 16, 2013), *available at* http://www.nytimes.com/2013/08/16/us/businesses-back-greenhouse-gas-emissions-law.html?_r=0&pagewanted=print, *archived at* http://perma.cc/ZU8W-76BD ("Before H.B. 788, the state agency said it did not have the legal authority to issue such permits, leaving dozens of energy companies in limbo waiting for the E.P.A. to issue the necessary permits instead.").

In response to growing complaints from businesses that were frustrated with the dual-track approach, the Texas Legislature passed Texas H.B. 788, which granted the TCEQ the rulemaking authority necessary to implement a GHG regulation scheme.[53] The legislature expressly intended to give the TCEQ the power to supplant the EPA's partial FIP with a full Texas GHG SIP and to transition outstanding Texas stationary source permits from the EPA to the TCEQ.[54] Additionally, the legislature provided that "the permit processes authorized by this section are not subject to the requirements relating to a contested case hearing under this chapter . . . ."[55] Removing GHG permit applications from the contested case hearing provisions in the Texas Clean Air Act (TCAA) and the Texas Administrative Procedure Act ("Texas APA") ostensibly served to further streamline the permit approval process.[56]

The TCEQ has already acted on the legislative mandate to claw back the authority the state lost to the EPA after refusing to promulgate GHG emissions standards and permitting programs.[57] The TCEQ's Rule Project No. 2013-040-116-AI implements the statutory mandate by: (1) changing the relevant definitions of the Texas Health and Safety Code to reflect the classification of GHGs as pollutants; (2) implementing the TCEQ permitting authority for GHGs; (3) establishing procedures for the transition of the GHG PSD permit application process from the EPA to the TCEQ; and (4) removing applications for PSD GHG permits from contested case hearing requirements.[58]

The TCEQ's amendments to the Texas SIP and related rule revisions received preliminary approval from the EPA Region 6 in the Federal Register and resulted in the removal of the FIP on February 4, 2014.[59] The EPA Region 6 Administrator Ron Curry found that the Texas rule proposals corrected the current deficiencies in the SIP by applying PSD regulations to GHG emissions, amending the Minor Source NSR program

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53 Act of June 14, 2013, 83rd Leg., R.S., ch. 272, § 4, 2013 Tex. Gen. Laws 1024. H.B. 788 was formally codified at Tex. Health & Safety Code Ann. § 382.05102. Some observers remain unpersuaded that previous environmental statutes did not give the TCEQ authority to issue regulations with respect to GHGs. For example, section 382.0205 of the Texas Health & Safety Code states, "Consistent with applicable federal law, the commission by rule may control air contaminants as necessary to protect against adverse effects related to: (1) acid deposition; (2) stratospheric changes, including depletion of ozone; and (3) climate changes, including global warming." TEX. HEALTH & SAFETY CODE ANN. § 382.0205 (West 1995).

54 Act of June 14, 2013, 83rd Leg., R.S., ch. 272, § 4, 2013 Tex. Gen. Laws 1024.

55 *Id*.

56 *Id*. For further discussion on contested case hearings, see text accompanying *infra* notes 112-119.

57 *See* Interoffice Memorandum from Steve Hagle, Deputy Director Office of Air to Commissioners, Tex. Comm'n on Envtl. Quality, (Oct. 4, 2013), *available at* http://www.tceq.texas.gov/assets/public/legal/rules/rule_lib/proposals/13040116_pex.pdf, *archived at* http://perma.cc/BF5J-ZHXU.

58 *Id*.

59 *See* Approval and Promulgation of Air Quality Implementation Plans; Withdrawal of Federal Implementation Plan; Texas; Prevention of Significant Deterioration; Greenhouse Gas Tailoring Rule Revisions, 79 Fed. Reg. 9123, 9213 (Feb. 18, 2014) (to be codified 40 C.F.R. pt. 52).

to eliminate potential loopholes for applicants using permits by rule, and clarifying Texas's BACT program for GHGs.[60]

C. The Oncoming Controversy

The final rules implement a GHG regulatory scheme that raises several questions. Practitioners must consider how the mechanics of the new regulatory scheme will practically work, how public participation will continue in a scheme that seems designed to streamline the permit-approval process, and which documents and evidence will constitute the administrative record for review purposes.

In most permit schemes administered by the TCEQ, interested third parties may object to a proposed TCEQ permit during the comment period and request a contested case hearing.[61] When the objections are made, the TCEQ may refer the case to an administrative law judge (ALJ) with the State Office of Administrative Hearings (SOAH) to conduct a contested case hearing through the procedures outlined in the Texas APA.[62] The Texas APA provides for a trial-like proceeding governed by the Texas Rules of Evidence, including the right to employ legal counsel and appropriate discovery measures, which are all enormous advantages to interested third parties hoping to challenge or delay an application.[63] The ALJs must conduct the proceeding on the record to provide reviewing courts with findings of fact.[64] If the record contains substantial evidence to support the ALJ's conclusions at the end of the proceedings, these conclusions will likely be upheld upon judicial review.[65]

Whether a third party may obtain a contested case hearing typically requires a two-step analysis.[66] First, state law must allow a contested case hearing.[67] Although the Texas APA sets out the procedural framework for a contested case hearing, an enabling statute

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60 *Id.* Texas amended its SIP on October 1, 2014 to remove "non-anyway" sources – those sources that would not necessitate PSD permits without GHG emissions – to reflect the holding in *Utility Air Regulatory Group v. Environmental Protection Agency*.

61 Tex. Comm'n on Envtl. Quality v. City of Waco, 413 S.W.3d 409, 411 (Tex. 2013), *reh'g denied* (Nov. 22, 2013). Parties may also submit comments during the comment period and then subsequently request a contested case hearing solely on the subject matter of the submitted comments after the executive director renders a decision. In Texas, the comment period sometimes extends beyond 30 days. For example, if the TCEQ determines that a public hearing should occur, then the comment period typically extends to the public hearing.

62 *City of Waco*, 413 S.W.3d at 416; Heritage on San Gabriel Homeowners Ass'n v. Tex. Comm'n on Envtl. Quality, 393 S.W.3d 417, 423 (Tex. App.—Austin 2012, pet. denied).

63 Tex. Gov't Code Ann. §§ 2001.053, 2001.081 & 2001.091 (West 1993).

64 *Id.*

65 *See* Northeast Neighbors Coal. v. Tex. Comm'n on Envtl. Quality, 03-11-00277-CV, 2013 WL 1315078 (Tex. App.—Austin Mar. 28, 2013, pet. denied).

66 30 Tex. Admin. Code § 55.201(b). The TCEQ, a permit applicant, and the executive director may also request contested case hearings.

67 *Id.*

must create the right to a hearing.[68] Second, the proposed permit must affect the third party in a way that gives that party standing to contest the permit.[69]

H.B. 788 and the TCEQ's accompanying proposed regulations do not allow contested case hearings with respect to GHG emissions for two stated public policy reasons.[70] First, consistent with the state's plan to implement minimal regulation of GHG emissions, the legislature does not believe that contested case hearings are prudent or necessary, especially because the EPA does not require or conduct similar hearings at the federal level.[71] Second, the state contends that GHG emissions in Texas do not have a localized effect beyond the normal global warming trend.[72] Without an affected legal interest separate from an abstract interest common to members of the general public, an interested party seems unable to satisfy the Texas standing requirements.[73]

After a contested case hearing, a party with standing may seek judicial review through the Texas APA.[74] Whether a third party can seek judicial review of a decision by the TCEQ on GHGs without a right to a contested case hearing is likely to be tested under one of two statutes.[75] First, because the TCEQ proposes to regulate GHGs under the TCAA, a party may seek judicial review by appealing the final decision under the TCAA.[76] Alternatively, an interested party may seek judicial

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68 *See* TEX. GOV'T CODE § 2001.001 (West 1993).

69 *Id*. While standing may stem from a legal right, duty, privilege, power, or economic interest affected by the permit application, an abstract interest common to members of the general public will not suffice. *See* United Copper Indus., Inc. v. Grissom, 17 S.W.3d 797 (Tex. App.—Austin 2000, pet. dism'd).

70 House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 788, 83rd Leg., R.S. (2013).

71 *Id*. The Texas legislature reasoned that the TCEQ should not allow contested case proceedings for GHG permits because the EPA does not allow contested case proceedings for GHG permits. The legislature's articulated logic might appear slightly misleading because the EPA has no federal proceeding equivalent to the Texas contested case hearing.

72 *Id*.

73 *Compare United Copper Indus*., 17 S.W.3d 797, *with* Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 505 (2007). This legal tango can seem difficult to follow. While the EPA does not require local standing for contested case hearings, mainly because the federal system does not recognize the concept of contested case hearings, the federal standing requirements arising from Article III might differ from those currently recognized by Texas courts. For example, a particularized injury, and therefore standing, was found for Article III purposes in *Massachusetts*, even if Texas courts could distinguish the case based on Massachusetts's statehood. Complicating the issue is the written opinion of the Texas Attorney General that standing requirements in Texas courts mirror the requirements of Article III. Instead of leaving the standing issue to the courts, which would likely follow the Supreme Court's lead on GHG standing, the state legislated standing out of the equation.

74 TEX. GOV'T CODE ANN. § 2001.171 (West 1993).

75 *See* TEX. HEALTH & SAFETY CODE ANN. § 382.05102 (West 2013); TEX. WATER CODE § 5.351(a) (West 1985).

76 TEX. HEALTH & SAFETY CODE ANN. § 382.05102. One major difference between an appeal under the Texas APA and the TCAA is that, under the Texas APA, a party has thirty days to appeal a decision after it becomes final and appealable (after a motion for rehearing or reconsideration has been denied), whereas under the TCAA, the thirty-day clock begins running immediately upon the decision becoming effective.

review under the TCEQ general powers statute currently found in the Texas Water Code.[77]

III. Approaches to the Problem of Public Participation

This part discusses the available avenues to public participation in the new regulatory scheme. Part III.A surveys the application of federal public participation mechanisms to the GHG PSD permits. Part III.B discusses citizen suit opportunities in the new regulations and compares these opportunities to those available for other pollutants under the TCAA. Finally, Part III.C considers whether the TCEQ Commissioners could use their plenary powers to allow public hearings and other methods of participation on a case-by-case basis.

A. Application of Federal PSD Public Participation Mechanisms

The proposed TCEQ implementation of H.B. 788 includes the minimum public participation mechanisms mandated by federal law.[78] Generally, PSD review involves four stages of public participation: (1) a BACT analysis, (2) an air quality analysis, (3) an additional impacts analysis, and (4) public involvement through the opportunity to submit substantive comments on the draft permit and to receive agency feedback.[79] For GHG PSD permits, the TCEQ's final rules will retain both BACT analysis and an opportunity to participate through comment submittals on both the draft and final permit

77 Tex. Water Code Ann. § 5.351(a) ("A person affected by a ruling, order, decision, or other act of the commission may file a petition to review, set aside, modify, or suspend the act of the commission."). The general powers provision of the Texas Water Code, like the TCAA, begins a thirty-day clock upon the effective date of the TCEQ decision. To obtain judicial review under either of these two statutes, Texas courts generally require that the applicant or interested party file a Motion to Overturn to ensure that the appealing party has exhausted all of the administrative remedies at its disposal. Even though the proposed rules exempt GHG PSD permits from the contested case process, challenges to those permits may still nonetheless receive public hearings under federal and state regulations. A public hearing in the federal regulatory context, however, differs dramatically from a contested case hearing. Whereas the TCEQ usually approaches a contested hearing as a de facto bench trial, the EPA typically conducts a public hearing in a notice and comment style setting.

78 A contested case hearing, in contrast, is an optional procedure available to interested parties. 38 Tex. Reg. 7846, 7847.

79 *Prevention of Significant Deterioration (PSD) Basic Information*, *supra* note 32; 42 U.S.C. § 7479(3) ("[t]he term 'best available control technology' means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant."); 40 C.F.R. § 52.21(b)(12).

applications.[80] The opportunity to submit substantive comments on the application as well as the correlative right to receive responses from the TCEQ also include an opportunity for judicial review of the TCEQ's treatment of those comments.[81] Any analysis of these procedural safeguards should consider that they closely parallel the existing public participation requirements in the federal rules and Texas SIP.[82]

With respect to GHG PSD permits, the federal requirements for SIPs have rolled back some of the traditional public participation mechanisms usually required with respect to air quality analyses and additional impacts analyses.[83] Texas merged these common sense rollbacks into its proposed GHG permit scheme.[84] To illustrate, the federal PSD program typically requires an approving agency to prepare an air quality analysis for proposed emissions of pollutants and to open the resulting analysis to public comment.[85] However, the EPA chose not to require an air quality analysis in large part because a single source of GHG emissions cannot affect ambient GHG concentrations in a manner that may be scientifically tracked with any amount of significance or accuracy.[86] Additionally, the EPA does not require state agencies to conduct additional impacts analyses when reviewing GHG permits.[87] This is due to of the global nature of GHG effects and the relatively insignificant impact that individual sources of GHG emissions have on the environment.[88]

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80 38 Tex. Reg. 7860 (2013) (to be codified at 30 TEX. ADMIN. CODE § 55.201) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality).

81 *See Prevention of Significant Deterioration (PSD) Basic Information*, *supra* note 32 ("[T]he executive director is required to respond to comments submitted by preparing a Response to Comments, which is mailed to commenters and posted on the commission's Web site, with the executive director's decision.").

82 38 Tex. Reg. 7846, 7847 (2013) (to be codified at 30 TEX. ADMIN. CODE §§ 39.411, 39.412, 39.419, 39.420) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality).

83 *See generally* 40 C.F.R. §§ 52.21(i)(5)(iii), 51.166(m)(1)(ii) (2014).

84 40 C.F.R. § 52.21(i)(5)(iii); 42 C.F.R. § 51.166(m)(1)(ii). Generally speaking, environmental agencies use air quality analyses to determine how a source of emissions will affect the ambient air. Because GHGs seem easily transferable across large geographic distances (see *supra* notes 37 and 38 and accompanying discussion), they do not constitute the type of pollutant the EPA intended to capture with an air quality analysis when the original rule was written.

85 *Air Permits*, *supra* note 25.

86 *See generally* 40 C.F.R. §§ 52.21(i)(5)(iii), 51.166(m)(1)(ii).

87 *PSD and Title V Permitting Guidance for Greenhouse Gases*, U.S. ENVTL. PROT. AGENCY 49 (Nov. 2010), http://www.eenews.net/assets/2010/11/10/document_gw_04.pdf, *archived at* http://perma.cc/F8MZ-XH97. ("Although it is clear that GHG emissions contribute to global warming and other climate changes that result in impacts on the environment, including impacts on Class I areas and soils and vegetation due to the global scope of the problem, climate change modeling and evaluations of risks and impacts of GHG emissions is typically conducted for changes in emissions orders of magnitude larger than the emissions from individual projects that might be analyzed in PSD permit reviews. Quantifying the exact impacts attributable to a specific GHG source obtaining a permit in specific places and points would not be possible with current climate change modeling. Given these considerations, GHG emissions would serve as the more appropriate and credible proxy for assessing the impact of a given facility.").

88 *Id.*

Without an air quality impact analysis or an additional impacts analysis, BACT analysis stands as one of the only federally-required avenues to public participation.[89] In fact, the TCEQ remarked in its rule proposals that the BACT analysis unquestionably serves as the "focus" of PSD review.[90]

In conducting the BACT analysis, the agency's goal is to develop all reasonable alternatives while taking into account a variety of industry factors such as economic feasibility and other available methods and techniques.[91] For PSD permits issued by the EPA, BACT analysis occurs through a top-down, five-step approach.[92] First, the EPA must identify all control technologies and procedures.[93] It then eliminates technologically infeasible options from the array of alternatives identified in step one.[94] After culling its list, the EPA ranks the remaining control technologies from most effective in limiting the pollutant under review to least effective.[95] The EPA then considers the energy, environmental, and economic impacts of the most effective alternative and either confirms it as appropriate or discards it as inappropriate.[96] Once the EPA arrives at an economically acceptable alternative, it then selects that method or technology for implementation and disregards any control technology deemed less effective than that method.[97] Notably, state environmental agencies with enforceable SIPs must conduct a

89 *See Air Permits*, *supra* note 25; 38 Tex. Reg. 7892, 7895 (2013) (to be codified at 30 TEX. ADMIN. CODE §§ 116.12, 116.111, 116.160, 116.610, 116.611, 116.164, 116.169) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality). ("The federal PSD rules, like the preconstruction requirements in the THSC, require a best available control technology (BACT) determination and an air quality analysis. As the EPA's guidance on PSD permitting for GHGs indicates, the focus of the application review is on the control technology choice. The EPA has recognized that the unique nature of emissions of GHGs and impacts present challenges to permitting authorities conducting PSD review for these emissions. For instance, the EPA has indicated that no air quality analysis is required for PSD GHG permits."); *1990 Draft New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting*, U.S. ENVTL. PROT. AGENCY (Oct. 1990) (hereinafter *Workshop Manual*), http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf, *archived at* http://perma.cc/Z3MT-NV4T.

90 *See Air Permits*, *supra* note 25; *see also Approval and Promulgation of Air Quality Implementation Plans*, *supra* note 59. Any discussion of BACT with respect to the Texas SIP should note that the BACT analysis in Texas can seem somewhat confusing because of the term's use in a similar, but analytically distinct process under the TCAA. The confusion between the two terms recently caused the EPA Region VI Administrator to note that "[t]he TCAA requires the TCEQ to apply BACT to all facilities and to all contaminants emitted from said facilities that are permitted under the TCAA, including non-PSD sources and modifications. The EPA refers to this process as 'Texas BACT.' We view the application of Texas BACT, which would include BACT for Minor NSR permitting, to be a separate requirement from the application of federal BACT as required in the EPA's PSD regulations and the Texas SIP-approved PSD Program."

91 42 U.S.C. § 7479(3).

92 *Workshop Manual*, *supra* note 89, at B.10.

93 *Id.* at B.5.

94 *Id.* at B.7.

95 *Id.* at B.27-29.

96 *Id.*

97 *Id.* at B.53.

BACT analysis for each regulated pollutant without regard to any contrary provisions in state law, implementation plans, or agency rules.[98]

The EPA's BACT regulations envision three categories of control technologies that may improve stationary source performance.[99] First, the applicant's choice of materials and production processes can lower the overall creation of emissions.[100] Second, "add-on controls," such as scrubbers, fabric filters, thermal oxidizers, and other advanced devices can scrub emissions of pollutants before they reach the air.[101] Third, a BACT analysis can suggest a combination of the first and second categories to reach a lower emissions threshold at an economically acceptable cost.[102]

In contrast, Texas has traditionally adopted a three-tiered BACT analysis that the state deems just as stringent as the federal top-down BACT process.[103] The Texas system begins on Tier One and progresses to the second and third tiers only as necessary.[104] Under Tier One, the TCEQ compares the applicant's suggested pollution control performance to recently-approved PSD permits of the same process or industry, and it then approves the application if the suggested performance compares favorably.[105] Tier One also takes into account "any new technical developments, which may indicate that additional emission reductions are economically or technically reasonable."[106]

Tier Two applies if the TCEQ has not yet set BACT requirements for a specific industry or if the applicant demonstrates technical differences that suggest that comparison to other sources within the same Standard Industrial Classification Code seems inappropriate.[107] Tier Two seeks to compare the applicant's proposed performance to similar emissions levels approved in PSD permits in other industrial categories.[108] In Tier Three, the TCEQ conducts a facility-specific technical and economic analysis to determine

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98 Texas v. Envtl. Prot. Agency, 726 F.3d 180, 187 (D.C. Cir. 2013).

99 *Workshop Manual*, *supra* note 89, at B.10; *see also PSD and Title V Permitting Guidance for Greenhouse Gases*, U.S. ENVTL. PROT. AGENCY (Mar. 2011), *available at* http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf, *archived at* http://perma.cc/4XCF-SYVY.

100 *Workshop Manual*, *supra* note 89, at B.10. The EPA, however, cannot insist that the permit applicant change the underlying source category of the process as a control measure – i.e., require a coal-fired power plant applicant to change the plant to an integrated gasification combined cycle (IGCC) power facility as a pollution reduction strategy.

101 *Id.*

102 *Id.*; *see also* 42 U.S.C. § 7408(h) (1998) ("The Administrator shall make information regarding emission control technology available to the States and to the general public through a central database. Such information shall include all control technology information received pursuant to State plan provisions requiring permits for sources, including operating permits for existing sources.").

103 *Air Permit Reviewer's Guide*, TEX. COMM'N ON ENVTL. QUALITY 11, *available at* http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/airpoll_guidance.pdf, *archived at* http://perma.cc/48H4-K5DY. Texas BACT is more stringent than federal BACT is that is applies to all sources which obtain permits under the TCAA, including minor sources.

104 *See id.*

105 *See id.*

106 *Id.*

107 *Id* at 12.

108 *See id.*

what BACT procedures seem appropriate given that no equivalent industrial sources or air pollution streams exist.[109]

Yet, the Texas BACT process under the TCEQ's proposed rules remains under-inclusive because the three-tiered system does not adhere to the top-down, five-step approach of 40 C.F.R. 52.21 in important respects.[110] For example, Tier One only reviews the emissions performance levels achieved by similar applicants in recent new source reviews.[111] In general, if an applicant demonstrates that it proposes a similar level of performance to permitted processes that the TCEQ previously approved, the agency deems the BACT requirements satisfied.[112] The Texas BACT procedure could therefore have the long-term effect of stagnating technological standards by reinforcing the practices and customs of industries long after they have become outdated.[113]

The federal top-down, five-step analysis avoids the problem of stagnation by considering all potential performance mechanisms at the first step of every BACT analysis.[114] The options considered by the first step of the analysis include add-on technologies that the agency may later reject as uneconomical.[115] The federal process places the burden on the applicant, who typically is intimately familiar with the efficacy of potential control technology, to show that suggested add-on controls are not economical, whereas Texas BACT places the burden on advocacy groups to show that add-on controls have become economical.[116]

As in the federal process, the TCEQ must also open the BACT analysis for public review and comment prior to the issuance of a final permit, responding to all substantive comments and including all suggested BACT procedures and technologies in its analysis.[117] BACT analysis not only provides an opportunity for public participation at the alternative consideration stage, but it also opens the door to judicial challenges of agency actions that environmental groups consider inadequate.[118]

Protestants would seem to have at least two options to challenge the TCEQ's BACT process for GHG PSD permit applications.[119] First, if Texas continues to use the three-tiered process, protestants could use judicial review to facially challenge the Texas

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109 An applicant may advance from Tier One to Tier Two and from Tier Two to Tier Three if it can demonstrate that meeting BACT performance in similar industrial sources is not economically feasible. *Air Permit Reviewer's Guide*, *supra* note 103, at 18. ("Due to its highly-complex and time-intensive nature, it is usually in the best interest of both the applicant and the TCEQ to avoid the third tier of BACT evaluation.").

110 *Compare* 40 C.F.R. § 52.21, *with Air Permit Reviewer's Guide*, *supra* note 103.

111 *Compare* 40 C.F.R. § 52.21, *with Air Permit Reviewer's Guide*, *supra* note 103.

112 *See Air Permit Reviewer's Guide*, *supra* note 103.

113 *See generally id*.

114 *Workshop Manual*, *supra* note 89, at B.5.

115 *Id*.

116 *Compare Workshop Manual*, *supra* note 89, *with Air Permit Reviewer's Guide*, *supra* note 103.

117 30 TEX. ADMIN. CODE § 39.411 (West 1999); *Approval and Promulgation of Air Quality Implementation Plans*, *supra* note 59, at 20.

118 *See* 40 C.F.R. §§ 124.19 & 124.20 (2013).

119 *See generally Approval and Promulgation of Air Quality Implementation Plans*, *supra* note 59, at 20-21.

BACT process as insufficient to satisfy federal requirements.[120] A Texas court will likely use a *de novo* standard, rather than the substantial evidence standard, to decide whether applicants and protestants have a legal right to insist that the TCEQ adopt the federal BACT procedure.[121] Second, groups opposing Texas GHG PSD applications can emphasize the federal preference that state agencies consider all relevant control options by submitting comments to build a favorable administrative record as a prelude to future litigation opportunities.[122]

Altering the amendments to Chapter 116 of the TCAA to reflect the implementation of federal BACT procedures with respect to GHG PSD permits would ensure the long-term stability of the Texas SIP.[123] In the EPA's proposed approval of the Texas amendments, the agency specifically noted that the TCEQ must meet federal PSD requirements, including the five-step analysis, when considering PSD applications.[124] If regulators continue to apply only Texas BACT, the state seems to risk yet another partial disapproval of the SIP.[125]

The federal requirement that the public have an opportunity to provide comments and receive substantive responses from the agency on the draft PSD permit also remains intact.[126] In non-contested case hearings, the agency's executive director must include responses to public comments with the application approval or denial.[127] These responses to public comments, which the chief clerk mails to anyone who asks to be added to the mailing list for the permit, come complete with instructions on how to appeal the executive director's decision. An administrative appeal remains a prerequisite to judicial review of agency decisions in Texas.[128] The TCEQ seems to have a historical track

120 *See generally id.* ("The TCAA requires the TCEQ to apply BACT to all facilities and to all contaminants emitted from said facilities that are permitted under the TCAA, including non-PSD sources and modifications. The EPA refers to this process as 'Texas BACT.' We view the application of Texas BACT, which would include BACT for Minor NSR permitting, to be a separate requirement from the application of federal BACT as required in the EPA's PSD regulations and the Texas SIP-approved PSD Program. To clarify the requirements of the TCAA and to ensure compliance with federal PSD regulations, the TCEQ has submitted revisions to the general application provisions at 30 Tex. Admin. Code Section 116.111(a)(2)(C). Pursuant to the submitted revisions, BACT consistent with the Texas Clean Air Act (Texas BACT) will be applied to all permit applications under the TCAA.").

121 *See* El Paso Natural Gas Co. v. Minco Oil & Gas, Inc., 8 S.W.3d 309, 312 (Tex. 1999).

122 *See, e.g.*, In re La Paloma Energy Center, LLC, PSD Permit No. TX-1288-GHG, 2014 WL 1066556 (Envtl. Prot. Agency) (EAB Mar. 14, 2014); Letter from Travis Ritchie, Associate Attorney, Sierra Club, to Aimee Wilson, U.S. Envtl. Prot. Agency Region 6, Re: Freeport LNG Liquefaction Project – Permit No. PSD-TX-1302-GHG, http://www.epa.gov/region6/6pd/air/pd-r/ghg/freeport_lng_sierraclub-comments.pdf, *archived at* http://perma.cc/58EC-QMQ5.

123 *See generally Approval and Promulgation of Air Quality Implementation Plans*, *supra* note 59, at 20-21.

124 *Id.*

125 *See id.*

126 30 TEX. ADMIN. CODE § 39.420 (West 2014).

127 *Id.*

128 *Id.*

record of providing sparse responses to comments on permit applications, although it might now craft fuller comments with the institution of non-contested case proceedings. Protestants will have more incentive to submit substantive comments attacking the framework of the application if courts limit judicial review to the administrative record before the agency.[129]

While the proposed regulatory scheme applies initially to new sources of emissions, it will ultimately include existing, and grandfathered sources, opening them to protestants' challenge through either the BACT analysis or the PSD comment process.[130] Environmental advocacy groups might challenge permits for existing major sources of GHG emissions as these major sources undertake major modifications that consequently trigger PSD permitting requirements.[131]

B. Plenary Powers Approach

The TCEQ could consider invoking its plenary powers to allow fact-finding hearings in instances in which the GHG permit application is particularly contentious or in which circumstances seem to necessitate determination of key contested facts.[132] Although the legislature struck the opportunity for formal contested case hearings, both the Texas Water Code and the TCEQ's plenary powers allow the commission to refer matters for a fact determination if it concludes that the circumstances so dictate.[133] Section 5.556(f) of the Texas Water Code, which describes how to move for a contested case hearing or Request for Reconsideration, concludes by cautioning that "this section does not preclude the commission from holding a hearing if it determines that the public interest warrants doing so."[134] Therefore, even without a request for a contested case hearing, the commission could likely order an administrative hearing in front of the TCEQ if the commission determines that doing so would serve the public interest.[135]

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129 For a fuller discussion on the incentives the proposed regulatory scheme provides to protestants, see the discussion in Part IV.D regarding the development of the administrative record.

130 *See* 38 Tex. Reg. 7892, 7895 (2013) (to be codified at 30 Tex. Admin. Code §§ 116.12, 116.111, 116.160, 116.610, 116.611, 116.164, 116.169) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality).

131 *Id.* at 7896-97 (indicating that existing major stationary sources will become subject to the GHG PSD permitting program if they: (1) propose and seek a permit for a major modification of a regulated pollutant – including a non-GHG pollutant; (2) qualify as a major source of GHG pollutants using the CO2e standard under the Tailoring Rule; and (3) propose a modification which increases the amount of carbon dioxide equivalent emitted by the facility).

132 *See* Tex. Water Code § 5.556(f) (West 1999).

133 *See id.*

134 *Id.*

135 *See id.*; *see also* Brief for Latina/o Law Students Association at the University of Wisconsin Law School as Amici Curiae Supporting Defendants, ASARCO, Inc. v. Texas Commission on Environmental Quality (2009) (GN4-01709), *available at* http://archives.newspapertree.com/Asarco/brief_LLSA.pdf, *archived at* http://perma.cc/5CR2-56NL. While few instances of the TCEQ using its plenary powers in subsection (f) exist, one such instance occurred during ASARCO's application for an air permit renewal in 2005. Even though the air permit did not propose an emissions increase, a necessary trigger for a contested case hear-

The TCEQ could alternatively choose to rely on plenary powers in the Texas Health and Safety Code in issuing an order for a hearing.[136] The Texas Health and Safety Code grants the commission "the powers necessary or convenient to carry out its responsibilities."[137] Courts have construed these plenary powers to include a wide range of TCEQ actions that seem relatively mundane, including: the sole authority to set emissions limitations, the power to regulate sewage sludge without a formal permitting process, and the ability to delegate certain responsibilities to the executive director.[138] To the extent that statutes have created a gap that hinders the ability of the TCEQ to make an informed decision on an application, the commission arguably has the authority to create corrective mechanisms.[139]

While the TCEQ could not refer a matter to the SOAH to determine a contested fact that seems crucial to the decision of whether or not to issue a permit, it remains more likely that the commission could use a public hearing to hear further evidence in support of positions for or against the permit.[140] For example, the commission might notify the applicant and protestants of one or two key issues that appear hotly contested and allow each interested party an opportunity to supplement the administrative record during a public hearing.[141] While the public hearing would not contain trial-like procedures or the rules of evidence as a contested case hearing would, this more flexible approach might seem necessary to settle issues that appear mutually exclusive in the record.[142]

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ing under Tex. Health & Safety Code Ann. § 382.056(g) and 30 Tex. Admin. Code § 55.101(e), the commissioners ruled that a hearing seemed squarely within the public interest. After the public hearing, the commissioners voted to refer the matter for a contested case hearing at SOAH. ASARCO appealed the decision to the Travis County District Court, which agreed with the TCEQ, but ASARCO never brought the matter before an appeals court and therefore scant evidence of the proceedings exist in the TCEQ's records.

136 *See* TEX. HEALTH & SAFETY CODE ANN. § 382.011 (West 1995).

137 *Id.*

138 Tex. v. Assoc. Metals & Minerals Corp., 635 S.W.2d 407, 409 (Tex. 1982) (emissions limitations); Alton McDaniel v. Tex. Natural Res. Conservation Comm'n, 982 S.W.2d 650, 653 (Tex. App.—Austin 1998, pet. denied) (sewage sludge); Kettlewell v. Hot-Mix, Inc., 566 S.W.2d 663 (Tex. App.—Houston [1st Dist.] 1978, no writ) (executive director).

139 2-13 TEXAS ADMIN. PRACTICE AND PROCEDURE § 13.3. ("If there are no procedures in set forth for the exercise of the agency's power, it has been suggested that an argument can be made that an agency has the implied power to set forth rules of practice and procedure in order that it may fairly and reasonably carry out its legislative mandate.").

140 *Compare* Act of June 14, 2013, 83rd Leg., R.S., ch. 272, § 4, 2013 Tex. Gen. Laws 1024, *with* TEX. WATER CODE § 5.556(f); TEX. GOV'T CODE § 2003.021(a) (West 2005) ("The State Office of Administrative Hearings is a state agency created to serve as an independent forum for the conduct of adjudicative hearings in the executive branch of state government. The purpose of the office is to separate the adjudicative function from the investigative, prosecutorial, and policymaking functions in the executive branch in relation to hearings that the office is authorized to conduct.").

141 *See generally* TEX. WATER CODE § 5.556(f); TEX. HEALTH & SAFETY CODE ANN. § 382.011.

142 For example, some aspects of an air permit analysis involve a fairly sophisticated scientific analysis. If the applicant submits models that appear to show emissions reductions, but in reality are scientifically suspect, the protestant would seem required to point out the scientific inadequacies during the notice and comment period. If the protestant's explanation is

C. Citizen Suit Enforcement

Citizen suits remain one of the primary enforcement mechanisms for the TCEQ air regulations.[143] Enforcement mechanisms touch on the Title V operating permit system, which governs the emissions limitations to which major sources must adhere once they become functional.[144] A source permitted under Title V must adhere to the threshold emissions limitations set out in the Texas SIP or face violation under the permit's terms.[145] The TCEQ may track a source's emissions vis-à-vis its permit in a variety of ways, but all major sources must periodically submit basic information regarding their actual emissions, including information that tends to show that a source emitted greater emissions than allowed.[146] If any source violates its Title V permit terms, the CAA authorizes interested parties to bring citizen suits against the operator.[147] The TCAA therefore depends partly on a system of mandatory self-reporting and monitoring compliance.[148] Notably, given the limited resources of the TCEQ, the mandatory self-reporting system is an important public participation mechanism that interested parties may use to bring compliance actions when and where appropriate.[149]

At a general level, the TCAA requires self-reporting for various pollutants in three circumstances.[150] These baseline requirements stem from the mandate that major stationary sources keep a record of instances in which they exceed their permit limits on emissions.[151] Interestingly, the new TCEQ rules exempt GHGs from two of the three regular reporting mechanisms.[152]

First, the TCEQ must maintain a list of reportable quantities of air pollutants, and the operator of the major source must immediately notify the commission when the thresholds are exceeded.[153] The TCEQ's designations of reportable quantities have sev-

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equally imprecise or dubious, the commission, limited to the administrative record, might require additional evidence to reach a logically supported conclusion that not only implements the primary purposes of the TCAA, but also stands firm upon appeal.

143 *See e.g.*, Sierra Club v. Energy Future Holdings Corp., 921 F. Supp. 2d 674, 681 (W.D. Tex. 2013).

144 42 U.S.C. § 7661.

145 *See* 30 Tex. Admin. Code § 122.143(4) (West 2002).

146 *See*, *e.g.*, Tex. Health & Safety Code Ann. § 382.0215 (West 2011)

147 42 U.S.C. § 7604(a) (1990).

148 *See generally* Tex. Health & Safety Code Ann. § 382.0215 (listing the reporting requirements for an entity that experiences emissions events).

149 *See generally* David T. Buente, *Citizen Suits and the Clean Air Act Amendments of 1990: Closing the Enforcement Loop*, 21 Envtl. L. 2233 (1991) (discussing the ability to bring citizen suits to force compliance with the CAA).

150 *See* Tex. Health & Safety Code Ann. § 382.0215 (reportable quantities); 42 U.S.C. § 7410(a) (inventory requirements for nonattainment areas); 40 C.F.R. § 51.114 (2007) (inventory requirements for attainment areas).

151 *See* Tex. Health & Safety Code Ann. § 382.0215(a-1). The statute does not require that stationary sources report emissions flares merely due to routine maintenance, start-up, or shut-down of the facility.

152 38 Tex. Reg. 7892, 7896 (2013) (to be codified at 30 Tex. Admin. Code §§ 116.12, 116.111, 116.160, 116.610, 116.611, 116.164, 116.169) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality).

153 Tex. Health & Safety Code Ann. § 382.0215.

eral purposes, but the commission primarily uses the designations to "determine excessive emissions events, organize potential monitoring of long duration events, provide technical assistance to emergency personnel, and inform the public."[154] If the agency uses reportable quantities primarily to ensure that major sources communicate certain, potentially emergency, situations to the TCEQ within twenty-four hours, then it does not appear consistent with this purpose to require reportable quantities for GHG emissions.[155] The slow, incremental, and long-term effects of GHGs contrast sharply with the immediate concern of some NAAQS, such as lead or particulate matter, which might require immediate action to protect public health in genuine emergency situations.[156]

Second, major sources at times must report their actual emissions to the TCEQ even if emissions fall within the permit limits.[157] The TCEQ or third parties access this data to help determine significant sources of air pollutants, establish emission trends over time, target regulatory actions, and estimate air quality through computer dispersion modeling.[158] The Texas emission inventory includes estimates of the emissions from various pollution sources that emit greater than 100 tpy of any regulated pollutant in a specific geographical area.[159] TCEQ rules exempt GHGs from the yearly emissions inventory on the theory that requiring an inventory from all sources emitting greater than 100 tpy of GHGs would be administratively burdensome to the TCEQ while only slightly helpful in determining air quality through dispersion modeling.[160]

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154 38 Tex. Reg. 7866, 7868 (2013) (to be codified at 30 TEX. ADMIN. CODE §§ 101.1, 101.10, 101.27, 101.201) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality).

155 TEX. HEALTH & SAFETY CODE ANN. § 382.0215(b).

156 *See generally id*. Under the discussed section of the TCAA, sources of emissions which either did not previously qualify for major source status or did not seek a permit under the PSD program must self-report GHG emissions which exceed the major source threshold. The proposed TCEQ rule specifically includes GHG emissions for this purpose.

157 40 C.F.R. § 51.114 (2007).

158 *Emissions Inventory*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/air/aqmportal/management/emissions_inventory, *archived at* http://perma.cc/JWZ6-XTVJ; *see also* 38 Tex. Reg. 7892, 7895-96 (2013) (to be codified at 30 TEX. ADMIN. CODE §§ 116.12, 116.111, 116.160, 116.610, 116.611, 116.164, 116.169) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality). The TCEQ mentioned, albeit tangentially, that it does not plan to conduct GHG modeling because of the difficulties in assessing local GHG emissions on local air and environmental conditions. The TCEQ similarly mentioned the difficultly in determining "significant" sources of GHG emissions with respect to matching these emissions with resulting effects on the Texas environment. This essentially eliminates prongs one and four from the purposes of keeping an inventory. Likewise, it seems reasonable for the TCEQ to wonder whether tracking emissions trends over time, prong two, will provide beneficial information if these emissions trends cannot be correspondingly matched to Texas air quality deficiencies or beneficial solutions to improving the ambient air.

159 38 Tex. Reg. at 7895.

160 *Id*. The TCEQ rule proposal suggests that a GHG emissions inventory would seem administratively unworkable because of the large number of stationary sources that emit greater than 100 typ of GHG emissions. Under the current emissions inventory scheme, any source that emits greater than 100 tpy of a pollutant regulated under the CAA must file an inventory report. Slimming the number of major sources required to submit an inventory might pose a better solution to these administrative burdens than a statewide refusal to compile an inventory. The TCEQ should require that GHG emitters which quality as major sources of

Third, and perhaps most importantly, Title V mandates self-reporting for permit violations on a semiannual basis through deviation reports.[161] The Title V program attaches the condition of mandatory self-reporting of emissions events that exceed allowable limitations to the issuance of Title V permits.[162] These deviation reports amount to a type of public confession and can be grounds for administrative enforcement action or used by environmental groups in citizen suits.[163] The TCEQ rule proposals amended the Texas Title V implementation program to include GHG emissions, adding the six GHGs as reportable pollutants on a carbon dioxide equivalent basis.[164]

Environmental groups may use the deviation reporting requirements to their advantage in at least two respects.[165] They may seek to influence the decision of whether to

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GHGs under either the PSD or Title V programs submit GHG inventories. Such a requirement would retain the benefits of the inventory program, better enforcement and air quality modeling, while submitting the agency to only a slight administrative burden. Instead of receiving thousands of GHG inventory reports from those sources which emit greater than 100 tpy, the agency would receive a handful of reports from the few sources which constitute nearly 70% of the State's GHG emissions (measured at 75,000 tpy or 100,000 tpy).

161 30 TEX. ADMIN. CODE §§ 122.145 & 122.10(5) (West 2009) (defining deviation as "[a]ny indication of noncompliance with a term or condition of the Title V permit as found using compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information."); *see also* 30 TEX. ADMIN. CODE § 113.2163. Semiannual reports are due February 1 and August 1 on each calendar year, but the TCEQ does not require a report if no deviations occurred. *See Annual Compliance Certification and Deviation Reports*, TEX. COMM'N ON ENVTL. QUALITY, http://www.tceq.texas.gov/permitting/air/titlev/compliance_deviation.html, *archived at* http://perma.cc/ET68-UWKF. The relatively infrequent nature of Texas's deviation reports has periodically come under fire from environmental groups that wish to see more frequent reporting. *See Texas Officials Submit Title V Permit Program Revisions to EPA*, 10 NO. 8 CLEAN AIR PERMITS MANAGER'S GUIDE NEWSL. 7, (Clean Air Permits: Manager's Guide to the 1990 Clean Air Act Newsletter), July 2001.

162 30 TEX. ADMIN. CODE § 122.145 (West 2001).

163 *See e.g.*, Hughes v. Benedict, Appeal No. l0-03-AQB, West Virginia Air Quality Board, Charleston, WV, http://www.wvaqb.org/finalorders/10-03-aqb%20-%20final%20order.pdf, *archived at* http://perma.cc/SYW3-9P46 (dismissing citizen suit bringing challenge to major source permit granted to oil and gas development company). Employees fill out deviation reports under penalty of perjury, resulting in significant enforcement actions if the deviation reports are falsified. *See* Press Release, OFFICE OF PUB. AFFAIRS, U.S. DEP'T OF JUSTICE Oil Company Pleads Guilty to Clean Air Act and Obstruction of Justice Crimes in Louisiana (Oct. 12, 2011), *available at* http://www.justice.gov/opa/pr/oil-company-pleads-guilty-clean-air-act-and-obstruction-justice-crimes-louisiana, *archived at* http://perma.cc/3LC8-5X9V (Vice-President who falsified deviation reports pled guilty to two counts, each of which could result in one year in prison and a $200,000 fine).

164 38 Tex. Reg. 7866, 7868 (2013) (to be codified at 30 TEX. ADMIN. CODE §§ 101.1, 101.10, 101.27, 101.201) (proposed Nov. 8, 2013) (Tex. Comm'n on Envtl. Quality). ("All unauthorized emissions would also be considered Title V deviations and would be required to be included in semi-annual reporting required in Chapter 122.").

165 *See Title V Deviation Reporting and Permit Compliance Certification*, TEX. COMM'N ON ENVTL. QUALITY 11, http://www.tceq.state.tx.us/assets/public/compliance/field_ops/guidance/Title_V_Guidance_2012_November.pdf *archived at* http://perma.cc/VJ3S-E56P.

file a deviation report by submitting credible information to the permit-holding source that a deviation has occurred.[166] The TCEQ requires permit holders to consider credible evidence collected by third parties, including those brought by citizen groups, which tends to show that a deviation has occurred.[167] Furthermore, these same groups can ensure institutional adequacy by tracking the TCEQ's response to deviation reports.[168] The TCEQ must consider reported deviations violations if the operator does not subsequently contest the self-filed deviation report on the basis of either erroneous filing or new credible evidence tending to show that no deviation occurred.[169] Indeed, Congress enacted the 1990 Amendments in part to make it easier for groups to "marshal" data on permit deviations.[170] If the TCEQ does not demonstrate the institutional will to make GHG deviations unpalatable for permit holders, then citizen groups have a variety of alternatives at their disposal, including an appeal for the EPA to disapprove the Texas SIP and citizen enforcement of Title V through citizen suits.[171]

IV. APPROACHES TO THE PROBLEMS PRESENTED BY JUDICIAL REVIEW

This Part discusses potential approaches to the problem of judicial review posed by a process that uses a contested case hearing for part of the NSR PSD program and a strict notice and comment proceeding for the remaining part of the same application. The approach the judicial system takes to this anticipated problem will likely depend on how the TCEQ structures PSD permit review. Part IV.A discusses the potential standards of judicial review available to courts and suggests that courts seem most likely to apply either substantial evidence or substantial evidence *de novo* to GHG permit appeals. Part IV.B seeks to determine the likely contents of the administrative record for purposes of judicial review.

A. STANDARD OF JUDICIAL REVIEW

In Texas, most appeals of agency permit decisions arise from contested case hearings.[172] With respect to appeals from contested case hearings, the Texas APA provides a detailed statutory breakdown of the standards of judicial review.[173] Because the new regulatory scheme does not afford an opportunity for a contested case hearing, however, the Texas APA's judicial review provisions do not apply and courts will look to judicial

166 *Id.*
167 *Id.*
168 *Id.* at 13.
169 *Id.*
170 Buente, *supra* note 149, at 2241.
171 *See generally* 42 U.S.C.A. §§ 7410, 7430, & 7604.
172 *See e.g.*, Heritage on San Gabriel Homeowners Ass'n v. Tex. Comm'n on Envtl. Quality, 393 S.W.3d 417 (Tex. App.—Austin 2012, pet. denied); City of Waco v. Tex. Comm'n on Envtl. Quality, 346 S.W.3d 781 (Tex. App.—Austin 2011, order vacated (Feb. 1, 2013)) rev'd, 413 S.W.3d 409 (Tex. 2013); City of Jacksboro v. Two Bush Cmty. Action Grp., 03-10-00860-CV, 2012 WL 2509804 (Tex. App.—Austin June 28, 2012, pet. denied).
173 TEX. GOV'T CODE ANN. § 2001.175 (West 1993).

precedent to determine the proper scope and standard of review.[174] It appears most likely that the standard of review will depend on what statutory provision the appellant uses to trigger review.[175]

Those seeking judicial review of the TCEQ GHG permit decisions must file suit in Travis County District Court using the judicial review provisions found in either the TCAA or the Texas Water Code.[176] While the TCAA applies specifically to Texas's air regulatory scheme, the Texas Water Code serves as the TCEQ's general powers statute, and the appellant appears free to use either review provision at its election.[177] Texas courts seem most likely to apply the substantial evidence standard of review triggered through the TCAA and the substantial evidence *de novo* standard to review triggered through the Water Code.[178]

The TCAA uses substantial evidence review through its statutory language charging the court to determine whether the TCEQ's final action is "invalid, arbitrary, or unreasonable."[179] While this language does not seem facially akin to the familiar substantial evidence model, Texas courts have previously inferred that the legislature used the terms "invalid, arbitrary, or unreasonable" in an attempt to mirror the substantial evidence standard found in the Texas APA.[180] In the Texas APA, substantial evidence review considers not only whether substantial evidence reasonably supports the agency decision but also whether the decision was made in violation of a constitutional or statutory provision, in excess of the agency's statutory authority, through unlawful procedure, or

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174 *See id.*

175 *See generally* Bill Analysis, Tex. H.B. 788, 83rd Leg., R.S. (2013); United Copper Indus., Inc. v. Grissom, 17 S.W.3d 797, 801 (Tex. App.—Austin 2000, pet. dism'd); City of San Antonio v. Tex. Water Comm'n, 407 S.W.2d 752, 756 (Tex. 1966).

176 *See* Tex. Health & Safety Code Ann. § 382.032(a) ("A person affected by a ruling, order, decision, or other act of the commission or of the executive director, if an appeal to the commission is not provided, may appeal the action by filing a petition in a district court of Travis County."); Tex. Water Code § 5.351(a) ("A person affected by a ruling, order, decision, or other act of the commission may file a petition to review, set aside, modify, or suspend the act of the commission.").

177 *See* Tex. Health & Safety Code Ann. § 382.002 (West 1995); Tex. Water Code Ann. § 5.011 (West 1991) ("It is the purpose of this chapter to provide an organizational structure for the commission that will provide more efficient and effective administration of the conservation of natural resources and the protection of the environment in this state and to define the duties, responsibilities, authority, and functions of the commission and the executive director."). Although codified under the Texas Water Code, Section 5 is entitled "Texas Commission on Environmental Quality." It does appear curious that no mechanism exists to force appellants to choose the judicial review provision found in the Texas Clean Air Act – a provision that is decidedly more favorably to appellees. Texas courts might well infer that the legislature intended, with the creation of a judicial review provision in the CAA, to foreclose the use of the more general Texas Water Code judicial review provision. The TCAA provision otherwise appears somewhat superfluous because an appellant seems highly unlikely to choose a judicial review provision more favorable to the appellee.

178 *United Copper*, 17 S.W.3d at 801; *City of San Antonio*, 407 S.W.2d at 756; Gerst v. Nixon, 411 S.W.2d 350, 354 (Tex. 1966).

179 Tex. Health & Safety Code Ann. § 382.032(e).

180 *United Copper*, 17 S.W.3d at 801; Smith v. Hous. Chem. Servs., Inc., 872 S.W.2d 252, 257 (Tex.App.—Austin 1994, writ denied).

through the effect of some other error of law.[181] In addition to the constitutional, statutory, and substantial evidence inquiries, the Texas APA instructs reviewing courts to determine whether the decision stands as "arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion."[182]

Texas courts have traditionally interpreted the TCAA's language as an attempt to mimic the Texas APA test through legislative shorthand.[183] The Texas Supreme Court interpreted "invalid," therefore, as a question of whether the agency decision stands in violation of a constitutional or statutory provision, exceeds of the agency's statutory authority, was made through unlawful procedure, or affected by other error of law.[184] The Supreme Court similarly interpreted "arbitrary" as covering the "arbitrary and capricious" element of the test, and "unreasonable" as a review of whether substantial evidence in the record reasonably supports the agency determination.[185]

Therefore, appellants seeking review of agency decisions are likely to trigger the substantial evidence standard when using the TCAA's judicial review provision.[186] When considering whether substantial evidence supports the administrative decision, the "proper test is whether the evidence in its entirety is such that reasonable minds could have reached the conclusion that the agency must have reached to justify its deci-

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181 Therefore, even if a court finds an agency decision to be an unconstitutional exercise of powers, the decision is still overturned via substantial evidence review. TEX. GOV'T CODE ANN. § 2001.174 (West 1993); *see generally* Morgan v. Employees' Ret. Sys. of Tex., 872 S.W.2d 819 (Tex. App.—Austin 1994, no writ); Mont Belvieu Caverns, LLC v. Tex. Comm'n on Envtl. Quality, 382 S.W.3d 472, 485 (Tex. App.—Austin 2012, no pet.); City of El Paso v. Pub. Util. Comm'n of Tex., 883 S.W.2d 179, 184 (Tex. 1994); *Gerst*, 411 S.W.2d at 360.

182 A court will consider an agency's decision arbitrary or capricious if it results from an abuse of discretion if the agency: (1) failed to consider a factor the legislature directs it to consider; (2) considers an irrelevant factor; or (3) weighs only relevant factors that the legislature directs it to consider but still reaches a completely unreasonable result. *See* TEX. GOV'T CODE ANN. § 2001.174.

183 *United Copper*, 17 S.W.3d at 801 ("When judicial review of a decision is sought, the only issue for the court to decide is 'whether the [Commission's] action is invalid, arbitrary, or unreasonable.' This Court has applied this unusual standard of review only once before. In *Smith*, we indicated that this standard seems to imply the applicability of the scope of review set forth in the Administrative Procedure Act (the 'APA').") (internal citations omitted).

184 *Compare* TEX. HEALTH & SAFETY CODE ANN. § 382.032(e), *with* TEX. GOV'T CODE ANN. § 2001.174.

185 *Compare* TEX. HEALTH & SAFETY CODE ANN. § 382.032(e), *with* TEX. GOV'T CODE ANN. § 2001.174. Perhaps the legal underpinnings of the analogy between the Texas Clean Air Act and the Texas APA appear shaky. *United Copper*, which dictated the equivalency of the two standards, drew nearly all of its support from *Smith*. *Smith* examined a contested case proceeding and merely surmised, in a footnote, that the legislature did an extremely poor job drafting the judicial review section of the Health & Safety Code and that to ensure its constitutionality the court would construe the provisions as tracking the Texas APA.

186 *Compare* TEX. HEALTH & SAFETY CODE ANN. § 382.032(e), *with* TEX. GOV'T CODE ANN. § 2001.174.

sion or whether the agency acted arbitrarily and without regard to the facts."[187] In other words, the test is not whether the agency made the correct conclusion in the court's view, but whether some reasonable basis exists in the record for the agency's action.[188]

Unlike the TCAA, the Texas Water Code does not specify the standard of judicial review courts should apply to appeals triggered through its provisions.[189] In Texas, courts typically apply substantial evidence *de novo* review to agency decisions appealed through statutes that do not specify another standard.[190] Under substantial evidence *de novo*, a court hears evidence from the parties to determine whether sufficient facts justifying the agency decision existed at the time of its determination.[191] The Texas Supreme Court framed the issue in *Gerst*:

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187 H.G. Sledge, Inc. v. Prospective Inv. & Trading Co., Ltd., 36 S.W.3d 597, 602 (Tex.App.—Austin 2000, pet. denied); Cnty. of Reeves v. Tex. Comm'n on Envtl. Quality, 266 S.W.3d 516, 527 (Tex. App.—Austin 2008, no pet.).

188 Railroad Comm'n of Tex. v. Pend Oreille Oil & Gas Co., Inc., 817 S.W.2d 36, 41 (Tex. 1991); Slay v. Tex. Comm'n on Envtl. Quality, 351 S.W.3d 532, 549 (Tex. App.—Austin 2011, pet. denied); *see also* Ne. Neighbors Coal. v. Tex. Comm'n on Envtl. Quality, No. 03-11-00277-CV, 2013 WL 1315078, at *7 (Tex. App.—Austin 2013, pet. denied) (mem. op.) ("Substantial evidence, in the sense that it is used in subpart (2)(E), is essentially a rational-basis test whereby courts determine, as a matter of law, whether an agency's order finds reasonable factual support in the record.") (internal quotations omitted). This approach effectively gives the TCEQ another opportunity to come to a determination that is supported by substantial evidence and not arbitrary or capricious. Appellants may nonetheless view a remand of the case for further proceedings as a significant victory, however, depending upon the time given for the agency to compile a new record.

189 *See generally* City of San Antonio v. Tex. Water Comm'n, 407 S.W.2d 752, 756 (Tex. 1966) (applying substantial evidence *de novo* review to appeal from State Board of Water Engineers).

190 *See* Gerst v. Nixon, 411 S.W.2d 350, 354 (Tex. 1966); G.E. Am. Comm'n v. Galveston Cent. Appraisal, 979 S.W.2d 761, 767 (Tex.App.—Houston [14th dist.] 1998, pet. denied); Gilder v. Meno, 926 S.W.2d 357, 367 (Tex.App.—Austin 1996, writ denied); *see also* Firemen's & Policemen's Civil Serv. Comm'n v. Brinkmeyer, 662 S.W.2d 953, 956 (Tex. 1984) (concluding that substantial evidence *de novo* review also considers whether the agency decision "is free of the taint of any illegality. . . ."). Courts use the term "substantial evidence" both when referring to the standard of review that arises through the Texas APA and when referring to a standard of review that inquires whether substantial evidence existed at the time of the agency's determination. The habit of using the same term to refer to two different standards of review, although proper, can be confusing and therefore this paper uses "substantial evidence" to refer to a standard of review synonymous with what exists in the Texas APA and "substantial evidence *de novo*" to refer to a standard of review in which the court hears evidence to determine whether substantial evidence supporting the agency's determination existed at the time of the agency's order.

191 *Gerst*, 411 S.W.2d at 354. As Texas's administrative law has evolved over time, the statutory provisions providing for judicial review of agency determinations have grown increasingly sophisticated. A large percentage of statutory provisions granting agency's power also provide for a specific standard of judicial review. When the legislature provides for trial *de novo* review, a standard deemed unconstitutional because of Texas's separation of powers provisions, the judiciary instead substitutes substantial evidence *de novo* review. *See*, *e.g.*, *Firemen's & Policemen's Civil Service Comm'n*, 662 S.W.2d 953 (interpreting statutory provi-

> In the usual judicial review of an administrative order in Texas, the issue is not whether the regulatory agency actually heard and considered sufficient evidence to reasonably support its action, but whether at the time the questioned order was entered there then existed sufficient facts to justify the agency order. The evidence heard by the agency is not material but the parties are given a full opportunity in their appearance before a judicial body to show that at the time the order was entered there did, or did not, then exist sufficient facts to justify the entry of the same.[192]

While some scholars have pointed to evidence that the substantial evidence *de novo* standard originally included a jury trial, it appears that Texas courts, some of which have cited separation-of-powers concerns with respect to the Texas Constitution, have since foreclosed that possibility.[193] Even if jury trial review of final agency determinations were

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sion for trial *de novo* review of civil service suspension determinations as substantial evidence *de novo*); Wu v. City of San Antonio, 216 S.W.3d 1 (Tex. App.—San Antonio 2006, no pet.) (interpreting statutory provision for trial *de novo* review of Texas Labor Code as substantial evidence *de novo*); New Boston Gen. Hosp. v. Tex. Workforce Comm'n, 47 S.W.3d 34 (Tex. App.—Texarkana 2001, no pet.) (interpreting statutory provision for trial *de novo* review of Texas Labor Code as substantial evidence *de novo*); Dall. Cty. Civ. Serv. Comm'n v. Warren, 988 S.W.2d 864 (Tex. App.—San Antonio 1999, no pet.) (interpreting statutory provision for trial *de novo* review of Texas Local Government Code as substantial evidence *de novo*); McKinley Iron Works v. Tex. Emp't Comm'n, 917 S.W.2d 468 (Tex. App.—Fort Worth 1996, no writ) (interpreting statutory provision for trial *de novo* review of Texas Labor Code as substantial evidence *de novo*). It could be tempting to construe this line of cases as merely altering unconstitutional statutory provisions for trial *de novo* review into the unquestionably constitutional substantial evidence *de novo* review. These cases do not stand for the proposition that substantial evidence *de novo* was created to reform an unconstitutional legislative directive into a constitutional one. Instead, they show that the when an unconstitutional provision for judicial review is stricken by the courts, leaving no statutory standard of review to apply, the courts default to substantial evidence *de novo*.

192 *Gerst*, 411 S.W.2d at 352.

193 *Compare* Pete Schenkkan, *The Trials and Triumphs of Texas Administrative Law*, 17th Ann. Admin. Law Course (2005), *available at* http://www.texasbarcle.com/Materials/Events/4923/77054_01.pdf, *archived at* http://perma.cc/Q9ES-KQU9 ("The trial court would conduct a jury trial on the agency's decision, under the statutory standards applicable to that agency's decisions on the issue in question. The jury would decide whether substantial evidence admitted in court supported the decision the agency had made on some other basis — whether a reasonable person, if he were presented with the court evidence, could rationally reached the decision that the agency had made."), *with* Fire Dep't of City of Fort Worth v. City of Fort Worth, 147 Tex. 505, 510 (Tex. 1949) ("Although the statute provides for a trial de novo, this term as applied to reviews of administrative orders has come to have a well-defined significance in the decisions of this state, and as a rule has been taken to mean a trial to determine only the issues of whether the agency's ruling is free of the taint of any illegality and is reasonably supported by substantial evidence."); Smith v. Hous. Chem. Servs., Inc., 872 S.W.2d 252, 257 (Tex. App.—Austin 1994, writ denied) (citing separation of powers concerns in determining that trial *de novo* review could not apply to final agency action).

not prohibited by the Texas Constitution, it seems unlikely that many of the policy reasons which gave rise to jury trial review remain applicable in the modern day.[194]

Administrative law scholars have discussed several public policy reasons for the initial rise of substantial evidence *de novo* review via jury trial, none of which appear particularly relevant to GHG regulations.[195] First, early administrative agencies in Texas did not have formal proceedings or even administrative records.[196] As such, open court and anti-corruption policies seemed to demand an opportunity for an applicant or challenger to address a neutral fact finder in an open forum.[197] Administrative records and meticulous agency rules cover modern day regulatory decision-making, decreasing the initial risk of due process and corruption concerns.[198]

Second, early in the regulatory era, the legislature passed several bills "trying to insist" on true *de novo* review.[199] Again, the lack of a formal agency record largely drove the effort to force more decisions into open court, but legislative priorities that were enacted through H.B. 788 have since shifted.[200] Unlike legislative efforts designed to slow the governmental decision making process in favor of more thorough review, H.B. 788 attempts to speed up the permit process, and the courts appear likely to give due deference to this legislative aim.[201]

Finally, as the legislature originally designed it, trial *de novo* entrusted Travis County jurors, who were considered impartial and economically insulated from oil and railroads (the objects of early agency regulations), with the responsibility to determine as a matter of fact whether the agency's action had substantial evidence to support it.[202] While courts might use jurors for impartiality, whole regulatory regimes at the federal level, in Texas, and in other states currently operate on the presumption of impartiality at the

194 *See generally* Thomas M. Reavley, *Substantial Evidence and Insubstantial Review in Texas*, 23 Sw. L. J. 239 (1969); Schenkkan, *supra* note 193, at 5-6 ("Although understandable in context, substantial evidence de novo could and did lead to absurd results. Many Texas law professors, practitioners and judges criticized the absence of uniform Texas administrative procedures and standards as a problem in its own right, and criticized substantial evidence de novo review.").

195 *See* Schenkkan, *supra* note 193, at 6.

196 *Id.*

197 *Id.*

198 *Compare id.*, *with* 30 Tex. Admin. Code § 55.21. The development of the Texas APA and the Texas Administrative Code has decreased the secrecy that seemed to surround early agency decisions.

199 Schenkkan, *supra* note 193, at 6.

200 *See id.*

201 *Compare id. with* House Comm. on Envt'l Regulation, Bill Analysis, Tex. H.B. 788, 83rd Leg., R.S. (2013).

202 Schenkkan, *supra* note 193, at 6. ("From the beginning of railroad rate regulation, the Texas legislature had dealt with the risk of local jury prejudice by assigning judicial review to the trial courts of Travis County. In a town as small as Austin was then, with little economic base beyond state government and the University of Texas, every one of the handful of judges and potential jurors was likely to know what had 'really' happened in a high-profile Railroad Commission case.").

administrative and judicial levels.[203] Even so, judicial review of TCEQ decisions still occurs in Travis County through elected judges.[204]

The uncertainty surrounding the practical application of the proposed regulatory scheme gives rise to the suggestion that applicants or frequent protestants will seek a judicial statement of their rights through the Declaratory Judgment Act.[205] The Declaratory Judgment Act might present an attractive option for plaintiffs because of its option for a jury trial.[206] The Declaratory Judgment Act's framework, however, presents several hurdles that might make this avenue unrealistic for protestants.[207] For example, even assuming that a protestant satisfies the case or controversy requirements, the Act only applies to statutes, not regulations, meaning that the court would adjudicate the plaintiff's rights based on H.B. 788, the TCAA, or any constitutional implications.[208] Plaintiffs must similarly confine their appeals to the Travis County District Court because the Declaratory Judgment Act functions as a procedure for determining controversies, not as a grant of jurisdiction.[209] Furthermore, plaintiffs usually must exhaust their administrative remedies before seeking relief under the act.[210] Given these hurdles – especially if protestants appear required to go through the TCEQ's process before seeking judicial review – it seems unlikely that the Declaratory Judgment Act will afford interested parties greater rights than their current prerogatives under the substantial evidence *de novo* standard.[211]

Although other options for the appropriate standard of judicial review certainly exist, courts seem most likely to apply the substantial evidence standard to review triggered through the TCAA and the substantial evidence *de novo* standard to review triggered through the Texas Water Code.[212]

B. Administrative Record for Review

Texas courts seem likely to interpret the substantial evidence standard under the TCAA to practically mean that the administrative record consists of the application, submitted comments, the TCEQ's responses to comments, and the executive director's

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203 *See e.g.*, TEX. GOV'T CODE ANN. § 2001.175; Am. Textile Mfrs. Inst., Inc. v. Donovan, 452 U.S. 490 (1981); In re Permit to Develop an Abstract Plant of LeFlore Title Co., Inc., 77 P.3d 621 (Okla. Civ. App. 2003).

204 TEX. HEALTH & SAFETY CODE ANN. § 382.032.

205 *See generally* TEX. CIV. PRAC. & REM. CODE § 37 (West 2007).

206 *See id.* § 37.007.

207 *See generally id.* § 37.004.

208 *Id.* ("A person interested under a deed, will, written contract, or other writings constituting a contract or whose rights, status, or other legal relations are affected by a statute, municipal ordinance, contract, or franchise may have determined any question of construction or validity arising under the instrument, statute, ordinance, contract, or franchise and obtain a declaration of rights, status, or other legal relations thereunder.").

209 City of Paris v. Abbott, 360 S.W.3d 567, 577 (Tex. App.—Texarkana 2011, pet. denied).

210 *Id* at 572.

211 *See* TEX. CIV. PRAC. & REM. CODE § 37.

212 *See* TEX. HEALTH & SAFETY CODE ANN. § 382.032, TEX. WATER CODE § 5.351(a), TEX. GOV'T CODE ANN. § 2001.175.

decision.[213] The sparse record, likely to include only the administrative record before the TCEQ, presents unique challenges to both the protestants and the applicants by raising the evidentiary stakes of the proceedings before the TCEQ.[214]

Apart from hearing new evidence relating to procedural irregularities, Texas courts must generally confine their inquiry to the agency record during substantial evidence review.[215] The court must admit the agency record into evidence as an exhibit considering only those parts of the record probative of the questions on appeal as relevant evidence.[216] A plaintiff may apply to the court to present additional evidence not included in the administrative record only in extremely limited circumstances.[217] If the reviewing court determines that the additional evidence is material and that the plaintiff had

213 *See generally* TEX. GOV'T CODE ANN. § 2001.175. Under the substantial evidence standard, the record is limited to what was in front of the agency at the time of the decision making. Therefore, the administrative record will consist of those aspects of PSD review currently employed by the TCEQ minus the trial-like process afforded by a contested case hearing.

214 *See generally* TEX. GOV'T CODE ANN. § 2001.175. The statutory rules governing admission of the administrative record and limitation of evidence to that which was admitted into the record before the agency are found in the Texas APA, Chapter 2001, Subchapter G "Contested Cases: Judicial Review." The argument could certainly be made therefore, that the statutory rules for contested cases will not apply to non-contested matters. Courts, however, seem likely to apply the judicial review provisions governing the administrative record for several reasons. First, the Texas APA provision might apply regardless of whether the matter officially qualifies as a contested case. It seems highly unlikely that the legislature envisioned contested matters regularly occurring at the TCEQ level through uncontested cases when it passed the Texas APA. Therefore, the title of the section could be read as a description of how the legislature envisioned the statutory provision applying in 1993 instead of a conscious effort to narrow its applicability. Indeed, case law exists that suggests that the legislature, in drafting the judicial review provisions of the TCAA, intended to mirror the judicial review provisions found in the Texas APA. *See* United Copper Indus., Inc. v. Grissom, 17 S.W.3d 797, 801 (Tex. App.—Austin 2000, pet. dism'd); Smith v. Hous. Chem. Servs., Inc., 872 S.W.2d 252, 257 (Tex. App.—Austin 1994, writ denied). Whether this legislature intended to incorporate the Texas APA's provisions with respect to the handling of the administrative record in addition to those provisions dealing with judicial review remains an open question. Even if the Texas APA does not apply statutorily, Texas courts seem likely to apply it by analogy because one purpose of the statute was to enshrine the standards of judicial review present at its enactment. *See* TEX. GOV'T CODE ANN. § 2001.001. Texas courts have consistently held that the substantial evidence standard is a review of the record before the agency even when no formal contested case was instituted. *See e.g.*, City of Garland v. Walnut Villa Apartments, L.L.C., 05-01-00234-CV, 2001 WL 789298 (Tex. App.—Dallas 2001, no pet.) ("Under the substantial evidence rule, the trial court reviews the administrative record to determine whether a reasonable basis exists for the Board's decision.").

215 TEX. GOV'T CODE ANN. § 2001.175(e) ("A court shall conduct the review sitting without a jury and is confined to the agency record, except that the court may receive evidence of procedural irregularities alleged to have occurred before the agency that are not reflected in the record.").

216 *Id.* § 2001.175(d) ("The party seeking judicial review shall offer, and the reviewing court shall admit, the state agency record into evidence as an exhibit."); TEX. R. EVID. 401.

217 TEX. GOV'T CODE ANN. § 2001.175(b).

"good reasons for the failure to present it in the proceeding before the state agency," the court could order the agency to hear the additional evidence and reconsider its decision under circumstances imposed by the court.[218]

Under the TCAA, therefore, the applicant has a greater responsibility to mold and protect the administrative record for purposes of judicial review.[219] Minimalistic comments from the TCEQ, for example, could have the effect of threatening the integrity of permits on review if the evidence in the administrative record consists mainly of the application and counter arguments presented by advocacy groups.[220] If an applicant makes a bare claim in the initial application that an advocacy group counters through a substantive comment that includes evidentiary support in the form of data, environmental studies, or other documentation, a court could find that substantial evidence supporting the agency's approval of the application does not exist in the record absent a substantive response from the TCEQ.[221]

Under the new GHG PSD scheme, therefore, the applicant will have a strong incentive to interact directly with the arguments of advocacy groups, either by directly re-

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218 *Id.* § 2001.175(c). One potentially problematic aspect of the proposed rules is that there is no procedure in place for taking evidence that cannot be submitted in comment form. If a court, for example, orders the agency to hear the evidence, it is an open question as to how the TCEQ could accomplish this task without triggering an all-out contested case hearing. A plaintiff appears likely to have "good reason" for not submitting evidence if a procedure for its intake does not exist at the agency level. Tex. Dep't of Pub. Safety v. Story, 115 S.W.3d 588, 590 (Tex. App.—Waco 2003, no pet.).

219 *See generally* TEX. GOV'T CODE ANN. § 2001.058 (West 1997) (providing trial-like procedure for contested case hearing only). The TCEQ does not typically respond to substantive comments beyond the degree necessary to to create a record for judicial review, putting a greater burden on applicants to proactively protect the administrative record. While there do not appear to be any statistical studies suggesting that the TCEQ's comments are less frequent or substantive than comments issued by sister agencies in other states, the Commission's industry-friendly approach occasionally comes under fire from environmental groups. *See, e.g.*, Forrest Wilder, *Agency of Destruction*, TEX. OBSERVER, (Mar. 26, 2010), http://www.texasobserver.org/agency-of-destruction, *archived at* http://perma.cc/9UFK-ZWA9; Andrew Kreighbaum, *Is the TCEQ Too Easy on Polluters?*, TEX. TRIBUNE, (June 1, 2010), http://www.texastribune.org/2010/06/01/is-the-tceq-too-easy-on-polluters, *archived at* http://perma.cc/5FAW-4K27. The fact that the TCEQ uses permitting efficiency to justify its desire to take GHG regulatory authority from the EPA suggests that this practice of minimalistic responses will continue into the new regulatory scheme. *See generally* Sean McLernon, *EPA Grants Texas Greenhouse Gas Permitting Authority*, LAW 360, (Feb. 05, 2014), http://www.law360.com/articles/507171/epa-grants-texas-greenhouse-gas-permitting-authority, *archived at* http://perma.cc/3FSZ-5P45.

220 *See generally* TEX. GOV'T CODE ANN. § 2001.175(d)-(e). An imprudent applicant could easily fall into the trap of allowing the TCEQ to determine the merits of the application without vigorously participating in the process. If the TCEQ fails to substantively address comments that call into question aspects of the application the applicant has not supported with evidence, by definition no substantial evidence can exist to uphold the agency determination.

221 Tex. Health Facilities Comm'n v. Charter Med.-Dallas, Inc., 665 S.W.2d 446, 452 (Tex. 1984) (finding that some evidence must exist in record beyond mere allegations to support decision).

sponding to criticism and concerns or by proactively building up the application in response to criticism or concerns with judicial review in mind.[222] While the standard of review appears generally more favorable for the appellant under the Texas Water Code, an appellant that believes the administrative record does not reflect substantial evidence could "freeze" the administrative record by appealing through the TCAA.

There are at least two ways an applicant could build the administrative record for judicial review.[223] First, it could make the initial application as complete as possible and cover all potential avenues of criticism with substantial evidence.[224] Second, the applicant could request an extension of the comment deadline from the TCEQ as advocacy groups submit comments that attack the substance of the application.[225] As the thirty-day window draws to a close, an applicant could make the strategic decision about whether to stand pat or amend the application to address specific arguments in the comments.[226]

If the appellant chooses to bring a challenge to the agency decision through the Texas Water Code, the court will not limit the scope of review to the administrative record.[227] Instead, the courts will consider whether sufficient facts existed at the time of the decision to support the determination under the substantial evidence standard.[228] If the administrative record does not satisfy the appellant, therefore, it could opt to redevelop the record through the broader scope of review found under substantial evidence *de novo*.[229]

V. Conclusion

Texas's GHG regulatory scheme presents stark differences between PSD permits for GHG pollutants and PSD permits for all other pollutants. Without the option for a contested case hearing, protestants will likely turn to a variety of alternatives to buttress public participation in the permitting process. In particular, protestants seem likely to

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222 *Compare* Tex. Gov't Code Ann. § 2001.175 *with* Tex. R. Evid. 401.

223 *See generally* Tex. Gov't Code Ann. § 2001.175.

224 *See id.*

225 *See generally* Tex. Health & Safety Code Ann. § 382.0561.

226 *See id.* While an extension or reopening of the public comment period does not occur as a matter of right, practically speaking, the Commission seems quite liberal on allowing applicants the opportunity to extend the comment period on their own applications. Protestants may bristle at constantly allowing applicants "the last word" on applications but the Commission has an interest in determining the applications on the merits and best evidence available, even if this process works to the procedural disadvantage of protestants.

227 *See* Gerst v. Nixon, 411 S.W.2d 250, 354 (Tex. 1966).

228 *See id.* ("In the usual judicial review of an administrative order in Texas, the issue is not whether the regulatory agency actually heard and considered sufficient evidence to reasonably support its action, but whether at the time the questioned order was entered there then existed sufficient facts to justify the agency's order. The evidence actually heard by the agency is not material but the parties are given a full opportunity in their appearance before a judicial body 'to show that at the time the order was entered there did, or did not, then exist sufficient facts to justify the entry of the same.'").

229 *See id.*

push for the protection of public participation mechanisms not affected by H.B. 788, establish a more vital role for themselves in BACT analysis, continue to pursue citizen suits against those actors who exceed emissions limitations, and request that the commissioners use their plenary powers to block unpopular PSD permits.

Additionally, the current scheme presents many unresolved issues with respect to the standard of judicial review and the administrative record available for review. If the TCEQ issues one permit for GHGs and one permit covering all other pollutants, appellants will almost certainly seek judicial review through the general powers provision in the Texas Water Code or through the Texas Health and Safety Code.

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Developments

Air Quality

Sierra Club v. Energy Future Holdings Corp., No. W–12–CV–108, 2014 WL 2153913 (W.D. Tex. March 28, 2014)

Introduction

In February 2014, the Sierra Club, on behalf of Ms. Barbara Lawrence, brought a citizen suit claiming that Energy Future Holdings Corporation (EFH) and Luminant Generation Company LLC ("Luminant"), operators of the Big Brown coal-fired power plant ("Plant") in Freestone County, Texas, had allowed and continued to allow the Plant to violate opacity limits under the Clean Air Act (CAA).[1] The suit involved self-reported unplanned maintenance, startup, or shutdown (MSS) events and upset events occurring at the Plant, which exceeded the 30% opacity limits established by the CAA.[2] Due to the alleged violations, the plaintiffs claimed that the defendants should not be entitled to the affirmative defenses for excess opacity events and that the court should grant injunctive relief as well as civil penalties.[3]

As discussed in more detail below, the court denied all relief requested by the Sierra Club, denied as moot any pending motions, entered judgment in favor of and awarded costs to the defendants.

Factual Background

The Plant is owned by the Big Brown Company LLC but operated by Luminant, a holding company of EFH.[4] The Plant burns coal, which produces particulate matter (PM) emissions from two stacks.[5] The Plant controls opacity from each stack by collecting fly ash in the Plant's flue gas streams using two pieces of equipment – an Electrostatic Precipitator ("ESP") and a Compact Hybrid Particulate Collector baghouse ("baghouse").[6] During operations, the particulate emissions exit the boiler and are routed first through the ESP and then through the baghouse before being sent through the stack.[7]

Two operating permits establish particulate emission limits: Title V Permit No. 065 and Operating Permit No. 56445.[8] Permit No. 56445 specifies the required emissions

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1 Sierra Club v. Energy Future Holdings Corp., No. W–12–CV–108, 2014 WL 2153913, at *1 (W.D. Tex. March 28, 2014).
2 *Id.* at *2.
3 *Id.* at *2-3.
4 *Id.* at *2.
5 *Id.* at *4.
6 *Id.*
7 *Id.*
8 *Id.*

control equipment operations.[9] Specifically, the emissions control equipment must be operated during MSS events in accordance with Standard Operating Procedures.[10] The Standard Operating Procedures are consistent with guidance from the Environmental Protection Agency (EPA) and minimize opacity by placing the ESP and baghouse into service as soon as practical during planned startups or removing the ESP and baghouse from service as late as possible during planned shutdown.[11] The placing into and removing from service can only occur once the baghouse inlet gas temperature is between 200 and 300 degrees Fahrenheit, but not longer than the duration limitations.[12]

Permit No. 56445 places duration limits on three MSS activities: 1) planned startups, 2) planned shutdowns, and 3) planned online and offline maintenance activities.[13] Planned startups cannot exceed 24 hours.[14] The Plant, however, is given a grace period of 600 combined hours over the course of a year during which they can exceed the 24-hour mark.[15] Planned shutdowns likewise cannot exceed 24 hours and similarly are given a grace period of 600 hours.[16] Maintenance activities are limited to 535 hours in a calendar year per unit or stack.[17]

The MSS events at issue in this suit were acknowledged by both parties to be unavoidable.[18] Despite being unavoidable, the events are still subject to the 30% opacity limits set by the Texas CAA State Implementation Plan (SIP).[19] Every time the Plant's opacity exceeds 30%, Luminant is required to submit a report to the Texas Commission on Environmental Quality (TCEQ).[20] Luminant submits two different types of opacity reports to the TCEQ: 1) reports through the State of Texas Environmental Electronic Reporting System (STEERS), and 2) quarterly reports.[21] Luminant submits a report through STEERS when opacity at the Plant is expected to exceed 30%.[22] Each STEERS report details the opacity event, cause, duration, corrective action taken, and other pertinent information.[23] Luminant's quarterly reports consist of a combination of several different reports containing opacity information.[24] For every report submitted, the TCEQ conducted an investigation and issued a written determination as to whether the Plant was in violation of the opacity limitation and, if so, whether or not the Plant was entitled to an affirmative defense.[25]

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9 *Id.*
10 *Id.* at *5.
11 *Id.* at *9.
12 *Id.*
13 *Id.*
14 *Id.*
15 *Id.*
16 *Id.*
17 *Id.*
18 *Id.* at *5.
19 *Id.* at *2; *see also* 30 TEX. ADMIN. CODE § 111.111(a)(1)(A) (West 2014).
20 *Energy Future Holdings Corp.*, 2014 WL 2153913, at *7.
21 *Id.*
22 *Id.*
23 *Id.*
24 *Id.*
25 *Id.*

The TCEQ offers two affirmative defenses, one for upset events[26] and one for MSS events.[27] To be entitled to the affirmative defense for either upsets or MSS, the operator must meet general demonstration criteria.[28] In all instances of MSS and upset events self-reported by Luminant, the TCEQ determined that the criteria were met for an affirmative defense and that no violation occurred.[29] Sierra Club disagreed with the TCEQ's findings and conclusions and brought suit.[30]

Luminant's Affirmative Defense

The court first addressed whether deference should be given to the TCEQ's determination that Luminant's Plant was entitled to an affirmative defense.[31] The court held that the TCEQ is entitled to deference in its legal and factual determinations as well as its application of its own regulations to a set of facts.[32] In this case, because the TCEQ promulgated the affirmative defenses and is charged with enforcing the CAA, it should be entitled to deference.[33] This decision was reinforced by the Sierra Club's failure to offer evidence regarding any error or deficiency in the TCEQ's investigative determinations, which were fully consistent with the EPA's guidance and further supported by the weight of the evidence at trial.[34]

Considering all the evidence presented at trial, the court further concluded that, even if the TCEQ's findings were not given deference, Luminant's Plant could independently prove all of the affirmative defense criteria.[35] Specifically, the court first held that all of the opacity events and response actions were documented by the Plant in its logs and reported to the TCEQ in either a STEERS report, quarterly report, or both, and that Sierra Club failed to offer any evidence to the contrary.[36] Second, for a breakdown to be unavoidable, the equipment or processes must be maintained and operated in accordance

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26 Upsets are unplanned and unavoidable breakdown or excursions of process or operation that result in unauthorized emissions. 30 Tex. Admin. Code §§101.1(110), 101.222(e).

27 *Energy Future Holdings Corp.*, 2014 WL 2153913, at *8.

28 30 Tex. Admin. Code § 101.222(d) (outlining the ten general demonstration criteria: (1) the opacity must be properly documented and reported to the TCEQ; "(2) opacity was the result of an unavoidable breakdown of equipment or process beyond the control of the operator; (3) the opacity event did not stem from inadequate design, operation, planning, or maintenance; (4) the air pollution control equipment or processes were maintained and operated in a manner consistent with good practice for minimizing opacity; (5) prompt action was taken to achieve compliance once the operator knew or should have known about the excess emissions; (6) all possible steps were taken to minimize the impact of the opacity levels; (7) all emissions monitoring systems were kept in operation if possible; (8) the operators response actions were documented; (9) the opacity event was not part of a recurring problem indicating inadequate design, operation, or maintenance; and (10) the opacity did not cause or contribute to a condition of air pollution.").

29 *Energy Future Holdings Corp.*, 2014 WL 2153913, at *11.

30 *Id.*

31 *Id.* at *10.

32 *Id.* at *11.

33 *Id.*

34 *Id.* at *11.

35 *Id.* at *11-16.

36 *Id.* at *13 (considering criteria (1) and (8) jointly).

with good practice.[37] The court reviewed testimony from experts for both sides and found that, even though it was technically feasible for the ESPs to be turned on earlier during startup or left on longer during shutdown, technical feasibility is not a consideration.[38] Moreover, Luminant operated the ESPs and baghouses in a certain manner to avoid damage to the equipment as well as harm to human life and property. and the Plant, as well as its equipment, were operated in accordance with its permit, EPA guidance, and manufacturer recommendations.[39] Based on these findings, the court concluded that the vast majority of the opacity events were a result of the unavoidable processes of starting up or shutting down the units, which was beyond the control of the operator, and the Plant's operations were conducted in accordance with Standard Operating Procedures.[40]

Third, the Sierra Club argued that using a baghouse-only arrangement would lead to the opacity events ceasing to occur entirely or at least occurring less frequently; the court found this argument unpersuasive, emphasizing that the affirmative defense considers only the equipment currently in place.[41] The court then determined that, even though the equipment chosen resulted in these unavoidable opacity events, it was common practice and consistent with the requirements in the Plant's operating permits.[42] Fourth, the court found that the opacity events only accounted for 1.5% of the Plant's total operating time and that these events were necessary to ensure that the Plant operated with an opacity level at or below 10% during the remaining time period.[43]

Based on these conclusions, the court found that Luminant took all possible steps to minimize opacity and achieve compliance when there were known excess emissions.[44] Fifth, the court found that Luminant continuously recorded opacity in six-minute averages through the use of its continuous opacity monitoring system throughout the events at issue and that Sierra Club failed to offer any evidence to the contrary.[45] Sixth, the court also found that none of the opacity events were the result of inadequate design and operation of the ESPs and baghouses.[46] Regarding maintenance, the court found the equipment to be well-maintained, as evidenced by Luminant's spending of $4 to $8 million per year on buying, operating, and maintaining its ESPs and baghouses.[47]

Finally, the court found that the emissions resulting from the disputed incidents did not affect human health or welfare.[48] This finding was based on the parties' agreement that primary National Ambient Air Quality Standards (NAAQS) are set at a level to

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37 *Id.* at *14.
38 *Id.* (considering criteria (2) and (4) jointly).
39 *Id.* at *14.
40 *Id.*
41 *Id.* at *15 (considering criteria (3)).
42 *Id.*
43 *Id.* at *16 (considering criteria (5) and (6) jointly).
44 *Id.*
45 *Id.* (considering criteria (7)).
46 *Id.* at 15 (considering criteria (9)).
47 *Id.*
48 *Id.* at *16 (considering criteria (10) and noting that pursuant to TEX. HEALTH & SAFETY CODE § 382.003(3), air pollution is defined as "the presence in the atmosphere of one or more air contaminants or combination of air contaminants in such a concentration and of such duration that either (A) are or may tend to be injurious to or adversely affect human

protect human health and that no violations of the NAAQS occurred.[49] The court then found that the air contaminants did not interfere with the normal use or enjoyment of animal life, vegetation, or property.[50] Luminant's expert analysis, which took into account the surrounding land use, time of day of the events, duration of the events, percentage of time of the events, and presence of complaints to the TCEQ, concluded that the opacity events did not interfere with normal use or enjoyment of life, vegetation, or property.[51] The court further noted that the Sierra Club's experts not only relied on a definition of air pollution different than that considered by the TCEQ, but also were not familiar with the definition of "air pollution," not familiar with the application of the affirmative defense factor, unable to prove that the Plant violated any NAAQS levels, and unable to point to a specific instance in which an opacity violation directly harmed a person.[52] Because the Sierra Club failed to provide expert witnesses that were familiar with Texas' definition of air pollution, the court held that Luminant's experts were correct, and the plant did not cause or contribute to a condition of air pollution.[53]

Accordingly, the court held that Luminant's Plant was entitled to an affirmative defense for their opacity emissions that exceeded the 30% threshold.[54]

Injunctive Relief and Civil Penalties

In the alternative that the affirmative defense criteria had not been met or did not apply, the court considered whether the Sierra Club should be entitled to injunctive relief and whether civil penalties were appropriate under the circumstances.[55]

Causation and Mootness of Claims

The court determined that to bring suit and be entitled to civil penalties or injunctive relief, the Sierra Club needed to prove causation and explicitly link opacity violations to Lawrence's injuries.[56] The court found the Sierra Club's expert testimony to be insufficient.[57] The Sierra Club's experts testified that any amount of PM above zero increases the risk of health problems, thereby establishing a causal connection.[58] The court, however, disagreed and found no evidence that Ms. Lawrence actually experienced any health problems and mere exposure is not a legally cognizable injury.[59]

In addition to the lack of injury, the court also found that because the MSS events at issue are now expressly permitted under amended Permit No. 56445, the Plant was operating in compliance with all permit requirements.[60] Moreover, it found that there is no

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health or welfare . . . or (B) interfere with the normal use or enjoyment of animal life, vegetation, or property.").

49 *Id.*
50 *Id.* at *17.
51 *Id.*
52 *Id.*
53 *Id.*
54 *Id.* at *13-18.
55 *Id.* at *19.
56 *Id.*
57 *Id.*
58 *Id.* at *22.
59 *Id.* (citing *Adams v. Johns–Manville Sales Corp.*, 783 F.2d 589, 591–92 (5th Cir. 1986)).
60 *Id.* at *25.

threat of future violation or harm, so all claims by the Sierra Club with respect to MSS events should be dismissed as moot.[61]

INJUNCTIVE RELIEF

The court made two findings regarding whether or not the Sierra Club should be entitled to injunctive relief: (1) the conduct Sierra Club seeks to enjoin is now permitted; and (2) the traditional four-factor test for injunctive relief demonstrates that an injunction is not warranted.[62]

First, the court determined that injunctive relief is a prospective remedy intended to prevent future injuries, and will not be issued for past infractions or injuries.[63] Furthermore, the court determined that it has no authority to enjoin lawful conduct.[64] The court then held that the Plant was operating in accordance with its permit and its MSS duration limitations.[65] Even if these operations had been illegal previously, they were now legally authorized and therefore the Plant was not in violation of existing law.[66] Because the Plant was not in violation of existing law or operating in a manner which would give rise to future infractions, the court found that injunctive relief would be inappropriate and serve as a punishment for alleged past injuries.[67]

Second, the court considered whether Sierra Club would be entitled to injunctive relief based on the application of the traditional four-factor test.[68] The four-factor test requires a party seeking injunctive relief to demonstrate: (1) that is has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate compensation; (3) that balancing hardships of the parties an equitable remedy is warranted; and (4) that the public interest would not be disserved by a permanent injunction.[69] The court found that the Sierra Club did not prove any of these requirements.[70]

CIVIL PENALTIES

Civil Penalties under the CAA are left to the court's discretion considering the penalty assessment criteria outlined in section 7413(e)(1) of Chapter 42 of the United States Code.[71] Section 7413 provides a non-exhaustive list of factors that include the following: size of the business, economic impact of the penalty on the business, violator's full compliance history and good faith efforts to comply, duration of the violation, payment of any previous penalties for violation, economic benefit of noncompliance, and seriousness of the violation.[72]

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61 *Id.* at *25.
62 *Id.*
63 *Id.* at *19.
64 *Id.* at *20.
65 *Id.* at *20.
66 *Id.*
67 *Id.*
68 *Id.* at 21.
69 *Id.*
70 *Id.*
71 *Id.* at *22; *see also* 42 U.S.C. § 7413(e)(1).
72 42 U.S.C. § 7413(e)(1).

The court determined that the most important factor was the economic benefit obtained by violation.[73] In examining the economic benefit, the court found that electricity could not be stored, so it was therefore in the best interest of Luminant to minimize outages and increase output, thereby reducing the increased opacity.[74] The court noted that to minimize outages and increase output, Luminant expended millions annually to install and maintain ESPs and baghouses.[75] The Sierra Club, in turn, could not prove or identify any repairs or maintenance that Luminant failed to provide that would have prevented opacity and garnered an economic benefit.[76] The court then determined that Luminant's method of compliance – applying for and obtaining a permit – was the least costly method.[77] In light of all these considerations, the court determined that the violations garnered no economic benefit.[78]

However, the court also made the following findings: Luminant's violations had no impact on the environment or any individual; the violations did not constitute serious events; the TCEQ received no complaints; the events were properly reported to the TCEQ; the TCEQ made determinations that the events were not excessive or in violation; the opacity events occurred for a minimal amount of time; the events did not interfere with air quality standards; and that the Plant has a long history of excellent compliance as well as good faith efforts to meet and outperform all requirements of the CAA, Texas SIP, and its permit.[79] These factors weighed heavily in favor of no penalties, especially considering that the MSS events at issue are now expressly permitted under the amended permit No. 56445.[80]

Judgment and Attorneys' Fees

The court denied all relief requested by Sierra Club, denied as moot any pending motions in the lawsuit, entered judgment in favor of defendants on all claims, and awarded costs of litigation to Defendants.[81]

On Aug. 29, 2014, U.S. District Judge Walter S. Smith awarded $6.4 million in attorneys' fees in favor of Luminant, characterizing the Sierra Club's complaint as "frivolous."[82] In a prepared statement, Al Armendariz, the leader of the Sierra Club's Beyond Coal campaign, indicated the Sierra Club's intent to appeal the district court's ruling.[83]

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73 *Energy Future Holdings Corp*, 2014 WL 2153913, at *23.
74 *Id.*
75 *Id.*
76 *Id.* (emphasis added).
77 *Id.* at *23-24.
78 *Id.* at *24.
79 *Id.* at *24.
80 *Id.* at *25.
81 *Id.* at *26.
82 James Osborne, *Biz Beat Blog*, *Judge Calls Sierra Club Air Pollution Suit "Frivolous,"* Dall. Morning News (Sept. 02, 2014, 11:12 AM), http://bizbeatblog.dallasnews.com/2014/09/judge-calls-sierra-club-air-pollution-suit-frivolous.html/, *archived at* http://perma.cc/6XCJ-V4Q3.
83 *Id.*

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PUBLICATIONS

CONSULTATION BETWEEN FEDERAL ENVIRONMENTAL AGENCIES AND INDIGENOUS TRIBES

CURRENT CONSULTATION REGARDING ENVIRONMENTAL ISSUES

Though various statutes, regulations, and executive orders require agencies to consult indigenous tribes, the current framework does not guarantee meaningful consultation.[1] In his 2000 Executive Order, President Clinton created a high-level outline of the consultation process: agencies must allow for meaningful and timely input from tribes, cannot issue regulations that impact tribes without contacting tribes early in the regulatory process, must include a statement in any regulations that details the level of consultation with impacted tribes, and must provide a summary of tribal concerns, whether those concerns have been met, and a statement explaining the need for an agency regulation.[2] In 2009, President Obama released a memorandum that reiterates the Clinton Executive Order; however, there is little incentive to comply with either order because there is currently no mechanism through which the tribes can seek legal recourse if the consultation process is not followed.[3]

Currently, a uniform definition of a "consultation" does not exist, thereby allowing for a significant amount of discrepancy and interpretation on the part of the agency. For example, the Department of Health and Human Services defines consultation as "an enhanced form of communication which emphasizes trust, respect, and shared responsibility. . . [an] open and free exchange of information and opinion . . . which leads to mutual understanding and comprehension," while the Department of Homeland Security defines consultation as a "direct, timely, and interactive involvement of Indian tribes regarding proposed Federal action on matters that have tribal implications."[4] The variance in these definitions gives agencies a wide berth in the amount of consultation they choose to undertake with tribes in an environmental context. Additionally, most agencies include disclaimers and provisions in regulations that absolve them from adopting

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1 Michael Eitner, *Meaningful Consultation with Tribal Governments: A Uniform Standard to Guarantee That Federal Agencies Properly Consider Their Concerns*, 85 U. COLO. L. REV. 867, 872-73 (2014).

2 *Id.* at 875.

3 *Id.* at 875-77.

4 *Id.* at 877-78.

the approach preferred by tribal governments.[5] This creates an "almost impenetrable presumption in favor of the agency decision" and further hinders the consultation process.[6]

Certain federal statutes have created leasing programs, such as the Alaska Native Claims Settlement Act and the Outer Continental Shelf Lands Act, which allow for royalty payment provisions to go to indigenous peoples in affected energy development sites.[7] These programs can help with some of the hardships faced by tribes, as the tribes suffer a disproportionate amount of economic harm compared to the rest of society.[8] However, these statutes do not cover a large amount of land and ignore the fact that a larger economic stake in a development does not equal actual consultation.[9] By simply paying tribes to use their land for energy development, agencies and the government as a whole disenfranchise the notion of tribal sovereignty. Many tribes are still in the process of defining their authority to address environmental hazards specifically within the tribal framework; it is currently unclear the extent to which tribes can assert their authority to address environmental hazards on and surrounding reservations.[10] By preempting tribal regulatory frameworks with a compensation plan, agencies delegitimize and hinder a fledging process that is vital for addressing environmental issues on reservations and improving authority and quality of life for the tribes.[11]

Importantly, the consultation process often ignores that involving the tribes in the environmental development process can be prosperous for all.[12] Indigenous tribes, though wary of interference in their traditional way of life, generally welcome development and project management because it can help bring much-needed income to the community.[13] Allowing tribes to participate in environmental projects also helps the agency and industry professionals because they gain the valuable perspective of those who are familiar with the land they are wishing to develop. Involving tribes in the development process can also allow the tribes to address the needs of the indigenous peoples in the community and the community as a whole, which will lower resistance to new developments.[14] Tribal governments are in the unique position of being able to address and synthesize the needs of the tribe, non-members who live on the reservation, and the agency or industry developing the environmental project, making them valuable additions to the development process.[15]

This Development Article reviews four scholarly pieces that recommend approaches to improve the consultation process. In examining the poor state of the current consulta-

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5 *Id.* at 879.

6 *Id.*

7 Dwight Newman et al., *Arctic Energy Development and Best Practices on Consultation with Indigenous Peoples*, 32 B.U. Int'l L.J. 449, 457-60 (2014).

8 Sean J. Wright, *Good Fences Make Good Neighbors: An Environmental Justice Framework to Protect Prohibition Beyond Reservation Borders*, 79 Brook. L. Rev. 1197, 1203 (2014).

9 Newman et al., *supra* note 7, at 460.

10 Wright, *supra* note 8, at 1199.

11 *Id.* at 1202.

12 Newman et al., *supra* note 7, at 451.

13 *Id.* at 455.

14 Jeanette Wolfley, *Tribal Environmental Programs: Providing Meaningful Involvement and Fair Treatment*, 29 J. Envtl. L. & Litig. 389, 391 (2014).

15 *Id.* at 390-91.

tion process, the four articles reviewed herein propose different methods to facilitate communication between agencies and tribes. Two articles ("Arctic Energy"[16] and "Meaningful Consultation"[17]) place a higher burden on the agency to engage in meaningful consultation, suggesting use of a geographic impact framework to address shortcomings and the creation of a uniform consultation statute respectively. In contrast, the other two ("Good Fences"[18] and "Tribal Environmental Programs"[19]) turn inward, proposing that tribes should increase applications to take control of environmental developments, create their own regulatory schemes, and focus on facilitating communication in the tribal community once they take control from the agencies.

IMPROVING RELATIONS WITH THE TRIBES

DWIGHT NEWMAN ET AL., *ARCTIC ENERGY DEVELOPMENT AND BEST PRACTICES ON CONSULTATION WITH INDIGENOUS PEOPLES,* 32 B.U. INT'L L.J. 449 (2014)

In his article, *Arctic Energy Development and Best Practices on Consultation with Indigenous Peoples* ("Arctic Energy"), Dwight Newman bases his consultation model on the idea of a geographic impact framework, built off of the premise that the geography of the Arctic can vary widely across the world and even within the same country.[20] The article stresses that communication must be meaningful, must provide accessible, adequate information to indigenous community, and must be responsive to the concerns of said community.[21] To highlight where energy developers need to improve their processes, they can consult with the indigenous populations in light of several impact categories to find solutions unique to their specific development locations.[22]

The impact categories are divided broadly into marine and terrestrial environments, with specialized subdivisions for each environment.[23] The four main impact categories in the marine environment are: the impact on fishing in open water areas, the impact on hunting in open water areas, the impact on fishing in areas with a high degree of ice coverage, and the impact on hunting in areas with a high degree of ice coverage.[24] Companies engaging in development can use the impact framework to assess the potential risk of oil spills because temperature and ice density affect how quickly an oil spill can travel and the speed of oil evaporation.[25] Industrial developers can also use this framework to assess the potential damage of drilling and seismic shooting.[26] Sound travels faster through water than it does through air, meaning that noise produced by energy

16 Newman et al., *supra* note 7.
17 Eitner, *supra* note 1.
18 Wright, *supra* note 8.
19 Wolfley, *supra* note 14.
20 Newman et al., *supra* note 7, at 497.
21 *Id.* at 482.
22 *Id.* at 505.
23 *Id.* at 493.
24 *Id.* at 494.
25 *Id.* at 495-96.
26 *Id.* at 494.

development may affect the behaviors and swimming patterns of marine life and thereby disrupt hunting.[27] Because the impacts of energy development and oil spills are generally more serious in marine locations, communication between energy developers and indigenous peoples regarding marine energy developments is imperative.[28]

The impact framework for the terrestrial arctic environment contains twelve impact categories.[29] Three of these impact categories are geographic: the high arctic or polar desert, the low arctic or tundra, and the subarctic or boreal forest.[30] The high arctic in particular is subject to a large amount of risk due to its highly limited food chains, while the food chains are slightly longer in the low arctic and subarctic.[31] The remaining nine cultural categories include fishing and hunting (practiced in each terrain type), gathering plants and berries (practiced in the low arctic and subarctic), and reindeer husbandry (practiced in the low arctic).[32] By examining how a certain cultural practice interplays with the terrain type, an industrial developer can better understand the necessities for survival of the indigenous peoples in the area and assess risks associated with development.[33] Oil spills in terrestrial areas can destroy plants and prevent regrowth for decades, and creation of infrastructure to harvest oil can destroy vegetation and soil, thereby having potentially massive effects on already limited food chains.[34] The further north development occurs, the higher the risk of adverse and irreversible damage.[35] By using the impact categories, industrial developers and governments can create a working relationship with indigenous populations that is unique to each specific project rather than adopt an ineffective "one size fits all" approach.[36]

Michael Eitner, *Meaningful Consultation with Tribal Governments: A Uniform Standard to Guarantee That Federal Agencies Properly Consider Their Concerns,* 85 U. Colo. L. Rev. 867 (2014)

Michael Eitner goes beyond the idea of the impact framework and suggests that the government adopt a specific consultation statute in his article *Meaningful Consultation with Tribal Governments: A Uniform Standard to Guarantee That Federal Agencies Properly Consider Their Concerns* ("Meaningful Consultation").[37] Agency-tribal communication is not universal or uniform despite numerous statutory and executive sources obliging it.[38] Congress has, as of this point, tried twice to pass a consultation statute and failed both times; the article argues that a stronger push for legislation is necessary to reform failing

27 *Id.* at 494-95.
28 *Id.* at 503.
29 *Id.* at 499.
30 *Id.*
31 *Id.* at 499-501.
32 *Id.* at 499.
33 *Id.* at 498.
34 *Id.* at 503-04.
35 *Id.* at 504.
36 *Id.* at 492-93.
37 Eitner, *supra* note 1, at 895.
38 *Id.* at 874.

communicative procedures.[39] The ideal consultation statute would require agencies to treat tribal assertions as true: if the agency has any doubt to tribal claims regarding environmental degradation, the agency must present support to refute said tribal claims.[40] Specifically, the agency must present evidence sufficient to convince a neutral third party that rejection of tribal claims is proper. The statute would also present a uniform definition of consultation and, importantly, provide tribes with a cause of action that would provide for review of agency decisions under a *de novo* standard, something the tribes currently lack.[41]

The consultation statute may seem burdensome, but its provisions would only impact a federal agency when the agency and tribe could not reach an agreement on their own, motivating agencies to engage in meaningful discussion with the tribes.[42] In no way would a consultation limit an agency's discretionary power; it would simply provide a check on agency decisions to ensure protection of tribal interests.[43] Additionally, an agency should already have a record of tribal concerns before the consultation process, which would lessen the burden on an agency needing to support rejection of a tribal claim.[44] Lastly, a consultation statute would only require agencies to act in line with well-established federal rhetoric and policy concerning the Indian tribes, something that is often preached but rarely practiced.[45] The statute does not ask the agencies to undergo burdensome changes or reformulate their tactics; it only asks agencies to treat tribal concerns with genuine consideration and respect and stipulates recourse for not doing so.[46]

SEAN J. WRIGHT, *GOOD FENCES MAKE GOOD NEIGHBORS: AN ENVIRONMENTAL JUSTICE FRAMEWORK TO PROTECT PROHIBITION BEYOND RESERVATION BORDERS,* 79 BROOK. L. REV. 1197 (2014)

In *Good Fences Make Good Neighbors: An Environmental Justice Framework to Protect Prohibition Beyond Reservation Borders* ("Good Fences"), however, author Sean J. Wright asserts that the federal government will provide little recourse to tribes suffering from environmental harms.[47] Instead, Good Fences posits that the tribes should act within a tribal regulatory framework to resolve issues of environmental justice.[48] This largely relies on powers the federal government has dedicated to the tribes within various statutes that allows the reservations to act akin to states.[49] For example, the Clean Air Act and Clean Water Act both contain provisions that allow tribes to be treated as states and create their own air and water quality control programs, which they either manage

39 *Id.* at 881.
40 *Id.* at 896.
41 *Id.* at 896-97.
42 *Id.* at 899.
43 *Id.* at 899.
44 *Id.*
45 *Id.* at 899-900.
46 *Id.* at 900.
47 Wright, *supra* note 8, at 1216.
48 *Id.* at 1205.
49 *Id.* at 1208.

jointly with the Environmental Protection Agency (EPA) or gain permission to manage independently.[50] Having quality control programs in place allows tribes to enter consultation with a set of needs that is harder for agencies or developers to rebut, allowing for more genuine discussion between the parties. By regulating on their own, the tribes would be able to address existing environmental harms, support tribal self-determination, and work towards remediating existing injustice.[51] It is important that the tribes extend the regulatory framework beyond ecological environmental hazards, such as air and water quality, and address social, political, and economic hazards, such as alcohol sales to a dry reservation and the high rates of poverty and alcoholism and tribal cultures.[52] To a reservation, an alcohol distribution center is as much of a local undesirable land use as a hazardous waste dump, and the tribe needs to use the tribal regulatory framework to combat this type of hazard as seriously as any ecological issue.[53]

Jeanette Wolfley, *Tribal Environmental Programs: Providing Meaningful Involvement and Fair Treatment,* 29 J. Envtl. L. & Litig. 389 (2014)

Lastly, in *Tribal Environmental Programs: Providing Meaningful Involvement and Fair Treatment* ("Tribal Environmental Programs"), Jeanette Wolfley also recommends that tribes turn inward and work on fostering consultation and communication within their own communities to facilitate consultation with all parties involved.[54] This article also stresses that tribes should apply to the EPA to manage environmental programs themselves rather than allow another agency to do so.[55] Once the EPA delegates this authority to the tribe, the tribe should focus on creating an institution that is transparent and results-based that operates under values consistent with tribal culture.[56] Making decisions as an entire tribe is a key part of tribal history and culture, and as such, the institution should seek guidance from the individuals who will be impacted by the environmental development, cultural committees, tribal elders, and the community as a whole.[57] The institution should commit itself to fair dealings, honesty, integrity, and allowing individual members of the community to be heard before the collective institution, including non-members of the tribe who live on the reservation and industry officials involved with environmental developments.[58] Tribes can also use existing legislation that mirrors major federal statutes, such as the National Environmental Policy Act and the Administrative Procedures Act, to allow for community input and consideration of impacts that potential projects may have.[59]

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50 *Id.* at 1219-25.
51 *Id.* at 1222.
52 *Id.* at 1203.
53 *Id.* at 1200.
54 Wolfley, *supra* note 14, at 392.
55 *Id.* at 396.
56 *Id.* at 400.
57 *Id.* at 403-04.
58 *Id.* at 412, 416.
59 *Id.* at 419-20, 425.

A prime example of how this process works in practice is seen in the Alaska native villages' process of the Maniilaq Association in northwest Alaska.[60] The members of the Maniilaq Association go from town to town to post notices in local stores and make radio announcements when a new project is being considered, then meet with citizens directly to discuss their concerns.[61] The process has no set time limit and is designed to make the citizens feel comfortable: all meetings are informal and conducted in the native language.[62] The institution also distributes regular newsletters to keep the community informed.[63] This process conforms to the norms and values of tribal community and shows the beneficial impact that consultation can have if it is focused within the tribe itself.[64] By administering their own programs (to which the EPA specifically defers), tribes can remove an extra layer of consultation, potentially arduous talks between tribes and agencies, and allow the tribe to focus on serving the needs of its own community while still achieving environmental progress.[65]

CONCLUSION

It is not necessary to use just one of these methods; any or all of them could be combined to improve current consultation procedures and the relationship between federal agencies and the tribes. However, just adopting any one of these methods would be a step toward recognizing the legitimacy of tribal authority and the needs of the tribes to be involved in environmental projects. It is worth recognizing that tribes and agencies are working for a common goal of environmental development and preservation, and this goal can be facilitated if the two groups engage in meaningful consultation and address these projects together instead of remaining at odds.

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60 *Id.* at 433.
61 *Id.*
62 *Id.*
63 *Id.* at 433-34.
64 *Id.* at 434.
65 *Id.* at 441.

Solid Waste

Challenge to EPA Regulation Classifying Certain CO_2 Emissions as Solid Waste

Introduction

Three energy groups recently urged the D.C. Circuit to vacate a new Environmental Protection Agency (EPA) final rule that classifies carbon dioxide ("CO_2") emissions as "solid waste" during the carbon capture and sequestration (CCS) process when captured, transported in pipelines, and stored by geologic sequestration in Underground Injection Control (UIC) Class VI wells.[1] The rule, entitled "Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities," conditionally excludes this class of CO_2 emissions from regulation under the Resource Conservation and Recovery Act (RCRA).[2] However, petitioner energy groups Carbon Sequestration Council, Southern Company Services, Inc., and the American Petroleum Institute argue that these CO_2 emissions do not qualify as "solid waste" and thus should not be subject to RCRA regulation.[3] The new rule classifies these streams as "solid waste" under the plain language of the RCRA term "discarded material."[4] The D.C. Circuit has not yet interpreted this term as it pertains to the RCRA definition of "solid waste."[5]

Background

During CCS, gaseous CO_2 emissions are captured, compressed into a supercritical fluid state, transported as CO_2 streams in pipelines, and injected into UIC Class VI wells for purposes of long-term sequestration.[6] Because CO_2 sequestration presents an increased risk of groundwater contamination, the EPA established UIC Class VI wells in

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1 Opening Brief for Petitioners at 1, 14-16, Carbon Sequestration Council, et al. v. U.S. Envtl. Prot. Agency, et al., No. 14-1046 (D.C. Cir. 2014), 2014 WL 4253110, at *1; *see also* Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. 48,073, 48,073-74 (Aug. 8, 2011).

2 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. 350, 350-51 (Jan. 3, 2014) (to be codified at 40 C.F.R. pts 9, 260 & 261); Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k (2012).

3 Opening Brief for Petitioners, *supra* note 1, at *2.

4 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 354; *see also* 42 U.S.C. § 6903(27) (2012).

5 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 353-54.

6 Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. at 48,075-76.

2010 under the Safe Drinking Water Act (SDWA).[7] To minimize the risk of groundwater contamination, owners of UIC Class VI wells must conduct detailed assessments of CCS sites and meet minimum monitoring standards.[8]

Although the process currently operates on a small scale, the EPA anticipates that CCS will be instrumental in carbon emissions reduction and climate change mitigation.[9] Through the rule's conditional regulatory exclusion of these CO_2 emissions injected into UIC Class VI wells, the EPA intends to encourage the development and employment of CCS technologies.[10] However, failure to comply with the multiple conditions for RCRA exclusion will subject the emissions to RCRA regulation.[11] Opponents of the rule express concern that the increased regulation and potential liability under RCRA would actually discourage development of CCS practices.[12]

THE PROPOSED RULE

On August 8, 2011, the EPA published the proposed rule that would conditionally exclude CCS CO_2 emissions injected into UIC Class VI wells from the definition of "hazardous waste," thereby excluding them from regulation under RCRA.[13] Facilities that engage in CCS using UIC Class VI wells must comply with multiple conditions to qualify for the exclusion.[14] For example, facilities must abide by the Department of Transportation's (DOT) requirements for transportation of CO_2 streams, and no other hazardous wastes may be co-injected with the CO_2 streams.[15] Further, operators of UIC Class VI wells must sign a certification statement that the conditions for the exclusion are met.[16]

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7 Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO_2) Geologic Sequestration (GS) Wells; Final Rule, 75 Fed. Reg. 77,230, 77,234 (Dec. 10, 2010) (codified at 40 C.F.R. pts. 124, 144, 145, 146, & 147).

8 *Id.* at 77,247.

9 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 352. .

10 Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. at 48077; *see also Frequent Questions: Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/waste/nonhaz/industrial/geo-sequester/faqs.htm, *archived at* http://perma.cc/EX2S-6PFA.

11 The rule previously relied on (40 C.F.R. 261.4(h)) has been preempted by Sierra Club v. EPA, 755 F.3d 968 (D.C. Cir. 2014); *see also* Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. at 48077.

12 Opening Brief, *supra* note 1, at *12 (citing comments from those opposed to the rule on the basis that CCS development and use would be hindered).

13 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 351.

14 *Id.* at 352.

15 *Id.*

16 *Id.*

The Final Rule

With a few exceptions, the EPA promulgated the rule largely as it was originally proposed.[17] The EPA modified the regulatory language with respect to compliance with DOT requirements to include reference to state pipeline regulations that may apply in lieu of DOT regulations in certain circumstances.[18] Further, the final rule creates separate certification statements for CO_2 stream generators and UIC Class VI well operators.[19] However, the final rule does not change the requirement that all conditions set forth in the rule must be met to qualify for the exclusion from hazardous waste regulation under RCRA.[20]

EPA's Argument

After the EPA published the proposed rule, commenters argued that these CO_2 streams do not qualify as "solid waste" due to their physical state, and therefore should not be subject to RCRA regulation.[21] RCRA establishes a federal regulatory structure that governs the treatment and disposal of "hazardous wastes," which are defined as a subset of "solid waste" for waste management purposes.[22] The EPA asserts that these CO_2 streams are "discarded material," and therefore qualify as "solid waste" under the RCRA definition of "solid waste."[23] RCRA defines "solid waste" as: "any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and *other discarded material*, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities."[24]

Specifically, CO_2 streams injected into UIC Class VI wells during CCS are "discarded material" within the plain meaning of RCRA because they are discarded through abandonment when injected into geological formations.[25] Further, the EPA argues that, because the purpose of this process is to isolate the emissions from the atmosphere, these emissions qualify as "discarded material."[26]

However, commenters also argue that the CO_2 streams do not qualify as "solid waste" because these emissions do not have the physical properties of a solid material.[27] The EPA explains that these CO_2 streams are supercritical fluids that have physical

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17 *Id.* at 354.
18 *Id.*
19 *Id.*
20 *Id.*
21 *Id.*
22 42 U.S.C. § 6903(5) (2012); *see also United Technologies Corp. v. Envtl. Prot. Agency*, 821 F.2d 714, 716 (D.C. Cir. 1987).
23 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 354.
24 42 U.S.C. § 6903(27) (emphasis added).
25 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 354; *see also* 40 C.F.R. 261.2(a)(2)(i) and (b)(1) (definition of discarded material and solid waste abandonment criteria).
26 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 355.
27 *Id.*

properties intermediate to those of gases and liquids.[28] Nevertheless, although RCRA enumerates several substances subject to its regulation, the EPA reasons that, "like the listed 'solid, liquid, semisolid, or contained gaseous material' specifically referenced, [these CO_2 streams] are 'other discarded material' from industrial and commercial operations and, therefore, are of a similar kind to the other types of wastes specifically referenced by the definition."[29]

PETITIONERS' ARGUMENT

Petitioners do not contest the final rule's conditional exclusion of CO_2 streams injected into UIC Class VI wells from regulation.[30] Rather, Petitioners argue that the classification of CO_2 emissions as "solid waste" under the new regulation contradicts the plain language and legislative intent of RCRA, and therefore these emissions should not be subject to regulation under RCRA.[31]

Specifically, Petitioners argue that these emissions do not possess the physical properties of solid materials, and that the physical form of these emissions does not fall within the statutorily enumerated examples of "solid waste."[32] Supercritical fluids are not mentioned in the RCRA definition of "solid waste," and Petitioners argue that the statute should not extend to cover these materials.[33]

Further, Petitioners argue that CO_2 emissions do not qualify as "solid waste" because they are not "discarded materials," but rather the emissions are captured during CCS to prevent the materials from being discarded into the atmosphere.[34] Petitioners also contend that the emissions injected into UIC Class VI wells are saved for later use.[35] Moreover, Petitioners argue that whether the materials are discarded has nothing to do with the physical state of the substances.[36]

Petitioners also contend that the EPA's assertion of RCRA authority over these emissions conflicts with congressional intent.[37] They claim that Congress specifically enumerated physical materials subject to RCRA hazardous waste regulation and provided no indication that the EPA was authorized to expand the list.[38]

Finally, Petitioners assert that the EPA's interpretation of RCRA is arbitrary and capricious and request that the D.C. Circuit vacate the rule due to the legislative intent and plain language of the statute.[39]

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28 *Id.*
29 *Id.*
30 Opening Brief, *supra* note 1, at *13.
31 *Id.*
32 *Id.* at *22.
33 *Id.* at *24.
34 *Id.* at *46; *see also* Am. Mining Congress v. Envtl. Prot. Agency, 824 F.2d 1177, 1193 (D.C. Cir. 1987) (stating "Congress clearly and unambiguously expressed its intent that 'solid waste' be limited to materials that are 'discarded' by virtue of being disposed of, abandoned, or thrown away.").
35 Opening Brief, *supra* note 1, at *50-51.
36 *Id.* at *26.
37 *Id.* at *31-32.
38 *Id.* at *31.
39 *Id.* at *52.

The EPA's reply was filed in November 2014, and final briefs for Petitioners and Respondent are due January 22, 2015.[40]

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Water Quality

Clear as Mud: Recent Judicial Clarification of Requirements and Terminology in Utility and Water Quality Permitting

The Third Court of Appeals in Austin issued two opinions in July and August of 2014 that helped clear the "muddy waters" for utilities and wastewater permittees. First, the decision in *Texas General Land Office v. Crystal Clear Water Supply Corp.* serves to: (1) clarify what portions of land must be included in an expedited decertification petition for release from the utility's certificate of convenience and necessity (CCN); and (2) establish the standard for evaluating whether a tract of land is "receiving water service" in the context of Texas Water Code section 13.254(a-5).[1] Second, the decision in *Robertson County: Our Land Our Lives (RCOLOL) v. Texas Comission on Environmental Quality* highlights the distinction between "cooling water" and "make-up water" in determining what constitutes a cooling water intake system (CWIS) for purposes of regulation, as well as what water quality baseline the Texas Commission on Environmental Quality (TCEQ or "Commission") can use under Tier 2 of the Antidegradation Rule.[2]

40 Docket, Carbon Sequestration Council, et al. v. Envtl. Prot. Agency, et al., No. 14-1046 (D.C. Cir. 2014), 2014 WL 4253110.

1 Tex. Gen. Land Office v. Crystal Clear Water Supply Corp., No. 03-13-00528-CV, 2014 WL 4177461, (Tex. App.—Austin Aug. 22, 2014, no pet. h.); *see also* Tex. Water Code Ann. § 13.254(a-5) (West 2013).

2 Robertson County: Our Land, Our Lives (RCOLOL) v. Tex. Comm'n on Envtl. Quality, No. 03-12-00801-CV, 2014 WL 3562756 (Tex. App.—Austin July 17, 2014, no pet. h.) (mem. op.).

TEXAS GENERAL LAND OFFICE V. CRYSTAL CLEAR WATER SUPPLY CORP., NO. 03-13-00528-CV, 2014 WL 4177461 (TEX. APP. — AUSTIN AUG. 22, 2014, NO PET. H.).

The Texas General Land Office (GLO) petitioned in *Crystal Clear* to have 1,842 acres removed from Crystal Clear Water Supply Corporation's CCN pursuant to Texas Water Code § 13.254(a-5).[3] The tract of land was part of a larger tract of 2,000 acres owned by GLO. GLO's petition excluded approximately 151 acres, consisting of five tracts of land adjacent to the land included in the petition that were "clearly" receiving water service.[4] The TCEQ[5] granted an order releasing the 1,842 acres of land.[6] Subsequently, Crystal Clear brought suit against the TCEQ claiming that intervenor GLO could not carve out a portion of land that was not receiving water to seek expedited release of that property.[7] Crystal Clear additionally alleged that the property in question was "receiving water service" under the statute and sought declaratory relief concerning its rights to due process.[8]

The district court reversed the TCEQ's order, but granted the TCEQ's pleas regarding the claims for declaratory relief.[9] All three parties to the suit appealed the decision.[10] For the purposes of this Development Article, Crystal Clear's first two claims regarding: (1) the exclusion of a portion of the property from the petition; and (2) whether the land was "receiving water service" are both important for retail public utilities, landowners, and developers attempting to decipher the language used in these statutes.

Texas Water Code section 13.254(a-5) enables a landowner whose property is at least twenty-five acres, located in certain counties, and that is not "receiving water or sewer service," to petition for expedited release of the area from a CCN.[11] Landowners whose land fits these qualifications can petition to have their lands removed from a retail public utility's (such as Crystal Clear Water Supply Corp.) CCN if that retail public utility is the exclusive retail service provider in the area.[12] The process for expedited release in *Crystal Clear* gave rise to two questions: (1) how much of a tract of land must be included in a petition for expedited release?; and (2) what constitutes "receiving water service"?

Crystal Clear's first issue was whether the TCEQ could approve the petition to decertify the property, even though the property consisted of several different tracts, including several contiguous tracts of land in Crystal Clear's CCN for which GLO did not seek decertification.[13] Crystal Clear contended that GLO could not carve out a

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3 *Crystal Clear*, 2014 WL 4177461, at *1; *see also* TEX. WATER CODE ANN. § 13.254(a-5).
4 *Crystal Clear*, 2014 WL 4177461, at *2.
5 It should be noted that the authority over CCNs was transferred to the Texas Public Utility Commission (PUC) on September 1, 2014.
6 *Crystal Clear*, 2014 WL 4177461, at *2.
7 *Id.*
8 *Id.*
9 *Id.* at *1.
10 *Id.*
11 TEX. WATER CODE ANN. § 13.254(a-5).
12 *Id.*
13 *Crystal Clear*, 2014 WL 4177461, at *4.

portion of its land that was not receiving water for purposes of meeting the expedited decertification requirements.[14] The court pointed out that Crystal Clear had introduced no statutory support for its position, essentially deemed it a "gerrymandering" argument, and moved on to a statutory analysis of the acreage requirement detailed in Texas Water Code section 13.254(a-5).[15] Under the court's analysis, the statute "simply" required that the land in question be at least twenty-five acres in certain counties and that it not be "receiving water service."[16] The court held that the statute does not contain an "all or nothing" requirement that would mandate a landowner to include all of the land in a request for expedited release to qualify for decertification under the statute.[17] GLO was therefore not required to include all 2,000 acres in its petition, and the Commission's order was not erroneous.[18]

The court provided extensive analysis on this issue before declaring that the issue was, in fact, moot.[19] Since the time of suit, the land in question had been removed from Crystal Clear's CCN, and therefore, a decision by the court to the contrary could not be given any legal effect.[20] Nevertheless, this analysis by the court signals a decisive stance regarding how the land size element of section 13.254(a-5) will be addressed in the future.

Crystal Clear's second issue pertained to whether the Commission correctly found that the GLO property was not "receiving water service" from Crystal Clear.[21] The turning point of this issue was not whether Crystal Clear was *providing* water services to the land, but whether the decertified property was *receiving* water.[22]

Crystal Clear claimed that the 1,842 acres listed on the order were receiving water service under the statute, as evidenced by water lines, facilities, and an inoperative meter on the land in question.[23] Additionally, Crystal Clear asserted that it had purchased and contractually secured a long-term water supply and water rights to provide water service for its certified area.[24] In response, the GLO and the TCEQ contended that a tract is not "receiving water service" if it is not receiving *actual* water on the property.[25]

The court rejected the statutory interpretation presented by the GLO and the TCEQ.[26] The court determined that this interpretation had no statutory support, and deemed as "exaggerated" concerns from the GLO and the TCEQ that failure to accept their interpretation would limit expedited release availability if the utility company had any sort of facilities on the land.[27]

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14 *Id.*
15 *Id.*
16 *Id.*
17 *Id.*
18 *Id.*
19 *Id.* at *5.
20 *Id.*
21 *Id.*
22 *Id.*
23 *Id.* at *6.
24 *Id.*
25 *Id.* at *7.
26 *Id.*
27 *Id.*

The court next relied on the definition of "services" as provided in Texas Water Code section 13.002.[28] According to section 13.002, "service" means "any act performed, anything furnished or supplied, and any facilities or lines committed or used by a retail public utility in the performance of its duties under this chapter to its patrons, employees, other retail public utilities, and the public, as well as the interchange of facilities between two or more retail public utilities."[29] Judge Pemberton noted that this definition has an intentionally broad scope, but is self-constrained by the inclusion of the condition that the facilities be "committed or used" in the performance of the entity's duties as a retail public utility.[30] The court held that it was not enough to simply have facilities or lines on the land to provide water to the land or to perform an act such as securing a water supply for a certified area as a whole.[31] Such equipment and acts must also be "committed" or "used" to provide water for the specific tract seeking release.[32] Conversely, facilities or lines on land may be sufficient for the land to be deemed as "receiving water service" provided that the lines and facilities are committed to providing service for the specific tract of land requesting release.[33] The court noted that whether facilities, lines, or acts are "committed" to providing water for the specific tract of land seeking release are questions of fact, and therefore fall within the TCEQ's authority and discretion to decide.[34]

Ultimately, the court determined that the TCEQ's decision to grant the GLO's order was supported by substantial evidence.[35] The lower court's decision was reversed, and the TCEQ's order was upheld.[36] Because "service" is a fact issue, it would constitute an advisory opinion for the court to give a generic declaration of what would constitute sufficient facilities and equipment "committed" to providing a tract with water for purposes of an expedited release.[37]

Crystal Clear clarified that portions of property can be carved out for expedited release. What is less clear, and appears within the regulatory authority of the state agency governing CCNs, is what constitutes "receiving service."

ROBERTSON COUNTY: OUR LAND, OUR LIVES V. TEX. COMM'N ON ENV. QUALITY, 2014 WL 3562756 (TEX. APP. — AUSTIN JULY 17, 2014, NO PET. H.)

The second case, *Robertson County: Our Land, Our Lives v. Texas Commission on Environmental Quality*, pertains to CWIS classification and water quality baselines in the

28 *See id.* at *7.
29 TEX. WATER CODE ANN. § 13.002(21).
30 *Crystal Clear*, 2014 WL 4177461, at *7.
31 *Id.*
32 *Id.*
33 *Id.*
34 *Id.*
35 *Id.* at *9.
36 *Id.* at *10.
37 *Id.*

context of the Antidegradation Rule.[38] In *Robertson County*, Oakgrove Management Company filed a permit application with the TCEQ in 2007 seeking an administrative and a technical change to its preexisting permit for its facility, Oak Grove Steam Electric Station (OGSES).[39] The administrative change was to renumber permitted outfalls and reroute already-permitted wastewater streams for two types of wastewater produced by the facility.[40] The technical change was to increase its daily volume of effluent discharge from 1.47 billion to 1.61 billion gallons per day to account for and remedy shortcomings of the previously allotted amount.[41] The permit was processed by the TCEQ and a draft permit was issued for publication and comment.[42] Oak Grove requested and was granted a contested-case hearing on the merits of the application, and the appellees, Robertson County: Our Land, Our Lives (RCOLOL) and Roy Henrichson, were admitted as parties to the hearing.[43] After the hearing, the TCEQ approved the amended permit.[44] RCOLOL filed suit in district court seeking judicial review of the TCEQ's order granting the permit modification, and the district court affirmed the order.[45] RCOLOL appealed on the basis of four challenges, two of which are discussed below.[46]

The first issue raised by RCOLOL relates to classification of a water transfer pump as a CWIS.[47] OGSES is situated on the Twin Oak Reservoir, from which it draws its cooling water.[48] OGSES uses the water transfer pump located on Lake Limestone, a water supply reservoir approximately eleven miles away, to pump water into Twin Oak Reservoir to make up for evaporative losses and downstream discharges from the Twin Oak Reservoir.[49] The Lake Limestone structure and pipeline are not actually connected to the OGSES facilities.[50] RCOLOL contended that the water pumped from Lake Limestone was ultimately used as cooling water, and as a result, the Lake Limestone structure should have been classified as a CWIS under the Clean Water Act.[51]

The Clean Water Act requires the "location, design, construction and capacity of" a CWIS to reflect the best technology available for minimizing negative environmental impacts.[52] The EPA has created rules to implement this provision, and the CWIS in question would have fallen within the "Phase II" category of these rules, which addresses existing, large cooling water intake structures.[53] However, at the time of the application,

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38 Robertson County: Our Land, Our Lives (RCOLOL) v. Tex. Comm'n on Envtl. Quality, No. 03-12-00801-CV, 2014 WL 3562756, at *1-2 (Tex. App.—Austin July 17, 2014, no pet. h.) (mem. op.).
39 *Id.*
40 *Id.* at *2.
41 *Id.*
42 *Id.*
43 *Id.*
44 *Id.*
45 *Id.*
46 *Id.*
47 *Id.*
48 *Id.* at *1, *4.
49 *Id.* at *4.
50 *Id.*
51 *Id.*
52 33 U.S.C.A. § 1326(b) (West 2014).
53 *Robertson County*, 2014 WL 3562756, at *3.

the Phase II rules had been suspended by the EPA due to remand of key provisions of the rules, so TCEQ evaluated existing large cooling water intake structures on a case-by-case judgment using best professional judgment.[54]

To support its contention, RCOLOL relied on a Phase I definition of "cooling water," which included a provision that a CWIS extended from the point at which water is withdrawn from the surface water source, up to and including, the intake pipes.[55] RCOLOL asserted that, under this definition, the Lake Limestone pumping facility would be considered part of the entire CWIS system.[56] The court rejected this contention, first dismissing the Phase I definition as inapplicable to the CWIS at hand, and then explaining that the EPA description of the scope of a CWIS makes it clear that whether water is cooling water or something else is determined by its intended purpose at the time it is withdrawn from the surface water.[57] The water withdrawn from Lake Limestone was determined to be make-up water, not cooling water, as it was intended to refill the reservoir that supplied the cooling water.[58]

The court also rejected RCOLOL's argument that "cooling water" and "make-up water" are synonymous in the context of Phase I rules.[59] The court noted that "make-up water" is only mentioned in the Phase I rule in relation to a "closed-cycle recirculating system," in which the only water added to the system for cooling purposes is water added directly to the system to make up for water loss.[60] This use of "make-up water" is distinguished from the "make-up water" used at OGSES, which used a "once-through cooling water system."[61]

Last, the court pointed out that there was enough evidence that the Lake Limestone facility would fall short of the scope of a CWIS because the pump house and pipeline that transported the water were not physically connected to the OGSES structure.[62] Even under the EPA's definition of CWIS, the scope would fall short if the pipeline fell short of the rest of the system.[63]

RCOLOL also contended that the TCEQ used an improper baseline for evaluation under TCEQ antidegradation regulations.[64] The Antidegradation Rule was created to protect and maintain surface water quality where the water already meets or exceeds fishable/swimmable levels.[65] It uses a three-tier system to achieve its purpose.[66] Tier 1 ensures that water quality is sufficiently maintained to protect existing users; Tier 2 (at issue here) stipulates that regulated activity will not be allowed if it would cause degradation of waters that currently exceed fishable/swimmable quality unless the lowering of

54 *Id.*
55 *Id.* at *4.
56 *Id.*
57 *Id.*
58 *Id.*
59 *Id.* at *5.
60 *Id.*
61 *Id.*
62 *Id.*
63 *Id.*
64 *Id.* at *9.
65 *Id.* at *8; *see also* 30 TEX. ADMIN. CODE § 307.5 (2010) (Tex. Comm'n on Envtl. Quality Antidegredation).
66 *Robertson County*, 2014 WL 3562756, at *8; *see also* 30 TEX. ADMIN. CODE § 307.5.

the water quality is necessary for important economic or social development; and Tier 3 states that waters within national or state parks must be maintained and protected.[67]

A Tier 2 analysis of a permit requires a comparison of the proposed discharge to the baseline water quality conditions to assess the potential for degradation of water quality, i.e., a comparison of the baseline water quality with the conditions that will exist once the proposed permitted activity begins.[68] If the comparison shows no change, a de minimis negative change, or a positive change in water quality, the Antidegradation Rule does not bar the permit.[69] If the rule is triggered, the activity will not be allowed unless it is shown that the reduction in water quality is necessary for important economic or social development.[70] Baselines for water quality based on water quality conditions on November 8, 1975.[71]

RCOLOL contended that the TCEQ used an improper baseline for evaluation, stating that the TCEQ used the "hypothetical water quality in Twin Oak Reservoir resulting from operation of Oak Grove as authorized without the requested amendment."[72] Instead, it should have used the quality existing in the absence of any discharge from OGSES.[73]

However, in actuality, the EPA had used the water quality of Lake Limestone as it existed in 2007.[74] The court established that it was reasonable for the TCEQ to determine this was an acceptable baseline to use for various reasons, including the inability for Lake Limestone to be contaminated by OGSES, and the fact that Twin Oak Reservoir was constructed, but not yet filled, in 2007.[75] The most important reason for allowing the use of the TCEQ's baseline was because data was not available to establish a 1975 baseline for Twin Oak Reservoir.[76]

The court left one unanswered question regarding the Antidegradation Rule: the court declined RCOLOL's request to explain whether the "de minimis exemption to Tier 2 antidegradation analysis is to be judged on the basis of the entire permitted discharge or only on so much of the discharge as is newly allowed under the proposed permit amendment."[77] This question could be at issue in future permitting challenges and litigation addressing water quality degradation by the permittee.

More mud will still have to be washed away to clear the waters of permitting requirements and terminology, but the two featured cases help to clarify some of the questions practitioners have encountered in the permitting process. *Crystal Clear* clarifies that a person may seek expedited decertification of only a portion of his property, but left less clear what constitutes "receiving water service." *Robertson County* helps to establish what

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67 *Robertson County*, 2014 WL 3562756, at *8.
68 *Id.*
69 *Id.*
70 *Id.*
71 *Id.*
72 *Id.* at *9.
73 *Id.*
74 *Id.*
75 *Id.*
76 *Id.*
77 *Id.* at *10.

requirements are needed for a facility to constitute a cooling water intake system, as well as how the baseline water quality is established under the Antidegradation Rule.

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WATER RIGHTS

NORTH TEXAS WATER SUPPLY AND THE MARVIN NICHOLS RESERVOIR

In May 2013, Texas' Eleventh Court of Appeals issued an opinion on the meaning of "interregional conflict" within the Texas Water Code and affirmed a 2011 district court order that declared an interregional conflict existed between the Region C and Region D Water Planning Groups.[1] Additionally, the opinion stated that the Texas Water Development Board ("TWDB") must resolve the conflict regarding Region C's plan to use the proposed Marvin Nichols Reservoir—which would be located within Region D—to help meet the needs of the region's growing population.[2] Following a failed attempt at mediation between the two regions in late 2013, the TWDB took responsibility to resolve the conflict.[3] At its August 7, 2014 meeting, the TWDB considered its Executive Administrator's final recommendation for a resolution of the conflict.[4] The Executive Administrator's report concluded that Region C should "readopt" its current (2011) plan, which includes the Marvin Nichols Reservoir, as a recommended water management strategy and that Region D should amend its current plan in acknowledgement of a resolution.[5] Citing concern that Region C's analysis of the reservoir's impacts on agricultural and natural resources within Region D was not sufficiently quantitative to meet the TWDB's rules, the Board voted 2-1 to require Region C to conduct and submit such an

1 Tex. Water Dev. Bd. v. Ward Timber, Ltd., 411 S.W.3d 554 (Tex. App.—Eastland 2013, no pet.)

2 *Id.*

3 Memorandum Report Regarding the Resolution of the Interregional Conflict between the 2011 Region C and Region D Regional Water Plans, from Kevin Patteson, Exec. Admin., Tex. Water Dev. Bd., to Board Members (May 19, 2014) at 3 [hereinafter Memorandum Report], *available at* http://www.twdb.texas.gov/board/2014/08/Board/Brd01.pdf, *archived at* http://perma.cc/PT8J-HMNH.

4 Tex. Water Dev. Bd., *Region C and the Region D Interregional Conflict: Timeline and Proposed Resolution*, [hereinafter "Timeline and Proposed Resolution"], http://www.twdb.texas.gov/home/tabs/doc/hot/RegionCandDConflict.asp, *archived at* http://perma.cc/T43U-ME4Q (last visited October 30, 2014).

5 Memorandum Report, *supra* note 3, at 1.

analysis by November 3, 2014 or be directed to remove the Marvin Nichols Reservoir from its water management plan.[6]

State Water Plans

The TWDB has recognized the immense challenge the state faces in meeting its future water needs, particularly in preparing for future droughts.[7] Central to this challenge is the Dallas/Fort Worth metropolitan area, located in the heart of Region C, which, along with its surrounding counties, "[is] among the fastest growing in the state."[8] More than one-fourth of the Texas population lives within Region C, and the TWDB projects that the population will nearly double, leading to an estimated eighty-six percent increase in water demands.[9] To meet increased water demands, the TWDB has identified a need for an additional water supply of 1.588 million acre-feet per year.[10] The Marvin Nichols Reservoir would provide over twenty-nine percent of this projected need.[11]

The Marvin Nichols Reservoir has long been a recommended piece of north Texas' water management strategy.[12] State water plans have included the Marvin Nichols Reservoir as early as 1968.[13] After the state legislature amended the state's water planning process in 1997, Region D's first plan recommended Marvin Nichols Reservoir as a water supply for both Region D and Region C.[14] However, Region D would later amend its 2001 plan to remove its recommendation that the Marvin Nichols Reservoir be developed, and in its 2006 plan, Region D suggested the Marvin Nichols Reservoir should not

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6 Tex. Water Dev. Bd., *An Interim Order Concerning the Interregional Conflict between the 2011 North Central Texas Regional Planning Area Regional Water Plan and the 2011 North East Texas Regional Planning Area Regional Water Plan in Accordance with Texas Water Code § 16.053* (Aug. 8, 2014) [hereinafter Interim Order] http://www.twdb.texas.gov/home/tabs/doc/hot/TWDB_Interim_Order.pdf, *archived at* http://perma.cc/C5CV-LR68; *see also* Eli Okun, *Water Board Delays Final Decision Over Marvin Nichols*, Tex. Tribune (Aug. 7, 2014) http://www.texastribune.org/2014/08/07/water-board-asks-more-information-marvin-nichols/, *archived at* http://perma.cc/9A3G-K6UR.

7 In his letter accompanying the TWDB's 2012 State Water Plan, TWDB Chairman Edward G. Vaughan wrote "[i]n serious drought conditions, Texas does not and will not have enough water to meet [its needs] . . . . The plan . . . presents the sobering news of the economic issues likely to occur if these water needs cannot be met. As the state continues to experience rapid growth and declining water supplies . . . the plan is crucial to ensure public health, safety, and welfare and economic development in the state." Tex. Water Dev. Bd., Water for Texas 2012 State Water Development Plan iii (2012), *available at* http://www.twdb.state.tx.us/publications/state_water_plan/2012/2012_SWP.pdf, *archived at* http://perma.cc/NZG3-R87P.

8 *Id.* at 44.

9 *Id.* at 46.

10 *Id.* at 47.

11 *Id.* at 48.

12 *See* Memorandum Report, *supra* note 3, at 2.

13 *Id.* (for historic state water plans, *see State Water Planning,* Tex. Water Dev. Bd., http://www.twdb.texas.gov/waterplanning/swp/, *archived at* http://perma.cc/C29R-XD6P (last visited Oct. 30, 2014).

14 Memorandum Report, *supra* note 3, at 2.

be included in any regional plans nor the State Water Plan.[15] Region C, however, included the Marvin Nichols Reservoir in its 2006 Regional Water Plan.[16] Region D "expressed the opinion that the inclusion of the Marvin Nichols Reservoir in Region C's 2006 plan constituted an interregional conflict."[17]

The TWDB approved both regions' 2006 plans as it decided there was no interregional conflict because it found no over-allocation of a source of supply.[18] However, this did not end the dispute and, in 2007, the state legislature created a commission to review and report its findings and recommendations as to alternative water supplies for Region C.[19] The commission failed to reach a consensus as to its recommendations and, in 2011, Region C again adopted the Marvin Nichols Reservoir as a recommended water management strategy.[20] As happened with the 2006 plans, Region D again claimed there was an interregional conflict, and the TWDB approved both plans as it again found there was not an over-allocation of resources.[21]

TWDB v. WARD TIMBER, LTD., 411 S.W.3D 554 (TEX. APP.—EASTLAND 2013, NO PET.).

This time around, however, a private suit was brought that challenged the TWDB's decision that there was no interregional conflict between the Region C and Region D plans.[22] The district court declared that an interregional conflict existed between the two regional water plans, reversed the TWDB's approval of the two plans, and remanded the issue to the TWDB to resolve the conflict.[23] The TWDB appealed but, in its 2013 opinion, the appellate court affirmed the district court's rulings.[24]

During appeal, the TWDB contended that an "interregional conflict" within Chapter 16 of the Texas Water Code ("Water Code") exists only "when more than one regional water plan relies upon the same water source, so that there is not sufficient water available to fully implement both plans and would create an over-allocation of that source."[25] While the court noted that the TWDB's interpretation "is entitled to serious

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15 *Id.*
16 *Id.*
17 *Id.*
18 *Id.*
19 Act of June 16, 2007, 80th Leg., R.S., ch. 1430, sec. 4.04, 2007 Tex. Gen. Laws 5848, 5880.
20 Memorandum Report, *supra* note 3, at 3; *see also* STUDY COMM'N ON REGION C WATER SUPPLY, FINAL DRAFT REPORT TO THE 82ND LEGISLATURE (Dec. 2010), *available at* http://www.twdb.texas.gov/waterplanning/rwp/regions/C/doc/studycommission/RegionCStudy82nd/Study_Commission_Report_Text.pdf, *archived at* http://perma.cc/9R26-8FFY.
21 Memorandum Report, *supra* note 3, at 3.
22 Tex. Water Dev. Bd. v. Ward Timber, Ltd., 411 S.W.3d 554, 556 (Tex. App.—Eastland 2013, no pet.).
23 *Id.* (noting that under TEX. WATER CODE § 16.053(h)(7)(A), the TWDB may not approve a regional water plan until it has determined that "all interregional conflicts involving that regional water planning area have been resolved.").
24 *Id.* at 556-57.
25 *Id.* at 574. The TWDB's argument hinged on the fact that the legislature did not define "interregional conflict" in Chapter 16 of the Water Code. The TWDB had thus formulated the above definition and placed it in 31 TEX. ADMIN. CODE § 357.10(15).

consideration unless the agency's construction is clearly inconsistent with legislative intent," it found the TWDB's definition to be "clearly inconsistent with legislative intent."[26] Focused on deciphering the legislature's intent behind the Water Code's provisions, the court found the TWDB must take a holistic view of water planning and potential interregional conflicts; it must consider that the long-term protection of water, agricultural, and natural resources and discrepancies to the impact on those resources between regional water plans can constitute an interregional conflict.[27] The court found that the legislature intended for water plans to be "comprehensive" and must balance water management strategies "against their impacts on agricultural, economic, and natural resources."[28] The court found it troubling the TWDB would not consider that the impact of the proposed reservoir could constitute an interregional conflict.[29]

To bolster its decision, the court looked at the TWDB's own rules.[30] The court found regional water plans need to consider "threats to agricultural and natural resources and how those threats will be addressed or affected by the water management strategies evaluated in the plan.[31] Regions are required to consider effects on wildlife habitat, agricultural resources, and the economics of moving water, among other considerations.[32] Further, regional water plans must consider "third-party social and economic impacts resulting from voluntary redistribution of water."[33] To summarize its determination of the meaning of "interregional conflict," the court wrote "the plain language of the statutes and accompanying regulations indicate that an emphasis should be placed on balancing water uses and supply and their effect on agricultural and other economic resources."[34]

In determining an interregional conflict existed between Region C and Region D within the court's interpretation of the Water Code, the court focused on Region D's plan and its assertions that the Marvin Nichols Reservoir had negative impacts on agricultural and economic resources within Region D.[35] The Region D water plan's section on the negative impacts of the Marvin Nichols Reservoir created a "preliminary case that there is a substantial, interregional conflict with Region C's plan, and that should be sufficient for the Board to require the two regional planning groups to attempt to resolve that conflict."[36]

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26 *Ward Timber, Ltd.*, 411 S.W.3d. at 574 (citing Tex. Water Comm'n v. Brushy Creek Mun. Util. Dist., 917 S.W. 2d 19, 21 (Tex. 1996)).

27 *Id.* at 571.

28 The court focused on the language of Tex. Water Code § 16.053(h)(7), which, along with providing the previously cited definition of an "interregional conflict," provides that the TWDB may approve a regional water plan only after it determined that "the plan is consistent with long-term protection of the state's water resources, agricultural resources, and natural resources . . . ." *See Ward Timber, Ltd.*, 411 S.W.3d. at 570.

29 *Id.* at 573.

30 *Id.* at 572.

31 *Id.* (citing 31 Tex. Admin. Code § 357.30(12) (2012)).

32 *Id.* (citing 31 Tex. Admin. Code § 357.34 (2012)).

33 *Id.* at 572 (citing 31 Tex. Admin. Code § 357.40 (2012)).

34 *Id.* at 573.

35 *Id.* at 575.

36 *Id.*

After the *Ward Timber* decision, the TWDB initiated a mediation process between the two regions.[37] In December of 2013, the mediator reported that the parties failed to agree to a resolution of the conflict.[38] The burden shifted to the TWDB to resolve the conflict, leading to the recent recommendation of the TWDB's Executive Administrator, discussed below.[39]

TWDB EXECUTIVE ADMINISTRATOR'S RESOLUTION REPORT

Identifying Region D's primary concerns as the reservoir's potential socioeconomic, environmental, and private property impacts, the Executive Administrator set out to identify and resolve any conflict.[40] While acknowledging that the court of appeals discussed resolution of interregional conflict and long-term protection of the state's resources together, the Executive Administrator's report stated the two are "in fact, two different determinations as set out in the statute. A dispute between regions on protection of . . . resources, or on conservation . . . does not necessarily equate to an interregional conflict over allocation of resources among strategies."[41] The report also acknowledged that the court questioned the sufficiency of the TWDB's definition that an interregional conflict exists when there is over-allocation of resources across multiple regional water plans.[42] Noting the court did not offer an alternative definition, the report decided to continue to operate under the TWDB's definition.[43] The Executive Administrator reasoned that, at the planning stage, regions should identify social, economic, agricultural, and various third-party impacts and that this identification should be enough to fulfill TWDB's planning rules.[44] The report acknowledges that the TWDB must ensure water plans include water conservation practices, drought management measures, and the aforementioned long-term protection of water, agricultural, and natural resources; but again, the report separates these from its resolution of "interregional conflict."[45]

The Executive Administrator considered three options: (1) a smaller reservoir, (2) removal of the Marvin Nichols Reservoir from the current planning cycle, and (3) retaining the Marvin Nichols Reservoir as a recommended strategy in the 2011 Region C water plan.[46]

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37 Memorandum Report, *supra* note 3, at 3.
38 *Id.*
39 *Id.*
40 *Id.*
41 *Id.* at 4.
42 *Id.* at 4-5.
43 *Id.* at 5 (reasoning that the TWDB definition was consistent with the Water Code and recognizing that the legislature intended the TWDB decide "actual" conflicts and "not general objections . . . reserved for other agencies other than the TWDB if and when permit applications are filed.").
44 *Id.*
45 *Id.*
46 *Id.* at 6-7.

Selected Option

The report ultimately chose the third option—retain the Marvin Nichols Reservoir in the 2011 Region C Water Plan.[47] The report reasoned that removing the Marvin Nichols Reservoir entirely would leave a "substantial unmet need" in Region C and noted that, while removal would resolve the conflict for the time being, the water plan is merely a plan, not a final decision to build the reservoir, and should not be struck because of "uncertainties 15, 20, and even 40 years in the future."[48] The report reasoned that reducing the size and footprint of the reservoir would, in effect, result in the TWDB "interjecting" itself into the engineering of the reservoir, something the Executive Administrator found unprecedented and would result in a change and "shift away from the planning process as locally driven."[49] Further, it would leave a gap between needs and supply and require Region C to find alternative sources of water.[50] The report expressed a general concern of the socioeconomic impacts of a failure to meet water needs.[51] The Executive Administrator also addressed concerns of property owners where Marvin Nichols Reservoir may be located, acknowledging their concerns as "justifiable," but simply stated that they would be provided just and fair compensation although that determination is not the report's to evaluate.[52]

In August 2014, the TWDB officially considered the Executive Administrator's recommendation that the Marvin Nichols Reservoir be left in the Region C water plan following several public hearings and a public comment period.[53] The TWDB decided Region C needed to conduct and submit a more quantitative analysis of the agricultural and natural resource impacts of the Marvin Nichols Reservoir by November 3, 2014, or the Marvin Nichols Reservoir would be removed from Region C's plan without prejudice.[54] Region C submitted its analysis on October 29, 2014.[55] Region D's and the Executive Administrator's responses were filed in mid-December.

On January 8, 2015, the TWDB voted to resolve the conflict. By a 3-0 vote, the TWDB decided to retain the Marvin Nichols Reservoir in the Region C plan.[56]

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47 *Id.* at 7.
48 *Id.* at 6-7.
49 *Id.* at 6.
50 *Id.*
51 *Id.* at 7 (stating, "The TWDB, therefore, generally will not approve a regional water plan that contained unmet needs.").
52 *Id.* at 8.
53 Timeline and Proposed Resolution, *supra* note 4.
54 Interim Order, *supra* note 6.
55 Freese & Nichols, Inc., *Analysis and Quantification of the Impacts of the Marvin Nichols Reservoir Water Management Strategy on the Agricultural and Natural Resources of Region D and the State,* Prepared for the Region C Water Planning Group for Submittal to the Texas Water Development Board (Oct. 2014), *available at* https://www.twdb.state.tx.us/home/tabs/doc/hot/Quantitative_Analysis_of_Marvin_Nichols_Reservoir.pdf, *archived at* http://perma.cc/M8Y2-3V2G.
56 Tex. Water Dev. Bd., *TWDB Votes on the Interregional Conflict between Region C and Region D* (Jan. 8, 2015), *available at*: www.twdb.texas.gov/newsmedia/press_releases/2015/01/regionc_regiond.asp.

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WASHINGTON UPDATE

ENTERING PHASE II: DETAILS OF COMPLIANCE WITH THE GREEN COMPLETIONS REQUIREMENT

The Environmental Protection Agency (EPA) published a series of New Source Performance Standards (NSPS) affecting upstream oil and gas operations, effective October 15, 2012.[1] One aspect of this rule governed well completions, defined as "the process that allows for the flowback of petroleum or natural gas from newly drilled wells to expel drilling and reservoir fluids and tests the reservoir flow characteristics . . . ."[2] The final rule allowed for flaring during well completions up until January 1, 2015.[3] As of January 1, 2015, reduced emissions completions (RECs), or green completions, will be required for most wells.[4] This Development discusses the wells that must perform green completions, what a green completion will entail, and the documentation that operators must maintain and submit to the EPA.

AFFECTED WELLS

Gas wells are subject to the final rule; oil wells are not.[5] A well's classification as either an oil or gas well seems to hinge on the operator's intent.[6] Previously proposed definitions based the determination on "the principal production . . . at the mouth of the well."[7] The language was changed to "well drilled principally for the production of . . . ."[8] The revision reflects the EPA's recognition that "operators plan their operations to ex-

1 40 C.F.R. Part 60 (2012).
2 *Id.* § 60.5430.
3 *Id.* § 60.5375(a).
4 *Id.*
5 *Id.* § 60.5430; *see also id.* § 60.5375(a); Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,514, 49,516 (Aug. 16, 2012) (codified at 50 C.F.R. pts. 60, 63).
6 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. at 49,516.
7 *Id.*
8 *Id.*

tract a target product," which may or may not make up the bulk of the hydrocarbon produced.[9]

The EPA has not addressed whether wells drilled primarily for condensate are considered natural gas wells, crude oil wells, or neither. However, the EPA considers both condensate and crude oil among the "recovered liquids" that should be separated from natural gas after flowback, suggesting that it would consider crude oil and condensate a single category.[10]

Wildcat and delineation wells will not be required to perform green completions.[11] A wildcat well is defined as "a well outside known fields or the first well drilled in an oil or gas field where no other oil and gas production exists."[12] A delineation well is defined as "a well drilled in order to determine the boundary of a field or producing reservoir."[13]

Low-pressure wells are also exempt from performing green completions.[14] To determine whether a well qualifies as a low-pressure well, the following formula should be used, with R representing reservoir pressure (in pounds per square inch absolute), D representing depth in feet, and F representing flow line pressure at the sales meter:[15]

$$0.445R - 0.038D - 67.578 < F$$

Wildcat, delineation, and low-pressure wells will still be required to flare unless there is some compelling reason they cannot.[16] These wells are also subject to applicable reporting and recording requirements.[17]

The provision requiring green completions applies "[f]or the duration of flowback."[18] Flowback is defined as beginning "immediately following hydraulic fracturing," which naturally limits the application to hydraulically fractured wells.[19] Thus, the EPA has clarified that "the NSPS does not apply" to wells where no hydraulic fracturing occurs, such as when a well log indicates that an appraisal well would not produce enough to justify the cost of hydraulic fracturing.[20] Processes that may cause small emissions *during* hydraulic fracturing, such as attempts to clear proppant from a plugged wellbore, are also not subject to the requirement.[21]

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9 *Id.*

10 Letter from Peter Tsirigotis, Dir., Sector Policies & Programs Div., U.S. Envtl. Prot. Agency, to Matthew Todd, Regulatory & Sci. Affairs, Am. Petrol. Inst. (Sept. 28, 2012), at 2, *available at* http://www.epa.gov/airquality/oilandgas/pdfs/20120725apiletter.pdf, *archived at* http://perma.cc/GQ47-R8EE.

11 40 C.F.R. § 60.5375(f)(1)(i).

12 *Id.* § 60.5430.

13 *Id.*

14 *Id.* § 60.5375(f)(1)(ii).

15 *Id.* § 60.5430.

16 *Id.* §§ 60.5375(a)(3), 60.5375(f)(2)

17 *Id.* § 60.5375(f)(1)(i)-(ii); *see also id.* § 60.5420(c)(1)(iii)(B).

18 *Id.* § 60.5375(a)(1).

19 *Id.* § 60.5430.

20 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,514, 49,515 (Aug. 16, 2012) (codified at 50 C.F.R. pts. 60, 63).

21 Tsirigotis, *supra* note 10, at 4 (emphasis added).

PERFORMING THE COMPLETION

Flowback is the "process of allowing fluids to flow from a natural gas well following a treatment, either in preparation for a subsequent phase of treatment or in preparation for cleanup and returning the well to production."[22] The composition of the effluent shifts during flowback, with liquids decreasing and gas increasing over time.[23]

The final rule requires that "all salable gas must be routed to a gas flow line as soon as practicable."[24] Gas is considered to be of salable quality if it meets the specifications of the purchaser.[25] Perhaps anticipating that such a flexible standard could potentially lead to collusive skirting of the rule, the EPA requires that the operator re-inject or use non-salable gas.[26]

The EPA has clarified that routing is considered "practicable" once the amount of gas is of sufficient volume to operate a separator.[27] This creates some ambiguity because different types of separators have different capacities.[28] The EPA backed off from an earlier draft of the rule that attempted to prescribe specific equipment and refused to develop a Best Management Practice plan, instead leaving the selection of equipment to operator discretion.[29]

There are a few exemptions that allow for flaring of gas that cannot be routed. The final rule exempts operators from routing gas in the absence of an available flow line.[30] The rule's general duty provision would apply, which requires the operator to minimize releases to the atmosphere.[31] In light of the EPA's strong admonition that operators "evaluate whether the appropriate infrastructure access is available" and "exercise due diligence in coordinating the completion event with availability of a flow line," an operator may have to arrange for flow line access prior to completion to fulfill its requirements under the general duty provision.[32] The EPA's comment that it would allow for flaring in such "isolated cases" seems to suggest that it expects the lack of flow line access to be rare and primarily due to unforeseen issues.[33]

The EPA has clarified its understanding that operators that fracture using inert gases such as carbon dioxide or nitrogen "cannot route the flowback gas to a collection system

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22 40 C.F.R. § 60.5430.
23 Tsirigotis, *supra* note 10, at 2.
24 40 C.F.R. § 60.5375(a)(2).
25 *Id.* § 60.5430.
26 *Id.* § 60.5375(a)(1).
27 Tsirigotis, *supra* note 10, at 2.
28 *See, e.g.*, A. Efendioglu, J. Mendez & H. Turkoglu, *The Numerical Analysis of the Flow and Separation Efficiency of a Two-Phase Horizontal Oil-Gas Separator with an Inlet Diverter and Perforated Plates*, *in* ADVANCES IN FLUID MECHANICS X 133, 135 (C.A. Brebbia, S. Hernandez, and M. Rahman eds., 2014).
29 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,514, 49,517 (Aug. 16, 2012) (codified at 50 C.F.R. pts. 60, 63).
30 40 C.F.R. § 60.5375(a)(2).
31 *Id.* § 60.5375(a)(4).
32 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. at 49,517.
33 *Id.*

because of poor gas quality."[34] In other words, the gaseous flowback would not be considered "salable gas" as defined by the final rule.[35]

The EPA has generally been dismissive of industry comments that there may be a shortage of REC equipment.[36] The EPA has pointed to the phasing-in period as ample time to allow for manufacturers to meet the increased demand and has pointed out that REC units could potentially be used more frequently.[37] Thus, it seems unlikely that the EPA would consider a lack of REC equipment ample reason to claim a green completion is "infeasible" under the final rule.[38] Operators may develop joint operating agreements that would arrange for the sharing of REC units or may "farmout" the initial completion as a way of making up for REC unit shortfalls.[39]

Documentation

If an operator is subject to a state regulation requiring advance notice of a well completion, fulfilling that notice requirement satisfies the notice requirement of the final rule.[40] Otherwise, an operator must submit written or electronic notification to the EPA at least two days prior to starting the completion, containing the operator's contact information, the American Petroleum Institute (API) well number, the coordinates of the well to five decimal places, and the planned date for flowback.[41]

The initial annual report is due no later than ninety days after the end of the initial compliance period.[42] The initial compliance period starts either on the date of publication (October 12, 2012) or on the date of startup, and ends no more than one year later.[43] Subsequent annual reports are due by the same date each year thereafter.[44] Provided that all necessary information is included, reports for multiple affected facilities and Title V reports can be consolidated and sent together.[45]

All reports must include the company name, the address of the affected facility, identification of each facility included in the report, the beginning and ending dates of the reporting period, and a certification by a responsible official that, "based on information and belief formed after a reasonable inquiry, the statements and information in the document are true, accurate, and complete."[46] Reports regarding gas wells must include

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34 *Id.*
35 40 C.F.R. § 60.5430.
36 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. at 49,517-18.
37 *Id.* at 49,518.
38 40 C.F.R. § 60.5375(a)(1).
39 A farmout agreement temporarily assigns an oil and gas lessee's right and obligation to drill to another operator. Jane Massey Draper, Annotation, *Oil and Gas Farmout Agreements*, 65 A.L.R. 5th 211 (1999). Farmout agreements tend to become more prevalent in reaction to increased drilling costs. Kendor P. Jones, *Something Old, Something New: The Evolving Farmout Agreement*, 2010 No. 2 Rocky Mtn. Min. L. Inst. Paper No. 7 (2010).
40 40 C.F.R. § 60.5420(a)(2)(ii).
41 *Id.* § 60.5420(a)(2)(i).
42 *Id.* § 60.5420(b); *see also id.* § 60.5410.
43 *Id.* § 60.5410.
44 *Id.* § 60.5420(b).
45 *Id.*
46 *Id.* § 60.5420(b)(1)(i)-(iv).

either a series of written records or digital photograph records.[47] In either case, the records must identify any deviations from the completion requirements of 40 C.F.R. § 60.5375.[48] The records must include exempted wildcat, delineation, and low-pressure wells.[49] The operator must maintain the records for at least five years, either onsite or at the nearest local field office.[50]

An operator that opts to maintain a series of written records must identify each well completion at each affected gas well.[51] The operator must maintain a log, updated daily, for each gas well completion.[52] The log must include the well location, API well number, and (as applicable) the duration in hours of flowback, routing to a flow line, flaring, and venting.[53] If venting is performed, a specific reason must be cited.[54] Acceptable reasons to vent instead of flaring include risks of fire or explosion; potential negative impact to tundra, permafrost, or waterways; and state or local regulations that prohibit flaring.[55]

An operator that opts to maintain digital photograph records must include a list of the hydraulically fractured well completions done during the reporting period.[56] The photographs should be of all equipment used during completion for the storage, reinjection, routing, or flaring of the gas in the flowback, and must be dated.[57] The coordinates of the well must be embedded in the photograph or included in the shot as the clearly visible output of a Geographic Information System device.[58] The coordinates can be set back from the actual well for safety's sake, as long as the well can be sufficiently identified.[59]

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47 *Id.* § 60.5410(a)(4); *see also id.* §§ 60.5420(b)(2)(i), 60.5420(c)(1)(v).
48 *Id.* § 60.5420(b)(2)(ii); *see also id.* § 60.5420(c)(1)(ii).
49 *Id.* § 60.5375(f)(1)(i)-(ii); *see also id.* § 60.5420(c)(1)(iii)(B).
50 *Id.* § 60.5420(c).
51 *Id.* § 60.5420(c)(1)(i).
52 *Id.* § 60.5420(c)(1)(iii); *see also id.* § 60.5375(b).
53 *Id.* § 60.5420(c)(1)(iii)(A).
54 *Id.*
55 *Id.* § 60.5375(a)(3); *see also id.* § 60.5375(f)(2); Tsirigotis, *supra* note 10, at 4.
56 40 C.F.R. § 60.5420(b)(2)(i).
57 *Id.* § 60.5410(a)(4).
58 *Id.*
59 Tsirigotis, *supra* note 10, at 3.

Casenotes: Federal

In re Deepwater Horizon, 753 F.3d 570 (5th Cir. 2014)

Introduction and Overview

On June 4, 2014, the Fifth Circuit affirmed a partial grant of summary judgment in favor of the federal government's enforcement action against British Petroleum (BP) and Anadarko Petroleum Corporation ("Anadarko") (together, "Appellants") for violations of the Clean Water Act (CWA) associated with the Deepwater Horizon oil spill.[1] At issue on appeal was whether the oil well owned by Appellants was a "facility 'from which' the harmful quantity of oil was discharged."[2] The court rejected Appellants' argument that liability should attach to Transocean (owner of the riser from which oil actually exited into the water), deeming it "immaterial that the oil flowed through parts of the vessel before entering the Gulf."[3] Instead, the critical juncture in the eyes of the court was the point at which "controlled confinement [was] lost," and Appellants were therefore subject to the civil penalties mandated under 33 U.S.C. § 1321(b)(7)(A) because controlled confinement was lost in the well itself.[4]

Background and Procedural History

The Deepwater Horizon was a mobile drilling vessel owned and operated by Transocean.[5] Appellants employed the vessel to conduct drilling operations at the Macondo Well, an exploratory oil well they co-owned.[6] On April 20, 2010, the Deepwater Horizon was preparing to depart the Macondo site as part of the well's shift from development into production, and prior to departure, the well was lined and sealed with cement to prevent the release of gas and oil.[7] Thereafter followed a series of mishaps, beginning with the failure of the cement seal, and culminating with the failure of the Deepwater's blowout preventer.[8] The result of these failures was a rush of oil and gas from beneath the sea floor to the deck of the Deepwater Horizon.[9] The subsequent explosions and severing of the riser led to the well-documented Gulf oil spill of 2010.[10]

After the incident, the federal government filed an action "seeking civil penalties under section 311 of the Clean Water Act, which mandates the assessment of fines on the owners or operators of vessels and facilities 'from which oil or other hazardous sub-

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1 In re Deepwater Horizon, 753 F.3d 570 (5th Cir. 2014).
2 *Id.* at 573.
3 *Id.*
4 *Id.* at 573, 575; *see also* 33 U.S.C. § 1321(b)(7)(A) (2006) (focusing on civil penalty action of oil and hazardous substance discharge).
5 *Deepwater Horizon*, 753 F.3d at 571.
6 *Id.*
7 *Id.*
8 *Id.*
9 *Id.*
10 *Id.*

stances are discharged.'"[11] The failure of the cement seal, discharge of oil into the Gulf of Mexico, and Appellants' ownership of the well were all uncontested, leaving only the issue of whether the well was an "offshore facility from which oil or a hazardous substance [was] discharged . . . ."[12] The district court granted the government's motion for summary judgment, holding that "discharge is the point where uncontrolled movement begins," and Appellants were therefore liable as it was in their well that control was lost.[13] BP and Anadarko appealed, claiming a factual dispute existed as to whether the well was "a facility from which the harmful quantity of oil was discharged."[14]

SECTION 311 OF THE CLEAN WATER ACT - 33 U.S.C. § 1321

The government brought this particular action under section 311 of the CWA.[15] Section 311 prohibits the "discharge of oil or hazardous substances . . . into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone . . . in such quantities as may be harmful."[16] The section further stipulates that "[a]ny person who is the owner, operator, or person in charge of any vessel, onshore facility, or offshore facility from which oil or a hazardous substance is discharged in violation of [33 U.S.C. § 1321(b)(3)] shall be subject to a civil penalty . . . ."[17] The precise dollar amount to be paid as a penalty is specified in the Code of Federal Regulations.[18]

The definition of "discharge" proved to be a key issue in *Deepwater Horizon*. Section 311 does not precisely define the term, but does provide a non-exhaustive list of examples illustrating what might constitute a "discharge," including "spilling, leaking, pumping, pouring, emitting, emptying or dumping."[19] This list turned out to be one of the Fifth Circuit's primary tools as it contemplated who would foot the bill for the CWA violations at stake in *Deepwater Horizon*.[20]

DEFINING "DISCHARGE"

Applying the familiar *de novo* standard for summary judgment review, the court faced a single question on appeal: was it beyond factual dispute that the well was "a facility from which the harmful quantity of oil was discharged?"[21] As a threshold matter, the court set about defining the term "discharge."[22] Noting that the list of examples provided by section 311 each denoted "the loss of controlled confinement" and that the ordinary use of discharge refers to a fluid "flowing out from where it has been confined," the court

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11 *Id.*; *see also* 33 U.S.C. § 1321(b)(7)(A).
12 *Deepwater Horizon*, 753 F.3d at 571; *see also* 33 U.S.C. § 1321(b)(7)(A).
13 *Deepwater Horizon*, 753 F.3d at 571 (citing In re Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010, 844 F. Supp. 2d 746, 758 (E.D. La. 2012)).
14 *Deepwater Horizon*, 753 F.3d at 572.
15 *Id.* at 571; *see* 33 U.S.C. § 1321.
16 33 U.S.C. § 1321(b)(3).
17 *Id.* § 1321(b)(7)(A).
18 *Deepwater Horizon*, 753 F.3d at 573; *see also* 33 C.F.R. § 27.3 (2006).
19 *Deepwater Horizon*, 753 F.3d at 573 (citing 33 U.S.C. § 1321(a)(2)).
20 *Id.* at 575.
21 *Id.* at 573.
22 *Id.*

determined that "a vessel or facility is a point from which oil or a hazardous substance is discharged if it is a point at which controlled confinement is lost."[23]

Appellants' argument on appeal was that discharge "is the point at which oil enters the marine environment" and that the term denotes "direct or immediate release into water."[24] The court brushed this argument aside, stating "it seems well settled that the section proscribes any discharge of oil that ultimately flows 'into or upon . . . navigable waters,' irrespective of the path traversed by the discharged oil."[25] This position was corroborated by a string of cases in which oil had flowed on or through a third party's property before entering the navigable waters of the U.S., including *Pepperell Associates v. U.S. Environmental Protection Agency* and *In re D&L Energy, Inc.*[26] In *Pepperrell*, a factory's discharge flowed through a third party's conduit before reaching water, but the factory owner was still held liable.[27] In the case *In re D&L Energy, Inc.*, a drilling site's owner was liable for discharge even though the oil flowed through a storm drain and a tributary stream before entering navigable waters.[28] With its "loss of controlled confinement" test buttressed by these precedents, the court asserted flatly that Appellants' liability was "thus unaffected by the fact that the oil traversed part of Transocean's vessel before entering the Gulf of Mexico."[29]

Transocean's Liability

Having established that Appellants were liable despite the fact that the oil exited into the Gulf of Mexico through Transocean's equipment, the court next addressed Transocean's culpability.[30] Appellants' argument that Transocean should bear responsibility for the discharge was not entirely without merit.[31] Had the Deepwater Horizon's blowout preventer functioned correctly, the spill would not have occurred.[32]

The court was able to reconcile its holding on these facts by turning to constructions of section 311 used by other circuit courts.[33] Citing a Seventh Circuit case, the court saw it as "well established that this section of the Clean Water Act leaves no room for civil-penalty defendants to shift liability via allegations of third-party fault."[34] Prior opinions by the Fifth Circuit describe section 311 as "an absolute liability system with limited exceptions, which are to be narrowly construed."[35] In short, Transocean bore some culpability for the spill, but the failure of the blowout preventer did not exempt Appellants

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23 *Id.* at 573 n.7. 574.
24 *Id.* at 573 n.8.
25 *Id.* at 574; *see also* 33 U.S.C. § 1321(b)(3).
26 *Deepwater Horizon*, 753 F.3d at 574 (citing Pepperell Assocs. v. U.S. Envtl. Prot. Agency, 246 F.3d 15 (1st Cir. 2001) and In re D&L Energy, Inc., W-W-13 C-006 (EPA ALJ Feb. 27, 2013)).
27 *Id.* (citing *Pepperrell*, 246 F.3d at 20).
28 *Id.* (citing *In re D&L Energy, Inc.*, W-W-13 C-006 at 8).
29 *Id.*
30 *Id.*
31 *Id.*
32 *Id.*
33 *Id.*
34 *Id.* at 574-75 (citing United States v. Tex–Tow, Inc., 589 F.2d 1310, 1314 (7th Cir. 1978)).
35 *Id.* at 575 (quoting United States v. W. of England Ship Owner's Mut. Prot. & Indem. Ass'n, 872 F.2d 1192, 1196 (5th Cir.1989)).

from liability.[36] It is worth noting, however, that the court seemed to hint to consideration of third party fault in the calculation of penalties.[37]

CONCLUSION

Deepwater Horizon provides a more concrete definition of what it means to "discharge" something for purposes of section 311 of the CWA, with the touchstone being "the loss of controlled confinement."[38] Applying the controlled confinement test here, liability for violations of the CWA fell at the feet of BP and Anadarko rather than Transocean.[39] The argument that Transocean actually discharged the oil into the gulf made some logical sense, as the oil indisputably entered the Gulf of Mexico through their pipe.[40] As clever as this argument might seem to a party in Appellants' situation, though, the court disarmed it fairly quickly and convincingly through its construction of "discharge."[41] As a result, the holding in *Deepwater Horizon* seems to preclude liability for failures subsequent to the loss of controlled confinement, even when those failures occur in safety measures designed for precisely that scenario; i.e. a blowout preventer. Whether liability will attach due to blowout preventer failure alone seems unlikely, as one will only be needed after controlled confinement has been lost.

The decision also seems to foreclose the possibility of shifting liability to a partially culpable third party, adding another to the list of cases that deem this practice impermissible and construe section 311 as an "absolute liability system."[42] The possibility of mitigating the penalty still exists, but there does not seem to be any indication that the Fifth Circuit will retreat from its current reading of section 311. From an ex-ante perspective, the decision, at the very least, provides offshore producers and developers with a simple edict: if you lose controlled confinement, you will be solely responsible for paying the civil penalties mandated by section 311.

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36 *Id.*
37 *Id.*
38 *Id.*
39 *Id.* at 574.
40 *Id.* at 571.
41 *See id.* at 573-574.
42 *Id.* at 575.

Casenotes: State

Texas Commission on Environmental Quality v. Bonser-Lain, 438 S.W.3d 887 (Tex. App.— Austin, no pet.)

The Third Court of Appeals recently held that the Texas Commission on Environmental Quality's (TCEQ) denial of a petition for rulemaking is not subject to judicial review.[1] The court vacated the district court's judgment and rendered judgment, dismissing the case for lack of subject-matter jurisdiction.[2]

Appellees, a group of environmentalists, filed a petition in district court, citing Texas Water Code section 5.351, and requested judicial review of a TCEQ decision to refuse to promulgate "rules aimed at limiting the greenhouse-gas emissions from fossil fuels in Texas."[3] In a plea to the jurisdiction, the TCEQ responded that sovereign immunity barred the suit and that section 5.351 did not waive sovereign immunity for challenges to denied petitions for rulemaking.[4] The district court denied the TCEQ's plea to the jurisdiction, but upheld the TCEQ's denial of the petition on the alternative grounds provided by the TCEQ for denying the petition.[5] The TCEQ appealed, arguing that no right to judicial review exists for orders denying petitions for rulemaking.[6]

The court of appeals identified two ways in which subject-matter jurisdiction was implicated in the case: (1) as a potential bar to the district court's entry of jurisdiction, and (2) as to TCEQ's standing to bring the appeal because the lower judgment affirmed TCEQ's decision.[7] The court considered the second issue first.[8] It observed that Texas courts have held that "a party who obtains a favorable judgment . . . may not appeal that judgment merely for the purpose of striking findings and conclusions with which it does not agree."[9]

However, there is an exception to that rule where conclusions would estop claims in a subsequent proceeding.[10] The court of appeals found that the district court's rejection of the TCEQ's plea to the jurisdiction amounted to a conclusion "that [S]ection 5.351 of the Texas Water Code operated as a waiver of sovereign immunity."[11] Because the TCEQ could be precluded from relitigating that question, its interests were prejudiced by

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1 Tex. Comm'n on Evtl. Quality v. Bonser-Lain, 438 S.W.3d 887, 895 (Tex. App.—Austin 2014, no pet.).
2 *Id.*
3 *Id.* at 890; *see also* Tex. Water Code Ann. § 5.351 (West 1985).
4 *Bonser-Lain*, 438 S.W.3d at 890.
5 *Id.*
6 *Id.*
7 *Id.* at 891.
8 *Id.* at 892.
9 *Id.* (citing Champlin Exploration, Inc. v. R.R. Comm'n of Tex., 627 S.W.2d 250, 251 (Tex. App.—Austin 1982, writ ref'd n.r.e.)).
10 *Id.* (citing *Champlin Exploration*, 627 S.W.2d at 251).
11 *Id.*

the district court's judgment.[12] The court of appeals therefore ruled that it had appellate jurisdiction in this case.[13]

The court of appeals then undertook a *de novo* review of the TCEQ's challenge to the district court's subject-matter jurisdiction.[14] The TCEQ's plea to the jurisdiction was founded on its immunity from suit.[15] The court of appeals found that the Texas Administrative Procedures Act (APA) is silent concerning an entitlement to judicial review when an agency denies a petition for rulemaking.[16] This silence led the court of appeals to conclude "that the APA does not provide a right to judicial review of an agency's refusal to adopt rules."[17]

The court of appeals then reviewed the Appellees' contention that section 5.351 of the Texas Water Code authorizes "judicial review of a denial of a petition for rulemaking."[18] The court of appeals identified many cases that have limited judicial review under section 5.351 to appeals of final agency orders.[19]

Specifically, the court of appeals looked to *Hooks v. Texas Department of Water Resources*, in which the Texas Supreme Court concluded that section 5.351 "should be read in conjunction and harmony with the judicial-review provisions of the APA."[20] Given the foregoing, the court of appeals concluded that "the clear absence of a right to judicial review under the APA" means "section 5.351 of the Water Code does not provide a right to judicial review of a petition for rulemaking."[21]

HOUSTON UNLIMITED, INC. METAL PROCESSING V. MEL ACRES RANCH, NO. 13-0084, 2014 WL 4116810 (TEX. AUG. 22, 2014)

In *Houston Unlimited, Inc. v. Mel Acres Ranch*, the Texas Supreme Court declined to recognize a legal right to recover stigma damages for contamination of real estate because a landowner's evidence of diminished market value was not legally sufficient to support a jury award of damages.[22] The Supreme Court reversed and rendered a take-nothing judgment in Houston Unlimited, Inc.'s ("Houston Unlimited") favor.[23]

This case arose as a result of contamination released by Houston Unlimited's metal processing facility onto the ranchland of the neighboring Mel Acres Ranch ("Mel

12 *Id.* (citing RESTATEMENT (SECOND) OF JUDGMENTS § 27 (1982)).
13 *Id.*
14 *Id.* at 892-93.
15 *Id.* at 893.
16 *Id.* at 894.
17 *Id.*
18 *Id.*
19 *Id.* (citing City of Austin v. Tex. Comm'n on Envtl. Quality, 303 S.W.3d 379, 385 (Tex. App.—Austin 2009, no pet)).
20 *Id.* at 894-95 (quoting Hooks v. Tex. Dep't of Water Res., 611 S.W.2d 417,419 (Tex. 1981)).
21 *Id.* at 895.
22 Hous. Unlimited, Inc. Metal Processing v. Mel Acres Ranch, No. 13-0084, 2014 WL 4116810 (Tex. Aug. 22, 2014).
23 *Id.* at *16.

Acres").[24] Houston Unlimited's discharge allegedly resulted in contamination of Mel Acre's soil and stock tank.[25] Mel Acres filed a complaint with the TCEQ, which conducted its own tests and ordered Houston Unlimited to initiate cleanup activities.[26] Houston Unlimited undertook efforts to prevent further discharges and hired a consultant to perform an assessment of the Mel Acres property.[27] Mel Acres hired its own consultant, who opined that Houston Unlimited's conduct diminished the ranch's future use.[28] Mel Acres brought suit for nuisance, trespass, and negligence and sought damages as "a loss of the fair market value of the entire 155-acre ranch," instead of remediation costs.[29] The jury found that Houston Unlimited had not committed a permanent trespass or permanent nuisance, but found that Houston Unlimited was negligent and "caused the ranch to lose $349,312.50 of its market value;" the trial court entered judgment on the verdict, which was affirmed by the Fourteenth Court of Appeals.[30]

On appeal, the Texas Supreme Court addressed stigma damages, which represent "the market's perception of the decrease in property value caused by the injury to the property."[31] The Court observed that Texas courts have "never directly addressed the recoverability of stigma damages."[32] Further, the Court found that case authorities permit landowners to recover lost value if the injury to land is permanent, or alternatively, the cost to repair or remediate if the injury to land is temporary.[33] In *Schneider National Carriers, Inc. v. Bates* and *Kraft v. Langford*, the Texas Supreme Court found that such remedies are "mutually exclusive," meaning a landowner cannot recover for both lost of value and cost of repair.[34]

The Texas Supreme Court acknowledged, however, that it has allowed owners to "recover 'an award of diminished value . . . in addition to the costs of repair'" where a permanent reduction in value accounts for "'that reduction occurring even after repairs are made.'"[35] The Court then proceeded with an analysis of Mel Acres' expert testimony, presented by appraiser Kathy McKinney, to determine whether the jury's award was supported by competent evidence and opinions.[36] McKinney used the "comparable sales" approach to determine the ranch's unimpaired value.[37] The Texas Supreme Court found McKinney correctly applied this approach to determine the unimpaired value of

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24 *Id.* at *1-2.
25 *Id.*
26 *Id.* at *1.
27 *Id.* at *2.
28 *Id.*
29 *Id.*
30 *Id.*
31 *Id.* at *3 (quoting Jennifer L. Young, *Stigma Damages: Defining the Appropriate Balance Between Full Compensation and Reasonable Certainty*, 52 S.C. L. REV. 409, 424 (2001)).
32 *Id.*
33 *Id.* at *4.
34 *Id.* (citing Schneider Nat'l Carriers, Inc. v. Bates, 147 S.W.3d 264, 276 (Tex. 2004); Kraft v. Langford, 565 S.W.2d 223, 227 (Tex. 1978)).
35 *Id.* (quoting Ludt v. McCollum, 762 S.W.2d 575, 576 (Tex. 1988)).
36 *Id.* at *5.
37 *Id.* at *8.

the ranch, but she did not properly apply this method to determine the ranch's impaired market value.[38]

To determine the impaired value of the ranch, McKinney located two other properties impaired by potential contamination, determined the percentage decrease in market value of each property, and arrived at a 60% decrease in market value for the Mel Acres ranchland.[39] The Texas Supreme Court found McKinney did not find that the other impaired sites were comparable to Mel Acres' land "in any aspect other than environmental contamination of some kind that had been remediated."[40] The Court additionally found that McKinney did not "make adjustments for the differences between the ranch" and the other impaired properties.[41] Because McKinney failed to properly carry out a comparable sales comparison and to make the necessary adjustments, "her opinions [could not] constitute evidence sufficient to support the award of damages in this case."[42] Accordingly, the Texas Supreme Court reversed and rendered a take nothing judgment in favor of Houston Unlimited.[43]

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38 *Id.* at *12-15.
39 *Id.* at *6.
40 *Id.* at *13.
41 *Id.*
42 *Id.* at *15.
43 *Id.* at *16.

CONSULTATION BETWEEN FEDERAL ENVIRONMENTAL AGENCIES AND INDIGENOUS TRIBES

CURRENT CONSULTATION REGARDING ENVIRONMENTAL ISSUES

Though various statutes, regulations, and executive orders require agencies to consult indigenous tribes, the current framework does not guarantee meaningful consultation.[1] In his 2000 Executive Order, President Clinton created a high-level outline of the consultation process: agencies must allow for meaningful and timely input from tribes, cannot issue regulations that impact tribes without contacting tribes early in the regulatory process, must include a statement in any regulations that details the level of consultation with impacted tribes, and must provide a summary of tribal concerns, whether those concerns have been met, and a statement explaining the need for an agency regulation.[2] In 2009, President Obama released a memorandum that reiterates the Clinton Executive Order; however, there is little incentive to comply with either order because there is currently no mechanism through which the tribes can seek legal recourse if the consultation process is not followed.[3]

Currently, a uniform definition of a "consultation" does not exist, thereby allowing for a significant amount of discrepancy and interpretation on the part of the agency. For example, the Department of Health and Human Services defines consultation as "an enhanced form of communication which emphasizes trust, respect, and shared responsibility. . . [an] open and free exchange of information and opinion . . . which leads to mutual understanding and comprehension," while the Department of Homeland Security defines consultation as a "direct, timely, and interactive involvement of Indian tribes regarding proposed Federal action on matters that have tribal implications."[4] The variance in these definitions gives agencies a wide berth in the amount of consultation they choose to undertake with tribes in an environmental context. Additionally, most agencies include disclaimers and provisions in regulations that absolve them from adopting the approach preferred by tribal governments.[5] This creates an "almost impenetrable presumption in favor of the agency decision" and further hinders the consultation process.[6]

Certain federal statutes have created leasing programs, such as the Alaska Native Claims Settlement Act and the Outer Continental Shelf Lands Act, which allow for royalty payment provisions to go to indigenous peoples in affected energy development

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1 Michael Eitner, *Meaningful Consultation with Tribal Governments: A Uniform Standard to Guarantee That Federal Agencies Properly Consider Their Concerns*, 85 U. COLO. L. REV. 867, 872-73 (2014).
2 *Id.* at 875.
3 *Id.* at 875-77.
4 *Id.* at 877-78.
5 *Id.* at 879.
6 *Id.*

sites.[7] These programs can help with some of the hardships faced by tribes, as the tribes suffer a disproportionate amount of economic harm compared to the rest of society.[8] However, these statutes do not cover a large amount of land and ignore the fact that a larger economic stake in a development does not equal actual consultation.[9] By simply paying tribes to use their land for energy development, agencies and the government as a whole disenfranchise the notion of tribal sovereignty. Many tribes are still in the process of defining their authority to address environmental hazards specifically within the tribal framework; it is currently unclear the extent to which tribes can assert their authority to address environmental hazards on and surrounding reservations.[10] By preempting tribal regulatory frameworks with a compensation plan, agencies delegitimize and hinder a fledging process that is vital for addressing environmental issues on reservations and improving authority and quality of life for the tribes.[11]

Importantly, the consultation process often ignores that involving the tribes in the environmental development process can be prosperous for all.[12] Indigenous tribes, though wary of interference in their traditional way of life, generally welcome development and project management because it can help bring much-needed income to the community.[13] Allowing tribes to participate in environmental projects also helps the agency and industry professionals because they gain the valuable perspective of those who are familiar with the land they are wishing to develop. Involving tribes in the development process can also allow the tribes to address the needs of the indigenous peoples in the community and the community as a whole, which will lower resistance to new developments.[14] Tribal governments are in the unique position of being able to address and synthesize the needs of the tribe, non-members who live on the reservation, and the agency or industry developing the environmental project, making them valuable additions to the development process.[15]

This Development Article reviews four scholarly pieces that recommend approaches to improve the consultation process. In examining the poor state of the current consultation process, the four articles reviewed herein propose different methods to facilitate communication between agencies and tribes. Two articles ("Arctic Energy"[16] and "Meaningful Consultation"[17]) place a higher burden on the agency to engage in meaningful consultation, suggesting use of a geographic impact framework to address shortcomings and the creation of a uniform consultation statute respectively. In contrast, the

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7 Dwight Newman et al., *Arctic Energy Development and Best Practices on Consultation with Indigenous Peoples*, 32 B.U. INT'L L.J. 449, 457-60 (2014).

8 Sean J. Wright, *Good Fences Make Good Neighbors: An Environmental Justice Framework to Protect Prohibition Beyond Reservation Borders*, 79 BROOK. L. REV. 1197, 1203 (2014).

9 Newman et al., *supra* note 7, at 460.

10 Wright, *supra* note 8, at 1199.

11 *Id.* at 1202.

12 Newman et al., *supra* note 7, at 451.

13 *Id.* at 455.

14 Jeanette Wolfley, *Tribal Environmental Programs: Providing Meaningful Involvement and Fair Treatment*, 29 J. ENVTL. L. & LITIG. 389, 391 (2014).

15 *Id.* at 390-91.

16 Newman et al., *supra* note 7.

17 Eitner, *supra* note 1.

other two ("Good Fences"[18] and "Tribal Environmental Programs"[19]) turn inward, proposing that tribes should increase applications to take control of environmental developments, create their own regulatory schemes, and focus on facilitating communication in the tribal community once they take control from the agencies.

Improving Relations With the Tribes

Dwight Newman et al., *Arctic Energy Development and Best Practices on Consultation with Indigenous Peoples,* 32 B.U. Int'l L.J. 449 (2014)

In his article, *Arctic Energy Development and Best Practices on Consultation with Indigenous Peoples* ("Arctic Energy"), Dwight Newman bases his consultation model on the idea of a geographic impact framework, built off of the premise that the geography of the Arctic can vary widely across the world and even within the same country.[20] The article stresses that communication must be meaningful, must provide accessible, adequate information to indigenous community, and must be responsive to the concerns of said community.[21] To highlight where energy developers need to improve their processes, they can consult with the indigenous populations in light of several impact categories to find solutions unique to their specific development locations.[22]

The impact categories are divided broadly into marine and terrestrial environments, with specialized subdivisions for each environment.[23] The four main impact categories in the marine environment are: the impact on fishing in open water areas, the impact on hunting in open water areas, the impact on fishing in areas with a high degree of ice coverage, and the impact on hunting in areas with a high degree of ice coverage.[24] Companies engaging in development can use the impact framework to assess the potential risk of oil spills because temperature and ice density affect how quickly an oil spill can travel and the speed of oil evaporation.[25] Industrial developers can also use this framework to assess the potential damage of drilling and seismic shooting.[26] Sound travels faster through water than it does through air, meaning that noise produced by energy development may affect the behaviors and swimming patterns of marine life and thereby disrupt hunting.[27] Because the impacts of energy development and oil spills are generally more serious in marine locations, communication between energy developers and indigenous peoples regarding marine energy developments is imperative.[28]

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18 Wright, *supra* note 8.
19 Wolfley, *supra* note 14.
20 Newman et al., *supra* note 7, at 497.
21 *Id.* at 482.
22 *Id.* at 505.
23 *Id.* at 493.
24 *Id.* at 494.
25 *Id.* at 495-96.
26 *Id.* at 494.
27 *Id.* at 494-95.
28 *Id.* at 503.

The impact framework for the terrestrial arctic environment contains twelve impact categories.[29] Three of these impact categories are geographic: the high arctic or polar desert, the low arctic or tundra, and the subarctic or boreal forest.[30] The high arctic in particular is subject to a large amount of risk due to its highly limited food chains, while the food chains are slightly longer in the low arctic and subarctic.[31] The remaining nine cultural categories include fishing and hunting (practiced in each terrain type), gathering plants and berries (practiced in the low arctic and subarctic), and reindeer husbandry (practiced in the low arctic).[32] By examining how a certain cultural practice interplays with the terrain type, an industrial developer can better understand the necessities for survival of the indigenous peoples in the area and assess risks associated with development.[33] Oil spills in terrestrial areas can destroy plants and prevent regrowth for decades, and creation of infrastructure to harvest oil can destroy vegetation and soil, thereby having potentially massive effects on already limited food chains.[34] The further north development occurs, the higher the risk of adverse and irreversible damage.[35] By using the impact categories, industrial developers and governments can create a working relationship with indigenous populations that is unique to each specific project rather than adopt an ineffective "one size fits all" approach.[36]

MICHAEL EITNER, *MEANINGFUL CONSULTATION WITH TRIBAL GOVERNMENTS: A UNIFORM STANDARD TO GUARANTEE THAT FEDERAL AGENCIES PROPERLY CONSIDER THEIR CONCERNS,* 85 U. COLO. L. REV. 867 (2014)

Michael Eitner goes beyond the idea of the impact framework and suggests that the government adopt a specific consultation statute in his article *Meaningful Consultation with Tribal Governments: A Uniform Standard to Guarantee That Federal Agencies Properly Consider Their Concerns* ("Meaningful Consultation").[37] Agency-tribal communication is not universal or uniform despite numerous statutory and executive sources obliging it.[38] Congress has, as of this point, tried twice to pass a consultation statute and failed both times; the article argues that a stronger push for legislation is necessary to reform failing communicative procedures.[39] The ideal consultation statute would require agencies to treat tribal assertions as true: if the agency has any doubt to tribal claims regarding environmental degradation, the agency must present support to refute said tribal claims.[40] Specifically, the agency must present evidence sufficient to convince a neutral third

29 *Id.* at 499.
30 *Id.*
31 *Id.* at 499-501.
32 *Id.* at 499.
33 *Id.* at 498.
34 *Id.* at 503-04.
35 *Id.* at 504.
36 *Id.* at 492-93.
37 Eitner, *supra* note 1, at 895.
38 *Id.* at 874.
39 *Id.* at 881.
40 *Id.* at 896.

party that rejection of tribal claims is proper. The statute would also present a uniform definition of consultation and, importantly, provide tribes with a cause of action that would provide for review of agency decisions under a *de novo* standard, something the tribes currently lack.[41]

The consultation statute may seem burdensome, but its provisions would only impact a federal agency when the agency and tribe could not reach an agreement on their own, motivating agencies to engage in meaningful discussion with the tribes.[42] In no way would a consultation limit an agency's discretionary power; it would simply provide a check on agency decisions to ensure protection of tribal interests.[43] Additionally, an agency should already have a record of tribal concerns before the consultation process, which would lessen the burden on an agency needing to support rejection of a tribal claim.[44] Lastly, a consultation statute would only require agencies to act in line with well-established federal rhetoric and policy concerning the Indian tribes, something that is often preached but rarely practiced.[45] The statute does not ask the agencies to undergo burdensome changes or reformulate their tactics; it only asks agencies to treat tribal concerns with genuine consideration and respect and stipulates recourse for not doing so.[46]

Sean J. Wright, *Good Fences Make Good Neighbors: An Environmental Justice Framework to Protect Prohibition Beyond Reservation Borders,* 79 Brook. L. Rev. 1197 (2014)

In *Good Fences Make Good Neighbors: An Environmental Justice Framework to Protect Prohibition Beyond Reservation Borders* ("Good Fences"), however, author Sean J. Wright asserts that the federal government will provide little recourse to tribes suffering from environmental harms.[47] Instead, Good Fences posits that the tribes should act within a tribal regulatory framework to resolve issues of environmental justice.[48] This largely relies on powers the federal government has dedicated to the tribes within various statutes that allows the reservations to act akin to states.[49] For example, the Clean Air Act and Clean Water Act both contain provisions that allow tribes to be treated as states and create their own air and water quality control programs, which they either manage jointly with the Environmental Protection Agency (EPA) or gain permission to manage independently.[50] Having quality control programs in place allows tribes to enter consultation with a set of needs that is harder for agencies or developers to rebut, allowing for more genuine discussion between the parties. By regulating on their own, the tribes would be able to address existing environmental harms, support tribal self-determination,

41 *Id.* at 896-97.
42 *Id.* at 899.
43 *Id.* at 899.
44 *Id.*
45 *Id.* at 899-900.
46 *Id.* at 900.
47 Wright, *supra* note 8, at 1216.
48 *Id.* at 1205.
49 *Id.* at 1208.
50 *Id.* at 1219-25.

and work towards remediating existing injustice.[51] It is important that the tribes extend the regulatory framework beyond ecological environmental hazards, such as air and water quality, and address social, political, and economic hazards, such as alcohol sales to a dry reservation and the high rates of poverty and alcoholism and tribal cultures.[52] To a reservation, an alcohol distribution center is as much of a local undesirable land use as a hazardous waste dump, and the tribe needs to use the tribal regulatory framework to combat this type of hazard as seriously as any ecological issue.[53]

JEANETTE WOLFLEY, *TRIBAL ENVIRONMENTAL PROGRAMS: PROVIDING MEANINGFUL INVOLVEMENT AND FAIR TREATMENT,* 29 J. ENVTL. L. & LITIG. 389 (2014)

Lastly, in *Tribal Environmental Programs: Providing Meaningful Involvement and Fair Treatment* ("Tribal Environmental Programs"), Jeanette Wolfley also recommends that tribes turn inward and work on fostering consultation and communication within their own communities to facilitate consultation with all parties involved.[54] This article also stresses that tribes should apply to the EPA to manage environmental programs themselves rather than allow another agency to do so.[55] Once the EPA delegates this authority to the tribe, the tribe should focus on creating an institution that is transparent and results-based that operates under values consistent with tribal culture.[56] Making decisions as an entire tribe is a key part of tribal history and culture, and as such, the institution should seek guidance from the individuals who will be impacted by the environmental development, cultural committees, tribal elders, and the community as a whole.[57] The institution should commit itself to fair dealings, honesty, integrity, and allowing individual members of the community to be heard before the collective institution, including non-members of the tribe who live on the reservation and industry officials involved with environmental developments.[58] Tribes can also use existing legislation that mirrors major federal statutes, such as the National Environmental Policy Act and the Administrative Procedures Act, to allow for community input and consideration of impacts that potential projects may have.[59]

A prime example of how this process works in practice is seen in the Alaska native villages' process of the Maniilaq Association in northwest Alaska.[60] The members of the Maniilaq Association go from town to town to post notices in local stores and make radio announcements when a new project is being considered, then meet with citizens directly to discuss their concerns.[61] The process has no set time limit and is designed to

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51 *Id.* at 1222.
52 *Id.* at 1203.
53 *Id.* at 1200.
54 Wolfley, *supra* note 14, at 392.
55 *Id.* at 396.
56 *Id.* at 400.
57 *Id.* at 403-04.
58 *Id.* at 412, 416.
59 *Id.* at 419-20, 425.
60 *Id.* at 433.
61 *Id.*

make the citizens feel comfortable: all meetings are informal and conducted in the native language.[62] The institution also distributes regular newsletters to keep the community informed.[63] This process conforms to the norms and values of tribal community and shows the beneficial impact that consultation can have if it is focused within the tribe itself.[64] By administering their own programs (to which the EPA specifically defers), tribes can remove an extra layer of consultation, potentially arduous talks between tribes and agencies, and allow the tribe to focus on serving the needs of its own community while still achieving environmental progress.[65]

Conclusion

It is not necessary to use just one of these methods; any or all of them could be combined to improve current consultation procedures and the relationship between federal agencies and the tribes. However, just adopting any one of these methods would be a step toward recognizing the legitimacy of tribal authority and the needs of the tribes to be involved in environmental projects. It is worth recognizing that tribes and agencies are working for a common goal of environmental development and preservation, and this goal can be facilitated if the two groups engage in meaningful consultation and address these projects together instead of remaining at odds.

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62 *Id.*
63 *Id.* at 433-34.
64 *Id.* at 434.
65 *Id.* at 441.

CHALLENGE TO EPA REGULATION CLASSIFYING CERTAIN CO_2 EMISSIONS AS SOLID WASTE

INTRODUCTION

Three energy groups recently urged the D.C. Circuit to vacate a new Environmental Protection Agency (EPA) final rule that classifies carbon dioxide ("CO_2") emissions as "solid waste" during the carbon capture and sequestration (CCS) process when captured, transported in pipelines, and stored by geologic sequestration in Underground Injection Control (UIC) Class VI wells.[1] The rule, entitled "Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities," conditionally excludes this class of CO_2 emissions from regulation under the Resource Conservation and Recovery Act (RCRA).[2] However, petitioner energy groups Carbon Sequestration Council, Southern Company Services, Inc., and the American Petroleum Institute argue that these CO_2 emissions do not qualify as "solid waste" and thus should not be subject to RCRA regulation.[3] The new rule classifies these streams as "solid waste" under the plain language of the RCRA term "discarded material."[4] The D.C. Circuit has not yet interpreted this term as it pertains to the RCRA definition of "solid waste."[5]

BACKGROUND

During CCS, gaseous CO_2 emissions are captured, compressed into a supercritical fluid state, transported as CO_2 streams in pipelines, and injected into UIC Class VI wells for purposes of long-term sequestration.[6] Because CO_2 sequestration presents an increased risk of groundwater contamination, the EPA established UIC Class VI wells in 2010 under the Safe Drinking Water Act (SDWA).[7] To minimize the risk of ground-

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1 Opening Brief for Petitioners at 1, 14-16, Carbon Sequestration Council, et al. v. U.S. Envtl. Prot. Agency, et al., No. 14-1046 (D.C. Cir. 2014), 2014 WL 4253110, at *1; *see also* Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. 48,073, 48,073-74 (Aug. 8, 2011).

2 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. 350, 350-51 (Jan. 3, 2014) (to be codified at 40 C.F.R. pts 9, 260 & 261); Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k (2012).

3 Opening Brief for Petitioners, *supra* note 1, at *2.

4 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 354; *see also* 42 U.S.C. § 6903(27) (2012).

5 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 353-54.

6 Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. at 48,075-76.

7 Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO_2) Geologic Sequestration (GS) Wells; Final Rule, 75 Fed. Reg. 77,230, 77,234 (Dec. 10, 2010) (codified at 40 C.F.R. pts. 124, 144, 145, 146, & 147).

water contamination, owners of UIC Class VI wells must conduct detailed assessments of CCS sites and meet minimum monitoring standards.[8]

Although the process currently operates on a small scale, the EPA anticipates that CCS will be instrumental in carbon emissions reduction and climate change mitigation.[9] Through the rule's conditional regulatory exclusion of these CO_2 emissions injected into UIC Class VI wells, the EPA intends to encourage the development and employment of CCS technologies.[10] However, failure to comply with the multiple conditions for RCRA exclusion will subject the emissions to RCRA regulation.[11] Opponents of the rule express concern that the increased regulation and potential liability under RCRA would actually discourage development of CCS practices.[12]

THE PROPOSED RULE

On August 8, 2011, the EPA published the proposed rule that would conditionally exclude CCS CO_2 emissions injected into UIC Class VI wells from the definition of "hazardous waste," thereby excluding them from regulation under RCRA.[13] Facilities that engage in CCS using UIC Class VI wells must comply with multiple conditions to qualify for the exclusion.[14] For example, facilities must abide by the Department of Transportation's (DOT) requirements for transportation of CO_2 streams, and no other hazardous wastes may be co-injected with the CO_2 streams.[15] Further, operators of UIC Class VI wells must sign a certification statement that the conditions for the exclusion are met.[16]

THE FINAL RULE

With a few exceptions, the EPA promulgated the rule largely as it was originally proposed.[17] The EPA modified the regulatory language with respect to compliance with DOT requirements to include reference to state pipeline regulations that may apply in lieu of DOT regulations in certain circumstances.[18] Further, the final rule creates sepa-

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8 *Id.* at 77,247.

9 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 352. .

10 Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. at 48077; *see also Frequent Questions: Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/waste/nonhaz/industrial/geo-sequester/faqs.htm, *archived at* http://perma.cc/EX2S-6PFA.

11 The rule previously relied on (40 C.F.R. 261.4(h)) has been preempted by Sierra Club v. EPA, 755 F.3d 968 (D.C. Cir. 2014); *see also* Public Hearing for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 76 Fed. Reg. at 48077.

12 Opening Brief, *supra* note 1, at *12 (citing comments from those opposed to the rule on the basis that CCS development and use would be hindered).

13 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 351.

14 *Id.* at 352.

15 *Id.*

16 *Id.*

17 *Id.* at 354.

18 *Id.*

rate certification statements for CO_2 stream generators and UIC Class VI well operators.[19] However, the final rule does not change the requirement that all conditions set forth in the rule must be met to qualify for the exclusion from hazardous waste regulation under RCRA.[20]

EPA's Argument

After the EPA published the proposed rule, commenters argued that these CO_2 streams do not qualify as "solid waste" due to their physical state, and therefore should not be subject to RCRA regulation.[21] RCRA establishes a federal regulatory structure that governs the treatment and disposal of "hazardous wastes," which are defined as a subset of "solid waste" for waste management purposes.[22] The EPA asserts that these CO_2 streams are "discarded material," and therefore qualify as "solid waste" under the RCRA definition of "solid waste."[23] RCRA defines "solid waste" as: "any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and *other discarded material*, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities."[24]

Specifically, CO_2 streams injected into UIC Class VI wells during CCS are "discarded material" within the plain meaning of RCRA because they are discarded through abandonment when injected into geological formations.[25] Further, the EPA argues that, because the purpose of this process is to isolate the emissions from the atmosphere, these emissions qualify as "discarded material."[26]

However, commenters also argue that the CO_2 streams do not qualify as "solid waste" because these emissions do not have the physical properties of a solid material.[27] The EPA explains that these CO_2 streams are supercritical fluids that have physical properties intermediate to those of gases and liquids.[28] Nevertheless, although RCRA enumerates several substances subject to its regulation, the EPA reasons that, "like the listed 'solid, liquid, semisolid, or contained gaseous material' specifically referenced, [these CO_2 streams] are 'other discarded material' from industrial and commercial opera-

19 *Id.*
20 *Id.*
21 *Id.*
22 42 U.S.C. § 6903(5) (2012); *see also United Technologies Corp. v. Envtl. Prot. Agency*, 821 F.2d 714, 716 (D.C. Cir. 1987).
23 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 354.
24 42 U.S.C. § 6903(27) (emphasis added).
25 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 354; *see also* 40 C.F.R. 261.2(a)(2)(i) and (b)(1) (definition of discarded material and solid waste abandonment criteria).
26 Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO_2) Streams in Geologic Sequestration Activities, 79 Fed. Reg. at 355.
27 *Id.*
28 *Id.*

tions and, therefore, are of a similar kind to the other types of wastes specifically referenced by the definition."[29]

PETITIONERS' ARGUMENT

Petitioners do not contest the final rule's conditional exclusion of CO_2 streams injected into UIC Class VI wells from regulation.[30] Rather, Petitioners argue that the classification of CO_2 emissions as "solid waste" under the new regulation contradicts the plain language and legislative intent of RCRA, and therefore these emissions should not be subject to regulation under RCRA.[31]

Specifically, Petitioners argue that these emissions do not possess the physical properties of solid materials, and that the physical form of these emissions does not fall within the statutorily enumerated examples of "solid waste."[32] Supercritical fluids are not mentioned in the RCRA definition of "solid waste," and Petitioners argue that the statute should not extend to cover these materials.[33]

Further, Petitioners argue that CO_2 emissions do not qualify as "solid waste" because they are not "discarded materials," but rather the emissions are captured during CCS to prevent the materials from being discarded into the atmosphere.[34] Petitioners also contend that the emissions injected into UIC Class VI wells are saved for later use.[35] Moreover, Petitioners argue that whether the materials are discarded has nothing to do with the physical state of the substances.[36]

Petitioners also contend that the EPA's assertion of RCRA authority over these emissions conflicts with congressional intent.[37] They claim that Congress specifically enumerated physical materials subject to RCRA hazardous waste regulation and provided no indication that the EPA was authorized to expand the list.[38]

Finally, Petitioners assert that the EPA's interpretation of RCRA is arbitrary and capricious and request that the D.C. Circuit vacate the rule due to the legislative intent and plain language of the statute.[39]

The EPA's reply was filed in November 2014, and final briefs for Petitioners and Respondent are due January 22, 2015.[40]

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29 *Id.*
30 Opening Brief, *supra* note 1, at *13.
31 *Id.*
32 *Id.* at *22.
33 *Id.* at *24.
34 *Id.* at *46; *see also* Am. Mining Congress v. Envtl. Prot. Agency, 824 F.2d 1177, 1193 (D.C. Cir. 1987) (stating "Congress clearly and unambiguously expressed its intent that 'solid waste' be limited to materials that are 'discarded' by virtue of being disposed of, abandoned, or thrown away.").
35 Opening Brief, *supra* note 1, at *50-51.
36 *Id.* at *26.
37 *Id.* at *31-32.
38 *Id.* at *31.
39 *Id.* at *52.
40 Docket, Carbon Sequestration Council, et al. v. Envtl. Prot. Agency, et al., No. 14-1046 (D.C. Cir. 2014), 2014 WL 4253110.

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CLEAR AS MUD: RECENT JUDICIAL CLARIFICATION OF REQUIREMENTS AND TERMINOLOGY IN UTILITY AND WATER QUALITY PERMITTING

The Third Court of Appeals in Austin issued two opinions in July and August of 2014 that helped clear the "muddy waters" for utilities and wastewater permittees. First, the decision in *Texas General Land Office v. Crystal Clear Water Supply Corp.* serves to: (1) clarify what portions of land must be included in an expedited decertification petition for release from the utility's certificate of convenience and necessity (CCN); and (2) establish the standard for evaluating whether a tract of land is "receiving water service" in the context of Texas Water Code section 13.254(a-5).[1] Second, the decision in *Robertson County: Our Land Our Lives (RCOLOL) v. Texas Comission on Environmental Quality* highlights the distinction between "cooling water" and "make-up water" in determining what constitutes a cooling water intake system (CWIS) for purposes of regulation, as well as what water quality baseline the Texas Commission on Environmental Quality (TCEQ or "Commission") can use under Tier 2 of the Antidegradation Rule.[2]

TEXAS GENERAL LAND OFFICE V. CRYSTAL CLEAR WATER SUPPLY CORP., NO. 03-13-00528-CV, 2014 WL 4177461 (TEX. APP. — AUSTIN AUG. 22, 2014, NO PET. H.).

The Texas General Land Office (GLO) petitioned in *Crystal Clear* to have 1,842 acres removed from Crystal Clear Water Supply Corporation's CCN pursuant to Texas Water Code § 13.254(a-5).[3] The tract of land was part of a larger tract of 2,000 acres owned by GLO. GLO's petition excluded approximately 151 acres, consisting of five tracts of land adjacent to the land included in the petition that were "clearly" receiving water service.[4] The TCEQ[5] granted an order releasing the 1,842 acres of land.[6] Subsequently, Crystal Clear brought suit against the TCEQ claiming that intervenor GLO could not carve out a portion of land that was not receiving water to seek expedited release of that property.[7] Crystal Clear additionally alleged that the property in question

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1 Tex. Gen. Land Office v. Crystal Clear Water Supply Corp., No. 03-13-00528-CV, 2014 WL 4177461, (Tex. App.—Austin Aug. 22, 2014, no pet. h.); *see also* TEX. WATER CODE ANN. § 13.254(a-5) (West 2013).

2 Robertson County: Our Land, Our Lives (RCOLOL) v. Tex. Comm'n on Envtl. Quality, No. 03-12-00801-CV, 2014 WL 3562756 (Tex. App.—Austin July 17, 2014, no pet. h.) (mem. op.).

3 *Crystal Clear*, 2014 WL 4177461, at *1; *see also* TEX. WATER CODE ANN. § 13.254(a-5).

4 *Crystal Clear*, 2014 WL 4177461, at *2.

5 It should be noted that the authority over CCNs was transferred to the Texas Public Utility Commission (PUC) on September 1, 2014.

6 *Crystal Clear*, 2014 WL 4177461, at *2.

7 *Id.*

was "receiving water service" under the statute and sought declaratory relief concerning its rights to due process.[8]

The district court reversed the TCEQ's order, but granted the TCEQ's pleas regarding the claims for declaratory relief.[9] All three parties to the suit appealed the decision.[10] For the purposes of this Development Article, Crystal Clear's first two claims regarding: (1) the exclusion of a portion of the property from the petition; and (2) whether the land was "receiving water service" are both important for retail public utilities, landowners, and developers attempting to decipher the language used in these statutes.

Texas Water Code section 13.254(a-5) enables a landowner whose property is at least twenty-five acres, located in certain counties, and that is not "receiving water or sewer service," to petition for expedited release of the area from a CCN.[11] Landowners whose land fits these qualifications can petition to have their lands removed from a retail public utility's (such as Crystal Clear Water Supply Corp.) CCN if that retail public utility is the exclusive retail service provider in the area.[12] The process for expedited release in *Crystal Clear* gave rise to two questions: (1) how much of a tract of land must be included in a petition for expedited release?; and (2) what constitutes "receiving water service"?

Crystal Clear's first issue was whether the TCEQ could approve the petition to decertify the property, even though the property consisted of several different tracts, including several contiguous tracts of land in Crystal Clear's CCN for which GLO did not seek decertification.[13] Crystal Clear contended that GLO could not carve out a portion of its land that was not receiving water for purposes of meeting the expedited decertification requirements.[14] The court pointed out that Crystal Clear had introduced no statutory support for its position, essentially deemed it a "gerrymandering" argument, and moved on to a statutory analysis of the acreage requirement detailed in Texas Water Code section 13.254(a-5).[15] Under the court's analysis, the statute "simply" required that the land in question be at least twenty-five acres in certain counties and that it not be "receiving water service."[16] The court held that the statute does not contain an "all or nothing" requirement that would mandate a landowner to include all of the land in a request for expedited release to qualify for decertification under the statute.[17] GLO was therefore not required to include all 2,000 acres in its petition, and the Commission's order was not erroneous.[18]

The court provided extensive analysis on this issue before declaring that the issue was, in fact, moot.[19] Since the time of suit, the land in question had been removed from

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8 *Id.*
9 *Id.* at *1.
10 *Id.*
11 TEX. WATER CODE ANN. § 13.254(a-5).
12 *Id.*
13 *Crystal Clear*, 2014 WL 4177461, at *4.
14 *Id.*
15 *Id.*
16 *Id.*
17 *Id.*
18 *Id.*
19 *Id.* at *5.

Crystal Clear's CCN, and therefore, a decision by the court to the contrary could not be given any legal effect.[20] Nevertheless, this analysis by the court signals a decisive stance regarding how the land size element of section 13.254(a-5) will be addressed in the future.

Crystal Clear's second issue pertained to whether the Commission correctly found that the GLO property was not "receiving water service" from Crystal Clear.[21] The turning point of this issue was not whether Crystal Clear was *providing* water services to the land, but whether the decertified property was *receiving* water.[22]

Crystal Clear claimed that the 1,842 acres listed on the order were receiving water service under the statute, as evidenced by water lines, facilities, and an inoperative meter on the land in question.[23] Additionally, Crystal Clear asserted that it had purchased and contractually secured a long-term water supply and water rights to provide water service for its certified area.[24] In response, the GLO and the TCEQ contended that a tract is not "receiving water service" if it is not receiving *actual* water on the property.[25]

The court rejected the statutory interpretation presented by the GLO and the TCEQ.[26] The court determined that this interpretation had no statutory support, and deemed as "exaggerated" concerns from the GLO and the TCEQ that failure to accept their interpretation would limit expedited release availability if the utility company had any sort of facilities on the land.[27]

The court next relied on the definition of "services" as provided in Texas Water Code section 13.002.[28] According to section 13.002, "service" means "any act performed, anything furnished or supplied, and any facilities or lines committed or used by a retail public utility in the performance of its duties under this chapter to its patrons, employees, other retail public utilities, and the public, as well as the interchange of facilities between two or more retail public utilities."[29] Judge Pemberton noted that this definition has an intentionally broad scope, but is self-constrained by the inclusion of the condition that the facilities be "committed or used" in the performance of the entity's duties as a retail public utility.[30] The court held that it was not enough to simply have facilities or lines on the land to provide water to the land or to perform an act such as securing a water supply for a certified area as a whole.[31] Such equipment and acts must also be "committed" or "used" to provide water for the specific tract seeking release.[32] Conversely, facilities or lines on land may be sufficient for the land to be deemed as "receiving water service" provided that the lines and facilities are committed to provid-

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20 *Id.*
21 *Id.*
22 *Id.*
23 *Id.* at *6.
24 *Id.*
25 *Id.* at *7.
26 *Id.*
27 *Id.*
28 *See id.* at *7.
29 TEX. WATER CODE ANN. § 13.002(21).
30 *Crystal Clear*, 2014 WL 4177461, at *7.
31 *Id.*
32 *Id.*

ing service for the specific tract of land requesting release.[33] The court noted that whether facilities, lines, or acts are "committed" to providing water for the specific tract of land seeking release are questions of fact, and therefore fall within the TCEQ's authority and discretion to decide.[34]

Ultimately, the court determined that the TCEQ's decision to grant the GLO's order was supported by substantial evidence.[35] The lower court's decision was reversed, and the TCEQ's order was upheld.[36] Because "service" is a fact issue, it would constitute an advisory opinion for the court to give a generic declaration of what would constitute sufficient facilities and equipment "committed" to providing a tract with water for purposes of an expedited release.[37]

Crystal Clear clarified that portions of property can be carved out for expedited release. What is less clear, and appears within the regulatory authority of the state agency governing CCNs, is what constitutes "receiving service."

ROBERTSON COUNTY: OUR LAND, OUR LIVES V. TEX. COMM'N ON ENV. QUALITY, 2014 WL 3562756 (TEX. APP. — AUSTIN JULY 17, 2014, NO PET. H.)

The second case, *Robertson County: Our Land, Our Lives v. Texas Commission on Environmental Quality*, pertains to CWIS classification and water quality baselines in the context of the Antidegradation Rule.[38] In *Robertson County*, Oakgrove Management Company filed a permit application with the TCEQ in 2007 seeking an administrative and a technical change to its preexisting permit for its facility, Oak Grove Steam Electric Station (OGSES).[39] The administrative change was to renumber permitted outfalls and reroute already-permitted wastewater streams for two types of wastewater produced by the facility.[40] The technical change was to increase its daily volume of effluent discharge from 1.47 billion to 1.61 billion gallons per day to account for and remedy shortcomings of the previously allotted amount.[41] The permit was processed by the TCEQ and a draft permit was issued for publication and comment.[42] Oak Grove requested and was granted a contested-case hearing on the merits of the application, and the appellees, Robertson County: Our Land, Our Lives (RCOLOL) and Roy Henrichson, were admitted as parties to the hearing.[43] After the hearing, the TCEQ approved the amended

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33 *Id.*
34 *Id.*
35 *Id.* at *9.
36 *Id.* at *10.
37 *Id.*
38 Robertson County: Our Land, Our Lives (RCOLOL) v. Tex. Comm'n on Envtl. Quality, No. 03-12-00801-CV, 2014 WL 3562756, at *1-2 (Tex. App.—Austin July 17, 2014, no pet. h.) (mem. op.).
39 *Id.*
40 *Id.* at *2.
41 *Id.*
42 *Id.*
43 *Id.*

permit.[44] RCOLOL filed suit in district court seeking judicial review of the TCEQ's order granting the permit modification, and the district court affirmed the order.[45] RCOLOL appealed on the basis of four challenges, two of which are discussed below.[46]

The first issue raised by RCOLOL relates to classification of a water transfer pump as a CWIS.[47] OGSES is situated on the Twin Oak Reservoir, from which it draws its cooling water.[48] OGSES uses the water transfer pump located on Lake Limestone, a water supply reservoir approximately eleven miles away, to pump water into Twin Oak Reservoir to make up for evaporative losses and downstream discharges from the Twin Oak Reservoir.[49] The Lake Limestone structure and pipeline are not actually connected to the OGSES facilities.[50] RCOLOL contended that the water pumped from Lake Limestone was ultimately used as cooling water, and as a result, the Lake Limestone structure should have been classified as a CWIS under the Clean Water Act.[51]

The Clean Water Act requires the "location, design, construction and capacity of" a CWIS to reflect the best technology available for minimizing negative environmental impacts.[52] The EPA has created rules to implement this provision, and the CWIS in question would have fallen within the "Phase II" category of these rules, which addresses existing, large cooling water intake structures.[53] However, at the time of the application, the Phase II rules had been suspended by the EPA due to remand of key provisions of the rules, so TCEQ evaluated existing large cooling water intake structures on a case-by-case judgment using best professional judgment.[54]

To support its contention, RCOLOL relied on a Phase I definition of "cooling water," which included a provision that a CWIS extended from the point at which water is withdrawn from the surface water source, up to and including, the intake pipes.[55] RCOLOL asserted that, under this definition, the Lake Limestone pumping facility would be considered part of the entire CWIS system.[56] The court rejected this contention, first dismissing the Phase I definition as inapplicable to the CWIS at hand, and then explaining that the EPA description of the scope of a CWIS makes it clear that whether water is cooling water or something else is determined by its intended purpose at the time it is withdrawn from the surface water.[57] The water withdrawn from Lake Limestone was determined to be make-up water, not cooling water, as it was intended to refill the reservoir that supplied the cooling water.[58]

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44 *Id.*
45 *Id.*
46 *Id.*
47 *Id.*
48 *Id.* at *1, *4.
49 *Id.* at *4.
50 *Id.*
51 *Id.*
52 33 U.S.C.A. § 1326(b) (West 2014).
53 *Robertson County*, 2014 WL 3562756, at *3.
54 *Id.*
55 *Id.* at *4.
56 *Id.*
57 *Id.*
58 *Id.*

The court also rejected RCOLOL's argument that "cooling water" and "make-up water" are synonymous in the context of Phase I rules.[59] The court noted that "make-up water" is only mentioned in the Phase I rule in relation to a "closed-cycle recirculating system," in which the only water added to the system for cooling purposes is water added directly to the system to make up for water loss.[60] This use of "make-up water" is distinguished from the "make-up water" used at OGSES, which used a "once-through cooling water system."[61]

Last, the court pointed out that there was enough evidence that the Lake Limestone facility would fall short of the scope of a CWIS because the pump house and pipeline that transported the water were not physically connected to the OGSES structure.[62] Even under the EPA's definition of CWIS, the scope would fall short if the pipeline fell short of the rest of the system.[63]

RCOLOL also contended that the TCEQ used an improper baseline for evaluation under TCEQ antidegradation regulations.[64] The Antidegradation Rule was created to protect and maintain surface water quality where the water already meets or exceeds fishable/swimmable levels.[65] It uses a three-tier system to achieve its purpose.[66] Tier 1 ensures that water quality is sufficiently maintained to protect existing users; Tier 2 (at issue here) stipulates that regulated activity will not be allowed if it would cause degradation of waters that currently exceed fishable/swimmable quality unless the lowering of the water quality is necessary for important economic or social development; and Tier 3 states that waters within national or state parks must be maintained and protected.[67]

A Tier 2 analysis of a permit requires a comparison of the proposed discharge to the baseline water quality conditions to assess the potential for degradation of water quality, i.e., a comparison of the baseline water quality with the conditions that will exist once the proposed permitted activity begins.[68] If the comparison shows no change, a de minimis negative change, or a positive change in water quality, the Antidegradation Rule does not bar the permit.[69] If the rule is triggered, the activity will not be allowed unless it is shown that the reduction in water quality is necessary for important economic or social development.[70] Baselines for water quality based on water quality conditions on November 8, 1975.[71]

RCOLOL contended that the TCEQ used an improper baseline for evaluation, stating that the TCEQ used the "hypothetical water quality in Twin Oak Reservoir resulting

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59 *Id.* at *5.
60 *Id.*
61 *Id.*
62 *Id.*
63 *Id.*
64 *Id.* at *9.
65 *Id.* at *8; *see also* 30 TEX. ADMIN. CODE § 307.5 (2010) (Tex. Comm'n on Envtl. Quality Antidegredation).
66 *Robertson County*, 2014 WL 3562756, at *8; *see also* 30 TEX. ADMIN. CODE § 307.5.
67 *Robertson County*, 2014 WL 3562756, at *8.
68 *Id.*
69 *Id.*
70 *Id.*
71 *Id.*

from operation of Oak Grove as authorized without the requested amendment."[72] Instead, it should have used the quality existing in the absence of any discharge from OGSES.[73]

However, in actuality, the EPA had used the water quality of Lake Limestone as it existed in 2007.[74] The court established that it was reasonable for the TCEQ to determine this was an acceptable baseline to use for various reasons, including the inability for Lake Limestone to be contaminated by OGSES, and the fact that Twin Oak Reservoir was constructed, but not yet filled, in 2007.[75] The most important reason for allowing the use of the TCEQ's baseline was because data was not available to establish a 1975 baseline for Twin Oak Reservoir.[76]

The court left one unanswered question regarding the Antidegradation Rule: the court declined RCOLOL's request to explain whether the "de minimis exemption to Tier 2 antidegradation analysis is to be judged on the basis of the entire permitted discharge or only on so much of the discharge as is newly allowed under the proposed permit amendment."[77] This question could be at issue in future permitting challenges and litigation addressing water quality degradation by the permittee.

More mud will still have to be washed away to clear the waters of permitting requirements and terminology, but the two featured cases help to clarify some of the questions practitioners have encountered in the permitting process. *Crystal Clear* clarifies that a person may seek expedited decertification of only a portion of his property, but left less clear what constitutes "receiving water service." *Robertson County* helps to establish what requirements are needed for a facility to constitute a cooling water intake system, as well as how the baseline water quality is established under the Antidegradation Rule.

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72 *Id.* at *9.
73 *Id.*
74 *Id.*
75 *Id.*
76 *Id.*
77 *Id.* at *10.

NORTH TEXAS WATER SUPPLY AND THE MARVIN NICHOLS RESERVOIR

In May 2013, Texas' Eleventh Court of Appeals issued an opinion on the meaning of "interregional conflict" within the Texas Water Code and affirmed a 2011 district court order that declared an interregional conflict existed between the Region C and Region D Water Planning Groups.[1] Additionally, the opinion stated that the Texas Water Development Board ("TWDB") must resolve the conflict regarding Region C's plan to use the proposed Marvin Nichols Reservoir—which would be located within Region D—to help meet the needs of the region's growing population.[2] Following a failed attempt at mediation between the two regions in late 2013, the TWDB took responsibility to resolve the conflict.[3] At its August 7, 2014 meeting, the TWDB considered its Executive Administrator's final recommendation for a resolution of the conflict.[4] The Executive Administrator's report concluded that Region C should "readopt" its current (2011) plan, which includes the Marvin Nichols Reservoir, as a recommended water management strategy and that Region D should amend its current plan in acknowledgement of a resolution.[5] Citing concern that Region C's analysis of the reservoir's impacts on agricultural and natural resources within Region D was not sufficiently quantitative to meet the TWDB's rules, the Board voted 2-1 to require Region C to conduct and submit such an analysis by November 3, 2014 or be directed to remove the Marvin Nichols Reservoir from its water management plan.[6]

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1 Tex. Water Dev. Bd. v. Ward Timber, Ltd., 411 S.W.3d 554 (Tex. App.—Eastland 2013, no pet.)

2 *Id.*

3 Memorandum Report Regarding the Resolution of the Interregional Conflict between the 2011 Region C and Region D Regional Water Plans, from Kevin Patteson, Exec. Admin., Tex. Water Dev. Bd., to Board Members (May 19, 2014) at 3 [hereinafter Memorandum Report], *available at* http://www.twdb.texas.gov/board/2014/08/Board/Brd01.pdf, *archived at* http://perma.cc/PT8J-HMNH.

4 Tex. Water Dev. Bd., *Region C and the Region D Interregional Conflict: Timeline and Proposed Resolution*, [hereinafter "Timeline and Proposed Resolution"], http://www.twdb.texas.gov/home/tabs/doc/hot/RegionCandDConflict.asp, *archived at* http://perma.cc/T43U-ME4Q (last visited October 30, 2014).

5 Memorandum Report, *supra* note 3, at 1.

6 Tex. Water Dev. Bd., *An Interim Order Concerning the Interregional Conflict between the 2011 North Central Texas Regional Planning Area Regional Water Plan and the 2011 North East Texas Regional Planning Area Regional Water Plan in Accordance with Texas Water Code § 16.053* (Aug. 8, 2014) [hereinafter Interim Order] http://www.twdb.texas.gov/home/tabs/doc/hot/TWDB_Interim_Order.pdf, *archived at* http://perma.cc/C5CV-LR68; *see also* Eli Okun, *Water Board Delays Final Decision Over Marvin Nichols*, TEX. TRIBUNE (Aug. 7, 2014) http://www.texastribune.org/2014/08/07/water-board-asks-more-information-marvin-nichols/, *archived at* http://perma.cc/9A3G-K6UR.

STATE WATER PLANS

The TWDB has recognized the immense challenge the state faces in meeting its future water needs, particularly in preparing for future droughts.[7] Central to this challenge is the Dallas/Fort Worth metropolitan area, located in the heart of Region C, which, along with its surrounding counties, "[is] among the fastest growing in the state."[8] More than one-fourth of the Texas population lives within Region C, and the TWDB projects that the population will nearly double, leading to an estimated eighty-six percent increase in water demands.[9] To meet increased water demands, the TWDB has identified a need for an additional water supply of 1.588 million acre-feet per year.[10] The Marvin Nichols Reservoir would provide over twenty-nine percent of this projected need.[11]

The Marvin Nichols Reservoir has long been a recommended piece of north Texas' water management strategy.[12] State water plans have included the Marvin Nichols Reservoir as early as 1968.[13] After the state legislature amended the state's water planning process in 1997, Region D's first plan recommended Marvin Nichols Reservoir as a water supply for both Region D and Region C.[14] However, Region D would later amend its 2001 plan to remove its recommendation that the Marvin Nichols Reservoir be developed, and in its 2006 plan, Region D suggested the Marvin Nichols Reservoir should not be included in any regional plans nor the State Water Plan.[15] Region C, however, included the Marvin Nichols Reservoir in its 2006 Regional Water Plan.[16] Region D "expressed the opinion that the inclusion of the Marvin Nichols Reservoir in Region C's 2006 plan constituted an interregional conflict."[17]

The TWDB approved both regions' 2006 plans as it decided there was no interregional conflict because it found no over-allocation of a source of supply.[18] However, this did not end the dispute and, in 2007, the state legislature created a commission to review

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7 In his letter accompanying the TWDB's 2012 State Water Plan, TWDB Chairman Edward G. Vaughan wrote "[i]n serious drought conditions, Texas does not and will not have enough water to meet [its needs] . . . . The plan . . . presents the sobering news of the economic issues likely to occur if these water needs cannot be met. As the state continues to experience rapid growth and declining water supplies . . . the plan is crucial to ensure public health, safety, and welfare and economic development in the state." TEX. WATER DEV. BD., WATER FOR TEXAS 2012 STATE WATER DEVELOPMENT PLAN iii (2012), *available at* http://www.twdb.state.tx.us/publications/state_water_plan/2012/2012_SWP.pdf, *archived at* http://perma.cc/NZG3-R87P.

8 *Id.* at 44.

9 *Id.* at 46.

10 *Id.* at 47.

11 *Id.* at 48.

12 *See* Memorandum Report, *supra* note 3, at 2.

13 *Id.* (for historic state water plans, *see State Water Planning,* TEX. WATER DEV. BD., http://www.twdb.texas.gov/waterplanning/swp/, *archived at* http://perma.cc/C29R-XD6P (last visited Oct. 30, 2014).

14 Memorandum Report, *supra* note 3, at 2.

15 *Id.*

16 *Id.*

17 *Id.*

18 *Id.*

and report its findings and recommendations as to alternative water supplies for Region C.[19] The commission failed to reach a consensus as to its recommendations and, in 2011, Region C again adopted the Marvin Nichols Reservoir as a recommended water management strategy.[20] As happened with the 2006 plans, Region D again claimed there was an interregional conflict, and the TWDB approved both plans as it again found there was not an over-allocation of resources.[21]

TWDB v. Ward Timber, Ltd., 411 S.W.3d 554 (Tex. App.—Eastland 2013, No Pet.).

This time around, however, a private suit was brought that challenged the TWDB's decision that there was no interregional conflict between the Region C and Region D plans.[22] The district court declared that an interregional conflict existed between the two regional water plans, reversed the TWDB's approval of the two plans, and remanded the issue to the TWDB to resolve the conflict.[23] The TWDB appealed but, in its 2013 opinion, the appellate court affirmed the district court's rulings.[24]

During appeal, the TWDB contended that an "interregional conflict" within Chapter 16 of the Texas Water Code ("Water Code") exists only "when more than one regional water plan relies upon the same water source, so that there is not sufficient water available to fully implement both plans and would create an over-allocation of that source."[25] While the court noted that the TWDB's interpretation "is entitled to serious consideration unless the agency's construction is clearly inconsistent with legislative intent," it found the TWDB's definition to be "clearly inconsistent with legislative intent."[26] Focused on deciphering the legislature's intent behind the Water Code's provisions, the court found the TWDB must take a holistic view of water planning and potential interregional conflicts; it must consider that the long-term protection of water, agricultural, and natural resources and discrepancies to the impact on those resources between regional water plans can constitute an interregional conflict.[27] The court found that the legislature intended for water plans to be "comprehensive" and must balance

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19 Act of June 16, 2007, 80th Leg., R.S., ch. 1430, sec. 4.04, 2007 Tex. Gen. Laws 5848, 5880.

20 Memorandum Report, *supra* note 3, at 3; *see also* Study Comm'n on Region C Water Supply, Final Draft Report to the 82nd Legislature (Dec. 2010), *available at* http://www.twdb.texas.gov/waterplanning/rwp/regions/C/doc/studycommission/RegionCStudy82nd/Study_Commission_Report_Text.pdf, *archived at* http://perma.cc/9R26-8FFY.

21 Memorandum Report, *supra* note 3, at 3.

22 Tex. Water Dev. Bd. v. Ward Timber, Ltd., 411 S.W.3d 554, 556 (Tex. App.—Eastland 2013, no pet.).

23 *Id.* (noting that under Tex. Water Code § 16.053(h)(7)(A), the TWDB may not approve a regional water plan until it has determined that "all interregional conflicts involving that regional water planning area have been resolved.").

24 *Id.* at 556-57.

25 *Id.* at 574. The TWDB's argument hinged on the fact that the legislature did not define "interregional conflict" in Chapter 16 of the Water Code. The TWDB had thus formulated the above definition and placed it in 31 Tex. Admin. Code § 357.10(15).

26 *Ward Timber, Ltd.*, 411 S.W.3d. at 574 (citing Tex. Water Comm'n v. Brushy Creek Mun. Util. Dist., 917 S.W. 2d 19, 21 (Tex. 1996)).

27 *Id.* at 571.

water management strategies "against their impacts on agricultural, economic, and natural resources."[28] The court found it troubling the TWDB would not consider that the impact of the proposed reservoir could constitute an interregional conflict.[29]

To bolster its decision, the court looked at the TWDB's own rules.[30] The court found regional water plans need to consider "threats to agricultural and natural resources and how those threats will be addressed or affected by the water management strategies evaluated in the plan.[31] Regions are required to consider effects on wildlife habitat, agricultural resources, and the economics of moving water, among other considerations.[32] Further, regional water plans must consider "third-party social and economic impacts resulting from voluntary redistribution of water."[33] To summarize its determination of the meaning of "interregional conflict," the court wrote "the plain language of the statutes and accompanying regulations indicate that an emphasis should be placed on balancing water uses and supply and their effect on agricultural and other economic resources."[34]

In determining an interregional conflict existed between Region C and Region D within the court's interpretation of the Water Code, the court focused on Region D's plan and its assertions that the Marvin Nichols Reservoir had negative impacts on agricultural and economic resources within Region D.[35] The Region D water plan's section on the negative impacts of the Marvin Nichols Reservoir created a "preliminary case that there is a substantial, interregional conflict with Region C's plan, and that should be sufficient for the Board to require the two regional planning groups to attempt to resolve that conflict."[36]

After the *Ward Timber* decision, the TWDB initiated a mediation process between the two regions.[37] In December of 2013, the mediator reported that the parties failed to agree to a resolution of the conflict.[38] The burden shifted to the TWDB to resolve the conflict, leading to the recent recommendation of the TWDB's Executive Administrator, discussed below.[39]

TWDB EXECUTIVE ADMINISTRATOR'S RESOLUTION REPORT

Identifying Region D's primary concerns as the reservoir's potential socioeconomic, environmental, and private property impacts, the Executive Administrator set out to

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28 The court focused on the language of TEX. WATER CODE § 16.053(h)(7), which, along with providing the previously cited definition of an "interregional conflict," provides that the TWDB may approve a regional water plan only after it determined that "the plan is consistent with long-term protection of the state's water resources, agricultural resources, and natural resources . . . ." *See Ward Timber, Ltd.*, 411 S.W.3d. at 570.

29 *Id.* at 573.

30 *Id.* at 572.

31 *Id.* (citing 31 TEX. ADMIN. CODE § 357.30(12) (2012)).

32 *Id.* (citing 31 TEX. ADMIN. CODE § 357.34 (2012)).

33 *Id.* at 572 (citing 31 TEX. ADMIN. CODE § 357.40 (2012)).

34 *Id.* at 573.

35 *Id.* at 575.

36 *Id.*

37 Memorandum Report, *supra* note 3, at 3.

38 *Id.*

39 *Id.*

identify and resolve any conflict.[40] While acknowledging that the court of appeals discussed resolution of interregional conflict and long-term protection of the state's resources together, the Executive Administrator's report stated the two are "in fact, two different determinations as set out in the statute. A dispute between regions on protection of . . . resources, or on conservation . . . does not necessarily equate to an interregional conflict over allocation of resources among strategies."[41] The report also acknowledged that the court questioned the sufficiency of the TWDB's definition that an interregional conflict exists when there is over-allocation of resources across multiple regional water plans.[42] Noting the court did not offer an alternative definition, the report decided to continue to operate under the TWDB's definition.[43] The Executive Administrator reasoned that, at the planning stage, regions should identify social, economic, agricultural, and various third-party impacts and that this identification should be enough to fulfill TWDB's planning rules.[44] The report acknowledges that the TWDB must ensure water plans include water conservation practices, drought management measures, and the aforementioned long-term protection of water, agricultural, and natural resources; but again, the report separates these from its resolution of "interregional conflict."[45]

The Executive Administrator considered three options: (1) a smaller reservoir, (2) removal of the Marvin Nichols Reservoir from the current planning cycle, and (3) retaining the Marvin Nichols Reservoir as a recommended strategy in the 2011 Region C water plan.[46]

Selected Option

The report ultimately chose the third option—retain the Marvin Nichols Reservoir in the 2011 Region C Water Plan.[47] The report reasoned that removing the Marvin Nichols Reservoir entirely would leave a "substantial unmet need" in Region C and noted that, while removal would resolve the conflict for the time being, the water plan is merely a plan, not a final decision to build the reservoir, and should not be struck because of "uncertainties 15, 20, and even 40 years in the future."[48] The report reasoned that reducing the size and footprint of the reservoir would, in effect, result in the TWDB "interjecting" itself into the engineering of the reservoir, something the Executive Administrator found unprecedented and would result in a change and "shift away from the planning process as locally driven."[49] Further, it would leave a gap between needs and

40 *Id.*
41 *Id.* at 4.
42 *Id.* at 4-5.
43 *Id.* at 5 (reasoning that the TWDB definition was consistent with the Water Code and recognizing that the legislature intended the TWDB decide "actual" conflicts and "not general objections . . . reserved for other agencies other than the TWDB if and when permit applications are filed.").
44 *Id.*
45 *Id.*
46 *Id.* at 6-7.
47 *Id.* at 7.
48 *Id.* at 6-7.
49 *Id.* at 6.

supply and require Region C to find alternative sources of water.[50] The report expressed a general concern of the socioeconomic impacts of a failure to meet water needs.[51] The Executive Administrator also addressed concerns of property owners where Marvin Nichols Reservoir may be located, acknowledging their concerns as "justifiable," but simply stated that they would be provided just and fair compensation although that determination is not the report's to evaluate.[52]

In August 2014, the TWDB officially considered the Executive Administrator's recommendation that the Marvin Nichols Reservoir be left in the Region C water plan following several public hearings and a public comment period.[53] The TWDB decided Region C needed to conduct and submit a more quantitative analysis of the agricultural and natural resource impacts of the Marvin Nichols Reservoir by November 3, 2014, or the Marvin Nichols Reservoir would be removed from Region C's plan without prejudice.[54] Region C submitted its analysis on October 29, 2014.[55] Region D's and the Executive Administrator's responses were filed in mid-December.

On January 8, 2015, the TWDB voted to resolve the conflict. By a 3-0 vote, the TWDB decided to retain the Marvin Nichols Reservoir in the Region C plan.[56]

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50 *Id.*

51 *Id.* at 7 (stating, "The TWDB, therefore, generally will not approve a regional water plan that contained unmet needs.").

52 *Id.* at 8.

53 Timeline and Proposed Resolution, *supra* note 4.

54 Interim Order, *supra* note 6.

55 Freese & Nichols, Inc., *Analysis and Quantification of the Impacts of the Marvin Nichols Reservoir Water Management Strategy on the Agricultural and Natural Resources of Region D and the State*, Prepared for the Region C Water Planning Group for Submittal to the Texas Water Development Board (Oct. 2014), *available at* https://www.twdb.state.tx.us/home/tabs/doc/hot/Quantitative_Analysis_of_Marvin_Nichols_Reservoir.pdf, *archived at* http://perma.cc/M8Y2-3V2G.

56 Tex. Water Dev. Bd., *TWDB Votes on the Interregional Conflict between Region C and Region D* (Jan. 8, 2015), *available at*: www.twdb.texas.gov/newsmedia/press_releases/2015/01/regionc_regiond.asp.

ENTERING PHASE II: DETAILS OF COMPLIANCE WITH THE GREEN COMPLETIONS REQUIREMENT

The Environmental Protection Agency (EPA) published a series of New Source Performance Standards (NSPS) affecting upstream oil and gas operations, effective October 15, 2012.[1] One aspect of this rule governed well completions, defined as "the process that allows for the flowback of petroleum or natural gas from newly drilled wells to expel drilling and reservoir fluids and tests the reservoir flow characteristics . . . ."[2] The final rule allowed for flaring during well completions up until January 1, 2015.[3] As of January 1, 2015, reduced emissions completions (RECs), or green completions, will be required for most wells.[4] This Development discusses the wells that must perform green completions, what a green completion will entail, and the documentation that operators must maintain and submit to the EPA.

AFFECTED WELLS

Gas wells are subject to the final rule; oil wells are not.[5] A well's classification as either an oil or gas well seems to hinge on the operator's intent.[6] Previously proposed definitions based the determination on "the principal production . . . at the mouth of the well."[7] The language was changed to "well drilled principally for the production of . . . ."[8] The revision reflects the EPA's recognition that "operators plan their operations to extract a target product," which may or may not make up the bulk of the hydrocarbon produced.[9]

The EPA has not addressed whether wells drilled primarily for condensate are considered natural gas wells, crude oil wells, or neither. However, the EPA considers both condensate and crude oil among the "recovered liquids" that should be separated from natural gas after flowback, suggesting that it would consider crude oil and condensate a single category.[10]

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1 40 C.F.R. Part 60 (2012).
2 *Id.* § 60.5430.
3 *Id.* § 60.5375(a).
4 *Id.*
5 *Id.* § 60.5430; *see also id.* § 60.5375(a); Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,514, 49,516 (Aug. 16, 2012) (codified at 50 C.F.R. pts. 60, 63).
6 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. at 49,516.
7 *Id.*
8 *Id.*
9 *Id.*
10 Letter from Peter Tsirigotis, Dir., Sector Policies & Programs Div., U.S. Envtl. Prot. Agency, to Matthew Todd, Regulatory & Sci. Affairs, Am. Petrol. Inst. (Sept. 28, 2012), at 2, *available at* http://www.epa.gov/airquality/oilandgas/pdfs/20120725apiletter.pdf, *archived at* http://perma.cc/GQ47-R8EE.

Wildcat and delineation wells will not be required to perform green completions.[11] A wildcat well is defined as "a well outside known fields or the first well drilled in an oil or gas field where no other oil and gas production exists."[12] A delineation well is defined as "a well drilled in order to determine the boundary of a field or producing reservoir."[13]

Low-pressure wells are also exempt from performing green completions.[14] To determine whether a well qualifies as a low-pressure well, the following formula should be used, with R representing reservoir pressure (in pounds per square inch absolute), D representing depth in feet, and F representing flow line pressure at the sales meter:[15]

$$0.445R - 0.038D - 67.578 < F$$

Wildcat, delineation, and low-pressure wells will still be required to flare unless there is some compelling reason they cannot.[16] These wells are also subject to applicable reporting and recording requirements.[17]

The provision requiring green completions applies "[f]or the duration of flowback."[18] Flowback is defined as beginning "immediately following hydraulic fracturing," which naturally limits the application to hydraulically fractured wells.[19] Thus, the EPA has clarified that "the NSPS does not apply" to wells where no hydraulic fracturing occurs, such as when a well log indicates that an appraisal well would not produce enough to justify the cost of hydraulic fracturing.[20] Processes that may cause small emissions *during* hydraulic fracturing, such as attempts to clear proppant from a plugged wellbore, are also not subject to the requirement.[21]

PERFORMING THE COMPLETION

Flowback is the "process of allowing fluids to flow from a natural gas well following a treatment, either in preparation for a subsequent phase of treatment or in preparation for cleanup and returning the well to production."[22] The composition of the effluent shifts during flowback, with liquids decreasing and gas increasing over time.[23]

The final rule requires that "all salable gas must be routed to a gas flow line as soon as practicable."[24] Gas is considered to be of salable quality if it meets the specifications of the purchaser.[25] Perhaps anticipating that such a flexible standard could potentially lead

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11 40 C.F.R. § 60.5375(f)(1)(i).
12 *Id.* § 60.5430.
13 *Id.*
14 *Id.* § 60.5375(f)(1)(ii).
15 *Id.* § 60.5430.
16 *Id.* §§ 60.5375(a)(3), 60.5375(f)(2)
17 *Id.* § 60.5375(f)(1)(i)-(ii); *see also id.* § 60.5420(c)(1)(iii)(B).
18 *Id.* § 60.5375(a)(1).
19 *Id.* § 60.5430.
20 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,514, 49,515 (Aug. 16, 2012) (codified at 50 C.F.R. pts. 60, 63).
21 Tsirigotis, *supra* note 10, at 4 (emphasis added).
22 40 C.F.R. § 60.5430.
23 Tsirigotis, *supra* note 10, at 2.
24 40 C.F.R. § 60.5375(a)(2).
25 *Id.* § 60.5430.

to collusive skirting of the rule, the EPA requires that the operator re-inject or use non-salable gas.[26]

The EPA has clarified that routing is considered "practicable" once the amount of gas is of sufficient volume to operate a separator.[27] This creates some ambiguity because different types of separators have different capacities.[28] The EPA backed off from an earlier draft of the rule that attempted to prescribe specific equipment and refused to develop a Best Management Practice plan, instead leaving the selection of equipment to operator discretion.[29]

There are a few exemptions that allow for flaring of gas that cannot be routed. The final rule exempts operators from routing gas in the absence of an available flow line.[30] The rule's general duty provision would apply, which requires the operator to minimize releases to the atmosphere.[31] In light of the EPA's strong admonition that operators "evaluate whether the appropriate infrastructure access is available" and "exercise due diligence in coordinating the completion event with availability of a flow line," an operator may have to arrange for flow line access prior to completion to fulfill its requirements under the general duty provision.[32] The EPA's comment that it would allow for flaring in such "isolated cases" seems to suggest that it expects the lack of flow line access to be rare and primarily due to unforeseen issues.[33]

The EPA has clarified its understanding that operators that fracture using inert gases such as carbon dioxide or nitrogen "cannot route the flowback gas to a collection system because of poor gas quality."[34] In other words, the gaseous flowback would not be considered "salable gas" as defined by the final rule.[35]

The EPA has generally been dismissive of industry comments that there may be a shortage of REC equipment.[36] The EPA has pointed to the phasing-in period as ample time to allow for manufacturers to meet the increased demand and has pointed out that REC units could potentially be used more frequently.[37] Thus, it seems unlikely that the EPA would consider a lack of REC equipment ample reason to claim a green completion

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26 *Id.* § 60.5375(a)(1).

27 Tsirigotis, *supra* note 10, at 2.

28 *See, e.g.*, A. Efendioglu, J. Mendez & H. Turkoglu, *The Numerical Analysis of the Flow and Separation Efficiency of a Two-Phase Horizontal Oil-Gas Separator with an Inlet Diverter and Perforated Plates*, *in* ADVANCES IN FLUID MECHANICS X 133, 135 (C.A. Brebbia, S. Hernandez, and M. Rahman eds., 2014).

29 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. 49,514, 49,517 (Aug. 16, 2012) (codified at 50 C.F.R. pts. 60, 63).

30 40 C.F.R. § 60.5375(a)(2).

31 *Id.* § 60.5375(a)(4).

32 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. at 49,517.

33 *Id.*

34 *Id.*

35 40 C.F.R. § 60.5430.

36 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 77 Fed. Reg. at 49,517-18.

37 *Id.* at 49,518.

is "infeasible" under the final rule.[38] Operators may develop joint operating agreements that would arrange for the sharing of REC units or may "farmout" the initial completion as a way of making up for REC unit shortfalls.[39]

DOCUMENTATION

If an operator is subject to a state regulation requiring advance notice of a well completion, fulfilling that notice requirement satisfies the notice requirement of the final rule.[40] Otherwise, an operator must submit written or electronic notification to the EPA at least two days prior to starting the completion, containing the operator's contact information, the American Petroleum Institute (API) well number, the coordinates of the well to five decimal places, and the planned date for flowback.[41]

The initial annual report is due no later than ninety days after the end of the initial compliance period.[42] The initial compliance period starts either on the date of publication (October 12, 2012) or on the date of startup, and ends no more than one year later.[43] Subsequent annual reports are due by the same date each year thereafter.[44] Provided that all necessary information is included, reports for multiple affected facilities and Title V reports can be consolidated and sent together.[45]

All reports must include the company name, the address of the affected facility, identification of each facility included in the report, the beginning and ending dates of the reporting period, and a certification by a responsible official that, "based on information and belief formed after a reasonable inquiry, the statements and information in the document are true, accurate, and complete."[46] Reports regarding gas wells must include either a series of written records or digital photograph records.[47] In either case, the records must identify any deviations from the completion requirements of 40 C.F.R. § 60.5375.[48] The records must include exempted wildcat, delineation, and low-pressure wells.[49] The operator must maintain the records for at least five years, either onsite or at the nearest local field office.[50]

An operator that opts to maintain a series of written records must identify each well completion at each affected gas well.[51] The operator must maintain a log, updated daily,

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38 40 C.F.R. § 60.5375(a)(1).

39 A farmout agreement temporarily assigns an oil and gas lessee's right and obligation to drill to another operator. Jane Massey Draper, Annotation, *Oil and Gas Farmout Agreements*, 65 A.L.R. 5th 211 (1999). Farmout agreements tend to become more prevalent in reaction to increased drilling costs. Kendor P. Jones, *Something Old, Something New: The Evolving Farmout Agreement*, 2010 No. 2 ROCKY MTN. MIN. L. INST. Paper No. 7 (2010).

40 40 C.F.R. § 60.5420(a)(2)(ii).

41 *Id.* § 60.5420(a)(2)(i).

42 *Id.* § 60.5420(b); *see also id.* § 60.5410.

43 *Id.* § 60.5410.

44 *Id.* § 60.5420(b).

45 *Id.*

46 *Id.* § 60.5420(b)(1)(i)-(iv).

47 *Id.* § 60.5410(a)(4); *see also id.* §§ 60.5420(b)(2)(i), 60.5420(c)(1)(v).

48 *Id.* § 60.5420(b)(2)(ii); *see also id.* § 60.5420(c)(1)(ii).

49 *Id.* § 60.5375(f)(1)(i)-(ii); *see also id.* § 60.5420(c)(1)(iii)(B).

50 *Id.* § 60.5420(c).

51 *Id.* § 60.5420(c)(1)(i).

for each gas well completion.[52] The log must include the well location, API well number, and (as applicable) the duration in hours of flowback, routing to a flow line, flaring, and venting.[53] If venting is performed, a specific reason must be cited.[54] Acceptable reasons to vent instead of flaring include risks of fire or explosion; potential negative impact to tundra, permafrost, or waterways; and state or local regulations that prohibit flaring.[55]

An operator that opts to maintain digital photograph records must include a list of the hydraulically fractured well completions done during the reporting period.[56] The photographs should be of all equipment used during completion for the storage, reinjection, routing, or flaring of the gas in the flowback, and must be dated.[57] The coordinates of the well must be embedded in the photograph or included in the shot as the clearly visible output of a Geographic Information System device.[58] The coordinates can be set back from the actual well for safety's sake, as long as the well can be sufficiently identified.[59]

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52 *Id.* § 60.5420(c)(1)(iii); *see also id.* § 60.5375(b).
53 *Id.* § 60.5420(c)(1)(iii)(A).
54 *Id.*
55 *Id.* § 60.5375(a)(3); *see also id.* § 60.5375(f)(2); Tsirigotis, *supra* note 10, at 4.
56 40 C.F.R. § 60.5420(b)(2)(i).
57 *Id.* § 60.5410(a)(4).
58 *Id.*
59 Tsirigotis, *supra* note 10, at 3.

IN RE DEEPWATER HORIZON, 753 F.3D 570 (5TH CIR. 2014)

INTRODUCTION AND OVERVIEW

On June 4, 2014, the Fifth Circuit affirmed a partial grant of summary judgment in favor of the federal government's enforcement action against British Petroleum (BP) and Anadarko Petroleum Corporation ("Anadarko") (together, "Appellants") for violations of the Clean Water Act (CWA) associated with the Deepwater Horizon oil spill.[1] At issue on appeal was whether the oil well owned by Appellants was a "facility 'from which' the harmful quantity of oil was discharged."[2] The court rejected Appellants' argument that liability should attach to Transocean (owner of the riser from which oil actually exited into the water), deeming it "immaterial that the oil flowed through parts of the vessel before entering the Gulf."[3] Instead, the critical juncture in the eyes of the court was the point at which "controlled confinement [was] lost," and Appellants were therefore subject to the civil penalties mandated under 33 U.S.C. § 1321(b)(7)(A) because controlled confinement was lost in the well itself.[4]

BACKGROUND AND PROCEDURAL HISTORY

The Deepwater Horizon was a mobile drilling vessel owned and operated by Transocean.[5] Appellants employed the vessel to conduct drilling operations at the Macondo Well, an exploratory oil well they co-owned.[6] On April 20, 2010, the Deepwater Horizon was preparing to depart the Macondo site as part of the well's shift from development into production, and prior to departure, the well was lined and sealed with cement to prevent the release of gas and oil.[7] Thereafter followed a series of mishaps, beginning with the failure of the cement seal, and culminating with the failure of the Deepwater's blowout preventer.[8] The result of these failures was a rush of oil and gas from beneath the sea floor to the deck of the Deepwater Horizon.[9] The subsequent explosions and severing of the riser led to the well-documented Gulf oil spill of 2010.[10]

After the incident, the federal government filed an action "seeking civil penalties under section 311 of the Clean Water Act, which mandates the assessment of fines on the owners or operators of vessels and facilities 'from which oil or other hazardous substances are discharged.'"[11] The failure of the cement seal, discharge of oil into the Gulf

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1 In re Deepwater Horizon, 753 F.3d 570 (5th Cir. 2014).
2 *Id.* at 573.
3 *Id.*
4 *Id.* at 573, 575; *see also* 33 U.S.C. § 1321(b)(7)(A) (2006) (focusing on civil penalty action of oil and hazardous substance discharge).
5 *Deepwater Horizon*, 753 F.3d at 571.
6 *Id.*
7 *Id.*
8 *Id.*
9 *Id.*
10 *Id.*
11 *Id.*; *see also* 33 U.S.C. § 1321(b)(7)(A).

of Mexico, and Appellants' ownership of the well were all uncontested, leaving only the issue of whether the well was an "offshore facility from which oil or a hazardous substance [was] discharged . . . ."[12] The district court granted the government's motion for summary judgment, holding that "discharge is the point where uncontrolled movement begins," and Appellants were therefore liable as it was in their well that control was lost.[13] BP and Anadarko appealed, claiming a factual dispute existed as to whether the well was "a facility from which the harmful quantity of oil was discharged."[14]

SECTION 311 OF THE CLEAN WATER ACT - 33 U.S.C. § 1321

The government brought this particular action under section 311 of the CWA.[15] Section 311 prohibits the "discharge of oil or hazardous substances . . . into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone . . . in such quantities as may be harmful."[16] The section further stipulates that "[a]ny person who is the owner, operator, or person in charge of any vessel, onshore facility, or offshore facility from which oil or a hazardous substance is discharged in violation of [33 U.S.C. § 1321(b)(3)] shall be subject to a civil penalty . . . ."[17] The precise dollar amount to be paid as a penalty is specified in the Code of Federal Regulations.[18]

The definition of "discharge" proved to be a key issue in *Deepwater Horizon*. Section 311 does not precisely define the term, but does provide a non-exhaustive list of examples illustrating what might constitute a "discharge," including "spilling, leaking, pumping, pouring, emitting, emptying or dumping."[19] This list turned out to be one of the Fifth Circuit's primary tools as it contemplated who would foot the bill for the CWA violations at stake in *Deepwater Horizon*.[20]

DEFINING "DISCHARGE"

Applying the familiar *de novo* standard for summary judgment review, the court faced a single question on appeal: was it beyond factual dispute that the well was "a facility from which the harmful quantity of oil was discharged?"[21] As a threshold matter, the court set about defining the term "discharge."[22] Noting that the list of examples provided by section 311 each denoted "the loss of controlled confinement" and that the ordinary use of discharge refers to a fluid "flowing out from where it has been confined," the court

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12 *Deepwater Horizon*, 753 F.3d at 571; *see also* 33 U.S.C. § 1321(b)(7)(A).
13 *Deepwater Horizon*, 753 F.3d at 571 (citing In re Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010, 844 F. Supp. 2d 746, 758 (E.D. La. 2012)).
14 *Deepwater Horizon*, 753 F.3d at 572.
15 *Id.* at 571; *see* 33 U.S.C. § 1321.
16 33 U.S.C. § 1321(b)(3).
17 *Id.* § 1321(b)(7)(A).
18 *Deepwater Horizon*, 753 F.3d at 573; *see also* 33 C.F.R. § 27.3 (2006).
19 *Deepwater Horizon*, 753 F.3d at 573 (citing 33 U.S.C. § 1321(a)(2)).
20 *Id.* at 575.
21 *Id.* at 573.
22 *Id.*

determined that "a vessel or facility is a point from which oil or a hazardous substance is discharged if it is a point at which controlled confinement is lost."[23]

Appellants' argument on appeal was that discharge "is the point at which oil enters the marine environment" and that the term denotes "direct or immediate release into water."[24] The court brushed this argument aside, stating "it seems well settled that the section proscribes any discharge of oil that ultimately flows 'into or upon . . . navigable waters,' irrespective of the path traversed by the discharged oil."[25] This position was corroborated by a string of cases in which oil had flowed on or through a third party's property before entering the navigable waters of the U.S., including *Pepperell Associates v. U.S. Environmental Protection Agency* and *In re D&L Energy, Inc.*[26] In *Pepperrell*, a factory's discharge flowed through a third party's conduit before reaching water, but the factory owner was still held liable.[27] In the case *In re D&L Energy, Inc.*, a drilling site's owner was liable for discharge even though the oil flowed through a storm drain and a tributary stream before entering navigable waters.[28] With its "loss of controlled confinement" test buttressed by these precedents, the court asserted flatly that Appellants' liability was "thus unaffected by the fact that the oil traversed part of Transocean's vessel before entering the Gulf of Mexico."[29]

Transocean's Liability

Having established that Appellants were liable despite the fact that the oil exited into the Gulf of Mexico through Transocean's equipment, the court next addressed Transocean's culpability.[30] Appellants' argument that Transocean should bear responsibility for the discharge was not entirely without merit.[31] Had the Deepwater Horizon's blowout preventer functioned correctly, the spill would not have occurred.[32]

The court was able to reconcile its holding on these facts by turning to constructions of section 311 used by other circuit courts.[33] Citing a Seventh Circuit case, the court saw it as "well established that this section of the Clean Water Act leaves no room for civil-penalty defendants to shift liability via allegations of third-party fault."[34] Prior opinions by the Fifth Circuit describe section 311 as "an absolute liability system with limited exceptions, which are to be narrowly construed."[35] In short, Transocean bore some culpability for the spill, but the failure of the blowout preventer did not exempt Appellants

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23 *Id.* at 573 n.7. 574.
24 *Id.* at 573 n.8.
25 *Id.* at 574; *see also* 33 U.S.C. § 1321(b)(3).
26 *Deepwater Horizon*, 753 F.3d at 574 (citing Pepperell Assocs. v. U.S. Envtl. Prot. Agency, 246 F.3d 15 (1st Cir. 2001) and In re D&L Energy, Inc., W-W-13 C-006 (EPA ALJ Feb. 27, 2013)).
27 *Id.* (citing *Pepperrell*, 246 F.3d at 20).
28 *Id.* (citing *In re D&L Energy, Inc.*, W-W-13 C-006 at 8).
29 *Id.*
30 *Id.*
31 *Id.*
32 *Id.*
33 *Id.*
34 *Id.* at 574-75 (citing United States v. Tex–Tow, Inc., 589 F.2d 1310, 1314 (7th Cir. 1978)).
35 *Id.* at 575 (quoting United States v. W. of England Ship Owner's Mut. Prot. & Indem. Ass'n, 872 F.2d 1192, 1196 (5th Cir.1989)).

from liability.[36] It is worth noting, however, that the court seemed to hint to consideration of third party fault in the calculation of penalties.[37]

CONCLUSION

Deepwater Horizon provides a more concrete definition of what it means to "discharge" something for purposes of section 311 of the CWA, with the touchstone being "the loss of controlled confinement."[38] Applying the controlled confinement test here, liability for violations of the CWA fell at the feet of BP and Anadarko rather than Transocean.[39] The argument that Transocean actually discharged the oil into the gulf made some logical sense, as the oil indisputably entered the Gulf of Mexico through their pipe.[40] As clever as this argument might seem to a party in Appellants' situation, though, the court disarmed it fairly quickly and convincingly through its construction of "discharge."[41] As a result, the holding in *Deepwater Horizon* seems to preclude liability for failures subsequent to the loss of controlled confinement, even when those failures occur in safety measures designed for precisely that scenario; i.e. a blowout preventer. Whether liability will attach due to blowout preventer failure alone seems unlikely, as one will only be needed after controlled confinement has been lost.

The decision also seems to foreclose the possibility of shifting liability to a partially culpable third party, adding another to the list of cases that deem this practice impermissible and construe section 311 as an "absolute liability system."[42] The possibility of mitigating the penalty still exists, but there does not seem to be any indication that the Fifth Circuit will retreat from its current reading of section 311. From an ex-ante perspective, the decision, at the very least, provides offshore producers and developers with a simple edict: if you lose controlled confinement, you will be solely responsible for paying the civil penalties mandated by section 311.

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36 *Id.*
37 *Id.*
38 *Id.*
39 *Id.* at 574.
40 *Id.* at 571.
41 *See id.* at 573-574.
42 *Id.* at 575.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY V. BONSER-LAIN, 438 S.W.3D 887 (TEX. APP.— AUSTIN, NO PET.)

The Third Court of Appeals recently held that the Texas Commission on Environmental Quality's (TCEQ) denial of a petition for rulemaking is not subject to judicial review.[1] The court vacated the district court's judgment and rendered judgment, dismissing the case for lack of subject-matter jurisdiction.[2]

Appellees, a group of environmentalists, filed a petition in district court, citing Texas Water Code section 5.351, and requested judicial review of a TCEQ decision to refuse to promulgate "rules aimed at limiting the greenhouse-gas emissions from fossil fuels in Texas."[3] In a plea to the jurisdiction, the TCEQ responded that sovereign immunity barred the suit and that section 5.351 did not waive sovereign immunity for challenges to denied petitions for rulemaking.[4] The district court denied the TCEQ's plea to the jurisdiction, but upheld the TCEQ's denial of the petition on the alternative grounds provided by the TCEQ for denying the petition.[5] The TCEQ appealed, arguing that no right to judicial review exists for orders denying petitions for rulemaking.[6]

The court of appeals identified two ways in which subject-matter jurisdiction was implicated in the case: (1) as a potential bar to the district court's entry of jurisdiction, and (2) as to TCEQ's standing to bring the appeal because the lower judgment affirmed TCEQ's decision.[7] The court considered the second issue first.[8] It observed that Texas courts have held that "a party who obtains a favorable judgment . . . may not appeal that judgment merely for the purpose of striking findings and conclusions with which it does not agree."[9]

However, there is an exception to that rule where conclusions would estop claims in a subsequent proceeding.[10] The court of appeals found that the district court's rejection of the TCEQ's plea to the jurisdiction amounted to a conclusion "that [S]ection 5.351 of the Texas Water Code operated as a waiver of sovereign immunity."[11] Because the TCEQ could be precluded from relitigating that question, its interests were prejudiced by

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1 Tex. Comm'n on Evtl. Quality v. Bonser-Lain, 438 S.W.3d 887, 895 (Tex. App.—Austin 2014, no pet.).
2 *Id.*
3 *Id.* at 890; *see also* TEX. WATER CODE ANN. § 5.351 (West 1985).
4 *Bonser-Lain*, 438 S.W.3d at 890.
5 *Id.*
6 *Id.*
7 *Id.* at 891.
8 *Id.* at 892.
9 *Id.* (citing Champlin Exploration, Inc. v. R.R. Comm'n of Tex., 627 S.W.2d 250, 251 (Tex. App.—Austin 1982, writ ref'd n.r.e.)).
10 *Id.* (citing *Champlin Exploration*, 627 S.W.2d at 251).
11 *Id.*

the district court's judgment.[12] The court of appeals therefore ruled that it had appellate jurisdiction in this case.[13]

The court of appeals then undertook a *de novo* review of the TCEQ's challenge to the district court's subject-matter jurisdiction.[14] The TCEQ's plea to the jurisdiction was founded on its immunity from suit.[15] The court of appeals found that the Texas Administrative Procedures Act (APA) is silent concerning an entitlement to judicial review when an agency denies a petition for rulemaking.[16] This silence led the court of appeals to conclude "that the APA does not provide a right to judicial review of an agency's refusal to adopt rules."[17]

The court of appeals then reviewed the Appellees' contention that section 5.351 of the Texas Water Code authorizes "judicial review of a denial of a petition for rulemaking."[18] The court of appeals identified many cases that have limited judicial review under section 5.351 to appeals of final agency orders.[19]

Specifically, the court of appeals looked to *Hooks v. Texas Department of Water Resources*, in which the Texas Supreme Court concluded that section 5.351 "should be read in conjunction and harmony with the judicial-review provisions of the APA."[20] Given the foregoing, the court of appeals concluded that "the clear absence of a right to judicial review under the APA" means "section 5.351 of the Water Code does not provide a right to judicial review of a petition for rulemaking."[21]

HOUSTON UNLIMITED, INC. METAL PROCESSING V. MEL ACRES RANCH, NO. 13-0084, 2014 WL 4116810 (TEX. AUG. 22, 2014)

In *Houston Unlimited, Inc. v. Mel Acres Ranch*, the Texas Supreme Court declined to recognize a legal right to recover stigma damages for contamination of real estate because a landowner's evidence of diminished market value was not legally sufficient to support a jury award of damages.[22] The Supreme Court reversed and rendered a take-nothing judgment in Houston Unlimited, Inc.'s ("Houston Unlimited") favor.[23]

This case arose as a result of contamination released by Houston Unlimited's metal processing facility onto the ranchland of the neighboring Mel Acres Ranch ("Mel

12 *Id.* (citing RESTATEMENT (SECOND) OF JUDGMENTS § 27 (1982)).
13 *Id.*
14 *Id.* at 892-93.
15 *Id.* at 893.
16 *Id.* at 894.
17 *Id.*
18 *Id.*
19 *Id.* (citing City of Austin v. Tex. Comm'n on Envtl. Quality, 303 S.W.3d 379, 385 (Tex. App.—Austin 2009, no pet)).
20 *Id.* at 894-95 (quoting Hooks v. Tex. Dep't of Water Res., 611 S.W.2d 417,419 (Tex. 1981)).
21 *Id.* at 895.
22 Hous. Unlimited, Inc. Metal Processing v. Mel Acres Ranch, No. 13-0084, 2014 WL 4116810 (Tex. Aug. 22, 2014).
23 *Id.* at *16.

Acres").[24] Houston Unlimited's discharge allegedly resulted in contamination of Mel Acre's soil and stock tank.[25] Mel Acres filed a complaint with the TCEQ, which conducted its own tests and ordered Houston Unlimited to initiate cleanup activities.[26] Houston Unlimited undertook efforts to prevent further discharges and hired a consultant to perform an assessment of the Mel Acres property.[27] Mel Acres hired its own consultant, who opined that Houston Unlimited's conduct diminished the ranch's future use.[28] Mel Acres brought suit for nuisance, trespass, and negligence and sought damages as "a loss of the fair market value of the entire 155-acre ranch," instead of remediation costs.[29] The jury found that Houston Unlimited had not committed a permanent trespass or permanent nuisance, but found that Houston Unlimited was negligent and "caused the ranch to lose $349,312.50 of its market value;" the trial court entered judgment on the verdict, which was affirmed by the Fourteenth Court of Appeals.[30]

On appeal, the Texas Supreme Court addressed stigma damages, which represent "the market's perception of the decrease in property value caused by the injury to the property."[31] The Court observed that Texas courts have "never directly addressed the recoverability of stigma damages."[32] Further, the Court found that case authorities permit landowners to recover lost value if the injury to land is permanent, or alternatively, the cost to repair or remediate if the injury to land is temporary.[33] In *Schneider National Carriers, Inc. v. Bates* and *Kraft v. Langford*, the Texas Supreme Court found that such remedies are "mutually exclusive," meaning a landowner cannot recover for both lost of value and cost of repair.[34]

The Texas Supreme Court acknowledged, however, that it has allowed owners to "recover 'an award of diminished value . . . in addition to the costs of repair'" where a permanent reduction in value accounts for "'that reduction occurring even after repairs are made.'"[35] The Court then proceeded with an analysis of Mel Acres' expert testimony, presented by appraiser Kathy McKinney, to determine whether the jury's award was supported by competent evidence and opinions.[36] McKinney used the "comparable sales" approach to determine the ranch's unimpaired value.[37] The Texas Supreme Court found McKinney correctly applied this approach to determine the unimpaired value of

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24 *Id.* at *1-2.
25 *Id.*
26 *Id.* at *1.
27 *Id.* at *2.
28 *Id.*
29 *Id.*
30 *Id.*
31 *Id.* at *3 (quoting Jennifer L. Young, *Stigma Damages: Defining the Appropriate Balance Between Full Compensation and Reasonable Certainty*, 52 S.C. L. REV. 409, 424 (2001)).
32 *Id.*
33 *Id.* at *4.
34 *Id.* (citing Schneider Nat'l Carriers, Inc. v. Bates, 147 S.W.3d 264, 276 (Tex. 2004); Kraft v. Langford, 565 S.W.2d 223, 227 (Tex. 1978)).
35 *Id.* (quoting Ludt v. McCollum, 762 S.W.2d 575, 576 (Tex. 1988)).
36 *Id.* at *5.
37 *Id.* at *8.

the ranch, but she did not properly apply this method to determine the ranch's impaired market value.[38]

To determine the impaired value of the ranch, McKinney located two other properties impaired by potential contamination, determined the percentage decrease in market value of each property, and arrived at a 60% decrease in market value for the Mel Acres ranchland.[39] The Texas Supreme Court found McKinney did not find that the other impaired sites were comparable to Mel Acres' land "in any aspect other than environmental contamination of some kind that had been remediated."[40] The Court additionally found that McKinney did not "make adjustments for the differences between the ranch" and the other impaired properties.[41] Because McKinney failed to properly carry out a comparable sales comparison and to make the necessary adjustments, "her opinions [could not] constitute evidence sufficient to support the award of damages in this case."[42] Accordingly, the Texas Supreme Court reversed and rendered a take nothing judgment in favor of Houston Unlimited.[43]

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38 *Id.* at *12-15.
39 *Id.* at *6.
40 *Id.* at *13.
41 *Id.*
42 *Id.* at *15.
43 *Id.* at *16.