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# Preface

Dear EMLF Members, Patrons, and Friends,

Thank you for attending the 43rd Annual Institute in Amelia Island, Florida. Your continued support and active participation are greatly appreciated, and they underscore the importance of the work undertaken by the EMLF.

The 2022 Annual Institute Programming Committee, led by Co-Chairs Tim McGranor and Martha Wiegand, organized a thoughtful and progressive program. Tim and Martha recognized the importance of providing both timely and astute programming to the energy law community in a time of uncertainty and change. It was clear from the beginning of the program that everyone was eager to see friends and colleagues again after the events of the past couple of years — the camaraderie of energy attorneys makes in-person events like this invaluable. In addition, Tim and Martha recognized and acted on the EMLF's commitment to include all of our members by incorporating both a diverse mix of speakers and presenters and a breadth of topics which covered many facets of the energy industry. A word of thanks to a long-time friend and supporter of EMLF and this year's Keynote Speaker, John Boyd II, President and CEO of John T. Boyd Company, for his insightful thoughts on the how geopolitical events and shifts in how energy is being produced are affecting our industry now and will do so in the future.

Among many triumphs, we celebrated another year of our mission of scholarship. This year, the EMLF awarded \$30,000 in scholarships to eight well-deserving law students at five law schools. Fifteen law students, including many of those scholarship recipients, joined us in Amelia Island, without cost, through the lasting legacy of the Russ Schetroma Scholarship Fund. I would be remiss not to mention the tireless work of the Scholarship Committee and the fiscal responsibility and discipline of past EMLF leadership, whose forethought carries EMLF through difficult financial periods.

Finally, we recognize our dear friend and colleague Tim Miller with our highest honor — the John L. McClaugherty Award. Tim displays the values and character that led the EMLF to create an award in Mr. McClaugherty’s name: his dedication to the profession as an oil and gas lawyer, his steadfast support of EMLF, his kindness and integrity, his tireless efforts as a mentor to so many. We not only honor Tim, but also thank him immensely for all of his contributions.

As I reflect on my presidency, I hold so much gratitude for this institution, especially to the folks who give of their time, energy, wisdom, and knowledge to lead and to serve the EMLF. We are so fortunate to have you as officers, executive committee members, trustees, and committee members, and, of course, our amazing Executive Director, Anna Girard Fletcher and her team. My gratitude extends to the constant support of our patrons and sponsors, whose generosity is the lifeblood of the EMLF. I give tremendous praise to Vorys, Sater, Seymour and Pease LLP for supporting my participation in EMLF. I am also grateful to Clay Larkin, with whom I have worked and laughed at EMLF for many years. I am honored to pass the gavel to Clay, knowing that I leave the EMLF in good hands. And, to each and every member of the EMLF — thank you for encouraging me and so many others to “belong” to the EMLF. You are honored and inspired colleagues — please continue to embolden each other to make the EMLF a place for all to belong.

Sheila Nolan Gartland  
*EMLF President*  
2021-2022





# Chapter 1

## Energy Litigation Update for 2022

**Katrina N. Bowers**  
**Austin D. Rogers**  
*Babst Calland*  
Charleston, West Virginia

**Joshua S. Snyder**  
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Pittsburgh, Pennsylvania

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**§ 1.01. Introduction.**

The following chapter provides a summary of noteworthy oil and gas decisions issued by courts in Pennsylvania, West Virginia, Ohio, Texas, Colorado, Oklahoma, North Dakota, and Kansas throughout 2021 and early 2022.

**§ 1.02. Pennsylvania.**

**[1] — Royalties and Post-Production Costs.**

This past year, the Pennsylvania Superior Court and Western District of Pennsylvania both decided cases involving lessees’ right to deduct post-production costs from natural gas royalty payments.<sup>1</sup>

In *Dressler Family, LP v. PennEnergy Res., LLC*, the superior court reversed the trial court’s grant of summary judgment in favor of the lessee.<sup>2</sup> The lease at issue provided a one-eighth royalty on the “gross proceeds received from the sale of the same at the prevailing price for gas sold at the well.”<sup>3</sup> The court held that the lease was ambiguous due to the conflict in the use of the terms “gross” (indicating no deductions) and “price for gas at the well” (indicating that deductions were allowed).<sup>4</sup>

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<sup>1</sup> *Dressler Family, LP v. PennEnergy Res., LLC*, No. – A.3d –, 2022 WL 1282693 (Pa. Super. Ct. April 29, 2022), *application for reargument en banc pending* (hereinafter cited as *Dressler Family*); *Coastal Forest Res. Co. v. Chevron*, No. 2:20-cv-1119, 2021 WL 1894596 (W.D. Pa. May 11, 2021) (hereinafter cited as *Coastal Forest*); *Tennant v. Range Res. Appalachia, LLC*, No. 18-cv-1533, 2021 WL 4288365, \*2 (W.D. Pa. Sept. 21, 2021) (emphasis original), *appeal docketed*, 21-2946 (3d Cir. 2021).

<sup>2</sup> *Dressler Family*, 2022 WL 1282693, at \*1.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.* at \*10.

In *Coastal Forest Res. Co. v. Chevron U.S.A., Inc., et al.*, the district court analyzed the “at the wellhead” language in the royalty provision to determine whether the lessee could use the net-back method (*i.e.* deduct post-production costs) to determine the value of the gas “at the well head.”<sup>5</sup> The court looked to the Pennsylvania Supreme Court’s *Kilmer v. Elexco Land Servs., Inc.* decision for guidance.<sup>6</sup> The *Kilmer* court approved the use of the net-back method under Pennsylvania’s Guaranteed Minimum Royalty Act (“GMRA”).<sup>7</sup> The court held that *Kilmer* was applicable to breach of contract claims.<sup>8</sup>

In *Tennant v. Range Resources*, the lessors claimed that the lessee breached the contract by “deducing post-production costs *without demonstrating* that said costs resulted in a ‘net increase in value’ of the produced hydrocarbons.”<sup>9</sup> The court held that the unambiguous language of the lease placed no such burden on the lessee.<sup>10</sup>

## **[2] — Tenancies at Will — Landowners’ Right to Terminate Oil and Gas Lease Agreements.**

In *Allison v. Rice Drilling B., LLC*, the superior court held that there was a genuine issue of material fact as to whether a 1913 oil and gas lease expired due to a cessation in production.<sup>11</sup> In 1991, the defendant’s predecessor-in-interest ceased reporting production information for the well to the Pennsylvania Department of Protection (“DEP”).<sup>12</sup> Notwithstanding, the well had never been plugged and was still connected (although unmetered) to a pipeline.<sup>13</sup> The defendant argued that there was a possibility that it

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<sup>5</sup> *Coastal Forest*, 2021 WL 1894596, at \*1.

<sup>6</sup> *Id.* at \*4.

<sup>7</sup> *Kilmer v. Elexco Land Servs., Inc.*, 990 A.2d 1147 (Pa. 2010).

<sup>8</sup> *Coastal Forest*, 2021 WL 1894596, at \*4.

<sup>9</sup> *Tennant*, 2021 WL 4288365, \*2.

<sup>10</sup> *Id.* at \*5.

<sup>11</sup> *Allison v. Rice Drilling B., LLC*, No. 537 WDA 2021, 2021 WL 6140828, at \*1 (Pa. Super. Ct. Dec. 30, 2021).

<sup>12</sup> *Id.* at \*1.

<sup>13</sup> *Id.*

continued to produce natural gas.<sup>14</sup> In May 2016, while the plaintiffs' predecessor-in-interest was still accepting annual payments under the 1913 lease, the defendant began producing natural gas from the Marcellus Shale formation beneath the property from another well.<sup>15</sup> The superior court found there was a genuine issue of material fact as to whether the original well ceased producing natural gas.<sup>16</sup>

More importantly, the superior court held that the trial court incorrectly granted summary judgment for the defendant on the basis that they failed to terminate the 1913 lease prior to defendant producing natural gas from the Marcellus Shale formation.<sup>17</sup> The superior court held that if the original well ceased production in 1991, the parties relationship became a tenancy-at-will terminable by either party.<sup>18</sup> The superior court held that "[r]esumption of oil or natural-gas production on the property during a tenancy-at-will has no bearing on either party's right to terminate that form of tenancy."<sup>19</sup>

### **[3] — *De Facto* Condemnation Claims.**

In *Hughes v. UGI Storage Company*, the Pennsylvania Supreme Court held that "a public or quasi-public entity need not possess a property-specific power of eminent domain in order to implicate inverse condemnation principles."<sup>20</sup> In 2009, the defendant filed an application with the Federal Energy Regulatory Commission ("FERC") in which it sought a certificate of public convenience and necessity to enable it to acquire and operate a natural gas storage field.<sup>21</sup> As part of its application, the defendant sought to include the plaintiffs' properties in a proposed buffer zone around the storage field.<sup>22</sup> FERC denied the defendant's request to include the plaintiffs' properties within the buffer zone due to the defendant's failure to provide the

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14 *Id.*

15 *Id.* at \*2.

16 *Id.* \*4.

17 *Id.*

18 *Id.*

19 *Id.* at \*6.

20 *Hughes v. UGI Storage Company*, 263 A.3d 1144, 1158 (Pa. 2021).

21 *Id.* at 1145.

22 *Id.*

landowners with the required notice.<sup>23</sup> The plaintiffs' properties were never included in the buffer zone.<sup>24</sup> In 2015, the plaintiffs filed a petition seeking damages for an alleged *de facto* condemnation of their properties.<sup>25</sup> The plaintiffs claimed that no oil and gas companies would lease their properties because of the defendant's actions.<sup>26</sup> The trial court granted the defendant's preliminary objections because it lacked eminent domain authority for the specific properties at issue.<sup>27</sup> The supreme court revised and held that there was no property-specific requirement.<sup>28</sup>

#### **[4] — Local Zoning Litigation.**

Those who are opposed to natural gas development continue to contest municipalities' zoning ordinances and permitting related to natural gas development. One of those challenges resulted in the Pennsylvania Commonwealth Court's decision in *Murrysville Watch Committee v. Murrysville*.<sup>29</sup> In that case, Murrysville Watch Committee ("MWC") challenged a 2017 ordinance that created an overlay district that permitted unconventional oil and gas development within residential districts.<sup>30</sup> The court rejected the MWC's substantive due process claim because it failed to introduce evidence establishing that oil and gas drilling was incompatible with the uses and characteristics of the residential zoning districts within the overlay district.<sup>31</sup> Next, the MWC claimed that the ordinance violated the Environmental Rights Amendment ("ERA") to Pennsylvania's Constitution because "a setback distance of 750 is woefully

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23 *Id.* at 1147.

24 *Id.*

25 *Id.* at 1148.

26 *Id.*

27 *Id.* at 1154.

28 *Id.* at 1158.

29 *Murrysville Watch Committee v. Murrysville*, No. 579 C.D. 2020, 2022 WL 200112 (Pa. Commw. Ct. Jan. 24, 2022).

30 *Id.* at \*1.

31 *Id.* at \*10.

inadequate.”<sup>32</sup> The Commonwealth court rejected this argument noting that the “plurality in *Robinson [Township]* stated that the ERA does not impose express duties on municipalities to enact specific affirmative measures ... [and that] municipalities lack the authority to replicate the environmental oversight that the General Assembly conferred upon the DEP and other state agencies[.]”<sup>33</sup> Similarly, the Commonwealth court rejected the MWC’s argument that the ordinance violated the equal protection guarantees under Pennsylvania’s Constitution and the Municipal Planning Code.<sup>34</sup>

### **[5] — Statutory Employer Defense – Tort Claims Brought by Contractors’ Employees.**

In *Dobransky v. EQT Production Company*, the Pennsylvania Superior Court vacated the trial court’s order granting a natural gas producer summary judgment based upon its statutory employer immunity under Pennsylvania’s Workers’ Compensation Act (“WCA”).<sup>35</sup> In *Dobransky*, EQT Production Company (“EQT”) contracted with a Halliburton Energy Services, Inc. (“HESI”) to perform various services for it related to its drilling and hydraulic fracturing operations.<sup>36</sup> In turn, HESI contracted with Northwest Logistics (“Northwest”), the plaintiff’s employer, to provide transportation services.<sup>37</sup> The plaintiff was a truck driver who claimed that he was injured while delivering barite to the well site.<sup>38</sup>

Both the majority and dissent agreed that EQT and HESI did not have immunity under Section 302(a)(1)(i) of the WCA. Section 302(a)(1)(i) provides that “a person who contracts with another ... to have work performed consisting of ... the removal, excavation or drilling of soil, rock or minerals ... shall be deemed a contractor, and such other person a

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<sup>32</sup> *Id.* at \*11.

<sup>33</sup> *Id.* at \*13.

<sup>34</sup> *Id.* at \*15-16.

<sup>35</sup> *Dobransky v. EQT Production Company*, 273 A.3d 1133 (Pa. Super. Ct. 2022), *appeal docketed* (hereinafter cited as *Dobransky*).

<sup>36</sup> *Id.* at 1134.

<sup>37</sup> *Id.* at 1135.

<sup>38</sup> *Id.*

subcontractor.”<sup>39</sup> The majority and dissent differed on whether EQT and HESI had immunity as statutory employers based on Section 302(a)(2). Section 302(a)(2) provides that “a person who contracts with another ... to have work performed of a kind which is a regular or recurrent part of the business, occupation, profession or trade of such person shall be deemed a contractor, and such other person a subcontractor.”<sup>40</sup> The majority held that the Northwest was contracted “for transportation and product-unloading services generally” and not for the removal, excavation or drilling services necessary to fall within the scope of Section 302(a)(1)(i).<sup>41</sup> In contrast, the dissent held that part of HESI business involved transporting barite.<sup>42</sup> The dissent held that EQT qualified as a statutory employer due to its “vertical privity.”<sup>43</sup>

In *Coleman v. Chief Oil & Gas, LLC*, the Middle District of Pennsylvania granted the operator’s motion for summary judgment based upon its status as statutory employer under the WCA.<sup>44</sup> Chief Oil & Gas, LLC (“Chief”) contracted with Universal Pressure Pumping, Inc. (“Universal”) to provide services related on well pads owned by Chief.<sup>45</sup> Universal employed the plaintiff who helped “rig-up” and “rig-down” natural gas wells.<sup>46</sup> The plaintiff sued Chief related to a foot injury he sustained while on the well pad.<sup>47</sup> The court held that Chief was immune from liability pursuant to Section 302(a)(2).<sup>48</sup>

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<sup>39</sup> 77 PA. STAT. § 461(a)(1)(i).

<sup>40</sup> 77 PA. STAT. § 461(a)(2).

<sup>41</sup> *Dobranksy*, 2022 WL 1073768, at \*9.

<sup>42</sup> *Id.* at \*17 (“The delivery of materials in this case was not merely incidental to HESI’s contractual obligations but was one of its explicit duties, *i.e.* ensuring access to and inventory of barite.”).

<sup>43</sup> *Id.* at \*19 (“This Court has concluded that ‘no statutory employee status exists where no vertical contractual privity exists.’”).

<sup>44</sup> *Coleman v. Chief Oil & Gas, LLC*, No. 4:21-cv-00090, 2022 WL 821167, \*1 (M.D. Pa. March 17, 2022).

<sup>45</sup> *Id.* at \*2.

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

**§ 1.03. West Virginia.****[1] — Royalties.**

Litigation centered on royalty provisions in oil and gas leases continues in West Virginia. In *Kellam v. SWN Prod. Co., LLC*, the district court requested the Supreme Court of Appeals of West Virginia answer the following four questions, providing guidance on the permissibility of postproduction costs in light of *Young v. Equinor USA Onshore Properties, Inc.*<sup>49</sup>: “(1) Is *Estate of Tawney v. Columbia Natural Resources, LLC*, 219 W.Va. 266, 633 S.E.2d 22 (2006) (“*Tawney*”) still good law?, (2) What is meant by the “method of calculating” the amount of post-production costs to be deducted?, (3) Is a simple listing of the types of costs which may be deducted sufficient to satisfy *Tawney*?, and (4) If post-production costs are to be deducted, are they limited to direct costs or may indirect costs be deducted as well?”<sup>50</sup> The district court stated that it believed *Tawney* should remain the law in West Virginia because (1) many leases involve unsophisticated individuals who may not be able to understand the terms of the lease; (2) without a methodology, a lessee could sell to a related company in order to make a larger profit downstream; and (3) a lease could include indirect costs that are unrelated to actual post-production costs.<sup>51</sup>

In June of 2020, The Supreme Court of Appeals of West Virginia answered the certified questions from *Kellam* after reformulating the questions from four questions to the following two questions: (1) is *Tawney* still good law? and (2) “What level of specificity does *Tawney* require of an oil and gas lease to permit the deduction of post-production costs from a lessor’s royalty payments, and if such deductions are permitted, what types of costs may be included?”<sup>52</sup> The Supreme Court of Appeals of West Virginia answered the first question affirmatively—stating *Tawney* is still

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<sup>49</sup> *Young v. Equinor USA Onshore Properties, Inc.*, 982 F.3d 201 (4th Cir. 2020).

<sup>50</sup> *Kellam v. SWN Prod. Co., LLC*, No. 5:20-CV-85, 2021 WL 4621067, at \*2 (N.D.W. Va. Sept. 13, 2021), *certified question answered*, No. 21-0729, 2022 WL 2128335 (W. Va. June 14, 2022).

<sup>51</sup> *Id.* at \*11.

<sup>52</sup> *SWN Prod. Co., LLC v. Kellam*, No. 21-0729, 2022 WL 2128335 (W. Va. June 14, 2022).

good law.<sup>53</sup> It further declined to answer the second question—stating the answer involves looking at the language of the contract, interpreting the language, and applying the language to the facts of the case.<sup>54</sup>

In *Venable Royalty, Ltd. et al. v. TH Exploration II, LLC et al.*, the Circuit Court of Marshall County, West Virginia granted the lessors' motion for summary judgment and denied the lessee's cross motion for summary judgment concerning the payment of royalties pursuant to oil and gas leases.<sup>55</sup> The court held the lessor was entitled to royalties on residue gas at region market and natural gas liquids at plant market; that unprocessed gas sold at meters was not a "marketable product;" that meters were not "markets" or a point of sale; and that "market value at the wells" was ambiguous and prohibited deduction of postproduction costs.<sup>56</sup> Lessee filed a Writ of Prohibition concerning the court's rulings which remains pending before the Supreme Court of Appeals of West Virginia at the time of this publication.

In *Phillip K. Williams v. EQT Corp.*<sup>57</sup> and *Corder v. Antero Res. Corp.*,<sup>58</sup> courts dealt with the retroactivity of amendments to W. Va. Code § 22-6-8(e) ("Flat Rate Royalty Statute"). In *Williams*, the court noted that, (1) in general, statutes do not apply retroactively (2) the legislature did not include a provision stating it should apply retroactively, and (3) the legislature used the term "hereafter" thus signaling the Flat Rate Royalty Statute is a prospective law and held that the Flat Rate Royalty Statute does not retroactively apply to oil and gas well permits issued before May 31, 2018.<sup>59</sup> Similar to *Williams*,

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<sup>53</sup> *Id.* at \*2.

<sup>54</sup> *Id.*

<sup>55</sup> *Venable Royalty, Ltd. et al. v. Gastar Exploration USA, Inc. et al.*, Nos. 18-C-227 and 18-C-220 (Cir. Ct. of Marshall Co. WV Nov. 10, 2021).

<sup>56</sup> *Id.* at \*1-7.

<sup>57</sup> *Williams v. EQT Corp. et al.*, No. CC 43-2020-C-23 (Cir. Ct. of Ritchie Co. WV Au. 26, 2021).

<sup>58</sup> *Corder v. Antero Res. Corp.*, No. 1:18CV30, 2021 WL 1912383, at \*1 (N.D.W. Va. May 12, 2021) (hereinafter cited as *Corder*).

<sup>59</sup> *Id.* at \*8-12.

the court held in *Corder* that the Flat Rate Royalty Statute did not apply retroactively.<sup>60</sup>

Like *Kellam*, *Venable*, and *Williams*, in *Corder v. Antero Res. Corp.*, the court dealt with a breach of contract claim, amongst other claims, over deduction of postproduction costs. based on leases it numbered two through nine.<sup>61</sup> Leases two through seven were originally silent as to post production costs but were altered by a subsequent settlement agreement which required the execution of a lease modification containing a market enhancement provision.<sup>62</sup> The court noted that the market enhancement clause included two clauses: one which prohibited the operator from deducting “any costs incurred to ‘transform[] [oil, gas, and other products] into marketable form”” and another which permitted the operator “to deduct costs for enhancing a product already in marketable form. . . .”<sup>63</sup> The court held that the market enhancement clause was ambiguous because it failed to indicate when the operator’s efforts became enhancing, for which deductions were permissible, rather than transforming, for which deductions were not permissible.<sup>64</sup> After finding the market enhancement clause ambiguous, the court looked to the applicability of *Wellman v. Energy Resources, Inc.*<sup>65</sup> (“*Wellman*”) and *Tawney* and concluded two of the leases were gross proceeds leases to which *Wellman* and *Tawney* applied and that the remaining leases requiring royalty payments based on market price received by the operator from sales due to either “value at the well” or “gross proceeds received from sale of the same at the prevailing price” were market value provisions to which *Wellman* and *Tawney* applied.<sup>66</sup> In analyzing the *Tawney* factors, the court held that the market enhancement clause satisfied the first and third prongs of *Tawney* but failed to specifically identify the costs the operator may deduct thus

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<sup>60</sup> *Corder* at 12-13.

<sup>61</sup> *Corder*, 2021 WL 1912383 at \*1.

<sup>62</sup> *Id.* at \*6-8.

<sup>63</sup> *Id.* at \*8 (alteration in original).

<sup>64</sup> *Id.* at \*8-9.

<sup>65</sup> *Wellman v. Energy Resources, Inc.*, 557 S.E.2d 254 (W. Va. 2001).

<sup>66</sup> *Id.* at \*9.

failing the second prong and prohibiting the deduction of post-production costs.<sup>67</sup> Next, the court looked to the lease 9 and held that because the lease did not reference post production costs or attempt to allocate the same to lessor no deductions could be taken from the lessors' royalty payments.<sup>68</sup> Finally, the court held that the lease eight, a flat rate lease, was governed by the Flat Rate Royalty Statute rather than *Wellman* and *Tawney* and that the 2018 amendments to the statute did not apply retroactively but held that it was unclear from the record whether the lease was governed by the 2018 amendments to the Flat Rate Royalty Statute.<sup>69</sup>

## **[2] — Title Disputes.**

In *Orville Young, LLC v. Bonacci*, purchasers of a mineral interest through a tax sale claimed a right to the same property for which the property owners had previously paid taxes.<sup>70</sup> In 1935, the county assessor entered two assessments for the property at issue: one for the entirety of the parcel and the other for the oil and gas leasehold interest of a portion of the parcel.<sup>71</sup> The property owners paid taxes for both assessments the first year and thereafter only paid taxes on the assessment for the entirety of the parcel, and it was sold at a sale of forfeited and delinquent lands in 1949.<sup>72</sup> The court found that the property at issue was never severed and that, therefore, the assessor's separation of surface and mineral tracts was improper, and noted that the assessor's process of taxation was double taxing on the same land under the same title, which is specifically outlawed in West Virginia.<sup>73</sup> Accordingly, the court held that because the severance was improper, the subsequent sales were void.<sup>74</sup>

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<sup>67</sup> *Id.* at \*10.

<sup>68</sup> *Id.* at \*11.

<sup>69</sup> *Id.* at \*12-13.

<sup>70</sup> *Orville Young, LLC v. Bonacci*, 246 W. Va. 26, 866 S.E.2d 91 (2021).

<sup>71</sup> *Id.* at 95.

<sup>72</sup> *Id.* at 95-96.

<sup>73</sup> *Id.* at 98.

<sup>74</sup> *Id.* at 99-100.

**[3] — Contract Interpretation.**

In *Hamilton v. Columbia Transmission, LLC*, the court considered defendants' motions for summary judgment in a matter concerning an easement granted to construct a pipeline.<sup>75</sup> The easement provided for a right of way to construct the pipeline and was silent as to any blasting that would be necessary.<sup>76</sup> The property owners filed a complaint for *res ipsa loquitur*, intentional infliction of emotional distress, negligent infliction of emotional distress, negligence, strict liability, trespass, and private nuisance for damage to their home.<sup>77</sup> The court granted summary judgment on the property owners' *res ipsa loquitur*, intentional infliction of emotional distress, and negligent infliction of emotional distress claims.<sup>78</sup> The court found that causation in a claim resulting from blasting can be proven through circumstantial evidence but that property owners need to prove the blasting is close to the property at issue, and that the damage occurred contemporaneously with the blasting.<sup>79</sup> The court found these factors to be present in this case.<sup>80</sup> The court rejected the argument that the property owners' negligence claim could not stand because they could not rely on *res ipsa loquitur* in conjunction with a theory of strict liability and noted plaintiffs' claim of *res ipsa loquitur* related to their negligence claim and that their negligence claim was supported by circumstantial evidence.<sup>81</sup> Further, the court rejected the claim that the private nuisance claim was invalid because the blasting operations did not interfere with the property owners because the property owner was alleging continuous property damage from the blasting rather than temporary inconvenience.<sup>82</sup> Finally, the court rejected the argument that the easement at issue negated the claim

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<sup>75</sup> *Hamilton v. Columbia Transmission, LLC*, No. 1:20CV86, 2022 WL 822947, at \*7 (N.D.W. Va. Mar. 17, 2022).

<sup>76</sup> *Id.* at \*7.

<sup>77</sup> *Id.* at \*2.

<sup>78</sup> *Id.*

<sup>79</sup> *Id.* at \*4.

<sup>80</sup> *Id.* at \*5.

<sup>81</sup> *Id.* at \*6.

<sup>82</sup> *Id.*

of trespass and found that the easement did not include language about the blasting making it possible there was no meeting of the minds and creating an issue of material fact.<sup>83</sup> Accordingly, the court dismissed the motions for summary judgment on the negligence, strict liability, and private nuisance claims; and deferred the ruling on the trespass claim.<sup>84</sup>

In *McMillion v. Mountain Valley Pipeline, LLC*, the court also considered a case centered on an easement to construct a pipeline in which the property owner alleged trespass, breach of contract, and inverse condemnation.<sup>85</sup> The easement at issue included a clause that deemed the easement abandoned if the right of way was not used or was not used specifically for transporting natural gas for a 36 month period.<sup>86</sup> The construction of the pipeline was delayed due to environmental litigation and permitting, and the property owners claimed the right of way had been abandoned because natural gas was not flowing through the pipeline.<sup>87</sup> The court disagreed with the property owners and held the easement was plain and unambiguous, and that if the parties intended to mean gas had to be flowing through the pipeline for it to be maintained, they would have included it in the easement.<sup>88</sup>

In *Benson v. High Rd. Operating, LLC*, the court considered motions for summary judgment by a lessee and lessors in a breach of contract action related to the obligation to pay a bonus with the lessors claiming the lessee breached the contract by not providing bonus payments and the lessee claiming there was no valid contract for lack of mutual assent.<sup>89</sup> The lease at issue provided, in relevant part, that the lessors were owed bonus payments and the lessee could surrender the lease at any time by giving notice.<sup>90</sup> The lessors never received bonuses and the lessee surrendered the leases

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83 *Id.* at \*7.

84 *Id.*

85 *McMillion v. Mountain Valley Pipeline, LLC*, No. 2:21-CV-00139, 2022 WL 417390, at \*1 (S.D.W. Va. Feb. 10, 2022).

86 *Id.* at \*3.

87 *Id.*

88 *Id.* at \*4.

89 *Benson v. High Rd. Operating, LLC*, No. 5:20-CV-00229, 2022 WL 264548, at \*3-4 (N.D.W. Va. Jan. 27, 2022).

90 *Id.* at \*2.

between October 2018 and April 2019.<sup>91</sup> The court held there was a valid contract, that the separate documents should be read together, that there was no condition precedent on contract formation, and that the lease was not just a part of preliminary negotiations.<sup>92</sup> Further, the court found that the lessee manifested assent to bind itself to the lease, and the lessors were justified in believing the lessee intended to be bound.<sup>93</sup> However, although there was a valid contract, the court found there was no breach because the lease provided that bonus payments were due based on the fully executed lease and the lessee never signed or notarized the lease.<sup>94</sup> Moreover, the court noted that the plain language of the order of payment provided that the lease needed to be fully notarized and that “simply because the Lease was binding does not mean that it was ‘fully executed and notarized.’”<sup>95</sup>

#### § 1.04. Texas.

##### [1] — Royalties.

In *Samson Expl., LLC v. Bordages*, lessors sued lessee for breach of contract for failure to pay royalties and late fees in accordance with the oil and gas lease at issue, violating Texas Natural Resources Code, and negligence.<sup>96</sup> Nonpayment occurred because of a defect in title which created a dispute as to when the lessee was entitled to receive royalties.<sup>97</sup> Lessor moved for partial summary judgment, which the trial court granted, and then lessor filed an amended motion for partial summary judgment of damages and entry of final judgment.<sup>98</sup> The trial court granted lessor’s amended motion and awarded \$12,995,919 in damages, \$97,421.25 in attorney fees, and \$135,000 in appellate attorney fees.<sup>99</sup> Lessee appealed to the Court of Appeals of

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91 *Id.*

92 *Id.*

93 *Id.* at \*5–6.

94 *Id.* at \*7-8.

95 *Id.* at \*8.

96 *Samson Expl., LLC v. Bordages*, No. 09-20-00174-CV, 2022 WL 120004, at \*1-2. (Tex. App. Jan. 13, 2022).

97 *Id.*

98 *Id.* at \*3.

99 *Id.*

Texas.<sup>100</sup> The appellate court held, with regard to the late fees, that the plain language of the lease showed the parties made the amount due at the end of the month.<sup>101</sup> Similarly, the appellate court found that the lease provided for late charges to be due every month and therefore become part of the amount due, which is what the next month's late charges were based on—meaning, although the lease did not use the word “compound,” late charges were still intended to compound.<sup>102</sup> Returning to the plain language of the lease, the appellate court found as follows: (1) payments were due beginning with the filing with the Railroad Commission (as specifically outlined in the lease) and therefore it was irrelevant to whom the royalties are owed; (2) the agreement expressly contracted around the safe harbor provision of the Texas Natural Resources Code—something the parties were legally allowed to do—and therefore the lease language controlled rather than the code.<sup>103</sup> Finally, the appellate court affirmed the summary judgment decision by holding the record did not show a legitimate title dispute.<sup>104</sup>

*Fitzgerald as trustee for Jackson Fam. Min. Tr. v. Apache Corp.* examines whether post production activities are included in post production costs.<sup>105</sup> In *Fitzgerald*, Lessor sued lessee for failure to pay royalties on gas used in post production activities, citing to the market value at the well and free-use clauses of the lease.<sup>106</sup> In granting the lessee's motion to dismiss, the court held that the lessor “failed to explain how she could both be owed royalties on gas that is consumed in the postproduction process and receive a royalty payment at market value for gas that is sold[]” and noted that the lessor only alleged that lessee deducted postproduction costs.<sup>107</sup> *Nettye Engler Energy, LP v. BlueStone Nat. Res. II, LLC*, arises from a dispute over the location of gas pipeline under a deed and what amount, if any,

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100 *Id.*

101 *Id.* at \*5.

102 *Id.* at \*6.

103 *Id.* at \*7.

104 *Id.*

105 *Fitzgerald as trustee for Jackson Fam. Min. Tr. v. Apache Corp.*, No. CV H-21-1306, 2021 WL 5999262, at \*1 (S.D. Tex. Dec. 20, 2021).

106 *Id.* at \*2.

107 *Id.* at \*8.

of post production costs could be attributable to the royalty interest.<sup>108</sup> In *Nettye Engler Energy, LP*, a non-participating royalty owner claimed the deed at issue provided for one-eighth of gross production free of cost or, in the alternative, that the gathering system is not a pipeline.<sup>109</sup> The lessee filed a motion for summary judgment and claimed the “free and clear” language does not exempt royalties from post production costs and that gathering systems are pipelines, per ordinary trade meanings.<sup>110</sup> The trial court granted the lessee’s motion for summary judgment holding the royalty interests are not subject to post production costs, but the appellate court reversed.<sup>111</sup> The Supreme Court of Texas concurred with the trial court and held for the lessee, finding (1) a gathering system is a pipeline, (2) it is not uncommon for delivery of royalty interests to be made in a pipeline, rather than downstream, (3) the deed did not specify the type of pipeline, and (4) the inclusion of a default delivery location confirms a wellsite delivery point.<sup>112</sup> The court looked to the plain language of the deed, determined that the deed could have specified the pipeline, but there is no limiting language in the deed.<sup>113</sup> Similarly, the court found that the deed could have specifically mentioned transportation pipelines—which were in existence at the time the deed was written—but did not.<sup>114</sup> Accordingly, the court held that “free of cost” did not mean free of postproduction costs.<sup>115</sup>

In *Shirlaine W. Properties Ltd. v. Jamestown Res., L.L.C.*, the Court of Appeals of Texas, Fort Worth examined what it described as “yet another episode in the endless struggle in the oil and gas context between lessors and lessees in the allocation of post-production costs in the calculation of royalty payments.”<sup>116</sup> Lessors sued lessees for underpayment of royalties,

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108 *Nettye Engler Energy, LP v. BlueStone Nat. Res. II, LLC*, 639 S.W.3d 682 (Tex. 2022).

109 *Id.* at 686–87.

110 *Id.* at 687.

111 *Id.* at 687–88.

112 *Id.* at 689–91.

113 *Id.* at 693–94.

114 *Id.* at 696.

115 *Id.*

116 *Shirlaine W. Properties Ltd. v. Jamestown Res., L.L.C.*, No. 02-18-00424-CV, 2021 WL 5367849, at \*4 (Tex. App. Nov. 18, 2021).

stating that their royalties are not subject to postproduction costs.<sup>117</sup> Lessors moved for partial summary judgment while lessees moved for traditional and no-evidence summary judgment.<sup>118</sup> The trial court granted, and the court of appeals upheld, the lessees' motions.<sup>119</sup> The court of appeals found the royalty clause to be unambiguous and made the wellhead the royalty valuation point—thus making it subject to post production costs.<sup>120</sup> After performing a plain language analysis to find the lease was a market-value-at-the-well lease, the court found the language of the lease to be unambiguous and therefore found no evidence of a breach of the lease.<sup>121</sup>

## [2] — Title Disputes.

In *Ridgefield Permian, LLC v. Diamondback E & P LLC*, a company and a trust both claimed an interest in the same 1/14 interest in a mineral estate.<sup>122</sup> In 1974, the estate was split three ways between the owner's two sons and a life estate to her husband.<sup>123</sup> The sons and father entered into an oil and gas lease in 1975.<sup>124</sup> The father died in 1992, leaving each of the sons with a possibility of reverter.<sup>125</sup> One of the sons transferred his possibility of reverter to the Trust.<sup>126</sup> In 1999, there was a tax foreclosure and a sheriff's deed conveying the interest previously conveyed to the trust for failure to pay taxes on the royalty interest.<sup>127</sup> In 2012, the well stopped producing which automatically terminated the lease.<sup>128</sup> The company executed an oil and gas lease in 2015, believing the possibility of reverter

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117 *Id.* at \*1.

118 *Id.*

119 *Id.*

120 *Id.*

121 *Id.* at \*4-6, \*7.

122 *Ridgefield Permian, LLC v. Diamondback E & P LLC*, 626 S.W.3d 357 at 360 (Tex. App. 2021).

123 *Id.* at 365.

124 *Id.*

125 *Id.*

126 *Id.*

127 *Id.*

128 *Id.*

had been foreclosed upon.<sup>129</sup> The trust executed its own oil and gas lease in 2016, not believing the possibility of reverter had been foreclosed upon.<sup>130</sup> The court held that a single tract of real property may include several aspects of realty—meaning the royalties are taxed separately from the real property interests.<sup>131</sup> The court further found that the possibility of reverter was not taxable, and therefore could not be foreclosed upon.<sup>132</sup> The court noted that the only thing that could be foreclosed upon was the royalty interest—so the sheriff’s deed could only have sold the royalty interest.<sup>133</sup> Accordingly, the court held that the transfer from the son to the trust was valid and the trust rightfully held the interest and was allowed to enter into the oil and gas lease.<sup>134</sup>

### **[3] — Lease Interpretation.**

In *TotalEnergies E&P USA, Inc. v. Dallas/Fort Worth Int’l Airport Bd.*, the court considered whether the term of a lease requiring a party to “drill fourteen new wells” could be satisfied by drilling vertical, rather than horizontal, wells.<sup>135</sup> The lessee determined the most cost effective way to maintain the lease would be to drill vertical wells, and lessor filed suit stating that the lease required the drilling of horizontal wells because efficient production in the shale at issue was only accomplished by horizontal drilling.<sup>136</sup> The court looked to the plain language of the lease and found the lease used the term “well” as a general term when alone, and found several instances of the lease qualifying the term “well” with “vertical” and “horizontal.”<sup>137</sup> Because this particular section at issue used the generic term “well”, the court held the parties had not specified what type of well had to

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129 *Id.* at 362.

130 *Id.*

131 *Id.* at 364.

132 *Id.* at 365–68.

133 *Id.*

134 *Id.* at 370–71.

135 *TotalEnergies E&P USA, Inc. v. Dallas/Fort Worth Int’l Airport Bd.*, No. 02-20-00054-CV, 2022 WL 872476 (Tex. App. Mar. 24, 2022).

136 *Id.* at \*1–3.

137 *Id.* at \*3–4.

be drilled.<sup>138</sup> The court further disagreed with the lessor that the implied covenant to reasonably develop the leasehold would require one type of well over another, found an implied covenant only applies when the lease is silent on a subject, and noted the lease at issue was not silent.<sup>139</sup>

#### **[4] — Lessor Obligations.**

In *Mustafa v. Americo Energy Res., LLC*, lessors sued lessee for, *inter alia*, negligence for failure to take steps to prevent oil and gas leaks on the property.<sup>140</sup> The trial court granted summary judgment on the negligence claim in favor of the lessee because the lessors brought suit after the statute of limitations expired.<sup>141</sup> The lessors appealed and claimed the statute of limitations did not begin to run until they discovered the leaks in 2016, but the lessee stated that the clock began to run, at the latest, when the equipment was removed from the well site in 2015.<sup>142</sup> The Court of Appeals of Texas upheld the trial courts judgment, finding the discovery rule cited to by lessors was only applicable in exceptional cases, which were not present in the instant case.<sup>143</sup> The court noted that lessors acquired their interests in 2000 and 2004, that both wells on the property at issue had ceased production by 2008, that lessors told an investigator at the Texas Railroad Commission there had been multiple leaks prior to 2016, and that lessors had not visited the well site between 2010–2016.<sup>144</sup> Ultimately, the court affirmed the trial court’s ruling that summary judgment was proper because the injury alleged was not inherently undiscoverable.<sup>145</sup>

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138 *Id.* at \*4.

139 *Id.*

140 *Mustafa v. Americo Energy Res., LLC*, No. 14-20-00202-CV, 2022 WL 1088584, at \*1–2 (Tex. App. Apr. 12, 2022).

141 *Id.*

142 *Id.*

143 *Id.* at \*5.

144 *Id.* at \*1-2 and \*5.

145 *Id.* at \*5.

**§ 1.05. Ohio.****[1] — Title/Ownership of Oil and Gas Rights.**

In *Peppertree Farms, LLC v. Thonen*, the Ohio Supreme Court addressed (i) whether provisions in a deed in which a grantor retained an interest in the oil and gas rights to a property kept only a life estate because the provision lacked language stating that the grantor's interest was inheritable and (ii) whether Ohio's Dormant Mineral Act ("DMA") supersedes Ohio's Marketable Title Act ("MTA").<sup>146</sup> The court noted that prior to the General Assembly abrogating the common law rule in 1935, conveyances of real property had to include words of inheritance for the grantor to pass on, or to retain part of, a fee-simple absolute interest in the land.<sup>147</sup> Under the common law, courts recognized a distinction between a reservation of a property right (required words of inheritance) and an exception (not requiring words of inheritance).<sup>148</sup> The court held that the language in the deed, which read "Grantor W.T. Fleahman excepts and reserves from this deed the one half of the royalty of the oil and gas under the above described real estate" was an exception and, therefore, did not require words of inheritance.<sup>149</sup> As to the second issue, the court affirmed its prior holding that the MTA and DMA provide "independent, alternative statutory mechanisms that may be used to reunite severed mineral interests with the surface property subject to those interest."<sup>150</sup>

In *Fonzi v. Brown*, the Ohio Supreme Court held that a surface owner failed to comply with the DMA by not exercising reasonable diligence in attempting to identify all holders of the mineral interests.<sup>151</sup> The surface owners hired an attorney, who searched Monroe County records (the county where the property was located) and conducted a limited internet search,

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<sup>146</sup> *Peppertree Farms, LLC v. Thonen*, — N.E.3d —, 2022 WL 481532, at \*1 (Ohio 2022).

<sup>147</sup> *Id.*

<sup>148</sup> *Id.*

<sup>149</sup> *Id.* at \*4.

<sup>150</sup> *Id.* at \*6.

<sup>151</sup> *Fonzi v. Brown*, — N.E.3d —, 2022 WL 868468, at \*1 (Ohio 2022) (hereinafter cited as *Fonzi*).

both of which did not uncover any information about potential heirs of Ms. Fonzi.<sup>152</sup> The court held the deed at issue indicated that Ms. Fonzi resided in Washington County at the time the surface and mineral estates were severed.<sup>153</sup> Given this notice, the court held that the surface owner failed to conduct a reasonable search by not searching public records in Washington County.<sup>154</sup>

In *4 Quarters, LLC v. Hunter*, the Seventh District Court of Appeals considered whether a plaintiff exercised reasonable due diligence in locating potential heirs under the MTA.<sup>155</sup> One of the issues was whether the mere fact that the deed at issue was notarized in a different county than where the property was located required the plaintiff to conduct a search of records in that county.<sup>156</sup> The court distinguished the facts in the *Fonzi* case – *i.e.* the deed itself referenced the owner lived in the other county vs. the fact that it was simply notarized in another county.<sup>157</sup> The court held that “[w]ithout any actual evidence that the Hunters had more of a legal connection with Marshall County, the mere fact that they had a document notarized there, given the extremely close proximity of that county with the place of their known residence, is of no special significance.”<sup>158</sup>

## **[2] — Royalties and Post-Production Costs**

In *Zehentbauer Family Land, LP v. TotalEnergies E&P USA, Inc.*, the plaintiffs were a class of landowners in Ohio who claimed that the defendants miscalculated their royalty payments by basing them on the “at the wellhead” price rather than on the downstream value of refined oil and gas products.<sup>159</sup> The lease agreements at issue stated that the plaintiffs would

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<sup>152</sup> *Id.*

<sup>153</sup> *Id.* at \*1.

<sup>154</sup> *Id.* at \*6.

<sup>155</sup> *4 Quarters, LLC v. Hunter*, No. 20 BE 0035, 2021 WL 4563824, at \*1 (Ohio Ct. App. Sept. 30, 2021).

<sup>156</sup> *Id.* at \*6.

<sup>157</sup> *Id.* (The court looked to the appellate court decision in *Fonzi* because the Ohio Supreme Court had not yet issued its *Fonzi* decision).

<sup>158</sup> *Id.*

<sup>159</sup> *Zehentbauer Family Land, LP v. TotalEnergies E&P USA, Inc.*, No. 20-3469, 2022 WL 294081, at \*1 (6th Cir. Feb. 1, 2022).

receive royalty payments “based upon the gross proceeds paid to Lessee for the gas marketed and used off the leased premises . . . computed at the wellhead from the sale of such gas substances sold by Lessee.”<sup>160</sup> The lessees sold the gas at the wellhead to their midstream affiliate companies.<sup>161</sup> Those midstream affiliates paid for the gas using the netback method, which “takes the weighted average of prices at which the midstream affiliates sell the oil and gas at various downstream locations and adjusts for the midstream company’s cost of compression, dehydration, treating, gather, processing . . . [etc.] to move the raw oil and gas from the wellhead to downstream resale locations.”<sup>162</sup> Plaintiffs claimed that their royalties should be based on the gross proceeds received by the lessees’ affiliates further downstream.<sup>163</sup> The Sixth Circuit rejected this argument and held that the gas was actually sold at the wellhead and, therefore, the “gross value received” by Defendants was the wellhead price.<sup>164</sup>

### **[3] — Arbitration Provisions and Declaratory Judgment Claims Challenging Validity of Oil and Gas Lease.**

In *French v. Ascent Resources – Utica, LLC*, the Ohio Supreme Court held that declaratory judgment claims seeking a determination that an oil and gas lease has expired by its own terms is exempt from arbitration under R.C. 2711.01(B)(1).<sup>165</sup> Section 2711.01(A) provides that a “provision in any written contract, except as provided by division (B) of this section, to settle by arbitration a controversy that subsequently arises out of a contract shall be valid, irrevocable, and enforceable, except upon grounds that exists at law or in equity for the revocation of any contract.”<sup>166</sup> Section 2711.01 exempts “controversies involving title to or the possession of real estate”

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<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> *Id.* at \*3.

<sup>163</sup> *Id.* at \*2.

<sup>164</sup> *Id.* at \*3.

<sup>165</sup> *French v. Ascent Resources – Utica, LLC*, — N.E.3d —, 2022 WL 867842, at \*1 (Ohio March 24, 2022).

<sup>166</sup> *Id.* at \*3.

from arbitration provisions found in written contracts.<sup>167</sup> The court held a declaratory judgment claim based upon a lease agreement allegedly expiring pursuant to its own terms falls within Section 2711.01(B).

### § 1.06. Colorado.

#### [1] — What Constitutes Production Under Oil and Gas Leases.

In *Board of County Commissioners of Boulder County v. Crestone Peak Resources*, the plaintiff claimed that an oil and gas lease expired because the two wells drilled on the property had ceased producing natural gas for approximately one hundred and twenty-two days.<sup>168</sup> The wells stopped producing gas because the pipeline that transported the gas to market needed to be shut-down for maintenance.<sup>169</sup> The court of appeals affirmed the trial court's grant of summary judgment for the defendant.<sup>170</sup> The court held that "production" under a *habendum* clause "is satisfied by discovery in commercial quantities."<sup>171</sup>

### § 1.07. North Dakota.

#### [1] — Suspension of Royalty Payments – Safe Harbor.

In *Vic Christensen Mineral Trust v. Enerplus Resources (USA)*, the defendant suspended the plaintiff's royalty payments after a title opinion it received identified a discrepancy with the land acreage in a deed, which would affect the size of the plaintiff's royalty interest.<sup>172</sup> Both parties filed quiet title actions against each other.<sup>173</sup> Although the parties resolved the acreage issue, the plaintiff still sought statutory interest of eighteen (18) percent from defendant for the suspended payments.<sup>174</sup> N.D.C.C. 47-16-

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<sup>167</sup> *Id.*

<sup>168</sup> *Board of County Commissioners of Boulder County v. Crestone Peak Res.*, 493 P.3d 917, 920 (Colo. App. 2021).

<sup>169</sup> *Id.*

<sup>170</sup> *Id.* at 921.

<sup>171</sup> *Id.*

<sup>172</sup> *Vic Christensen Mineral Trust v. Enerplus Resources (USA)*, 969 N.W.2d 175, 177 (N.D. 2022).

<sup>173</sup> *Id.*

<sup>174</sup> *Id.*

39.1 provides that an operator’s obligation under an oil and gas lease to pay royalties to the mineral owner is “of the essence” and may constitute grounds for cancellation.<sup>175</sup> “[I]f cancellation is not sought, failure by the operator to pay within 150 days after oil or gas produced ... shall accrue interest on the unpaid royalties at the rate of 18 percent per annum until paid.”<sup>176</sup> The statute provides a safe harbor that reads “[t]his section does not apply ... in the event of a dispute of title existing that would affect distribution of royalty payments[.]”<sup>177</sup> The district court held that the safe harbor required a successful title claim.<sup>178</sup> The North Dakota Supreme Court held that there was no such requirement in the statute and, therefore, reversed the district court.<sup>179</sup>

## § 1.08. Oklahoma.

### [1] — Ad Valorem Taxation.

In *BCE-Mach, LLC v. Roach*, the county assessor claimed an oil and gas operator’s disposal wells were not exempt from ad valorem taxation.<sup>180</sup> The assessor claimed the 2013 amendments to an Oklahoma statute related to taxation on equipment used in conjunction with the production of oil and gas did not overturn prior Oklahoma Supreme Court precedent,<sup>181</sup> which treated wells differently depending on whether the well was “on lease” or “off lease.”<sup>182</sup> Therefore, because the disposal wells were not “on lease,” the assessor argued the wells were subject to the ad valorem tax.<sup>183</sup> The assessor further claimed the disposal wells were not “actually necessary and in use or being used in the production of oil or gas.”<sup>184</sup> The court held that it is presumed the legislature acted intentionally and therefore intended to omit

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175 *Id.*

176 *Id.*

177 *Id.*

178 *Id.* at 179.

179 *Id.*

180 *BCE-Mach, LLC v. Roach*, 2022 OK Civ. App. 5.

181 *Cumberland Operating Co. v. Ogez*, 1988 OK 14, 769 P.2d 105.

182 *BCE-Mach, LLC v. Roach*, 2022 OK Civ. App. 5 at 1262-3.

183 *Id.*

184 *Id.*

the word “lease” as a modifier of disposal wells<sup>185</sup> As a result, the court held that it is irrelevant whether the disposal wells were on or off lease.<sup>186</sup> Finally, the court found that the proper disposal of salt water is actually necessary for the production of oil and gas and rejected the assessor’s argument that the disposal wells were not servicing oil and gas wells located on the same producing lease or unit and therefore were not “actually necessary.”<sup>187</sup>

## **[2] — Superior Chain of Title.**

In *Highpointe Energy, LLC v. Viersen*, the court determined which chain or title was superior in the quiet title action when a bankruptcy purchaser and a mortgage foreclosure purchaser claimed to hold the oil, gas, and mineral interests in the subject property.<sup>188</sup> The court held that the case<sup>189</sup> relied upon by both parties turned on a notice issue; however, here, there was no notice issue in the instant case.<sup>190</sup> Instead, the court decided the case on the nature of the interest.<sup>191</sup> In *Highpointe Energy, LLC*, the bankruptcy purchaser held no greater title than the trustee and was subject to liens.<sup>192</sup> Further, the bankruptcy purchaser was provided notice of the foreclosure sale and failed to participate in the sale.<sup>193</sup> The court held that these two factors, together, made clear that the mortgage foreclosure purchaser held superior title.<sup>194</sup>

## **§ 1.09. Kansas.**

### **[1] — Storage.**

In *Colt Energy, Inc., et al., v. Southern Star Central Gas Pipeline, Inc.*, the plaintiff lessee held and plaintiff operator operated two leases: the

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<sup>185</sup> *Id.* at 1263.

<sup>186</sup> *Id.* at 1263-4.

<sup>187</sup> *Id.*

<sup>188</sup> *Highpointe Energy, LLC v. Viersen*, 2021 OK 32, ¶ 2, 489 P.3d 28, 30-1 (hereinafter cited as *Highpointe Energy*).

<sup>189</sup> *Viersen v. Boettcher*, 1963 OK 262, 387 P.2d 133.

<sup>190</sup> *Highpointe Energy* at 34.

<sup>191</sup> *Id.*

<sup>192</sup> *Id.* at 35.

<sup>193</sup> *Id.*

<sup>194</sup> *Id.*

Rook and Koch Leases.<sup>195</sup> The lease interests in question were acquired in 2017.<sup>196</sup> Defendant used the South Welda Field as a sub-surface storage area for natural gas.<sup>197</sup> This storage site at issue was within the Rook lease and the Koch Lease.<sup>198</sup> The lessees and operator alleged the natural gas migrated from the storage area into their oil wells creating high pressure which prevented the wells from producing oil and made four claims: (1) intentional and continuing nuisance, (2) breach of Fees Agreement, (3) breach of duty under Kansas statute allowing underground storage, and (4) breach of implied covenant of diligent and prudent operation and breach of implied covenant of good faith and fair dealing.<sup>199</sup> Plaintiffs presented evidence of a blow out on the Rook Lease in 2017 and an abnormally high pressure reading from 2019, indicating storage gas in the Rook Lease but did not present any such evidence as to the Koch Lease.<sup>200</sup> Accordingly, the court held that there was only evidence of storage on the Rook Lease and defendant was entitled to summary judgment on all of lessees and operator's claims as to the Koch Lease. As to the Rook Lease, the court found no evidence of temporary damages, and therefore found the defendants were entitled to summary judgment.<sup>201</sup> The court further considered the defendant's alternative arguments for summary judgment on the intentional nuisance, breach of contract, and breach of implied covenants arguments and found the defendants were entitled to summary judgment on each of those claims because the plaintiffs lacked evidence of intent in their nuisance claim, lacked evidence the Fees Agreement applied to the Rook and Koch Leases, and lacked evidence of duty in the implied covenants claim.<sup>202</sup>

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<sup>195</sup> Colt Energy, Inc., et al., v. Southern Star Central Gas Pipeline, Inc., No. 5:20-CV-04059-HLT, 2022 WL 1288482, at \*1 (D. Kan. Apr. 29, 2022).

<sup>196</sup> *Id.* at \*2.

<sup>197</sup> *Id.* at \*1.

<sup>198</sup> *Id.*

<sup>199</sup> *Id.* at \*2-3.

<sup>200</sup> *Id.* at \*5.

<sup>201</sup> *Id.* at \*5-6.

<sup>202</sup> *Id.* at \*6-10.

## [2] — Implied Duty of Good Faith and Fair Dealing

In *L. Ruth Fawcett Tr. v. Oil Producers Inc. of Kansas*, royalty owners filed a class action against a natural gas operator for breach of implied duty to market gas.<sup>203</sup> The case went to the Supreme Court of Kansas on an interlocutory appeal of a summary judgment rule and on remand, the royalty owners moved to amend their complaint and the operator raised a statute of limitations defense.<sup>204</sup> Both were denied and both parties appealed.<sup>205</sup> On appeal, The Supreme Court of Kansas found that the law of the case doctrine applied, rather than the mandate rule.<sup>206</sup> Further, the court rejected the royalty owners argument that the court created a new rule by ruling that the marketable condition rule includes an implied duty of good faith and fair dealing and held no such change to the law occurred and that the operator's general duty of good faith and fair dealing predated the case.<sup>207</sup> As a result, the court held that there was no such exception to the law of the case doctrine and the motion to amend the complaint should be denied.<sup>208</sup> The court noted that because the royalty owners could not raise the good faith and fair dealing argument, granting the Operator's renewed motion for summary judgment was proper.<sup>209</sup> Further, the court rejected the royalty owners claim that they were entitled to prejudgment interest, but it declined to determine which statute applied to determined prejudgment interest amounts and, to the extent that the lower courts did use a specific statute, that portion of the decision was vacated.<sup>210</sup> Finally, the court rejected the operator's claim that the statute of limitations barred collection of stipulated damages because it failed to timely bring this argument.<sup>211</sup>

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<sup>203</sup> *L. Ruth Fawcett Tr. v. Oil Producers Inc. of Kansas*, 507 P.3d 1124 (Kan. 2022).

<sup>204</sup> *Id.* at 1131–1132.

<sup>205</sup> *Id.*

<sup>206</sup> *Id.* at 1132–1134.

<sup>207</sup> *Id.* at 1137.

<sup>208</sup> *Id.*

<sup>209</sup> *Id.* at 1140–1141.

<sup>210</sup> *Id.* at 1143.

<sup>211</sup> *Id.* at 1146.



# Chapter 2

## PFAS in the Oil and Gas Industry

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### § 2.01. Introduction.

This chapter examines the use of per-and polyfluoroalkyl substances (“PFAS”) within the oil and gas industry. While PFAS uses can be traced

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<sup>1</sup> A sincere note of thanks to Carri Napier, a rising 3L at Wake Forest College of Law, for her contributions to this chapter.

back to as early as the 1940s, attention to the uses and presence of these substances outside of the realm of the manufacturing industry is only just beginning. As attention and publicity to these substances continues to rise, so do the allegations of use within the oil and gas industry. This chapter will examine the allegations of the use and presence of these substances within the oil and gas industry by focusing on: (1) potential sources of PFAS within the oil and gas industry; (2) federal regulations that the industry may be subject to if these substances are found within oil and gas operations; and (3) best management practices that the industry can adopt to manage the use and regulation of these substances.

## § 2.02. Overview of PFAS.

### [1] — What Are PFAS?

PFAS are “widely used, long lasting chemicals, components of which break down very slowly over time.”<sup>2</sup> Perfluorooctanoic acid (“PFOA”) — one of approximately 9,000 PFAS currently known today — was discovered in 1938 by a chemist at DuPont de Nemours, Inc. (“DuPont”).<sup>3</sup> Through its research, DuPont realized that PFOA (also commonly known as “C8”) could be used to manufacture nonstick cookware.<sup>4</sup> DuPont used PFOA to make Teflon, which was one of the most widely known and used non-stick cookware brands in the United States, and which can still be found in residential households today.<sup>5</sup> Shortly after DuPont’s discovery and commercialization of PFOA, 3M discovered the use of their own PFAS — perfluorooctane sulfonate (“PFOS”). 3M used PFOS within its production of what is widely known as Scotchgard.<sup>6</sup>

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<sup>2</sup> *PFAS Explained*, U.S. ENVTL. PROT. AGENCY (April 28, 2022), <https://www.epa.gov/pfas/pfas-explained>.

<sup>3</sup> DAVID ANDREWS and BILL WALKER, *POISONED LEGACY* (Environmental Working Group, Niels Bruzelius, ed., April 2015) (available at [https://static.ewg.org/reports/2015/poisoned\\_legacy/Poisoned\\_Legacy.pdf?\\_ga=2.20727864.1262883966.1655212800-1771567172.1654874537](https://static.ewg.org/reports/2015/poisoned_legacy/Poisoned_Legacy.pdf?_ga=2.20727864.1262883966.1655212800-1771567172.1654874537)).

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

While there are currently over 9,000 PFAS substances,<sup>7</sup> PFOS and PFOA remain the “two most widely used and studied chemicals in the PFAS group.”<sup>8</sup> PFAS are considered emerging contaminants, which means that they are “contaminant[s] on which scientific knowledge is insufficient.”<sup>9</sup> What makes PFAS so unique is that PFAS “molecules are made up of a chain of linked carbon and fluorine atoms”—one of the strongest molecular bonds in existence.<sup>10</sup> For this reason, PFAS are virtually indestructible and have become popularly recognized as a “forever chemical.”<sup>11</sup>

## [2] — Benefits of PFAS.

While most discussions about PFAS focus on the negative aspects of these substances, there are benefits to using PFAS. In fact, these chemicals were once viewed as a “miracle of modern chemistry.”<sup>12</sup> Indeed, PFAS have been used in the creation of numerous products that most people use every day, such as: dental floss, cleaning agents, cosmetics, nonstick coatings, the textile industry, automobile wiring and cable, the leather industry, outdoor gear, and more.<sup>13</sup> Overall, despite the health risks that are currently known and associated with certain PFAS, it is important to recognize that these substances have played a critical role in many modern-day conveniences.

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<sup>7</sup> *Per- and polyfluoroalkyl substances (PFAS)*, CTR. FOR DISEASE CONTROL AND PREVENTION, (last reviewed July 7, 2021), <https://www.cdc.gov/niosh/topics/pfas/default.html>.

<sup>8</sup> *Our Current Understanding of the Human Health and Env'tl. Risks of PFAS*, U.S. ENVT'L PROT. AGENCY (last updated Mar. 16, 2022), <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>.

<sup>9</sup> Peter L. Defur et al., *Emerging Contaminants in Virginia*, 40 Wm. & Mary Env'tl. L. & Pol'y Rev. 519, 520 (2016).

<sup>10</sup> *Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)*, NAT'L INST. OF ENVT'L HEALTH SCI. (last reviewed June 3, 2022), <https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm>.

<sup>11</sup> Courtney Lindwall & Molly M. Ginty, “Forever Chemicals” Called PFAS Show Up in Your Food, Clothes, and Home, NRDC (April 6, 2022), <https://www.nrdc.org/stories/forever-chemicals-called-pfas-show-your-food-clothes-and-home>.

<sup>12</sup> *What are PFAS chemicals*, ENVT'L WORKING GROUP, <https://www.ewg.org/what-are-pfas-chemicals> (last visited June 10, 2022).

<sup>13</sup> *PFAS Uses*, INTERSTATE TECH. REGULATORY COUNCIL, <https://pfas-1.itrcweb.org/2-5-pfas-uses/> (last visited June 10, 2022).

**[3] — Harmful Effects of PFAS.**

The potential negative impacts that PFAS can have on human health, particularly PFOA, has been well-documented. Currently documented health effects of PFAS include decreased fertility, developmental delays in children, increased cholesterol, cancer, and a weakened immune system<sup>14</sup>; however, researchers have been unable to conclusively determine the health effects of PFAS because so many variations of the substance exist and “the types and uses of PFAS change over time.”<sup>15</sup>

**§ 2.03. PFAS in the Oil and Gas Industry.**

While the history and use of PFAS — particularly PFOA and PFOS — have been well documented within the manufacturing industry, especially as it relates to products developed by DuPont and 3M, the presence and use of PFAS within other industries is widely unknown. Until 2021, the presence and use of these substances within the oil and gas industry garnered little attention; however, that changed in July of 2021 after the release of a publication from the Physicians for Social Responsibility (“PSR”). That publication alleges widespread use of PFAS within the industry, and specifically focuses on PFAS found in hydraulic fracking fluids. This publication placed increased scrutiny upon the oil and gas industry at a time when the United States Environmental Protection Agency (“EPA”) was preparing to implement actions for widespread regulation of these substances. While the depth of the use of PFAS in the oil and gas industry is arguable, as will be discussed below, evidence and research suggest that these substances are/have been used in the oil and gas industry to some degree. While frequency and quantity of use are still being evaluated, it is important for the industry to keep a close watch on regulators at both the federal and state level to determine potential regulatory impacts that could affect operations.

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<sup>14</sup> *Our Current Understanding of the Human Health and Environmental Risks of PFAS*, U.S. ENVTL. PROTECTION AGENCY (last updated Mar. 16, 2022) <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>.

<sup>15</sup> *Id.*

The remainder of this chapter will focus on three (3) potential sources of PFAS within the oil and gas industry, current and pending regulatory actions that could impact the oil and gas industry, and potential liability the industry may face should it be determined that these substances are used within their operations and are causing, or could cause, harmful and detrimental impacts to human health and the environment.

## § 2.04. PFAS Sources Within the Oil and Gas Industry.

### [1] — Hydraulic Fracking Fluid.

“Hydraulic fracturing is a technique used to increase oil and gas production from underground oil- or gas-bearing rock formations (reservoirs).”<sup>16</sup> This method “involves the injection of hydraulic fracturing fluids through the production well and into the reservoir under pressures great enough to fracture the reservoir rock.”<sup>17</sup> The chemicals contained in fracking fluid “serve a variety of purposes including killing bacteria inside the wellbore, reducing friction during high-pressure fracking, and as gelling agents to thicken the fluid so that the sand, suspended in the gelled fluid, can travel farther into underground formations.”<sup>18</sup>

The use of PFAS in fracking fluid has become both a popular and controversial issue. In July 2021, PSR published an article entitled “Fracking with Forever Chemicals.” This report asserts that PFAS and/or PFAS precursors—chemicals that could become PFAS as they degrade—have been utilized “in hydraulic fracturing (‘fracking’) for oil and gas in more than 1,200 wells in six U.S. states between 2012 and 2020.”<sup>19</sup>

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<sup>16</sup> U.S. Env'tl. Protection Agency, EPA-600-R-16-236Fa, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on the Drink Water Resources in the United States* 3-3 (2016).

<sup>17</sup> *Id.*

<sup>18</sup> DUSTY HORWITT, FRACKING WITH FOREVER CHEMICALS (Physicians for Social Responsibility, July 2021), 6, (available at <https://www.psr.org/wp-content/uploads/2021/07/fracking-with-forever-chemicals.pdf>).

<sup>19</sup> *Id.* at 3.

To reach this conclusion, PSR surveyed documents provided by EPA in response to a Freedom of Information Act (“FOIA”) request that sought EPA “health reviews and regulatory determinations for new chemicals proposed for use in oil and gas drilling and fracking.”<sup>20</sup> Although the documents do not explicitly name any PFAS substance, PSR asserted that PFAS and/or PFAS precursors were used. PSR bases its claims on the opinions of chemical experts and the EPA’s own fears that the named “chemicals could degrade into PFOA-like substances.”<sup>21</sup>

In the report, PSR also alleged that “more than 130 companies reported using chemicals that ... are or could be PFAS and/or PFAS precursors.”<sup>22</sup> The report also suggested that “more than 50 PFAS have been used or proposed to be used to extract oil and gas, based on public records dating back to 1956.”<sup>23</sup> According to PSR, such long-term and widespread PFAS use within the industry is allegedly responsible for numerous health problems suffered by workers exposed to these materials.

The PSR report ignited a lively debate on the use of PFAS in hydraulic fracturing. Some not only disagreed with the report, but also alleged that PSR’s findings were “inaccurate and exaggerated.”<sup>24</sup> Specifically, in response to the PSR report, John A. Connor and other experts in the industry examined the claims made in the PSR publication and, following their own research of the issue, came to find that “PFAS have rarely been used in oil and gas operations and the limited use that has occurred was principally prior to 2017.”<sup>25</sup> Moreover, their research found that PFAS was used in “less than 0.9% of hydraulic fracturing projects on record.”<sup>26</sup> Additionally,

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<sup>20</sup> *Id.* at 6.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.* at 9.

<sup>23</sup> *Id.* at 10.

<sup>24</sup> JOHN A. CONNOR ET AL., COMMENT ON “FRACKING WITH FOREVER CHEMICALS” BY PHYSICIANS FOR SOCIAL RESPONSIBILITY, ISSUED JULY 2021 (Sept. 2021), 1, (available at <https://www.gsienv.com/wp-content/uploads/2021/09/Comment-on-Fracking-with-Forever-Chemicals-by-Physicians-for-Social-Responsibility-issued-July-2021-2.pdf>).

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

their research concluded that “there are only 9 wells on record where PFAS additives were used” from 2020-2021.<sup>27</sup>

Altogether, the PSR article was proven to be a significant exaggeration regarding the use of PFAS in the oil and gas industry, but even the response put forth by industry found that certain formulas, but by no means all, used by the industry did potentially contain small levels of PFAS in the hydraulic fracturing fluid. Based on these articles, it is at least possible and, in some cases, likely dependent upon the source of one’s hydraulic fracturing fluid, that the following PFAS or PFAS precursors have been or may be used within hydraulic fracturing fluids:

- Perfluoroalkyl alkanes/cycloalkanes
- Fluoroalkyl alcohol substituted polyethylene glycol
- Nonionic fluorosurfactants
- Polytetrafluoro-ethylene (PTFE)

While the PSR article and response tend to confirm that the above PFAS or PFAS precursors are or have previously been used in some oil and gas hydraulic fracking fluid formulas, this conclusion must be prefaced with the statement that this finding is based solely on the information published within FracFocus, which is a database that contains records on the hydraulic fracturing chemicals used in oil and gas wells across the country.<sup>28</sup> FracFocus allows oil and gas operators to submit chemical data for public review. While FracFocus currently receives “reports from more than 1,600 companies reporting chemicals for more than 189,000 hydraulic fracturing operations nationwide,” not every oil and gas operation submits chemical data to this registry, as only “27 states [currently] require or allow companies to disclose chemical data via FracFocus.”<sup>29</sup>

Thus, while FracFocus is a beneficial tool for determining the presence of PFAS within hydraulic fracturing fluids, it does not provide a definitive source for this information as not all operations are required to report to this registry

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<sup>27</sup> *Id.* at 2.

<sup>28</sup> *See About FracFocus*, FRACFOCUS CHEMICAL DISCLOSURE REGISTRY (last updated March 1, 2022), <https://www.fracfocus.org/index.php?p=learn/about-fracfocus>.

<sup>29</sup> *Id.*

and it is unknown how many operations voluntarily report to this registry. In light of the absence of mandatory reporting requirements concerning the use or presence of PFAS in oil and gas operations, first, the conclusions herein are limited to the accuracy and availability of information contained within publicly available databases, but secondly, there is a substantial data gap for the industry in attempting to measure how prolific these forever chemicals may be in their operations. A review of the elements that go into the hydraulic fracturing fluids used by an operator would provide that operator with at least the knowledge that PFAS or PFAS related chemicals may exist in the fluid.

While the known presence of PFAS within hydraulic fracturing fluids may be minimal and geologically and historically limited, any past or present use of these substances will require oil and gas operations to pay attention to current and pending regulation of these substances. Further, operators will want to ensure that they have a complete understanding of: (1) whether PFAS were used in their hydraulic fracturing fluids at any time; (2) the quantity of PFAS used; (3) the location on site where the PFAS use occurred or is occurring; and (4) the history and method of disposal of any oil and gas waste that may contain PFAS.

## **[2] — Water Sources for Production.**

An additional potential source of PFAS in the oil and gas industry is the water used by operators to frack wells. It should be obvious that, to the extent water from prior hydraulic fracturing operations is recycled and re-used in future operations, that to the extent the initial hydraulic fracturing fluid may have contained PFAS, the water which is being recycled will also contain the same PFAS.

It is less obvious that freshwater sources used in the drilling process may also be a substantial source of PFAS. Oil and gas operations require a significant amount of water in order to fracture wells and the source of that comes from numerous places such as municipal water supplies, surface waters, groundwater, and recycled water as mentioned above; however, many of these freshwater sources are contaminated by PFAS.

In a study conducted by the Interstate Technology Regulatory Council, 60 percent of states that had sampled their surface water for PFAS detected

at least some levels of either PFOA and/or PFOS.<sup>30</sup> Therefore, those within the oil and gas industry may be inadvertently using PFAS when they pull surface water for their operations.

Operations that use freshwater sources for production should consider examining: (1) what sources of water are being used in their operations; (2) whether those sources have historical PFAS contamination and the level of PFAS that could be expected in the water; (3) the quantity of freshwater used for production; (4) the location on site where those freshwater sources are being used; and (5) the history and method of disposal of any oil and gas waste that may have PFAS as a result of the operation's use of freshwater sources.

### **[3] — Firefighting Fluid.**

A final potential PFAS source in the oil and gas industry that is covered in this chapter is the use of aqueous film-forming foams (“AFFF”), which are Class B firefighting foams.<sup>31</sup> AFFFs are used for “high-hazard flammable liquid fires,” and research has concluded that “[a]ll AFFF products contain PFAS.”<sup>32</sup> Given the historical use of AFFFs at airports, military installations, and other locations across the country, it is likely that AFFF is one of the largest PFAS sources in the United States.

Given that “AFFF is used where there is a significant flammable liquid hazard present,” it is likely that these foams are used by oil and gas operations for emergency response and training activities.<sup>33</sup> Oil and gas operators should evaluate: (1) whether their emergency and response operations employ AFFF; (2) where AFFF has been used and whether the use occurred in locations outside of secondary containment; (3) the quantity of AFFF used at a site; and (4) where AFFF is stored on site.

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<sup>30</sup> SURFACE WATER QUALITY, (Interstate Technology Regulatory Council, 2021), (available at <https://pfas-1.itrcweb.org/16-surface-water-quality/?print=pdf>).

<sup>31</sup> AQUEOUS FILM-FORMING FOAM (AFFF), 1 (Interstate Technology Regulatory Council, 2020), (available at [https://pfas-1.itrcweb.org/fact\\_sheets\\_page/PFAS\\_Fact\\_Sheet\\_AFFF\\_April2020.pdf](https://pfas-1.itrcweb.org/fact_sheets_page/PFAS_Fact_Sheet_AFFF_April2020.pdf)).

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

Each of these points would be important information to help assure that the use of AFFFs is mitigated and that potential exposure to workers or the public is minimized through good management practices which limit exposure and contain potential contamination.

### § 2.05. Regulatory Compliance.

Since PFAS are likely used to some degree within the oil and gas industry, operators should pay close attention to regulatory proposals regarding these substances. This chapter primarily focuses on current/pending federal PFAS regulations, such as the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), the Resource Conservation and Recovery Act (“RCRA”), and the Clean Water Act (“CWA”). However, it is also important for members of this industry to be aware of state regulation of PFAS, which can vary tremendously.

#### [1] — Comprehensive Environmental Response, Compensation, and Liability Act.

The Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) — which is codified in 42 U.S.C. § 9601 *et seq.* — allows the EPA to “seek out those parties responsible for any release [of hazardous substances] and assure their cooperation in the cleanup.”<sup>34</sup> Currently, there are “about 800 CERCLA hazardous substances,” which have been identified either by reference to the CWA, Clean Air Act (“CAA”), RCRA, and Toxic Substance Control Act (“TSCA”) or by a separate EPA designation.<sup>35</sup>

As of today, PFAS are not considered a hazardous substance under CERCLA; however, the “EPA is developing a Notice of Proposed Rulemaking to designate PFOA and PFOS as ... hazardous substances.”<sup>36</sup> Additionally,

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<sup>34</sup> *Summary of the Comprehensive Env'tl. Response, Compensation, and Liability Act (Superfund)*, U.S. ENVTL. PROTECTION AGENCY (last updated Sept. 28, 2021), <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>.

<sup>35</sup> *Id.*

<sup>36</sup> U.S. Env'tl. Protection Agency, *PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024*, 17 (2021), (available at [https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap\\_final-508.pdf](https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf)).

the “EPA is developing an Advance Notice of Proposed Rulemaking to seek public input on whether to similarly designate other PFAS”, which could include those PFAS or PFAS precursors identified above as having been historically used in hydraulic fracturing fluids.<sup>37</sup>

If the EPA’s proposed rules become final—and they most likely will—then “facilities across the country [will be required] to report on PFOA and PFOS releases that meet or exceed the reportable quantity assigned to these substances.”<sup>38</sup> Further, once PFAS are designated as hazardous substances, entities that release the chemicals will be liable for cleanup costs.<sup>39</sup>

For these reasons, oil and gas operations should pay attention to these proposals as they are published and should participate in the rulemaking process to inform regulators of: (1) the impacts of these regulations to the oil and gas industry and (2) the presence of PFAS within oil and gas operations. Such participation is highly recommended to ensure that any regulation adopted is tailored to address the intricacies of PFAS use with the oil and gas industry.

Although PFAS are not currently listed as hazardous substances, oil and gas operators may still be liable under CERCLA. CERCLA allows the EPA to respond to “actual or threatened releases of ‘pollutants or contaminants’ that ‘may present an imminent and substantial danger to the public health or welfare.’”<sup>40</sup> The phrase “pollutants or contaminants” is defined in 42 U.S.C. § 9601(33), which states that

The term “pollutant or contaminant” shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be

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<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Section 1: Regulatory Context of the HRS*, U.S. ENVTL. PROTECTION AGENCY (last updated May 12, 2022), <https://www.epa.gov/superfund/section-1-regulatory-context-hrs>.

anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring ...

Given the currently known health risks associated with PFAS, the EPA may decide to consider these substances as pollutants or contaminants. By doing so, the EPA could require oil and gas operators to respond to contamination.

There are several ways that the oil and gas industry might be affected by CERCLA, depending on whether PFAS are considered hazardous substances or pollutants or contaminants. First, owners (or past owners) of oil and gas sites that have historical PFAS contamination could be liable under CERCLA and be responsible for remediation and response costs. Secondly, if PFAS are listed as hazardous substances and operators transport oil and gas exploration wastes to other areas for final disposal, then they could be considered liable under CERCLA for the transportation of hazardous substances and as the initial generator of the waste.

## **[2] — Resource Conservation and Recovery Act.**

The Resource Conservation and Recovery Act (“RCRA”) grants the EPA the “authority to control hazardous waste from the ‘cradle-to-grave.’”<sup>41</sup> RCRA is a “combination of the first federal solid waste statutes and all subsequent amendments.”<sup>42</sup> Importantly, RCRA contains a citizen suit provision that allows any individual to bring a claim against anyone “who has contributed or is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment.”<sup>43</sup>

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<sup>41</sup> *Resource Conservation and Recovery Act (RCRA) Overview*, U.S. ENVTL. PROTECTION AGENCY (last updated July 14, 2021), <https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-overview#how%20does%20rcra%20work>.

<sup>42</sup> *Id.*

<sup>43</sup> 42 U.S.C. § 6972(a)(B).

Under this provision, oil and gas operators could be subject to citizen suit claims simply due to the “handling, storage, treatment, transportation, or disposal” of PFAS as a solid waste. Should such a claim be filed against an oil and gas operation, the filing party will bear the burden of demonstrating that the PFAS used in the oil and gas operations present an imminent and substantial endangerment to health or the environment. Should such a claim be successful, an operator may face a civil penalty, be subject to injunctive remedies, and be responsible for attorney fees of the filing party.

### **[3] — Clean Water Act.**

Another regulatory area that those within the oil and gas industry should be aware of is the Clean Water Act (“CWA”). The CWA “establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters”; it is codified in 33 U.S.C. § 1251 *et seq* (1972).<sup>44</sup> Through the CWA, the EPA publishes effluent guidelines, which “are national regulatory standards for wastewater discharged to surface waters and municipal sewage treatment plants.”<sup>45</sup>

Although PFAS are not currently regulated pursuant to the CWA’s effluent guidelines, the EPA has recently issued a proposal to limit PFAS pollution in the nation’s waters. Specifically, the proposal seeks to finalize ambient water quality criteria for PFOA and PFOS for both aquatic life and human health.<sup>46</sup> The EPA expects to publish aquatic life criteria in the winter of 2022 and human health criteria in the fall of 2024.<sup>47</sup>

One area of the CWA that may result in significant PFAS regulation for oil and gas operators is the National Pollutant Discharge Elimination

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<sup>44</sup> *Summary of the Clean Water Act*, U.S. ENVTL. PROTECTION AGENCY (last updated Oct. 22, 2021), <https://www.epa.gov/laws-regulations/summary-clean-water-act>.

<sup>45</sup> *Effluent Guidelines*, U.S. ENVTL. PROTECTION AGENCY (last updated April 18, 2022), <https://www.epa.gov/eg#:~:text=Effluent%20Guidelines%20are%20national%20regulatory,of%20treatment%20and%20control%20technologies>.

<sup>46</sup> U.S. Env’tl. Protection Agency, *PFAS Strategic Roadmap: EPA’s Commitments to Action 2021-2024*, 17 (2021), (available at [https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap\\_final-508.pdf](https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf)).

<sup>47</sup> *Id.*

System (“NPDES”) program. This program requires anyone seeking to discharge a pollutant “through a ‘point source’ into a ‘water of the United States’” to first obtain a NPDES permit.<sup>48</sup> A NPDES permit “contain[s] limits on what you can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people’s health.”<sup>49</sup> Point sources are “defined very broadly [and] . . . mean[] any discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container.”<sup>50</sup> Those who violate the NPDES permitting requirements can face severe repercussions, such as monetary penalties, jail sentences, and legal action by the EPA and/or the general public.<sup>51</sup>

In April 2022, the EPA Assistant Administrator issued a memorandum stating that the “EPA will use the NPDES program to restrict PFAS discharges to water bodies.”<sup>52</sup> This may affect oil and gas operations in multiple ways. First, NPDES permits will include Best Management Practices (BMPs) for AFFF firefighting foam, including “[p]rohibiting the use of AFFFs in stormwater permits other than for actual firefighting [and] . . . eliminating PFOS- and PFOA-containing AFFFs.”<sup>53</sup> While oil and gas operators mostly enjoy the luxury of being exempt<sup>54</sup> from CWA stormwater permitting requirements, should it be determined that an operation is contributing to a violation of a state or federal water quality standard, coverage can be required. AFFF appears to be a specific focus of EPA’s proposed PFAS regulations, and

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<sup>48</sup> *NPDES Permit Basics*, U.S. ENVTL. PROTECTION AGENCY (last updated March 7, 2022), <https://www.epa.gov/npdes/npdes-permit-basics>.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> Memorandum from Radhika Fox to Water Division Directors, EPA Regions 1-10 (April 28, 2022), *Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority*, 1, (available at [https://www.epa.gov/system/files/documents/2022-04/npdes\\_pfas-memo.pdf](https://www.epa.gov/system/files/documents/2022-04/npdes_pfas-memo.pdf)).

<sup>53</sup> *Id.* at 3.

<sup>54</sup> See *National Pollutant Discharge Elimination System: Oil and Gas Stormwater Permitting*, U.S. Env’tl Prot. Agency (last visited July 31, 2022), <https://www.epa.gov/npdes/oil-and-gas-stormwater-permitting>; see also 33 U.S.C. § 1342(l)(2).

oil and gas operators who use AFFF for emergency response and training activities could see specific regulations relating to this use.

Additionally, many oil and gas operators recycle their produced water and other waste for future uses. Sometimes, this recycling process will include a treated discharge to waters of the United States, which requires regulation under the CWA NPDES program as described above.<sup>55</sup> Should the CWA be amended to impose effluent guidelines for PFAS, oil and gas operators discharging any regulated substance will likely be held to stringent effluent limitations. Failure to comply with these standards can result in the imposition of penalties, injunctive remedies, or third-party citizen suits.

#### **[4] — State Regulation of PFAS.**

In addition to federal PFAS regulations, many states have also adopted policies related to these substances, including Pennsylvania, West Virginia, Ohio, Kentucky, and Virginia. Altogether, there are 211 PFAS-related policies in 31 states.<sup>56</sup> Of course, these policies vary widely. Therefore, those within the oil and gas industry should examine their own state’s specific actions concerning PFAS.

### **§ 2.06. Potential Liability Stemming from PFAS Usage.**

As more information regarding the health and environmental impacts of PFAS are revealed, litigation involving these substances has become increasingly prevalent. Although previous lawsuits have focused on the liability of PFAS manufacturers, it is likely that litigation will expand to include those who merely use and dispose of PFAS.

#### **[1] — *In re E.I. Du Pont de Nemours and Company C-8 Personal Injury Litigation.***

A significant portion of PFAS litigation has been focused on DuPont—the creator of PFOA. One of the most well-known cases against DuPont is *In*

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<sup>55</sup> While some oil and gas operations recycle their produced water and discharge through an NPDES permit, the majority of operations still use underground injection control (“UIC”) wells for disposal of produced water and other wastes.

<sup>56</sup> *Id.*

*Re: E.I. Du Pont de Nemours and Company C-8 Personal Injury Litigation*, which involved “approximately 80,000 residents of Ohio and West Virginia who drank water contaminated by releases of a chemical referred to as C-8 from DuPont’s Washington Works facility near Parkersburg, West Virginia.”<sup>57</sup> The case was divided into four trials; three of the trials resulted in verdicts in favor of the plaintiffs and one of the trials was ultimately dismissed after DuPont agreed to a \$670.7 million global settlement.<sup>58</sup>

Following the settlement, more cases were filed in the multi-district litigation. One of these cases involved Travis and Julie Abbott, Ohio residents residing near DuPont’s Washington Works facility. Abbott alleged that “the C-8 from DuPont’s Washington Works plant that was released into [his] drinking water caused [him] to twice develop testicular cancer.”<sup>59</sup> Along with Mr. Abbott’s claims against DuPont, Mrs. Abbott asserted a loss of consortium claim against the company. Following a month-long trial, “the jury delivered verdicts in favor of the Abbotts, awarding \$40 million in damages to Mr. Abbott and \$10 million to Mrs. Abbott.”<sup>60</sup> Subsequently, DuPont moved for a mistrial, which was denied.

After the court denied its mistrial motion, DuPont requested that the court apply the Ohio Tort Reform Act—which imposed a damages cap of \$250,000—to Mrs. Abbott’s loss of consortium claim and reduce Mr. Abbott’s award. The court accepted DuPont’s position regarding Mrs. Abbott and decreased her award from \$10 million to \$250,000; however, the court disagreed that Mr. Abbott’s award should be reduced. Specifically, the court concluded that “Mr. Abbott’s injuries were fully supported by the evidence presented at trial, and the jury’s award was a fair, reasonable attempt to compensate Mr. Abbott for those injuries.”<sup>61</sup>

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<sup>57</sup> In re E. I. Du Pont de Nemours and Co. C-8 Pers. Injury Litig., 529 F.Supp.3d 720, 724 (S.D. Ohio 2021).

<sup>58</sup> *Id.*

<sup>59</sup> In re E. I. Du Pont de Nemours and Co. C-8 Pers. Injury Litig., 529 F.Supp.3d 720, 725 (S.D. Ohio 2021).

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* at 742.

Those within the oil and gas industry should view this case as a cautionary tale of the type of litigation that may occur because of PFAS usage. Of course, this case was aimed at a PFAS manufacturer and involved PFOA, which is not a PFAS substance currently known to be used within the oil and gas industry, so it may not seem directly applicable to the oil and gas industry. One must remember, however, that PFAS lawsuits are still relatively new. It is incredibly likely that these lawsuits will eventually target PFAS users, such as oil and gas operators, and will expand to include PFAS substances beyond PFOA and PFOS. Therefore, it is important that oil and gas operators implement preventative measures to minimize PFAS usage before they are exposed to lawsuits that result in a loss of millions of dollars.

**[2] — *Giordano v. Solvay Specialty Polymers USA, LLC.***

In *Giordano v. Solvay Specialty Polymers USA, LLC*, a class of plaintiffs sued four companies after they discovered high levels of PFAS in their private well water.<sup>62</sup> Plaintiffs brought nine claims against the companies, including negligence, nuisance, and failure to warn. The companies moved to dismiss on various grounds; one argument made by the companies was that the plaintiffs had not alleged enough facts to support their claim for medical monitoring.

Specifically, plaintiffs asserted that they were entitled to medical monitoring because “it [was] *likely* [that] they [had] suffered personal injury.”<sup>63</sup> In ruling on this issue, the court determined that the plaintiffs’ claim was permissible; it reasoned that the “allegations support[ed] the plausibility of [p]laintiffs’ claims that [the companies’] actions cause[d] them to be *at risk* for serious physical injuries and diseases related to their consumption, ingestion, and exposure to elevated levels of PFAS.”<sup>64</sup> This case demonstrates that a plaintiff’s PFAS exposure claim may survive a defendant’s motion to dismiss by merely asserting that the defendant’s actions made it possible for the plaintiff to suffer health problems in the future.

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<sup>62</sup> *Giordano v. Solvay Specialty Polymers USA, LLC*, 522 F.Supp.3d 26 (D.N.J. 2021).

<sup>63</sup> *Id.* at 34 [emphasis added].

<sup>64</sup> *Id.* [emphasis added].

While previous PFAS lawsuits have been focused on manufacturers, PFAS users will almost certainly be exposed to litigation in the near future. Therefore, it would be in the best interests of the industry to identify potential sources of PFAS and implement what are often times simple best management practices to mitigate any legal liability they may incur from PFAS usage, known or unknown.

### **§ 2.07. Best Management Practices.**

As discussed above, as regulators increase scrutiny regarding PFAS use and the presence of PFAS, it will become increasingly important for oil and gas operators to identify potential sources of PFAS and potentially eliminate or effectively manage these sources to limit exposure to the public and the environment. Oil and gas operators should consider some of the following practices for addressing the historical and/or current presence of PFAS within their operations:

1. Limit the use and release of AFFFs
  - Maintain records of use and purchase.
  - Develop and deploy containment systems.
  - Develop procedures to ensure stormwater valves are turned off when AFFF are in use.
  - Consider an internal audit to determine potential shortcomings.
2. PFAS Source Characterization
  - 2.A. Additive for Drilling/Fracture fluid
    - Are PFAS used in your operations?
    - Have PFAS historically been used in your operations?
    - For what purpose?
    - Determine the quantity of use.
    - Evaluate alternative sources to limit PFAS use.
  - 2.B. Commercial Products (water proofing compounds/other materials containing PFAS for enhanced physical properties)
    - Are such potential PFAS sources used in your operations?
    - Have such potential PFAS sources historically been used in your operations?
    - For what purpose?

- Determine the quantity of use.
  - Evaluate alternative sources to limit use of potential PFAS sources
3. Current/Pending Regulatory Requirements Applicable to Oil and Gas
    - Do you dispose of PFAS waste to waters of the State?
    - Do you land apply PFAS sludges or sell sludges for land application?
    - Do you periodically test source waters for incoming PFAS content?
    - Do you periodically test flow back or produced waters for PFAS content?
  4. Develop a PFAS Message
    - Prepare remarks to address allegations of PFAS use.
    - Develop fact sheets that can be used to inform residents or other concerned citizens about the use of PFAS in your operations.
  5. Participate in Regulatory Rulemakings
    - Be prepared to offer commentary on proposed regulations that could impact the oil and gas industry.

### **§ 2.08. Conclusion.**

Altogether, the evidence indicates that PFAS are likely present within the oil and gas industry to some degree. Three of the primary sources of PFAS in oil and gas operations are: hydraulic fracking fluid, freshwater sources for production, and AFFF firefighting foam. Since these substances are likely present in varying levels, the industry should begin taking steps to mitigate potential liability that may be incurred from the use of these substances. To do this, oil and gas operators should pay close attention to pending regulations and implement best management practices within their operations.



# Chapter 3

## Powering Crypto: New Opportunities Created by Energy Revolutions<sup>1</sup>

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### § 3.01. Introduction.

Romans who invaded Britain in the first century AD are reported to have discovered coal outcroppings, recognizing it as a superior source of heat compared to wood or charcoal. Widespread use of coal in homes and industry began in the late 1800s. Over the next 150 years fossil fuels have been used to create innumerable products from steel in the largest buildings

to petrochemicals and plastics in the smallest electronic devices. As energy is created it drives business innovation and spurs economic growth around the globe — creating the products we buy and sell every day. Today, we are using the electricity created by these fuels, as well as renewable sources of energy, to literally create money — cryptocurrencies to be precise.

The concept of cryptocurrency has been around for over a decade, and recently several companies that produce cryptocurrency (referred to herein as a “Third-Party Company”) have turned their attention to companies that have an excess of available energy — including both renewable projects and those producing natural gas (referred to herein as an “Operator”) as a favored target for new ventures. This development is caused by an intersection of Third-Party Companies are largely seeking a dependable and cheap source of energy to power their cryptocurrency mining operations (sometimes referred to herein as “crypto-mining”). As a result, many Operators have sought to learn more about the crypto-mining business and to evaluate how their companies should best approach this new opportunity. While recent price volatility may have dampened enthusiasm among some parties, the underlying reasons for Third Party Companies to seek out ventures with Operators remain in place and we expect this trend to continue unless or until government regulation changes those fundamental precepts. This chapter begins with an explanation of what cryptocurrency is and an overview of the business of earning or generating cryptocurrency, provides a review of the synergies between crypto-mining and oil and gas development around the United States, examines currently applicable law as well as areas of emerging law that may affect these ventures, discusses possible deal structures, and provides an overview of legal issues that will need to be analyzed as an Operator considers and negotiates a transaction to participate at some level in a crypto-mining venture.

### **§ 3.02. Background.**

#### **[1] — What Is Cryptocurrency?**

The term cryptocurrency describes digital assets with money-like characteristics. In 2008, a person, or entity, under the pseudonym Satoshi Nakamoto conceptualized “Bitcoin” as a peer-to-peer version of electronic

cash using a payment system based on cryptographic proof.<sup>2</sup> Significantly, prior to the development of cryptocurrency, online transactions required financial institutions to verify and process electronic payments as third parties, which meant that a consumer needed to link a bank account or a credit card or use a platform like PayPal to complete a financial transaction online. The primary role of the third-party financial institution in an electronic transaction is to prevent the problem of double-spending, where the same unit of currency is spent simultaneously more than once. A financial institution verifies each transaction privately, maintaining its own ledger and applying its verification process to the transaction. Financial institutions also serve as mediators of disputes regarding the validity of the transaction. Because financial institutions desire to limit the frequency and extent of that mediation, transactions must be capable of being reversed, the cost of the transaction increases, the size of a transaction must be practically limited, and transaction parties are required to collect more information from each other than they might prefer.<sup>3</sup> Nakamoto theorized that a more secure cryptocurrency transaction could avoid the limitations imposed by financial institutions if the transaction or currency itself eliminated the need to address mediation or reversal of transactions.

In-person commerce can be transacted in cash, largely mitigating the aforementioned challenges, but, until cryptocurrency, there was no system that allowed parties to make payments electronically without the involvement of a third party.<sup>4</sup> Nakamoto authored the Bitcoin white paper “Bitcoin: A Peer-to-Peer Electronic Cash System” in October of 2008, in the middle of a global recession, at a time when trust in the traditional financial model was low.<sup>5</sup> In the paper, Nakamoto described a solution that used peer-to-peer time-stamped servers “to generate computational proof of the chronological order

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<sup>2</sup> SATOSHI NAKAMOTO, BITCOIN: A PEER-TO-PEER ELECTRONIC CASH SYSTEM (2008), (available at <https://bitcoin.org/bitcoin.pdf>).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

of transactions.”<sup>6</sup> Rather than have financial institutions verify transactions, cryptocurrency uses blockchain, a decentralized, time-stamped ledger which any user on the open network can access to verify the full transaction history.<sup>7</sup>

No one knows with certainty how many cryptocurrencies are currently in circulation or how much the combined cryptocurrency market is worth; however, crypto asset price-tracking resource, CoinMarketCap, identifies approximately 17,000 cryptocurrencies with a combined market cap of \$1.8 trillion.<sup>8</sup> The top half-dozen currencies make up more than 80 percent of that market.<sup>9</sup> Bitcoin is currently the highest-valued cryptocurrency, trading over the last year in the range of \$29,807 to \$67,566<sup>10</sup> and averaging \$47,273 per coin in 2021.<sup>11</sup> The number of daily transactions on the Bitcoin blockchain reached approximately 400,000 in January of 2021.<sup>12</sup> The daily transaction activity on Ethereum surpassed 1.1 million transactions in July of 2021.<sup>13</sup> The first known Bitcoin transaction occurred in May of 2010 when a computer programmer traded 10,000 Bitcoin for two pizzas, a transaction worth approximately \$472 million based on the average Bitcoin price in 2021, but which was worth only \$41 at the time.<sup>14</sup> It is estimated that 16

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<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Today's Cryptocurrency Prices by Market Cap*, COINMARKETCAP, <https://coinmarketcap.com/> (last visited Jan. 21, 2022).

<sup>9</sup> Jacquelyn Bulao, *44 Amazing Cryptocurrency Statistics You Need to Know*, TECHJURY (Jan. 4, 2022), <https://techjury.net/blog/cryptocurrency-statistics/#gref>.

<sup>10</sup> *Bitcoin*, COINMARKETCAP (last visited Jan. 21, 2022), <https://coinmarketcap.com/currencies/bitcoin/?period=7d>.

<sup>11</sup> Joanna Ossinger, *Bitcoin Hovers Near Its 2021 Average Into End of the Year*, BLOOMBERG (Dec. 9, 2021), <https://www.bloomberg.com/news/articles/2021-12-10/bitcoin-hovers-near-its-2021-average-into-end-of-the-year-chart>.

<sup>12</sup> Raynor de Best, *Bitcoin (BTC) Daily Transaction History Worldwide as of January 9, 2021*, STATISTA (Jan. 10, 2022), [https://www.statista.com/statistics/730806/daily-number-of-bitcoin-transactions/#:~:text=The percent20number percent20of percent20Bitcoins percent20processed,400 percent2C000 percent20in percent20early percent20January percent202021.](https://www.statista.com/statistics/730806/daily-number-of-bitcoin-transactions/#:~:text=The%20number%20of%20Bitcoins%20processed,400%20in%20early%20January%202021.)

<sup>13</sup> Jacquelyn Bulao, *44 Amazing Cryptocurrency Statistics You Need to Know*, TECHJURY (Jan. 4, 2022), <https://techjury.net/blog/cryptocurrency-statistics/#gref>.

<sup>14</sup> *Bitcoin was First used to Buy Pizza*, NDTV (August 18, 2021), <https://www.ndtv.com/business/the-first-bitcoin-transaction-was-for-buying-pizzas-more-interesting-tidbits-inside-2512643>.

percent of adult Americans and 43 percent of men age 18-29 have invested in cryptocurrency<sup>15</sup> and more than 300,000,000 users own some form of cryptocurrency world-wide.<sup>16</sup>

## [2] — Cryptocurrency Mining.

### [a] — Generally.

There are two ways to acquire cryptocurrencies: (1) existing tokens of cryptocurrency can be purchased through a currency exchange, and (2) new tokens of cryptocurrency can be received as a reward for participating in the validation process.

When Bitcoin was first introduced, and the price per coin was low, mining was a relatively inexpensive operation. But as its popularity grew and its value increased, miners scaled up their operations and dedicated additional resources to mining coins. One feature of Bitcoin is that its creator limited its total supply to 21 million coins.<sup>17</sup> Approximately 19 million Bitcoins, or over 90 percent, have already been mined, leaving only 2 million remaining to be mined.<sup>18</sup> Experts estimate that all 21 million coins will be mined by 2140.<sup>19</sup> A second feature of mining Bitcoin is the block reward halves every 210,000 blocks, or approximately four years.<sup>20</sup> A block rewarded 50 Bitcoin in 2008, 25 in 2012, 12.5 in 2016, and currently rewards 6.25 Bitcoin per block.<sup>21</sup> The next halving is expected to occur in 2024. A third feature of Bitcoin mining is that the difficulty level adjusts so that the network maintains an average

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<sup>15</sup> Fatima Hussein, *Amid Crypto Turmoil Senators Propose Sweeping Oversight*, THE WELL NEWS (June 7, 2022), <https://www.thewellnews.com/cryptocurrencies/amid-crypto-turmoil-senators-propose-sweeping-oversight/>.

<sup>16</sup> *Cryptocurrency Ownership Data*, TRIPLEA (last visited June 7, 2022), <https://triple-a.io/crypto-ownership-data/>.

<sup>17</sup> Madana Prathap, *Nearly 90 percent of Bitcoin has Already Been Mined*, BUSINESS INSIDER (December 24, 2021), <https://www.businessinsider.in/investment/news/bitcoin-limited-supply-has-driven-up-its-value-nearly-90-percent-has-be/articleshow/85349471.cms>.

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

time of 10 minutes between the confirmation of new blocks.<sup>22</sup> Even as the number of “nodes,” or connection points on the network, and hardware speed increases, the frequency of new coin generation does not increase linearly.

Blockchain is a decentralized distributed ledger with no single controlling node.<sup>23</sup> Transactions are grouped into blocks and proposed to be added to the chain. There is no default setting for which transactions are processed and in what order. Some of the transactions may have invalid payments, some may not include the requisite transaction fee, or some may be an attempt to spend the same unit of currency twice, so each transaction and each block must be verified.<sup>24</sup> For any set of transactions, there could be many block combinations constructed, none of which is “correct” but one of which may be preferred because it offers a particular benefit to the proposing user. Having a proposed block accepted onto the blockchain is desirable for a number of reasons, including having control over which transactions are verified and in what order. For example, a node could propose a block that excludes all competitor transactions. The network also offers a reward for adding a new block to the chain.<sup>25</sup> This reward incentivizes nodes to contribute their computing power to the network to verify transactions. The reward has a second benefit: If a node submits a block that breaks the rules — if, for example, it includes transactions that spend the same coin more than once — the block will not be accepted by the rest of the network and the node submitting the block will lose the reward it would have earned.<sup>26</sup> Without any additional requirements, there would be many reasons for an individual node to select transactions to suit its own purposes. Cryptocurrency networks address this challenge by setting rules for how new blocks are accepted onto the chain and how nodes are rewarded for participation, and those rules are

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<sup>22</sup> Eliza Gkritsi, *Bitcoin Mining Difficulty Sets New All-Time High*, COIN DESK (January 21, 2022), <https://www.coindesk.com/tech/2022/01/21/bitcoin-mining-difficulty-sets-new-all-time-high/>.

<sup>23</sup> David Rodeck, John Schmidt, *What is Blockchain*, FORBES (June 9, 2021), <https://www.forbes.com/advisor/investing/what-is-blockchain/>.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

aimed at achieving consensus.<sup>27</sup> Consensus must, however, require more than one node, one vote, otherwise a bad actor could control the blockchain simply by controlling 51 percent of the nodes on the network.

### **[b] — Proof of Work.**

As a first mover in cryptocurrency, Bitcoin's approach had a significant effect on how subsequent systems were designed and its blockchain utilized a protocol called proof of work.<sup>28</sup> The proof of work ruleset secures the transaction verification process by requiring one party to prove to others that a certain amount of work has been completed.<sup>29</sup> This work is measured by computational effort. This process was first developed in 1993 to deter spam and denial-of-service attacks.<sup>30</sup> For example, sending an email requires the digital equivalent of a postage stamp, which can only be generated using computer processing power.<sup>31</sup> For an individual, sending one email with a digital postage stamp requires a minimal amount of computing work. For a spam sender, which desires to send millions of emails, the required computer processing work may be prohibitively expensive, thus deterring spam senders. By requiring a user to engage in a proof of work protocol in exchange for services, like sending an email, legitimate users can participate with minimal inconvenience, while malicious users must commit far more resources to overcoming the same barrier when requesting services in a larger volume.

Bitcoin's specific proof of work system is hash-based.<sup>32</sup> New transactions are broadcast to all nodes on the network. A miner runs a computer program that groups unconfirmed transactions on the network into a block. A block

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<sup>27</sup> *Id.*

<sup>28</sup> Simon Chandler, *Proof of Work is at the Core of the System that Manages Bitcoin Transactions and Secures the Network*, BUSINESS INSIDER (December 16, 2021), <https://www.businessinsider.com/personal-finance/proof-of-work>.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Bitcoin: Proof of Work*, KHAN ACADEMY (last visited Feb. 6, 2022), <https://www.khanacademy.org/economics-finance-domain/core-finance/money-and-banking/bitcoin/v/bitcoin-proof-of-work>.

<sup>32</sup> Daniel Krawisz, *The Proof-of-Work Concept*, NAKAMOTO INSTITUTE (Jun. 24, 2013), <https://nakamotoinstitute.org/mempool/the-proof-of-work-concept/>.

will be accepted by the network, and the miner rewarded, only if its “hash,” or amount of computing and processing power being contributed to the network, meets the network’s target.<sup>33</sup> Each block in the Bitcoin block chain has a random number string, called a “nonce,” attached to its header.<sup>34</sup> To find the nonce, miners must engage in a computational trial and error process, randomly trying numbers until one set works.<sup>35</sup> When a miner finds the nonce, it broadcasts the block to the network, and the receiving nodes validate the nonce attached to that block.<sup>36</sup> The block is confirmed and added to the chain once the nodes begin working on the next block.<sup>37</sup> The first transaction in each new block is the one that incentivizes miners to support the network; it is the transaction that produces the bitcoin reward to be owned by the block’s creator.<sup>38</sup>

Under this protocol, a miner increases its chance of guessing the correct answer by increasing the number of guesses it makes and the frequency of those guesses. Therefore, miners are incentivized to increase their computer power to gain competitive advantage. As the value of a reward increases, and the number of mining operations coming online increases, miners must expand their operations to maintain the same level of profitability. Most of the energy used in crypto-mining is doing the work of searching for the correct nonce, rather than supporting transaction verification. That energy is lost for all nodes other than the node identifying the correct nonce first. While it is difficult to accurately track that effort, estimates suggest that miners are making 160 quintillion calculations every second.<sup>39</sup>

The objective of the proof of work ruleset is to extend the chain because the validity of the chain is a function of how much computing work was done. The valid chain, or the one with majority consensus, will always be the longest

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33 *Id.*

34 *Id.*

35 *Id.*

36 *Id.*

37 *Id.*

38 *Id.*

39 Justin Rowlett, *How Bitcoin’s Vast Energy Use Could Burst Its Bubble*, BBC (February 27, 2021), <https://www.bbc.com/news/science-environment-56215787>.

chain because it required the most effort to create. The chain is secured by this process because to modify a previous block, the attacker would have to redo the proof of work of the target block and every subsequent block and then grow faster than the work being done by the legitimate nodes.

### [c] — Proof of Stake.

Even though proof of work was originally utilized as the method to establish blockchains, it was not the only option. Other cryptocurrencies have been designed to function on a blockchain backed by proof of stake rulesets. Proof of stake is a consensus protocol based on “staking” coins, or committing coins to the network, in order to become a validator on the network.<sup>40</sup> Rather than weighting a node’s vote based on the scarcity of computing power, this mechanism ties the value of each node’s vote to the scarcity of the resource itself.<sup>41</sup> The network selects the next block proposal based on a pseudo-random process that takes into account the size of the stake that the node dedicated.<sup>42</sup> The more coins a node commits and the longer those coins are committed, the higher chance that node has of being selected.<sup>43</sup> Other nodes on the network will check the winning node’s block, and if the block earns the consensus of 51 percent of the network, the block is accepted, and the contributor is rewarded.<sup>44</sup> If the block does not get a majority consensus, the contributor’s stake is decreased as a penalty for offering a bad block.<sup>45</sup>

As sectors of the public increasingly focus on energy consumption, one clear advantage of proof of stake is that it is a more energy efficient

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<sup>40</sup> *Proof-of-Stake (POS)*, ETHEREUM (last modified Jan. 26, 2022), <https://ethereum.org/en/developers/docs/consensus-mechanisms/pos/>.

<sup>41</sup> Johannes Sedlmeir, et al., *The Energy Consumption of Blockchain Technology: Beyond Myth*, BUS INF SYST ENG 62, 599–608 (2020) (available at <https://link.springer.com/content/pdf/10.1007/s12599-020-00656-x.pdf>).

<sup>42</sup> Brian Nibley, *Proof of Stake: A Process used to Validate Crypto Transactions Through Staking*, BUSINESS INSIDER (November 12, 2021), <https://www.businessinsider.com/proof-of-stake>.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

process.<sup>46</sup> No energy is dedicated to solving the cryptographic proof, but instead is entirely focused on validating transactions. Validators are chosen at random, so they aren't competing to be the first to propose a legitimate block. Proof of stake also theoretically allows for broader participation. If a node has the requisite number of tokens to stake, its proposed block can be chosen. Investing in more or faster hardware does not provide any competitive advantage. If one crypto-mining company desires to participate but does not have enough tokens to stake, they can join a staking pool, where an exchange stakes the tokens pooled from among its users in exchange for a share of profits. Pool staking does create the potential for the token's supply, and validating power, to become too centralized in those exchanges.

Ethereum, the cryptocurrency with the second-highest market cap after Bitcoin, recently announced it will be shifting to a proof of stake model in 2022 for Ethereum 2.0.<sup>47</sup> Ethereum will require a user to stake 32 coins to become a validator.<sup>48</sup> As a result of this transition, two major changes will take place: (1) the environmental impact of Ethereum will be reduced by 99 percent, and (2) the cryptographic mining of Ethereum will no longer generate revenue.<sup>49</sup>

### **[3] — Cryptocurrency and Operators.**

#### **[a] — Energy Consumption.**

In May of 2021, Elon Musk made headlines when he announced that Tesla would no longer accept Bitcoin as a form of payment due to concerns over the “rapidly increasing use of fossil fuels for bitcoin mining.”<sup>50</sup>

Blockchain technology is not by its nature necessarily an energy intensive application. The verification protocol employed by each cryptocurrency's process is what dictates that currency's energy consumption. Proof of work

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<sup>46</sup> *Id.*

<sup>47</sup> *Proof-of-Stake (POS)*, ETHEREUM (last modified Jan. 26, 2022), <https://ethereum.org/en/developers/docs/consensus-mechanisms/pos/>.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Tesla Will No Longer Accept Bitcoin Over Climate Concerns, Says Musk*, BBC NEWS (May 13, 2021), <https://www.bbc.com/news/business-57096305>.

rulesets are energy inefficient by design: a would-be attacker would need to contribute 25 percent to 50 percent of the total computing power to successfully control the blockchain.<sup>51</sup> On the other hand, a proof of stake protocol security is not supported by computing power; and as a result, successfully participating in a proof of stake network is not a function of energy consumption.<sup>52</sup> Consequently, headlines warning about the energy consumption of cryptocurrencies should be understood to concern consumption largely driven by cryptocurrencies relying on proof of work rulesets, and not those cryptocurrencies employing proof of stake protocols. As we can see in the way New York's recent crypto-mining moratorium legislation targets proof of work mining, there is an increasing focus on the alleged inefficient use of energy associated with this type of proof; and that creates interesting speculation about the pace and scope of a transition away from proof of work and toward proof of stake.

Attempts to quantify the exact value of energy consumption by cryptocurrencies is a difficult task. Due to decentralized nature of the crypto-mining activities there are a number of unknowns: the number of open, distributed networks; the specifications of the associated hardware; and the amount of work or effort being contributed.<sup>53</sup> There is, however, a mathematical approach to making a good estimate based on the known difficulty of the cryptographic proof and the known frequency of accepted solutions, both of which are public and accessible.<sup>54</sup>

The estimated annual energy usage of the Bitcoin network increased in 2021 from 77.78 Terawatt-hours (TWh) on January 2, 2021, to more than

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<sup>51</sup> Johannes Sedlmeir, et al., *The Energy Consumption of Blockchain Technology: Beyond Myth*, BUS INF SYST ENG 62, 599–608 (2020) (available at <https://link.springer.com/content/pdf/10.1007/s12599-020-00656-x.pdf>).

<sup>52</sup> Brian Nibley, *Proof of Stake: A Process used to Validate Crypto Transactions Through Staking*, BUSINESS INSIDER (November 12, 2021), <https://www.businessinsider.com/proof-of-stake>.

<sup>53</sup> Johannes Sedlmeir, et al., *The Energy Consumption of Blockchain Technology: Beyond Myth*, BUS INF SYST ENG 62, 599–608 (2020) (available at <https://link.springer.com/content/pdf/10.1007/s12599-020-00656-x.pdf>).

<sup>54</sup> *Id.*

198 TWh on November 26, 2021.<sup>55</sup> The Cambridge Bitcoin Electricity Consumption Index estimates the Bitcoin network’s annual power demand with a theoretical lower bound is 49.85 TWh and the theoretical upper bound is 327.84 TWh.<sup>56</sup> To put that in context, crypto-mining accounts for 0.6 percent of the world’s total energy consumption and requires more electricity annually than Norway.<sup>57</sup> The global 2021 CO<sub>2</sub> emissions of Ethereum and Bitcoin mining is estimated at 120 million tons, the equivalent to the tailpipe emissions from more than 15.5 million gasoline powered cars on the road every year or 100 million round-trip flights between Sweden and Thailand.<sup>58</sup>

There has been a steadily increasing focus on regulation, restriction or outright prohibition regarding crypto-mining, often based on its energy consumption. Last year, Swedish financial and environmental regulators called on the European Union to ban proof of work mining methods, warning that crypto-mining poses a risk of falling short on climate change goals in

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55 Memorandum to Subcommittee on Oversight and Investigations re: Hearing on “Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains” Committee on Energy & Commerce (Jan. 17, 2022), (available at [https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Briefing percent20Memo\\_OI percent20Hearing\\_2022.01.20.pdf](https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Briefing%20Memo_OI%20Hearing_2022.01.20.pdf)) (citing *Bitcoin Energy Consumption Index*, DIGICONOMIST (accessed Jan. 10, 2022), [digiconomist.net/bitcoin-energyconsumption](https://digiconomist.net/bitcoin-energyconsumption)).

56 *Cambridge Bitcoin Electricity Consumption Index*, UNIVERSITY OF CAMBRIDGE (Jan. 30, 2022), <https://ccaf.io/cbeci/index>.

57 *EU Should Ban Energy-Intensive Mode of Crypto-mining, Regulator Says*, FINANCIAL TIMES, <https://www.ft.com/content/8a29b412-348d-4f73-8af4-1f38e69f28cf>.

58 *Crypto-assets are a Threat to the Climate Transition — Energy-Intensive Mining Should be Banned*, FINANSINSPEKTIONEN (Nov. 5, 2021), <https://www.fi.se/en/published/presentations/2021/crypto-assets-are-a-threat-to-the-climate-transition--energy-intensive-mining-should-be-banned/>; Memorandum to Subcommittee on Oversight and Investigations re: Hearing on “Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains” Committee on Energy & Commerce (Jan. 17, 2022), (available at [https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Briefing percent20Memo\\_OI percent20Hearing\\_2022.01.20.pdf](https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Briefing%20Memo_OI%20Hearing_2022.01.20.pdf)) (citing *Global Impact of Crypto Trading*, FOREX SUGGEST (accessed Jan. 10, 2022), [forexsuggest.com/global-impact-of-crypto-trading/](https://forexsuggest.com/global-impact-of-crypto-trading/) and *Greenhouse Gas Emissions from a Typical Passenger Vehicle*, U.S. ENVIRONMENTAL PROTECTION AGENCY (Mar. 2018) (<https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>)).

the Paris Agreement.<sup>59</sup> Deriving the required electricity from renewables sources, they say, is not a solution, as Sweden needs the renewable energy for the climate transition.<sup>60</sup> As evidence of this, the letter cites an estimate from Cambridge University that the power required to mine one Bitcoin could power an electric vehicle for 44 trips around the globe.<sup>61</sup> In New York, legislators voiced similar concerns related to the use of fossil fuels for crypto-mining, citing the industry's electricity consumption as an impediment to meeting its targets for reduction of statewide greenhouse gas emissions.

Which of proof of work, proof of stake, or some other consensus mechanism wins out will significantly impact the energy consumption of blockchain applications.

### **[b] — Use of Natural Gas.**

Flaring is the controlled combustion of produced natural gas, and venting is the controlled release of natural gas.<sup>62</sup> Both flaring and venting are routine activities that take place during oil and natural gas development, whether for reasons of safety, economics, or operational requirements. With the rapid development of unconventional shale over the last two decades, gas production has, at times, outpaced pipeline capacity and market access. Every oil and gas producing state has implemented regulations to prevent waste, and each state has its own approach to limiting flaring.

In Texas, for example, Statewide Rule 32 is an anti-waste or anti-flaring rule which provides that all gas “should be utilized for purposes and uses

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<sup>59</sup> *Id.*; see also *EU Should Ban Energy-Intensive Mode of Crypto-mining, Regulator Says*, FINANCIAL TIMES, <https://www.ft.com/content/8a29b412-348d-4f73-8af4-1f38e69f28cf>.

<sup>60</sup> *Crypto-assets are a Threat to the Climate Transition – Energy-Intensive Mining Should be Banned*, FINANSINSPEKTIONEN (Nov. 5, 2021), <https://www.fi.se/en/published/presentations/2021/crypto-assets-are-a-threat-to-the-climate-transition--energy-intensive-mining-should-be-banned/>

<sup>61</sup> *Id.*

<sup>62</sup> U.S. DEPT. OF ENERGY, Office of the Oil and Natural Gas, Office of Fossil Energy, *Natural Gas Flaring and Venting: State and Federal Regulatory Overview, Trends, and Impacts* (Jun. 2019) (available at [https://www.energy.gov/sites/prod/files/2019/08/f65/Natural percent20Gas percent20Flaring percent20and percent20Venting percent20Report.pdf](https://www.energy.gov/sites/prod/files/2019/08/f65/Natural%20Gas%20Flaring%20and%20Venting%20Report.pdf)).

authorized by law.<sup>63</sup> The rule, however, provides that exceptions may be made when an operator proves a necessity for release.<sup>64</sup> Necessity may include the unavailability of a gas pipeline or the cleaning, recompletion, workover, maintenance, or repair of the well or midstream facilities.<sup>65</sup> The Texas Railroad Commission granted almost 7,000 flaring and venting permits in 2019.<sup>66</sup>

Oil producers resort to flaring gas when they have producing wells without connected midstream infrastructure, when existing midstream infrastructure has insufficient capacity, when the price of natural gas is too low to economically transport and sell it, or when gas processing plants or compression stations are experiencing extended periods of downtime for maintenance.<sup>67</sup> For oil producers, there may instances where it is necessary or advantageous to drill outside of existing midstream infrastructure, whether to prevent the expiration of leases, to drill exploratory wells ahead of the pipeline, or to avoid or delay satisfying minimum volume commitments.<sup>68</sup> There may also be circumstances that prevent the timely expansion of pipelines to the well site, including challenges with pipeline rights of way and construction issues presented by the surrounding landscape.<sup>69</sup>

More than 5 trillion cubic feet of gas is flared annually globally, which could power the entire continent of Africa.<sup>70</sup> According to estimates, flared and vented gas waste account for 8 percent of global natural gas production

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<sup>63</sup> 16 TEX. ADMIN. CODE § 3.32 (2004).

<sup>64</sup> *Id.* § 3.32(f).

<sup>65</sup> *Id.* § 3.32(f)(2).

<sup>66</sup> *Flaring Regulation*, RAILROAD COMMISSION OF TEXAS (last visited Jan. 27, 2022), <https://www.rrc.texas.gov/about-us/faqs/oil-gas-faqs/flaring-regulation>.

<sup>67</sup> U.S. DEPT. OF ENERGY, Office of the Oil and Natural Gas, Office of Fossil Energy, *Natural Gas Flaring and Venting: State and Federal Regulatory Overview, Trends, and Impacts* (Jun. 2019) (available at [https://www.energy.gov/sites/prod/files/2019/08/f65/Natural percent20Gas percent20Flaring percent20and percent20Venting percent20Report.pdf](https://www.energy.gov/sites/prod/files/2019/08/f65/Natural%20Gas%20Flaring%20and%20Venting%20Report.pdf)).

<sup>68</sup> *Crypto-mining with Rockies Shale Gas*, HART ENERGY (Sept. 30, 2021), <https://www.hartenergy.com/exclusives/crypto-mining-rockies-shale-gas-196469>.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

and contribute 6 percent of global greenhouse gas emission.<sup>71</sup> In recent years, opposition to flaring has made headlines.<sup>72</sup> Environmental NGOs remain keenly focused on this issue and are likely to continue to use this issue as a point of attack on oil and gas development, including supporting and publishing studies highlighting concerns around flaring and advocating stronger regulatory enforcement.<sup>73</sup> Regardless of whether one agrees with their conclusions, finding a productive use for flared natural gas is certainly an improvement over the status quo.

The cost of electricity is one of the most important variables in determining the profitability of cryptocurrency mining operations. Crypto miners have innovated a proposed solution trademarked by one company as “digital flare mitigation.”<sup>74</sup> Crypto miners deploy data centers in modular containers in close proximity to oil wells, make arrangements with the producer to secure the waste gas that would have otherwise been flared, convert that byproduct to electricity using generators, and power on-site operations. It is estimated that bitcoin mining systems at well sites which repurpose gas for mining can decrease methane emissions from vented

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<sup>71</sup> Raphael Cale & Paasha Mahdavi, *The Unintended Consequences of Antiflaring Policies – and Measures for Mitigation*, PNAS (Jun. 9, 2020), available at <https://www.pnas.org/content/pnas/117/23/12503.full.pdf> (citing D. VICTOR, ET AL., CLIMATE CHANGE 2014: MITIGATION OF CLIMATE CHANGE, at 111–150 (2014)).

<sup>72</sup> Brian Collins, *Are Some Shale Producers Under-reporting Gas Flaring to Keep Oil Flowing*, SP GLOBAL (Oct. 24, 2018), available at <https://www.spglobal.com/en/research-insights/articles/are-some-shale-producers-under-reporting-gas-flaring-to-keep-oil-flowing>; Travis Bubenik, *Natural Gas Flaring Significantly Underestimated in Texas, Study Suggests*, HOUSTON PUBLIC MEDIA (Jul. 19, 2019), <https://www.houstonpublicmedia.org/articles/news/energy-environment/2019/07/19/340180/natural-gas-flaring-significantly-underestimated-in-texas-study-suggests/>.

<sup>73</sup> Virginia Palacios & Colin Leyden, *Vast Energy Resources Wasting Away in the Texas Permian Basin*, ENVIRONMENTAL DEFENSE FUND, <http://blogs.edf.org/energyexchange/files/2018/06/Permian-Flaring-Report-2017-3.pdf>; Katherine Ann Wilyard & Gunnar W. Schade, *Flaring in Two Texas Shale Areas: Comparison of Bottom-Up with Top-Down Volume Estimates for 2012 to 2015*, SCIENCE DIRECT (Nov. 15, 2019), <https://www.sciencedirect.com/science/article/abs/pii/S0048969719330384>.

<sup>74</sup> Leanna First-Arai, *The Guardian, A ‘False Solution’? How Crypto-mining Became the Oil Industry’s New Hope*, THE GUARDIAN (Dec. 16, 2021), <https://www.theguardian.com/environment/2021/dec/16/crypto-mining-oil-industry-waste-climate-crisis>.

gas by up to 98 percent and CO<sub>2</sub> emissions from flared gas by up to 63 percent.<sup>75</sup> For oil producers, which otherwise would flare or vent gas, crypto-mining provides a flexible offtake plan that has the dual benefit of reducing environmental impact through a beneficial use and providing a stream of revenue on a product that would otherwise be wasted. The Utah Board of Oil, Gas and Mining praised one such crypto-mining operation for “looking for alternatives to flaring” saying this approach is a “win-win” for the miner, the environment, and the pipeline.<sup>76</sup>

Flared gas is not the only fossil fuel being used to power crypto-mining. Gob, a byproduct of coal mining, is being used in western Pennsylvania by a coal waste power plant.<sup>77</sup> Eighty percent of the plant’s output is used to power 3,000 cryptocurrency miners, which, at a price of \$35,000 per Bitcoin, realizes about \$0.20 per kilowatt hour from mining, versus \$0.03 per kilowatt hour for selling into the power grid.<sup>78</sup> The plant also earns a renewable energy tax credit for \$0.02 per kilowatt hour for disposing of gob.<sup>79</sup> With 15,000 machines, the plant’s operating revenue would increase 50 percent.<sup>80</sup> The company plans to operate 57,000 miners by the end of 2022.<sup>81</sup> Before adding crypto-mining the plant only ran at peak times when grid demand raised prices high enough to make the operations economically viable.<sup>82</sup> The

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<sup>75</sup> *Digital Flare Mitigation*, CRUSOE ENERGY (last visited Jan. 27, 2002), <https://www.crusoeenergy.com/digital-flare-mitigation>.

<sup>76</sup> Namcios, *Utah Oil Producer is Using Otherwise Wasted Gas to Mine Bitcoin*, BITCOIN MAGAZINE (Jul. 27, 2021), <https://bitcoinmagazine.com/business/oil-producer-mining-bitcoin-wasted-gas>.

<sup>77</sup> Chris Helman, *‘Green Bitcoin Mining’: The Big Profits in Clean Crypto*, FORBES (Aug. 2, 2021), <https://www.forbes.com/sites/christopherhelman/2021/08/02/green-bitcoin-mining-the-big-profits-in-clean-crypto/?sh=5a37f4eb34ce>.

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *A Waste Coal-Burning, Crypto-Mining Pirate Ship Sets Sail in Pennsylvania*, ARKANSAS DEMOCRAT GAZETTE (Aug. 10, 2021), <https://www.arkansasonline.com/news/2021/aug/10/a-waste-coal-burning-crypto-mining-pirate-ship/>.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

crypto-mining data centers added a constant demand so that the plant does not need to be shut down when electricity prices fall.<sup>83</sup>

### [c] — Use of Renewable Energy.

It is unknown today the exact percentage of crypto-mining that is powered by renewable energy sources. Some estimates say 20-30 percent of the energy being used by Bitcoin production comes from renewables, while other estimates say as much as 75 percent of such coins are mined from renewables.<sup>84</sup> In some countries, like Iceland, nearly all of the electricity comes from renewable sources, while other countries have only a small fraction of the electricity powering crypto-mining produced by renewable sources.<sup>85</sup> At present, hydroelectric power is by far the most popular source of renewable electricity used in crypto-mining, by some estimates accounting for twice the supply of wind and solar combined.<sup>86</sup>

Natural limitations exist for renewable projects, especially as it relates to new projects to create additional sources of electricity. The number of locations that are suitable for new hydroelectric power plants is limited, in addition to the rigors of permitting such a project. In stark contrast, a vast

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<sup>83</sup> *Id.*

<sup>84</sup> Tristan Rayner, *The weekend read: Crypto's energy conundrum*, PV-MAGAZINE (November 13, 2021), <https://www.pv-magazine.com/2021/11/13/the-weekend-read-cryptos-energy-conundrum>; Jon Huang, Claire O'Neill and Hiroko Tabuchi, *Bitcoin Uses More Electricity Than Many Countries. How Is That Possible?*, THE NEW YORK TIMES (September 3, 2021), <https://www.nytimes.com/interactive/2021/09/03/climate/bitcoin-carbon-footprint-electricity.html>; Umar Irfan, *Bitcoin is an energy hog. Where is all that electricity coming from?*, VOX.COM (June 18, 2019), <https://www.vox.com/2019/6/18/18642645/bitcoin-energy-price-renewable-china>.

<sup>85</sup> Ragnhildur Sigurdardottir, Lars Paulson and Jesper Starn, *Bitcoin's Green Haven is Running out of Surplus Energy*, BLOOMBERG (April 17, 2021), <https://www.bloomberg.com/news/articles/2021-04-17/bitcoin-s-green-haven-is-running-out-of-surplus-electricity#xj4y7vzkg>; Ragnhildur Sigurdardottir and Mark Burton, *Iceland Cuts Power to Industry, Turns Away New Bitcoin Miners*, BLOOMBERG (December 7, 2021), <https://www.bloomberg.com/news/articles/2021-12-07/iceland-reduces-power-to-heavy-users-denies-bitcoin-miners>.

<sup>86</sup> Tristan Rayner, *The weekend read: Crypto's energy conundrum*, PV-MAGAZINE (November 13, 2021), <https://www.pv-magazine.com/2021/11/13/the-weekend-read-cryptos-energy-conundrum>.

opportunity for construction of new solar and wind exists and such projects continue to be developed around the country. While investment in new wind and solar continues, both sources confront issues of intermittency. Developers and advocates of renewables are seeking solutions to improve viability and economic performance of these projects and some cryptocurrency mining entrepreneurs suggest they can provide a new solution.

People in the renewable business discuss a phenomena called the “duck curve” which describes the visual of a graph showing energy production and energy demand. The sun shines during the day, but not at night. Wind blows more heavily at night. Energy derived from renewable sources like solar and wind at times alternate between being excessive or non-existent. As a result, we often have more solar and wind power than we need for a few hours per day and not enough when demand peaks. This daily issue is also a seasonal issue because the sun shines more during the summer and the wind blows more during the winter.

In addition to the natural intermittency and divergence between available supply and demand from renewable projects, many projects face grid congestion. When solar and wind projects are developed in rural areas, there are often fewer local end users and transmission capacity can be limited. Because of the challenge of getting new electricity to market, many solar and wind projects are being delayed. The ideal solution would be to increase transmission capacity and energy storage, so that we can store peak energy for peak demand. However, even where such transmission exists or is built another problem can arise.

In some electricity markets, when the grid is receiving too much power, companies are faced with the decision to either temporarily shut down power plants or pay electric customers to take the excess power. As additional renewable energy capacity comes online, we expect the duration of negative pricing periods to increase. Because some baseload of power has to be running all the time, certain power generation assets cannot be turned off as other sources come online. As solar plants come online in California, for example, and the power generated exceeds baseload generation and demand, the excess power has to be curtailed or sold at negative prices. As the “duck belly” gets fatter, we will see more and more negative priced power. This

acts as a barrier to further investment in renewable energy development. Here again, crypto-mining entrepreneurs see an opportunity.

Where investors forecast negative pricing, they can target to set up large scale mining operations in those markets. As a result a crypto-mining venture can earn revenue by being paid to take negatively priced power while use that electricity to mine cryptocurrency, all while helping make the economics of the new renewable project more attractive. In other words, by taking advantage of negative pricing in markets that have high amounts of excess renewable energy, Bitcoin miners earn additional revenue from the grid operator by taking that power, which is revenue over and above the revenue from selling mined Bitcoins.

As one example, in west Texas, as much as 25 percent of the hours in 2020 had negative energy prices.<sup>87</sup> The reason for this is that west Texas has roughly 34 gigawatts of power, 5 gigawatts of demand and only 12 gigawatts of transmission. Over the next year, 16 gigawatts of new wind and solar projects are set for construction in west Texas. During normal conditions, this will be more energy than is needed to satisfy demand. Providing demand to these semi-stranded assets also makes renewables in Texas economically viable when they might not be otherwise. The net impact is that encouraging investment in renewable energy projects may accelerate the energy transition.

Crypto-mining operations can act like a battery or a reverse power plant. The mines can absorb abundant renewable energy when supply outpaces demand, thereby monetizing these assets when there are no other buyers. Crypto-mining can also incrementally ramp down their energy intake, as demand on the grid rises (perhaps in exchange for negotiated rebates) and function as an interruptible load, or in the alternative, maintain their own energy intake but use onsite solar or wind to replace grid energy. Any excess energy generated onsite can be sold to the grid when demand is greatest.

Crypto-mining offers several potential solutions to the duck curve problem. It is an easily interruptible use which can be turned on and off.

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<sup>87</sup> Joachim Seel, Dev Millstein, Andrew Mills, Mark Bolinger and Ryan Wiser, *Plentiful electricity turns wholesale prices negative*, SCIENCE DIRECT, <https://www.sciencedirect.com/science/article/pii/S2666792421000652>.

The crypto-mining operation itself is location agnostic; and importantly can enable utilization of resources that would otherwise go unused. Locating bitcoin mining operations near renewable energy projects can allow for faster payback on green projects, which makes them more attractive to investors. It also allows projects to be developed before securing grid interconnection. In many instances the design allows the crypto-mining facilities to be mobilized, which makes crypto-miners unique energy buyers. These projects can provide the grid with excess energy for black swan events like the winter storm in Texas. And lastly, this approach has the potential to bring the Levelized Cost of Energy down further, unlocking new use cases.

### § 3.03.           **Legislation, Regulations, and Incentives.**

#### **[1] — Generally.**

Federally, cryptocurrency has largely been regulated at the administrative and agency levels, including by the Securities and Exchange Commission, the Commodity Futures Trading Commission, the Federal Trade Commission and the Department of Treasury through the IRS, the Office of the Comptroller of the Currency, and the Financial Crimes Network. Though these agencies have informally engaged with cryptocurrency industry participants, issued guidance, and in some cases instituted actions against specific actors, there has been no significant formal rulemaking.

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act. The Act will require digital asset brokers to report transactions valued at more than \$10,000 to the IRS. The law modifies Section 6045 of the Internal Revenue Code to expand the definition of “broker” to include “any person who is responsible for regularly providing any service effectuating transfers of digital assets.”<sup>88</sup> It also expands the definition of “covered security” to include digital assets acquired on or after January 1, 2023, so that digital asset brokers will be required to report tax basis and capital gain or loss information for digital asset transactions.<sup>89</sup> The law also

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<sup>88</sup> H.R. 3684, 117th Cong. (2021) (available at <https://www.congress.gov/bill/117th-congress/house-bill/3684/text>).

<sup>89</sup> *Id.*

expands Section 6050I of the Code to include digital assets, which are “any digital representation of value which is recorded on a cryptographically secured distributed ledger or other similar technology as specified by the Secretary.”<sup>90</sup> The failure to report is subject to a potential \$250 fine per information return or statement, with a maximum penalty of \$3 million.<sup>91</sup> Brokers will be required to report transfers of digital assets to an account or address not maintained by a broker.<sup>92</sup> The Act also expands the definition of cash to include digital assets. Bills were introduced to Congress last year to repeal these provisions of the Infrastructure Investment and Jobs Act.<sup>93</sup>

In November of 2021, a joint statement by the Federal Reserve, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency recognized the need to provide coordinated and timely clarity on “whether certain activities related to crypto assets conducted by banking organizations are legally permissible.”<sup>94</sup> Among the areas highlighted in the letter are crypto asset safekeeping, custody services, facilitation of purchase and sales of crypto assets, loans collateralized by crypto assets, issuance and distribution of stablecoins, activities involving holding crypto assets on the balance sheet, and the evaluation of application of bank capital and liquidity standards to crypto assets.<sup>95</sup>

At the state level, several state governments have passed laws impacting cryptocurrencies, many of which amend existing financial laws concerning fraud, money laundering, fiduciary management of property, and sales and use tax to include cryptocurrencies. States seeking to attract investment from cryptocurrency sources have passed regulations exempting cryptocurrencies

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<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> Jason Brett, *In 2021, Congress Has Introduced 35 Bills Focused on U.S. Crypto Policy*, FORBES (Dec. 27, 2021), <https://www.forbes.com/sites/jasonbrett/2021/12/27/in-2021-congress-has-introduced-35-bills-focused-on-us-crypto-policy/?sh=4cf4fc33c9e8>.

<sup>94</sup> Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, Joint Statement on Crypto-Asset Policy Sprint Initiative and Next Steps (Nov. 23, 2021) (available at <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20211123a1.pdf>).

<sup>95</sup> *Id.*

from select securities and money transmission laws, and a select few have passed laws providing tax incentives to crypto miners. Other states, including Hawaii and Maryland, have issued warnings against the use of, and investment in, cryptocurrencies.<sup>96</sup> Ohio passed a law in 2018 allowing businesses to pay taxes with cryptocurrency.<sup>97</sup> Colorado passed a bipartisan bill exempting cryptocurrencies from state securities regulations.<sup>98</sup> Wyoming, widely considered the most cryptocurrency friendly state, and discussed further hereinbelow, has passed legislation authorizing chartering of special purpose depository banks focused on cryptocurrency.<sup>99</sup>

## [2] — North Dakota.

North Dakota passed a law in 2021 that provides a temporary tax incentive for implementing flare mitigation systems.<sup>100</sup> Operators may receive a tax credit against the North Dakota oil extraction tax by implementing an “onsite flare mitigation system” as defined by the new law; the tax incentive expires July 1, 2023.<sup>101</sup>

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<sup>96</sup> Hawaii Department of Commerce and Consumer Affairs, Division of Financial Institutions, Bitcoin Warning (Feb. 26, 2014) (available at <http://cca.hawaii.gov/dfi/bitcoinwarning/>); Jamie Smith Hopkins, *Maryland Officials Issue Warning on Bitcoin, Virtual Currencies*, THE BALTIMORE SUN (April 25, 2014), <https://www.baltimoresun.com/bs-bz-bitcoin-warning-20140425-story.html>.

<sup>97</sup> Kelly Phillips Erb, *Ohio Becomes the First State to Allow Taxpayers to Pay Tax Bills Using Cryptocurrency*, FORBES (Nov. 26, 2018), <https://www.forbes.com/sites/kellyphillipserb/2018/11/26/ohio-becomes-the-first-state-to-allow-taxpayers-to-pay-tax-bills-using-cryptocurrency/>.

<sup>98</sup> Colo. SB19-023 (2019) (available at <https://leg.colorado.gov/bills/sb19-023>); Monica Vendituoli, *Unanimously Passed Colorado Cryptocurrency Token Exemption Bill Heads to Governor’s Desk*, DENVER BUSINESS JOURNAL (Feb. 21, 2019), <https://www.bizjournals.com/denver/news/2019/02/21/unanimously-passed-colorado-cryptocurrency-token.html>.

<sup>99</sup> Margaret Austin, *Wyoming’s Digital Asset Banks Offer Solutions to Growing Class of Investments*, WYOMING BUSINESS REPORT (December 30, 2020), [https://www.wyomingnews.com/wyomingbusinessreport/current\\_edition/wyoming-s-digital-asset-banks-offer-solutions-to-growing-class-of-investments/article\\_b1a2907b-51b9-5115-bf56-38d698eb56ce.html](https://www.wyomingnews.com/wyomingbusinessreport/current_edition/wyoming-s-digital-asset-banks-offer-solutions-to-growing-class-of-investments/article_b1a2907b-51b9-5115-bf56-38d698eb56ce.html); Gina Chon, *Cryptocurrency’s Wild West is in Wyoming*, REUTERS (July 7, 2021), <https://www.reuters.com/breakingviews/cryptocurrencys-wild-west-is-wyoming-2021-07-07/>.

<sup>100</sup> N.D. CENT. CODE § 57-51.1-02.2.

<sup>101</sup> *Id.*

An “onsite flare mitigation system” is one that intakes gas and natural gas liquids from a well, separating and collecting or utilizing over 50 percent of the propane and heavier hydrocarbons, to achieve a reduction of flared thermal intensity through beneficial consumption by one of the following methods: (1) compressing or liquifying gas for use as fuel or transport to a processing facility; (2) production of petrochemicals or fertilizer; (3) conversion to liquid fuels; (4) conversion to electricity for onsite use or supply to the electrical grid; (5) conversion to computational power; or (6) other value-added processes as approved by the North Dakota Industrial Commission.<sup>102</sup> The “conversion to electricity” or “conversion to computational power” would allow for the implementation of onsite cryptocurrency mining or other computing functions.

Under North Dakota’s new law, the associated well(s) must be “qualifying well(s).”<sup>103</sup> A “qualifying well” is defined as a well that either: (1) is located at a well site already connected to a pipeline, but the pipeline lacks takeaway capacity; (2) is not connected to an existing pipeline, but the producer’s lands are dedicated to a pipeline operator which will attest that it is technically or commercial unfeasible to connect a pipeline to the well; or (3) is not connected to an existing pipeline and is not contractually dedicated.<sup>104</sup> In each case, the producer (and pipeline operator, if applicable) must file with the North Dakota Industrial Commission an attestation to the applicable facts.<sup>105</sup>

The onsite flare mitigation system must have been installed on or after July 1, 2021, and the North Dakota Industrial Commission must certify the associated wells as qualifying wells.<sup>106</sup> The tax credit is calculated as of \$0.75 per MMBtu of flare mitigation resulting from operation of a conforming mitigation system.<sup>107</sup> The tax credit may be claimed for up to

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102 *Id.*

103 *Id.*

104 *Id.*

105 *Id.*

106 *Id.*

107 *Id.*

twelve months per well, and the credit amount may not exceed \$6,000 per well, per month.<sup>108</sup>

This tax credit is separate from the oil extraction tax exemption provided by North Dakota Century Code Section 57-51.1-02.1, which provides that liquids produced from certain permitted equipment utilizing absorption, adsorption, or refrigeration are exempt from the oil extraction tax for a period of 2 years and 30 days from the date of first production.<sup>109</sup> The subject tax credit applies only to the oil extraction tax; the separate gross production tax on oil and on natural gas has certain older exemptions, which also incentivize the mitigation of flaring.

### **[3] — Wyoming.**

Wyoming passed a law in 2021 that provides a tax incentive for oil and gas operators to utilize equipment at the wellsite that reduces flaring of natural gas. By using such equipment, an operator may receive relief from the state severance tax levied on mineral production.

House Bill 0189, signed into law on April 14, 2021, with an effective date of January 1, 2022, amended Wyoming’s statutes to clarify and refine what situations allow for natural gas produced and consumed on-site to be exempt from the Wyoming mineral severance tax. The amendment provides a new exemption from severance tax liability for natural gas that is consumed on the production site, is certified by the Wyoming Oil & Gas Conservation Commission (WOGCC) to have originated from a “qualifying well,” and which would have otherwise been vented or flared under the authority of the WOGCC.<sup>110</sup>

A “qualifying well” is defined as one where either: (1) a well site is already connected to a pipeline, but the pipeline lacks takeaway capacity; (2) a producer’s well is not connected to an existing pipeline, but the producer’s lands are dedicated to a pipeline operator which will attest that it is technically or commercial unfeasible to connect a pipeline to the well;

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<sup>108</sup> *Id.*

<sup>109</sup> *Id.* § 57-51.1-02.1.

<sup>110</sup> WYO. STAT. ANN. § 39-14-205.

or (3) a producer's well is not connected to an existing pipeline and is not contractually dedicated, and the producer files an attestation to that fact.<sup>111</sup>

For purposes of the mineral severance tax and its exemptions, the definition of natural gas includes products separated from the natural gas stream during processing, including, but not limited to, condensate, natural gas liquids, and sulfur.<sup>112</sup>

While the amendment has a somewhat broad applicability to a variety of possible technologies and does not specifically use the terms “cryptocurrency mining” or “digital flare mitigation,” Wyoming lawmakers have acknowledged that the intent of the amendment was to provide an incentive for, among others, those types of wellsite operations.<sup>113</sup>

#### **[4] — New York.**

The New York state legislature, with 57 percent of votes in favor, passed a bill to ban certain bitcoin mining operations that operate using carbon-based power sources.<sup>114</sup> As of June 7, 2022, Governor Kathy Hochul had not yet signed the bill into law, although a decision is expected soon and reports suggest she will sign the legislation. The bill calls for a two-year moratorium on new or renewed permits for any company using a proof-of-work authentication method, unless the operation uses 100 percent renewable energy.<sup>115</sup>

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<sup>111</sup> *Id.* § 39-14-201.

<sup>112</sup> *Id.*

<sup>113</sup> Brendan Lachance, *Gordon signs bill exempting Wyoming natural gas flared for cryptocurrency mining from taxation*, OIL CITY NEWS (April 15, 2021), <https://oilcity.news/wyoming/legislature/2021/04/15/gordon-signs-bill-exempting-wyoming-natural-gas-flared-for-cryptocurrency-mining-from-taxation> (“House Bill 189 “provides an opportunity for oil producers to utilize natural gas that would normally be flared into the atmosphere for other productive purposes, including cryptocurrency mining.”).

<sup>114</sup> MacKenzie Sigalos, *New York just passed a bill crack down on bitcoin mining – here’s everything that’s in it*, CNBC (June 3, 2022), <https://www.cnbc.com/2022/06/03/heres-whats-in-new-yorks-new-bitcoin-mining-ban-.html>.

<sup>115</sup> Assembly Bill A7389C, 2021-2022 Legislative Session (N.Y. 2022) (available at [https://www.nysenate.gov/legislation/bills/2021/A7389#:~:text=A7389 percent20 percent2D percent20Summary,generic percent20environmental percent20impact percent20statement percent20review](https://www.nysenate.gov/legislation/bills/2021/A7389#:~:text=A7389%20percent2Dpercent20Summary,generic%20environmental%20impact%20statement%20review)).

### [5]— Local Level.

The city of Plattsburgh, New York made history when in 2018 it imposed an 18-month moratorium on commercial cryptocurrency mining.<sup>116</sup> The city cited the need to “protect and enhance the City’s natural, historic, cultural and electric resources.”<sup>117</sup> When the city exceeded its allotted monthly budget of electricity, it had to buy additional electricity on the open market at a higher cost, and the additional cost was distributed among its residents, resulting in electric bills \$100-\$200 higher than previous months’ bills.<sup>118</sup> Plattsburgh was a commercial crypto-mining hub due to its low electricity costs, which were less than half the national average, and favorable treatment of industrial operations that offered an additional discount on electricity.<sup>119</sup> One Bitcoin mining operation in the city used approximately 10 percent of the city’s total power budget monthly.<sup>120</sup> In connection with the 18-month moratorium, the city issued penalties of \$1,000 per day of operation for any entity establishing a new commercial crypto-mining operation.<sup>121</sup>

Missoula County, Missouri, concerned not only with electricity use, but also with noise complaints, instituted a temporary zoning ordinance in 2019, which was made permanent in 2021, imposing new restrictions on cryptocurrency mines.<sup>122</sup> These requirements include zoning such

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116 Antonio Villas-Boas, *For the First Time, a US City Has Banned Cryptocurrency Mining After Large-Scale Operations Used Up All Its Power*, BUSINESS INSIDER (Mar. 16, 2018), <https://www.businessinsider.com/plattsburgh-new-york-cryptocurrency-mining-ban-2018-3>.

117 *Id.*

118 *Id.*

119 *Id.*; BITCOIN, BLOCKCHAIN, AND THE ENERGY SECTOR (Congressional Research Service, Aug. 9, 2019) (available at <https://crsreports.congress.gov/product/pdf/R/R45863/3>).

120 Antonio Villas-Boas, *For the First Time, a US City Has Banned Cryptocurrency Mining After Large-Scale Operations Used Up All Its Power*, BUSINESS INSIDER (Mar. 16, 2018), <https://www.businessinsider.com/plattsburgh-new-york-cryptocurrency-mining-ban-2018-3>; BITCOIN, BLOCKCHAIN, AND THE ENERGY SECTOR (Congressional Research Service, Aug. 9, 2019) (available at <https://crsreports.congress.gov/product/pdf/R/R45863/3>).

121 Antonio Villas-Boas, *For the First Time, a US City Has Banned Cryptocurrency Mining After Large-Scale Operations Used Up All Its Power*, BUSINESS INSIDER (Mar. 16, 2018), <https://www.businessinsider.com/plattsburgh-new-york-cryptocurrency-mining-ban-2018-3>.

122 Christian Britschgi, *Will Bitcoin be Done in by Terrible Zoning Laws?*, REASON (Jan. 11, 2022), <https://reason.com/2022/01/11/will-bitcoin-be-done-in-by-terrible-zoning-laws/>.

operations to industrial areas, requiring special conditional use permits, imposing noise restrictions, and most significantly, requiring any new cryptocurrency mining operation to purchase or produce enough renewable energy to offset 100 percent of the mine's energy use.<sup>123</sup>

Other cities, like Miami, Florida, are promoting their city's cheap energy supply in an effort to attract miners who are pushed out by regulations elsewhere.<sup>124</sup> Miami's average electricity price per kilowatt hour is less than the national average thanks to a nuclear plant located an hour outside of the city, but the city is considering offering other incentives like enterprise zones with tax concessions, infrastructure incentives and fewer regulations.<sup>125</sup> The city is taking its reputation for crypto friendliness one step further by advocating for city employees to be paid in cryptocurrency and by considering holding cryptocurrency on its balance sheet.<sup>126</sup>

#### **[6] — International.**

Cryptocurrencies are global and decentralized, and part of their popularity is that they are thought to be free from government control and manipulation. In the early days of the internet, governments were concerned about the impact the internet could have to empower their citizens. People thought that the internet could not, or should not, be regulated, but over time governments identified ways to address their concerns through regulation. Governments cite tax evasion, the funding of terrorism, fraud, and other illegal transactions as the basis for their wariness of cryptocurrency.<sup>127</sup>

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<sup>123</sup> *Id.*

<sup>124</sup> MacKenzie Sigalos, *Miami's Mayor Looks to Woo Chinese Bitcoin Miners with Low Energy Prices and Clean Nuclear Power*, CNBC (Jun. 17, 2021), <https://www.cnbc.com/2021/06/17/miami-mayor-francis-suarez-trying-to-win-over-chinese-bitcoin-miners.html>.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> John Riley, *The Current Status of Cryptocurrency Regulation in China and its Effect Around the World*, CHINA & WTO REV. 2021:1, p. 135-152 (available at [https://web.archive.org/web/20210716152514id\\_/http://cwr.yiil.org/home/pdf/archives/2021v7n1/cwr\\_v7n1\\_06.pdf](https://web.archive.org/web/20210716152514id_/http://cwr.yiil.org/home/pdf/archives/2021v7n1/cwr_v7n1_06.pdf)).

As with the internet, governments across the globe have adopted varying approaches to regulating cryptocurrencies.

As early as 2017, the Chinese government attempted to restrict the use of, and access to, cryptocurrencies, banning cryptocurrency exchanges and initial coin offerings.<sup>128</sup> In the first half 2021, the Chinese government ordered the closure of 26 Bitcoin mining operations in Sichuan province and ordered banks and payment platforms to cease supporting cryptocurrency transactions. Prior to the latest round of regulation, China controlled about two-thirds of the global hash-rate for Bitcoin mining. By April, however, China's Bitcoin energy usage had fallen to less than half of the global usage.<sup>129</sup> Finally, in September of 2021, China's central bank, financial, securities and foreign exchange regulators announced that all transactions of cryptocurrency and all crypto-mining operations are illegal.<sup>130</sup> While the Chinese government reasons that the ban on mining is a necessary part of its pledge to reduce carbon emissions and meet climate change goals, and the ban on transacting in cryptocurrency is to prevent the type of speculation that threatens economic, financial, and social order,<sup>131</sup> it is speculated that the broader regulatory scheme is driven by a desire to prevent adoption of a payment system entirely managed by non-government actors in favor of the adoption of China's own central bank digital currency.<sup>132</sup>

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<sup>128</sup> *Will China's Ban Hurt Cryptocurrencies*, KNOWLEDGE AT WHARTON (Oct. 5, 2021), <https://knowledge.wharton.upenn.edu/article/will-chinas-regulation-kill-cryptocurrencies/>.

<sup>129</sup> Sofia Brooke, *China Makes Cryptocurrency Transactions Illegal: An Explainer*, CHINA BRIEFING (Oct. 21, 2021), <https://www.china-briefing.com/news/china-makes-cryptocurrency-transactions-illegal-an-explainer/>.

<sup>130</sup> *Bitcoin Falls Further as China Cracks Down on Crypto-currencies*, BBC NEWS (May 19, 2021), <https://www.bbc.com/news/business-57169726>; Alun John, et al., *China's Top Regulators Ban Crypto Trading and Mining, Sending Bitcoin Tumbling*, REUTERS (Sept. 24, 2021), <https://www.reuters.com/world/china/china-central-bank-vowscrackdown-cryptocurrency-trading-2021-09-24/>; PEOPLES'S BANK OF CHINA, [http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/4348521/index.html?mc\\_cid=b0a97b47fa&mc\\_cid=f1124a997c](http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/4348521/index.html?mc_cid=b0a97b47fa&mc_cid=f1124a997c).

<sup>131</sup> Alun John, et al., *China's Top Regulators Ban Crypto Trading and Mining, Sending Bitcoin Tumbling*, REUTERS (Sept. 24, 2021), <https://www.reuters.com/world/china/china-central-bank-vows-crackdown-cryptocurrency-trading-2021-09-24/>.

<sup>132</sup> Lily Kuo, *China Vows to 'Clamp Down' on Cryptocurrency Trading, Bans Cryptomining*, THE WASHINGTON POST (Sept. 24, 2021), <https://www.washingtonpost.com/>

China is one of nine countries with total bans on cryptocurrency, along with Egypt, Iraq, Qatar, Oman, Morocco, Algeria, Tunisia and Bangladesh.<sup>133</sup> Forty-two more countries have effectively banned cryptocurrencies by limiting their banks' abilities to support crypto transactions or by banning crypto exchanges.<sup>134</sup> An estimated 103 countries have applied tax laws, anti-money laundering laws, or combating the financing of terrorism controls to cryptocurrencies, 70 more countries than were found to impose such regulations as of 2018.<sup>135</sup> Late last year, Sweden's financial sector joined with environmental regulators in calling for the European Union to ban proof-of-work crypto-mining citing concerns over climate issues and electricity consumption.<sup>136</sup>

On the other end of the spectrum, El Salvador became the first country in the world to grant Bitcoin the status of legal tender.<sup>137</sup> El Salvador's president, Nayib Bukele, suggested that the move would promote foreign investment, facilitate the receipt of remittances which account for a fifth of the country's GDP, and expand access to online transacting to the 70 percent of Salvadorans who do not have access to traditional financial services, but who do have access to mobile phones.<sup>138</sup> The success of this experiment may

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world/asia\_pacific/china-ban-bitcoin-cryptocurrency/2021/09/24/971275a2-1d1f-11ec-bea8-308ea134594f\_story.html; Christopher O'Brien & Chris Boone, *Beijing and Washington Grapple with Crypto in Their Own Unique Fashion*, FORTUNE (Dec. 3, 2021), <https://fortune.com/2021/12/03/us-china-crypto-regulation-ban-bitcoin-nfts-pboc-sec/>.

<sup>133</sup> *Regulation of Cryptocurrency Around the World: November 2021 Update* (The Law Library of Congress, Nov. 2021) (available at <https://tile.loc.gov/storage-services/service/l1/llglrd/2021687419/2021687419.pdf>).

<sup>134</sup> *Id.*

<sup>135</sup> *Id.*

<sup>136</sup> Lubomir Tassev, *Swedish Regulators Call for EU Ban on Crypto Mining, Power Company Defends Industry*, BITCOIN.COM (November 10, 2021), <https://news.bitcoin.com/swedish-regulators-call-for-eu-ban-on-crypto-mining-power-company-defends-industry>.

<sup>137</sup> Joe Hernandez, *El Salvador Just Became the First Country to Accept Bitcoin as Legal Tender*, NPR (Sept. 7, 2021), <https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency>.

<sup>138</sup> *Id.*; Matthew Sparkes, *Why Has El Salvador Officially Adopted Bitcoin as its Currency?*, NEWSIDENTIST (Sept. 10, 2021), <https://www.newscientist.com/article/2289763-why-has-el-salvador-officially-adopted-bitcoin-as-its-currency/>.

be limited, however; a recent poll showing that 68 percent of Salvadorans disagreed with the decision, at least in part because they did not know how to use Bitcoin.<sup>139</sup> Each resident of El Salvador was gifted the equivalent of \$30 in Bitcoin, and every company operating in the country is now required by law to accept it as a form of payment.<sup>140</sup>

### § 3.04. Potential Future Legislation and Regulations,

The current administration in the United States has been taking steps toward evaluating options related to, and likely regulating, cryptocurrency and perhaps the crypto-mining process as well. In March of this year, President Biden issued an Executive Order on Ensuring Responsible Development of Digital Assets which outlined a series of policy statements aimed at achieving a “whole of government” approach such as “we must protect consumers, investors and businesses” and “we must support technological advances that promote responsible development and use of digital assets.”<sup>141</sup> The order also instructs the Federal Reserve to explore whether the United States should have its own Central Bank Digital Currency.<sup>142</sup> The order sets timeframes from four to six months for the publication of reports in conjunction with other agencies to guide the administration.<sup>143</sup> A report addressing emissions, noise pollution, energy efficiency and fossil fuel intensive mining is expected to be released in

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<sup>139</sup> Joe Hernandez, *El Salvador Just Became the First Country to Accept Bitcoin as Legal Tender*, NPR (Sept. 7, 2021), <https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency>; Ephrat Livni and Oscar Lopex, *Bitcoin is an Official Currency in this County*, THE NEW YORK TIMES, <https://www.nytimes.com/interactive/2021/09/08/business/dealbook/el-salvador-bitcoin.html>.

<sup>140</sup> Matthew Sparkes, *Why Has El Salvador Officially Adopted Bitcoin as its Currency?*, NEWSIDENTIST (Sept. 10, 2021), <https://www.newscientist.com/article/2289763-why-has-el-salvador-officially-adopted-bitcoin-as-its-currency/>.

<sup>141</sup> Exec. Order No. 14067 (March 9, 2022) (available at <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets/>).

<sup>142</sup> *Id.*

<sup>143</sup> *Id.*

August.<sup>144</sup> At the time of authorship, reports suggested that the Biden administration is crafting policies intended to lower energy consumption and emissions from Bitcoin mining and other proof-of-work cryptocurrencies.<sup>145</sup> Among the comments received in response to the March executive order were recommendations to create a registry of companies using the proof-of-work method, to issue energy efficiency standards, and to institute stringent reviews of every air and water permit issued or renewed for any proof-of-work mining operations.<sup>146</sup>

On Tuesday, June 7, 2022, Senators Kirsten Gillibrand and Cynthia Lummis introduced what is being called wide-ranging bipartisan legislation to regulate cryptocurrencies and other digital assets.<sup>147</sup> The bill, titled the Responsible Financial Innovation Act proposed legal definitions of digital assets and virtual currencies, would require the IRS to adopt guidance on use of digital assets for commerce and charitable contributions, and would require digital assets to be designated as either commodities or securities.<sup>148</sup> Senator Lummis has historically been an advocate for cryptocurrencies and has made financial disclosures of 6-figure investments in bitcoin.<sup>149</sup>

### **[1] — Regulation of Energy Usage.**

On January 27, 2022, Senator Elizabeth Warren, with congressional colleagues, penned a letter to six cryptocurrency miners requesting information regarding their operations, energy consumption, and

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<sup>144</sup> Shawn Amick, *White House to Craft Bitcoin Mining Policy Addressing Energy Use: Report*, BITCOIN MAGAZINE (June 2, 2022), <https://bitcoinmagazine.com/business/white-house-to-reduce-bitcoin-energy-use-report>.

<sup>145</sup> *Id.*

<sup>146</sup> Daniel Moore, *Crypto Miners' Energy, Climate Costs Draw White House Scrutiny*, Bloomberg Law (June 2, 2022), <https://news.bloomberglaw.com/environment-and-energy/crypto-miners-energy-climate-costs-draw-white-house-scrutiny>.

<sup>147</sup> Allyson Versprille, *Sweeping US Crypto Legislation Targets Stablecoins, Mining*, Bloomberg (June 7, 2022), <https://www.bloomberg.com/news/articles/2022-06-07/sweeping-us-crypto-legislation-targets-stablecoins-mining#xj4y7vzkg>.

<sup>148</sup> *Id.*

<sup>149</sup> *Id.*

environmental impact to be submitted by February 10, 2022.<sup>150</sup> Senator Warren sent a similar letter to one of the country's largest Bitcoin mining operations in December 2021.<sup>151</sup> Although no direct regulatory or legal action is outlined in these letters, information gathering may be an early step in developing policy proposals.

While select members of Congress have been focused on cryptocurrency's energy usage for years, the recent push may be due to two recent events: (1) On January 17, 2022, the House Committee on Energy and Commerce held a hearing titled "Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains"<sup>152</sup> and (2) the University of California, Berkeley issued a report titled "Power-hungry crypto miners push up electricity costs for locals."<sup>153</sup>

Although some of the testimony offered at the House Committee on Energy and Commerce hearing "Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains" from industry advocates was careful to delineate between blockchain and Bitcoin, and between proof of work and proof of stake protocols, in suggesting that there are energy efficient options for both blockchain and cryptocurrency,<sup>154</sup> other testimony drew a connection

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<sup>150</sup> Press Release, Elizabeth Warren, Warren, Colleagues Press Six Cryptomining Companies on Extraordinarily High Energy Use and Climate Impacts (Jan. 27, 2022) (available at <https://www.warren.senate.gov/newsroom/press-releases/warren-colleagues-press-six-cryptomining-companies-on-extraordinarily-high-energy-use-and-climate-impacts>).

<sup>151</sup> Press Release, Elizabeth Warren, As Cryptomining Operations Grow in the U.S., Senator Warren Raises Concerns over Exponentially Growing Energy Use, Climate Impact, and Costs to Consumers (Dec. 2, 2021), (available at <https://www.warren.senate.gov/newsroom/press-releases/as-cryptomining-operations-grow-in-the-us-senator-warren-raises-concerns-over-exponentially-growing-energy-use-climate-impact-and-costs-to-consumers>).

<sup>152</sup> *Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains*, House Committee on Energy & Commerce, 117th Congress (2021-2022) (available at (last visited Jan. 27, 2022), <https://energycommerce.house.gov/committee-activity/hearings/hearing-on-cleaning-up-cryptocurrency-the-energy-impacts-of-blockchains>).

<sup>153</sup> Laura Counts, *Power-Hungry Cryptominers Push Up Electricity Costs for Locals*, BERKELEYHAAS (Aug. 3, 2021), <https://newsroom.haas.berkeley.edu/research/power-hungry-cryptominers-push-up-electricity-costs-for-locals/>; MATTEO BENETTON, ET AL., WHEN CRYPTOMINING COMES TO TOWN: HIGH ELECTRICITY-USE SPILLOVERS TO THE LOCAL ECONOMY (May 15, 2021) (available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3779720](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3779720)).

<sup>154</sup> *Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains*, House Committee on Energy & Commerce, 117th Congress (2021-2022), U.S. House Energy and

between cryptocurrency's energy consumption and the growth in clear energy investment and projects, calling crypto's energy consumption "a feature, not a bug."<sup>155</sup>

A Congressional Research Service Report dated August 9, 2019 presents options for Congress to address cryptocurrency's energy consumption: (1) establishment of minimum energy conservation standards for the actual equipment used in mining activities or the cooling equipment used to maintain the hardware, (2) consideration of whether ENERGY STAR labeling for energy-efficient cryptocurrency mining technology is needed, and (3) adoption of energy efficiency standards for data centers used by mining companies.<sup>156</sup> The report also provides options for federal regulation of blockchain technology, including: (1) expanding the definition of electric utility to include generators of electricity that make energy trades using blockchain technology, (2) extending or clarifying the Federal Energy Regulatory Commission's role regulating blockchain technology use in the energy sector.<sup>157</sup>

## **[2] — Regulation as Securities.**

In 2021, the SEC increased its enforcement efforts with respect to cryptocurrency, charging companies, and their executives, with engaging in unregistered sales of securities and misleading investors in connection with crypto lending and investment.<sup>158</sup> Enforcement and regulation of

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Commerce Committee, Subcommittee on Oversight and Investigations (available at [https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony\\_Juels\\_OI\\_2022.01.20.pdf](https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony_Juels_OI_2022.01.20.pdf)) (statement of Ari Juels).

<sup>155</sup> *Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains*, 117th Congress (2021-2022) House Subcommittee on Oversight and Investigations of the Committee on Commerce and Energy, United States House of Representatives (available at <https://www.congress.gov/117/records/house/subcommittees/oversight-and-investigations/2021-2022/cleaning-up-cryptocurrency-the-energy-impacts-of-blockchains>) (Statement of John Belizaire).

<sup>156</sup> BITCOIN, BLOCKCHAIN, AND THE ENERGY SECTOR (Congressional Research Service, Aug. 9, 2019) (available at <https://crsreports.congress.gov/product/pdf/R/R45863/3>).

<sup>157</sup> *Id.*

<sup>158</sup> Christopher O'Brien & Chris Boone, *Beijing and Washington Grapple with Crypto in Their Own Unique Fashion*, FORTUNE (Dec. 3, 2021), <https://fortune.com/2021/12/03/us-china-crypto-regulation-ban-bitcoin-nfts-pboc-sec/>.

cryptocurrencies under federal securities law is expected to continue, with SEC Chairman Gary Gensler, testifying before the Senate Banking, Housing, and Urban Affairs Committee, expressing concern that “large parts of the field of crypto are sitting astride of – not operating within – regulatory frameworks that protect investors and consumers, guard against illicit activity and ensure for financial stability.”<sup>159</sup> Chairman Gensler identified five areas of focus for SEC oversight: (1) offer and sale of crypto token, (2) crypto trading and lending programs, (3) stable value coins, (4) investment vehicles with exposure to crypto assets or derivatives and (5) custody of crypto assets.<sup>160</sup> While expressing his neutrality on the technology itself, he pledged to work with the Commodity Futures Trading Commission, Federal Reserve, Treasury, Office of the Comptroller of the Currency, and other members of the President’s Working Group on Financial Markets, to ensure technologies operate inside of the regulatory framework.<sup>161</sup> The SEC also accounted the addition of a new Senior Advisor in December of 2021 whose role is focused on the oversight of crypto assets.<sup>162</sup>

### **[3] — Other Proposed Regulation.**

Members of Congress introduced 35 bills on cryptocurrency and blockchain policy in 2021.<sup>163</sup> Those bills focused on three categories: (1) cryptocurrency regulations, (2) applications of blockchain technology, and (3) central bank digital currency.<sup>164</sup> Senate Bill 3206, introduced by Senator Ted Cruz, would repeal the provisions of the Infrastructure Investment and

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<sup>159</sup> Gary Gensler, *Testimony Before the United States House of Representatives Committee on Financial Services*, SEC (Oct. 5, 2021), <https://www.sec.gov/news/testimony/gensler-2021-10-05>.

<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> Press Release, U.S. Securities and Exchange Commission, Chair Gensler Announces Additions to Executive Staff (Dec. 30, 2021), (available at [https://www.sec.gov/news/press-release/2021-270?utm\\_medium=email&utm\\_source=govdelivery](https://www.sec.gov/news/press-release/2021-270?utm_medium=email&utm_source=govdelivery)).

<sup>163</sup> Jason Brett, *In 2021, Congress Has Introduced 35 Bills Focused on U.S. Crypto Policy*, FORBES (Dec. 27, 2021), <https://www.forbes.com/sites/jasonbrett/2021/12/27/in-2021-congress-has-introduced-35-bills-focused-on-us-crypto-policy/?sh=4cf4fc33c9e8>.

<sup>164</sup> *Id.*

Jobs Act that create reporting requirements for digital asset transfers.<sup>165</sup> Similarly, House Bill 6006,<sup>166</sup> House Bill 5082,<sup>167</sup> and House Bill 5083<sup>168</sup> all aim to amend crypto tax reporting requirements in the Infrastructure Investment and Jobs Act. Other proposed bills would require various agencies to study potential applications of blockchain technology, to create working groups on digital assets to clarify differences in blockchain tokens, and to study the state of cryptocurrency mining globally.<sup>169</sup>

### § 3.05. **Crypto-Mining Deal Structures for Natural Gas Operators.**

#### [1] — **Generally.**

There are several different ways transactions are structured involving the use of natural gas for on-site (or nearby local) electricity generation that is utilized for cryptocurrency mining. In recent years we have seen an interest in crypto-mining utilizing both stranded natural gas (which includes both associated natural gas that is being vented or flared from oil wells, as well as natural gas wells for which there is no existing infrastructure or insufficient take-away capacity) as well as opportunistic natural gas (*i.e.*, gas for which the economics of a crypto-mining venture are potentially more attractive than the available or perceived/predicted returns for selling gas into the market). The market forces may be different depending on whether gas sales downstream are an available alternative, but in both cases the general outline of available deal structures remains the same for the upstream Operator.

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<sup>165</sup> S.R. 3206, 117th Cong. (2021) (available at <https://www.congress.gov/117/bills/s3206/BILLS-117s3206pcs.pdf>).

<sup>166</sup> H.R. 6006, 117th Cong. (2021) (available at <https://www.congress.gov/117/bills/hr6006/BILLS-117hr6006ih.pdf>).

<sup>167</sup> H.R. 5082, 117th Cong. (2021) (available at <https://www.congress.gov/117/bills/hr5082/BILLS-117hr5082ih.pdf>).

<sup>168</sup> H.R. 5083, 117th Cong. (2021) (available at <https://www.congress.gov/117/bills/hr5083/BILLS-117hr5083ih.pdf>).

<sup>169</sup> Jason Brett, *In 2021, Congress Has Introduced 35 Bills Focused on U.S. Crypto Policy*, FORBES (Dec. 27, 2021), <https://www.forbes.com/sites/jasonbrett/2021/12/27/in-2021-congress-has-introduced-35-bills-focused-on-us-crypto-policy/?sh=4cf4fc33c9e8>.

The first issue to be determined in order to allow for counsel to negotiate and draft appropriate documentation for a project involves determining the scope of the Operator's ownership or involvement in the over-all venture. Generally, the over-all venture will involve a few basic pieces: (i) production of natural gas; (ii) delivery of natural gas to localized generators; (iii) production of electricity; (iv) delivery of electricity to localized crypto-mining equipment; and (v) operation of mining equipment/facilities and resulting generation of cryptocurrency. The Operator needs to evaluate the pieces of this process over which it wants operational control and responsibility and (perhaps different) the pieces in which it wants to have an ownership interest. A related but potentially disconnected question is whether the Operator wants to receive compensation in the form of U.S. currency or prefers that some or all of its compensation be in the form of the generated cryptocurrency.

## **[2] — Operator as Seller of Natural Gas.**

In the most basic deal structure, the Operator may elect to do nothing more than continue to operate its wells, producing natural gas and utilizing the Third-Party Company as a new customer. Under this structure the Operator will enter into a gas sales contract with the Third-Party Company. For a crypto-mining project the Third-Party Company will seek a predetermined price, typically over a term of years, and often with a guaranteed volume or level of production to ensure predictable availability of the targeted level of electricity. The Operator is on familiar ground with this deal structure, focused on common issues, such as price, minimum volume commitments, point of sale, and other routine potential issues such as quality, the ability to satisfy the contract with an alternate source of gas, and transportation if the mining facilities are located off the well pad. Here the parties will need to negotiate which party is responsible to transport gas from the well to the generators, in particular if the generator is not on the wellpad. In addition, for co-located facilities the parties should negotiate joint use and coordination agreements to address liability, cross-indemnities, scheduling (in particular during construction or future drilling), maintenance, and other common terms for shared property access and development.

For those who have oil wells that produce associated natural gas that is being flared or vented, an Operator may in some cases be willing to provide that gas to the Third-Party Company as a by-product without consideration, merely in an effort to improve its emissions. In that case, the Operator should expect to enter into an agreement with no minimum guarantee, and with the Third-Party Company taking appropriate assumption of liabilities in return for the advantageous source of fuel for electricity. The Operator may be willing to provide exclusivity in a defined geographic area to provide the Third-Party Company with the ability to plan for future operations and redeployment of its equipment and facilities.

### **[3] — Operator as Provider of Electricity.**

The Operator may decide it wants to own (or lease) the natural gas generators, often located on the well pad to take advantage of surface area already being used by the Operator. In this instance the Operator will utilize its gas as fuel and will enter into an electricity sales agreement with the Third-Party Company. Here again, for a crypto-mining project the Third-Party Company will seek a predetermined price, typically over a term of years, and often with a guaranteed supply of electricity. Many operators have utilized on-site electricity generation with gas from their wells as fuel, and the operation of these generators is likely not outside their existing area of technical ability. By electing to operate the generation facilities, the Operator removes issues related to gas sales, source, and quality (as the Operator would manage these details behind the point of the sales transaction). Instead, transactional agreements will be focused on a point of sale and, if applicable, the minimum uninterrupted supply of electricity. If the crypto-mining equipment is not located alongside the generators, the parties will negotiate the point of sale and which party owns and is responsible to get power from the generator to the crypto-mining facilities. Such agreements may also address issues such as the consequence for an interruption in service and which party is responsible for securing an alternate source of electric power. As in the previous structure, the parties are likely to need to negotiation provisions related to co-located facilities.

#### **[4] — Operator as Joint Venture Partner or Project Co-owner.**

In addition to taking a more limited and traditional role, the Operator may be interested in forming a joint venture or being one of the owners of a new special purpose vehicle (SPV) formed to own and operate the entire project. This approach utilizes a traditional corporate structure to address things like ownership, capital raises, and distributions. Because this type of project is often a union of companies each with a high level of expertise in one area of the project (and at least initially may not be particularly familiar with the other side's business), it may be advantageous to outline the expected roles, contributions, and obligations of the various members or owners in a preliminary agreement which may take the form of a detailed letter of intent, or a more definitive agreement like a joint venture agreement outlining what each side will do to get the project funded and operational. While many of these issues can be covered in the company's operating agreements, some parties prefer (and we often recommend) to keep that document in a more traditional form, while leaving the specific terms needed for start-up in a separate agreement.

This level of involvement in the project provides certain advantages and raises certain new issues. As a preliminary matter, many Operators will have a steep learning curve at the beginning as they are learning about an entirely new industry while they are negotiating definitive agreements. As a result, in the authors' experience it is common for the outline of these transactions to evolve and sometimes change course dramatically from initial conversations to final executed documents.

If the Operator is going to own and operate the venture as an integrated project with one or more other parties, it will need to decide if its participation will be in the name of its exploration and production ("E&P") company or whether it will form a new affiliate. The latter is common for a number of reasons, including allowing the E&P to remain separate from the SPV. (Further discussion of this use of affiliates is covered below in Section 6 on Legal Issues to Consider.) In addition, the parties will need determine how

much of the project they are going to self-finance and the extent to which they will seek outside funding for their project.

**[5] — Operator as Owner of Venture.**

Finally, an Operator may desire to own the entire project, again as an asset of its E&P company or more likely as an SPV, which is an affiliate of the E&P company. In this structure the SPV may be a single member limited liability company owned by the Operator or potentially owned by the members that own the Operator. Affiliate contracts will exist between the gas producing E&P and the SPV for the sale of gas to the entity that owns the electric generation, and if multiple companies are used, there may also be an affiliate agreement between the electric generating company and the mining entity that wants to hold a long-term electric supply contract. If the Operator prefers simplicity of structure it may even transfer the well to the SPV and then that one company owns gas supply, electrical generation, and mining facilities all without the need for any agreements. As discussed below in Section 6, the commonality of ownership may provide clear benefits regarding utility regulation analysis, taking advantage of self-use and self-generation status to avoid any threat of such regulations.

**[6] — Compensation.**

Whatever manner the Operator chooses to structure its transaction, one item of particular focus in the negotiation will often be how the Operator will be compensated and, in particular, the Operator's desire to receive some compensation based on, or maybe even in the form of, the cryptocurrency generated by the project. Clearly a segment of the investor community believes that acquiring and holding certain cryptocurrencies is a superior investment compared to government currency or even other investments opportunities. Operators may wish to claim a percentage of the cryptocurrency as partial or full compensation – and in that event they will need to elect whether they want their coins to be converted to U.S. dollars or whether they want to receive and hold the cryptocurrency as an investment over the short term or perhaps longer. Regardless of the level of the Operator's ownership or

participation in the pieces of the venture, they may want to receive some level of cash compensation for the gas or electricity being provided and then hold cryptocurrency as an additional level of compensation.

### **§ 3.06. Legal Issues to Consider.**

#### **[1] — Generally.**

In this section we review a number of legal issues to consider when structuring the transactional documents for a project involving natural gas sourced from a producing well and the localized production of electricity used to power crypto-mining computers.

#### **[2] — Lease Obligations.**

Operators need to carefully review any applicable lease obligations to ensure that they have all of the rights needed from the landowner for the proposed business venture. Typical areas for examination include existing surface rights, including both access and surface use. An Operator should analyze the language of its lease or surface use agreement to determine whether it may need any additional surface rights for its project, whether that involves increasing the size of the limits of disturbance or granting additional property rights for the crypto-mining activities.

While some leases may allow the Operator the free use of natural gas for on-site operations, including the generation of electricity, those provisions can vary substantively between agreements and have not been largely construed by the courts in the context of cryptocurrency mining. In addition, the Operator will need to evaluate any royalty obligations for natural gas produced from the property. If the Operator enters into an arms-length transaction to sell gas, then the analysis is rather straight forward and customary.

Likewise, if the Operator had the right to vent or flare gas from an oil well and it is merely disposing of the gas by transferring the gas to a Third-Party Company then the analysis should again follow the existing rights of the Operator. More careful analysis will be required to evaluate the rights and obligations under the lease if (i) the Operator is entering into a new

commercial venture that will make economic use of the gas, or (ii) the Operator is receiving compensation in the form of cryptocurrency rather than U.S. dollars. While some lease agreements or separate surface use agreements may clearly address these issues, we anticipate that some form documents will need to be updated or amended to provide clarity for this new opportunity.

### **[3] — Existing Third-Party Contractual Obligations.**

In addition to the existing lease and surface rights use agreements, an Operator will need to evaluate whether any other existing contractual agreements contain obligations implicated by the planned project. In particular, an acreage dedication agreement may obligate all gas to flow to the gathering company. As noted above, any carve-outs or exceptions for on-site use need to be reviewed carefully to evaluate whether the new project is covered by the applicable provisions.

While Minimum Volume Commitments (“MVCs”) may be of lesser concern for the Operator, it nonetheless needs to be mindful of both current and future obligations. This forward-looking analysis is important if one or both agreements (*i.e.*, the gathering agreement or the agreement with any Third-Party Company for a crypto-mining venture) contains future obligations, especially if MVCs increase over time or there is a potential expansion of the scope of the crypt-mining venture. If the natural gas is being transported to a nearby location off of the well pad, the Operator will want to be certain that such transportation does not violate any applicable terms of its gathering agreement.

Finally, any existing agreements, such as area of mutual interest agreements, joint development agreements or joint operating agreements, would still be applicable to the acreage involved.

### **[4] — Deal Terms.**

#### **[a] — Generally.**

Several important deal terms need to be evaluated and then drafted into appropriate transactional documents unless the Operator owns the entire

project. While certainly not an exhaustive list, a number of common terms to consider are discussed below.

**[b] — Term.**

Most Third-Party Companies on the mining side will want to secure a multi-year commitment, ideally locking up both guaranteed source of supply and a fixed rate over that period. The Operator needs to consider its ability to meet these expectations as well as the desirability of committing the necessary volumes. In areas where the gas lacks take-away or market this will necessarily be based on its own supply, although for those considering these projects which are located near pipelines an Operator may have some possible optionality to use its own gas or acquire gas from the pipeline.

**[c] — Contributed Assets.**

In the event the Operator is going to participate in the overall crypto-mining project, both sides will contribute something of value to a crypto-mining venture. The Operator will provide either undeveloped prospect acreage or existing wells, both of which represent a significant capital investment. In addition, most of the time the Operator also provides the property rights necessary for surface location of the planned project. Beyond that the Third-Party Company may contribute either relationships with vendors of generators and/or mining equipment, perhaps ownership or existing leasing of such equipment or facilities, or contracts for the same. The parties should discuss early on the relative value of these contributions and if appropriate the mechanism for sharing or reimbursing of costs related to those items.

**[d] — Funding.**

As with many oil and gas projects, a crypto-mining venture can be a capital-intensive venture, especially if it involves the funding of new wells. In addition to the funding available to the principal parties, numerous parties who lack the technical expertise to guide a project through development and production are interested in investing in crypto-mining ventures. Many times the Operator and Third-Party Company may consider inviting outside capital

investors to participate in the project. Obviously, this type of third-party investment will require a business structure that addresses the respective rights and obligations of the Operator, the Third-Party Company and these investors. Depending on the type of commitments involved, the Operator and Third-Party Company may have certain agreements, or form a new SPV, to address their respective transaction and then their joint venture or SPV may have a separate set of agreement with these outside investors. Even if no outside investor capital is being used initially, consider drafting provisions to address the possibility of tapping outside capital investors, especially if the transactional documents allow for future expansion or material capital investment into the project.

**[e] — Timing.**

While both sides are often eager to proceed, in many cases the parties should discuss the timing for the pieces of the project that need to be coordinated. On the one hand, an Operator may already have producing wells that can supply the natural gas, and a Third-Party Company may already possess generators and mining facilities it can provide in the near term; however, it is just as common that one side or both will not initiate these activities until the project becomes more certain and, in particular, funding has been committed. Operators need to be able to explain the lead time to design, permit, drill and complete a new well, which may include additional leasing and acreage swaps, in addition to the normal scheduling for such operations; and Operators need to be aware of the potential lead time to procure both generators and mining equipment for their project – supply constraints may cause the parties to evaluate alternatives, such as leasing versus purchasing, or contracting with a company that has a ready supply of one or both types of equipment. Indeed, the Third-Party Company’s ability to timely coordinate these pieces of the project is an important consideration in choosing a partner for this type of venture.

**[f] — Budgeting and Obligation to Participate.**

As the parties discuss the timing and costs of their respective pieces of the project, they should also establish a clear understanding about the anticipated

budget, as well as the likelihood of potential changes to the budget, the magnitude of such budget adjustments, and whether the parties will share or allocate these costs overruns to one party. Most likely, the parties will either commit the initial funding upfront or be obligated to fund their respective share of the initial project; however, the parties need to agree on the obligation to continue to fund for any amendments to the scope or costs of the initial project. We typically expect the parties to be firmly obligated to cover their share of the initial project, or perhaps agree to such an obligation up to a pre-agreed cap. If the initial project includes a minimum volume commitment of natural gas, this initial budget may need to anticipate relocation to different well locations or drilling of additional wells to maintain gas supply in the event of future production declines.

#### **[g] — Future Development / Expansion.**

If the parties agree that their project will or may expand in the future, it is common to consider some amount of optionality for each side regarding future capital commitments. It is particularly important to discuss and draft provisions that outline how the budgets will be developed and by whom, which parties are responsible to propose and approve expansions, and whether a party is contractually obligated to fully fund its share of such future development.

The agreements also need to address the consequences of non-payment, underpayment, or untimely payment. For example, can a party elect not to fund future projects, can it elect to fund a smaller percentage of the project in the future, or must it elect to fully fund all future costs. There are a number of issues the parties should consider involving a failure to fully fund future development: (i) whether the failure to elect to participate will result in any reduction to its overall share of the project thereby reducing revenues from both existing operations as well as the new operations, (ii) whether the failure to participate will cause the party to permanently forego the allocable revenues from the new venture or expansion, (iii) when an applicable reduction takes place (*e.g.*, upon the election or only when the capital would have been expected to be paid, which may be several months apart depending on the timing set forth in the agreement for this process),

(iv) whether there is a heightened consequence for a party that indicates it will participate but fails to contribute its share of capital when due, and (v) whether a failure to participate affects the non-participating party's right to participate in other future activities.

#### **[h] — Costs of Treatment.**

For those projects where the natural gas is not ready for use when produced, the Operator will want to explain the process and expense involved in treatment and processing, and the transactional documents will need to address ownership of any produced liquids, responsibility for control, marketing, and monetization of those hydrocarbons, as well as the associated liabilities and costs.

#### **[i] — Management.**

Often one of the advantages to a venture involving an Operator and Third-Party Company is the combination of two entities with experience in their respective business, which can be utilized to make the overall project more successful; however, where the parties will jointly own the overall project from wellhead to receipt of cryptocurrency it also presents the challenge of shared management. While the transactional documents can clearly spell out the formal method by which decisions will officially be made, at a more practical level the parties will need to discuss and decide how to best utilize and rely upon the expertise of each other.

The parties may form a management team composed of representatives from their respective companies or hire an outside manager with sufficient expertise to attend to the daily needs of their venture. However it is accomplished, the goal should be creating an open flow of communication and building of trust in each other's core competency. Transactional documents can facilitate this to some degree by providing a clear process for project and operational proposals with opportunities for input from the key parties, information sharing, regular meetings, and audit rights.

**[j] — Expenses.**

In utilizing the existing infrastructure and expertise of each party, the new venture will derive value from the ongoing business of both the Operator and the Third-Party Company. The parties should discuss the scope of their respective investments in terms of personnel, overhead and time required to manage their share of the venture. In light of that discussion and the respective contribution of each party, they will need to determine whether each side will be providing its company's resources as an equal and cost-free contribution to the venture, whether each company will invoice the venture and if so in what amount, and, to the extent it can be determined in advance, a schedule for certain predictable costs. For example, an Operator will provide significant resources to design, permit, drill and complete a new well. These costs may be part of the authorization for expenditures for which each side pays its proportionate share; however, if the parties have generally agreed that their company's support structure will be provided without cost, it may still be appropriate to allow these costs to be charged to the venture and it is important that expectations are aligned on this type of issue.

After production begins, the Operator will continue to incur regular land and administration costs for the management of its leases and payment of lessors. These costs are normally charged to the owners of a well through a joint interest billing under an operating agreement; however, depending on how the transaction is being structured, other parties may not own a working interest and as a result an operating agreement may not be applicable. In this case the parties may agree to some fixed monthly fee for these services. A related topic is the use of affiliates in performing certain services, and again the parties should openly discuss and draft their agreements to address expectations in this situation.

**[k] — Compensation.**

Many of these transactions are driven by the perceived value in receiving cryptocurrency. An Operator who wants to receive a share of revenue from cryptocurrency mining will need to decide if it will take its compensation (i) by converting its share of cryptocurrency to U.S. dollars, (ii) by taking its share of cryptocurrency in kind, or (iii) by a combination of these options, *i.e.*, taking distributions partially in U.S. dollars and partially in

cryptocurrency. If the Operator wants to receive its allocable share in U.S. dollars, the agreements will need to be clear about both the point in time and the third-party index that will be used to determine value. As the numerous examples of volatility have shown us, the price at 9:50 a.m. on a Monday may be vastly different from the price at 4:30 p.m. later that week, month or at times even the same day. Taking cryptocurrency in-kind obviates issues relating to the proper valuation of the Operator's compensation; however, in this instance the parties will still need to negotiate the timing of distributions, and, if applicable, the selection of a qualified third-party custodian for the Operator's "wallet."

### **[1] — Exit.**

Either party may want the ability to exit the venture. The parties should thoughtfully consider the right to surrender or sell their interest, including any type of right of first refusal or right of first offer to the other party or parties in the venture. Often the parties are entering into an agreement because they have gotten comfortable with each other as partners and may want to limit the ability to have a new party forced upon them, especially if the project involves a longer term and ongoing obligations for future development projects.

### **[5] — Regulatory Oversight.**

Many operators will want to evaluate their proposed business structure and project activity to determine whether the venture will result in any additional regulatory oversight. As the Operator and any Third-Party Company discuss the potential venture, they should be mindful of whether the structure of their planned activity will expose one or more parties to undesirable regulation. Sales of natural gas or electricity to an unaffiliated third party should be evaluated in light of the controlling state regulatory regime. Particular attention should be paid to whether the planned transaction structure raises a risk of a party being treated as a regulated utility. Many states provide exceptions to regulation when the gas, and the resulting electricity, are being utilized by the Operator or an affiliate. As a result, a transaction structure that utilizes one or more SPVs that are either affiliates of the Operator or at least partially share ownership with the Operator may be advantageous to avoid these regulatory concerns.

In addition, the Operator should evaluate the project to determine if the project will be subject to any state or federal permitting regime. In addition to site and construction-based permits and/or local ordinances, the Operator should examine the applicability of air emissions regulations. Depending on the state and certain project-specific facts, regulators might not only evaluate the crypto-mining project but may examine aggregation with the Operator's wells.

### **[6] — NGOs and Third-Party Challenges.**

Although not something that can be negotiated between the parties, nor something that can be drafted for in organizational and transactional documents, nonetheless an important part of the conversation at the beginning of each project includes an evaluation of the likely sources and extent of challenges to the venture from outside groups that object to your project specifically, or all projects involving hydrocarbons generally. As we have seen around the country in recent years, some groups have adopted an “obstruct and delay” tactic, even when they are aware that ultimate success on the merits is unlikely. As notoriety around crypto-mining ventures has raised awareness of these projects, these outside groups are increasingly likely to focus and challenge them where they can. The parties involved in the project should consider likely adverse action or objections, as well as be prepared with a plan of response if such outside groups become involved in opposition to their venture.

### **§ 3.07. Conclusion.**

Crypto-mining projects provide an interesting opportunity for many Operators, and in particular for those whose wells are producing natural gas that has no take away capacity or market or for those renewable projects where crypto-mining provides extremely synergistic opportunities to enhance the overall success of the development. As with any venture that involves relatively new technologies and actively evolving legal regimes, it is important to understand the risks and to negotiate the structure of the transaction to meet the company's objectives while anticipating and mitigating the negative consequences of future changes affecting the deal's fundamental assumptions.



# Chapter 4

## It's Heating Up: The Opportunities and Challenges of Renewable Development

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**§ 4.01. Introduction.**

As the renewable energy industry continues to grow, new opportunities and challenges have introduced themselves with respect to development of the industry. In this chapter, these opportunities and challenges are examined in three distinct sections. First, this chapter examines the potential pitfalls and benefits that site contamination may have on development. This section also discusses the steps landowners should take to ensure that clean-up liability will not be imposed upon them for site contamination. Second, this chapter introduces “the neighbors” below and beside a piece of property and how rights are shared and enforced against an adjacent parcel or a mineral estate. This section provides the reader with an in-depth discussion of correlative rights between surface estates with renewable interests and mineral estates with non-renewable interests. Finally, the chapter is concluded by a discussion of how surface estates can limit the interference of mineral estates through various instruments including affidavits of non-production, surface waivers, and mutual accommodation agreements.

**§ 4.02. Contamination — Why Should I Care?****[1] — Introduction.**

Many federal environmental statutes can impose liability on individuals or groups for mere ownership of contaminated lands. These statutes include, but are not limited to, the Resource Conservation and Recovery Act (“RCRA”), the Clean Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). Additionally, contaminated property may concern lenders, who may be unwilling to loan money to buy or develop property due to concerns regarding lender liability, worthless collateral, and/or repayment problems.

**[2] — Comprehensive Environmental Response, Compensation, and Liability Act.**

One of the many environmental statutes which imposes liability on landowners for mere possession of contaminated lands is the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). Passed in 1980, this act is colloquially known by many as “Superfund”.

According to the Environmental Protection Agency (“EPA”), “provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.”<sup>1</sup> Under CERCLA, liability for “hazardous substance” cleanups is imposed on both current and past owners and operators as well as “generators”, and “arrangers.”

Following its enactment, CERCLA had a chilling effect on property acquisition during the early to mid-1980s. Potential buyers feared that buying contaminated property would make them strictly liability for hazardous substances on the property. To combat this growing concern, Congress passed the “innocent landowner defense” in the 1986 Superfund Amendments.<sup>2</sup> This defense has since been expanded upon by the 2002 amendments to CERCLA and applies to purchasers who conduct “all appropriate inquiries” and are still surprised by the presence of hazardous materials on their property.<sup>3</sup>

### **[a] — “All Appropriate Inquiries” and Phase I Environmental Site Assessments.**

To meet the “all appropriate inquires” standard articulated by the 1986 and 2002 amendments to CERCLA, a potential buyer must first conduct a Phase I Environmental Site Assessment pursuant to the most recent ATSM standard.<sup>4</sup> Phase I Assessments must be performed by an “Environmental Professional” who will conduct record searches, a site visit, and interviews. Following the conclusion of the Phase I Assessment, the Environmental Professional will identify any “recognized environmental conditions” that may exist. Recognized environmental conditions include “(1) the presence of

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<sup>1</sup> *Superfund: CERCLA Overview*, U.S. ENVTL PROTECTION AGENCY (January 24, 2023), <https://www.epa.gov/superfund/superfund-cercla-overview>.

<sup>2</sup> *Third Party Defenses/Innocent Landowners*, U.S. ENVTL. PROTECTION AGENCY (October 21, 2022), <https://www.epa.gov/enforcement/third-party-defensesinnocent-landowners#:~:text=The%202002%20CERCLA%20amendments%20clarified,Guidance%20webpage%20for%20more%20information.>

<sup>3</sup> 42 U.S.C. § 9601.

<sup>4</sup> *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process*, ASTM (December 21, 2021), <https://www.astm.org/e1527-21.html>.

hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.”<sup>5</sup>

While a Phase I Environmental Site Assessment is the first hoop a landowner must jump through to avoid liability under CERCLA, it is not a comprehensive environmental study on the property by any means. Rather, it is an in-depth *preliminary* study. A Phase I Environmental Site Assessment should not be seen as a “clean bill of health for the property as it only addresses “hazardous substances” under CERCLA, which does not include substances such as asbestos, lead paint, and/or radon.<sup>6</sup> A Phase I report should not be considered a finding of site suitability.

### **[i] — Potential Recognized Environmental Conditions: What Comes Next?**

If an Environmental Professional identifies a potential recognized environmental condition, then a Phase II Assessment may be recommended. During a Phase II Assessment, a certified environmental professional will collect drilling, soil, and groundwater samples to determine if a recognized environmental condition is present.<sup>7</sup>

Even if a Phase II Environmental Site Assessment demonstrates the presence of hazardous substances, a buyer may still wish to purchase the property. Risk can be mitigated through contractual means, such as indemnity provisions, as well as adjustments in purchase price. Also, the purchaser can seek to qualify as a “Bona Fide Prospective Purchaser” as discussed below.

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<sup>5</sup> *Id.*

<sup>6</sup> *CERCLA Hazardous Substances Defined*, U.S. ENVTL. PROTECTION AGENCY (February 22, 2023), <https://www.epa.gov/epcra/cercla-hazardous-substances-defined>.

<sup>7</sup> *Standard Practice for Environmental Site Assessment: Phase II Environmental Site Assessment Process*, ASTM (January 8, 2020), <https://www.astm.org/e1903-19.html>.

### **[ii] — Becoming a Bona Fide Prospective Buyer.**

As part of the 2002 The Superfund Amendments and Reauthorization Act (“SARA”), Congress created an incentivization program to revitalize Brownfield land.<sup>8</sup> This amendment allowed for prospective buyers to qualify as a “Bona Fide Prospective Purchaser” (“BFPP”) and acquire contaminated property without becoming liable for any cleanup costs that they may otherwise have been responsible for.<sup>9</sup> To become a BFPP, a landowner must first have a Phase I Environmental Site Assessment conducted, exercise “all appropriate care” with respect to existing pollution, cooperate with state or federal cleanup, and abide by “institutional controls.”<sup>10</sup> Also, states may incentivize property owners to attempt to revitalize Brownfields, but these programs must meet the applicable federal levels of environmental compliance.

## **§ 4.03. Meet the Neighbors.**

### **[1] — Introduction.**

In this section, the issue of sharing rights to the land are discussed in depth. First, the issue of correlative rights between the surface and mineral estates is examined in conjunction with the accommodation doctrine. The discussion then moves to the issue of shared rights with adjoining parcels and how it may affect renewable development. Finally, this section concludes with a discussion of landowner compliance with municipal and county zoning ordinances and permitting.

### **[2] — The Neighbors Below.**

In Appalachia and other resource rich regions it is common for surface and subsurface mineral ownership to be divided into two different estates: a

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<sup>8</sup> *The Superfund Amendments and Reauthorization Act (SARA)*, U.S. ENVTL. PROTECTION AGENCY (April 25, 2022), <https://www.epa.gov/superfund/superfund-amendments-and-reauthorization-act-sara>.

<sup>9</sup> *Id.*

<sup>10</sup> 40 C.F.R. pt. 312.

dominant mineral estate and a servient surface estate. The instrument used to convey this division is known as a severance deed.<sup>11</sup> When a severance of the mineral and surface estates is created, the rights of the two estates become correlative to one another. This means the mineral owner will have a limited right to use the surface, to develop minerals and subside the surface, and the surface estate will have a limited use to the subsurface estate, for actions such as digging a well.<sup>12</sup> Therefore, when a mineral estate claims to have an implied right to use the surface for extraction purposes, the estate must show that “the right is reasonably necessary for the extraction of the mineral,” and “that the right can be exercised without any substantial burden to the surface owner.”<sup>13</sup> It is important to note a small inconvenience to the servient surface estate will not be enough to satisfy the substantial burden requirement required under West Virginia law.<sup>14</sup>

Oftentimes, correlative rights may not be apparent at first glance. For example, in *Simmers v. Star Coal & Coke Co.*, the West Virginia Supreme Court of Appeals ruled that a waiver of the right of subjacent support due to a deed granting a right to remove “all the coal” should be construed according to the intent of the parties.<sup>15</sup> Thus, in West Virginia, as correlative rights can be either express or implied, a simple title search will not be sufficient if an issue arises between the dominant mineral estate and the servient surface estate.

### **[a] — Access to the Surface by the Mineral Estate.**

While West Virginia caselaw does not have a case exactly on point regarding the issue of correlative rights between mineral estates and surface estates with renewable energy farms, the West Virginia Supreme Court of Appeals has established a significant line of caselaw regarding correlative rights in general. First, in *Squires v. Lafferty*, the Supreme Court of Appeals

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<sup>11</sup> 13A MICHIE’S JURIS. § 11 (2022).

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*, citing *Buffalo Mining Co. v. Martin*, 165 W. Va. 10 (1980).

<sup>14</sup> *Preston County Coke Co. v. Elkins Coal & Coke Co.*, 82 W. Va. 590, 96 S.E. 973 (1918).

<sup>15</sup> *Syl. Pt. 2, Simmers v. Star Coal & Coke Co.*, 113 W. Va. 309 (1933).

ruled that a mineral owner has the right to “use the surface in such manner and with such means as would be fairly necessary for the enjoyment of the [dominant] mineral estate.”<sup>16</sup> West Virginia caselaw continued to expand upon the issue of correlative rights between mineral and surface estates in *Buffalo Mining Co. v. Martin*.<sup>17</sup> In *Buffalo Mining*, the Supreme Court of Appeals held when the mineral and surface estates are separated, the mineral estate receives an implied easement to the surface estate for extraction of the subsurface.<sup>18</sup> The court in *Buffalo Mining* developed a two-pronged test to determine whether an owner of a mineral estate may access the surface estate for extractive purposes.<sup>19</sup> For a claim to be successful, the mineral estate holder must demonstrate “not only that the right is reasonably necessary for the extraction of the mineral, but also that the right can be exercised without any substantial burden to the surface owner.”<sup>20</sup>

The West Virginia Supreme Court of Appeals in *Andrews v. Antero Resources Corporation* defined “substantial burden” to the surface owner as a use of the surface that results in destruction of the surface estate without the “express authority” of the surface owner.<sup>21</sup> By applying W. Va. Code § 22-6B-1(a)(1), the court also found that “oil and gas reserves in this state must coexist with the use, agricultural or otherwise, of the surface of certain land and that each constitutes a right equal to the other.”<sup>22</sup> Otherwise, the bar for the plaintiff for proving the presence of a substantial burden is incredibly high, and most actions taken by the mineral estate are permitted.<sup>23</sup> Therefore, a mineral owner in West Virginia is within their rights to use the surface to extract minerals from below that parcel of land as long as they have express

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<sup>16</sup> Squires v. Lafferty, 121 S.E. 90, 91 (W. Va. 1924).

<sup>17</sup> Buffalo Mining Co. v. Martin, 267 S.E.2d 721 (W. Va. 1980).

<sup>18</sup> *Id.* at 722.

<sup>19</sup> *Id.* at 725-26.

<sup>20</sup> *Id.* at 721.

<sup>21</sup> Andrews v. Antero Resources Corp., 828 S.E.2d 858, 871 (W. Va. 2019) (hereinafter cited as *Andrews*).

<sup>22</sup> W. VA. CODE § 22-6B-1(a)(1).

<sup>23</sup> *Andrews*, 267 S.E.2d 858, 871.

permission from the surface estate or an injunction.<sup>24</sup> Thus, mineral estate owners are within their rights to enter onto the servient surface estate and conduct activities including, but not limited to, “drill[ing] wells, construct[ing] roads, haul[ing] and us[ing] heavy machinery, lay[ing] pipelines, etc.”<sup>25</sup>

Here, under West Virginia law, if a surface owner either built a solar or wind farm on the property or leased the land out for the construction and maintenance of a solar or wind farm, it is very likely that the line of caselaw mentioned above would be applied in a manner in which the rights of the dominant mineral estate and the servient surface estate would be forced to cohabitate and accommodate one another in a way that allowed for the land to serve both purposes when possible. In a situation where a solar or wind farm is created on a servient surface estate, and the owners of the dominant mineral estate want to enter onto the land to extract the minerals, they will likely be permitted to, as long as it is both “reasonably necessary” and can be “exercised without any substantial burden to the surface owner,” pursuant to *Buffalo Mining*. Furthermore, the mineral owner must also obtain either permission from the surface owner to be on the property or an injunction from a court of law permitting the mineral estate owner to be on the land as articulated in *Andrews*.

Thus, in a situation where a parcel of land in West Virginia where the surface and mineral rights have been severed, and a solar farm has been erected on the servient surface estate, the surface estate will have to allow the dominant mineral estate access to the land for extracting purposes to allow for the mineral owner’s enjoyment of their estate. Access to the surface by the mineral estate will be permissible, regardless of the presence of a solar farm as long as the access to the land satisfies both the “reasonably necessary” and “substantial burden to the surface owner” tests from *Buffalo Mining*.

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<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

**[b] — The Accommodation Doctrine.**

The accommodation doctrine as articulated by Texas caselaw has not been directly adopted by West Virginia courts, but it appears that something similar to the two-part test articulated by the Supreme Court of Texas in *Getty Oil Co. v. Jones*<sup>26</sup> was adopted by the West Virginia Supreme Court of Appeals in *Buffalo Mining*. If West Virginia were to both officially apply the accommodation doctrine and expand on it in the manner that Texas courts have, the doctrine could have “broad application(s)” in West Virginia, including to the subject of solar correlative rights.

In *Getty Oil Co. v. Jones*, the Supreme Court of Texas held that a surface estate owner has a legal right to seek a legal injunction to prevent a dominant mineral estate from using the surface in a way that will hinder the operations of the surface estate.<sup>27</sup> In *Getty Oil Co.*, the plaintiff brought an action for an injunction to prevent defendant oil company from installing mining material on plaintiff’s property as it resulted in the devaluation of the surface estate.<sup>28</sup> The Texas Supreme Court granted the plaintiff’s injunction and developed a two-part test (similar to the test articulated *Buffalo Mining*) which stated that a surface owner seeking an injunction against a mineral estate must prove that the mineral estate’s use “completely precludes or substantially impairs the existing use” and that the surface owner has no reasonable alternative method in which their use can be continued.<sup>29</sup> This two-part test has since become known in caselaw as the “accommodation doctrine.”

The accommodation doctrine has been applied in Texas specifically to a dispute arising between a solar farm and a mineral estate interested in extracting resources from beneath the solar farm.<sup>30</sup> In *Lyle v. Midway Solar*, the Texas Court of Appeals for the Eighth District of El Paso held that the accommodation doctrine was applicable to cases involving renewable energy

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<sup>26</sup> *Getty Oil Co. v. Jones*, 470 S.W.2d 618 (Tex. 1971).

<sup>27</sup> *Id.*

<sup>28</sup> *Id.* at 619.

<sup>29</sup> *Id.* at 621.

<sup>30</sup> *Lyle v. Midway Solar, LLC*, 618 S.W.3d 857 (Tex. App. 2020).

farms, and that for a mineral estate to bring forth an encroachment action, the owners of the dominant mineral estate must actually attempt to develop the mineral estate.<sup>31</sup>

### **[i] — Application of the Accommodation Doctrine in West Virginia.**

While the West Virginia Supreme Court of Appeals clearly articulated a two-pronged test in *Buffalo Mining*, the court has not yet clearly stated that this test is West Virginia's rendition of the accommodation doctrine. With respect to the current state of caselaw and dicta in West Virginia pertaining to this issue, it would appear that West Virginia could be on a path to openly applying the accommodation doctrine to the issue of conflicting rights between surface and mineral estates. It is also important to note that by placing the burden on the mineral estate, West Virginia has arguably also provided an extra layer of protection to the surface estate owner that may not have been originally intended.<sup>32</sup>

The West Virginia Supreme Court of Appeals also addressed the issue of applying an expanded accommodation doctrine-like standard in *Faith United Methodist Church & Cemetery of Terra Alta v. Morgan* by stating that the rights of mineral and surface owners must be balanced against one another.<sup>33</sup> Therefore, a surface owner has a right to reasonably use the subsurface that their estate lies on in a manner that is "customary and ordinary" for the enjoyment of the surface.<sup>34</sup> An example of this would be the digging of a water well. Alternatively, the mineral estate must also be accommodated by the surface estate, as the estate will have a correlative right to the surface for extraction purposes.<sup>35</sup>

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<sup>31</sup> *Id.* at 869-73.

<sup>32</sup> Christopher M. Alspach, *Surface Use by the Mineral Owner: How Much Accommodation Is Required Under Current Oil and Gas Law?*, 55 OKLA. L. REV. 89 (2002).

<sup>33</sup> *Faith United Methodist Church & Cemetery of Terra Alta v. Morgan*, 745 S.E.2d 461, 478 (2013).

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

While the West Virginia Supreme Court of Appeals has not openly accepted the accommodation doctrine and has not given an explanation as to why, Justice Workman's dissent in *Andrews* may glean some light on the reason as to why the court has refused to outright adopt the principle in West Virginia. In her dissent, Justice Workman outlines how if West Virginia were to apply the accommodation doctrine to correlative rights cases, it could have "broad applications to the issue at hand."<sup>36</sup> As articulated in *Andrews*, West Virginia precedent has already established "that mineral and surface estates must exercise their respective rights with due regard each for the other's."<sup>37</sup> This notion, *Andrews* postulates, is the very principle behind the rationale of the accommodation doctrine in *Getty Oil*.<sup>38</sup> Furthermore, Workman cites *Sun Oil Co. v. Whitaker*, another landmark Texas accommodation doctrine case which stated that the doctrine allows the court to accommodate the severed mineral estate while preserving the rights of a viable surface estate.<sup>39</sup> According to Justice Workman, a complete application of the accommodation doctrine in West Virginia "requires the mineral owner to use available, non-interfering, and reasonable ways of producing the minerals which would permit the surface owner to continue his existing use of the surface."<sup>40</sup>

With respect to its implications towards renewable energy farms and correlative rights, if West Virginia courts were to apply the accommodation doctrine as Justice Workman argued, it would indeed have "broad applications". Here, if the court were to apply the accommodation doctrine in full as it has been in Texas caselaw, mineral estates would likely have to find more non-interfering methods of extracting resources from the subsurface estate. This would provide an extra layer of protection and security to renewable energy farms in the state by ensuring that the mineral estate was accommodated while still preserving a viable solar or wind

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36 *Andrews*, 267 S.E.2d 858, 881.

37 *Id.*

38 *Id.*

39 *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 817 (Tex. 1972).

40 *Andrews*, 267 S.E.2d 858, 881.

farm on the surface estate. Thus, if West Virginia were to openly apply the accommodation doctrine, it would greatly favor renewable energy firms who either have surface estates or leases on a surface estate by protecting their interests while still accommodating the dominant mineral estate as well.

## **[ii] — The Accommodation Doctrine as Applied in Other Appalachian States.**

### **a. Pennsylvania**

Pennsylvania has yet to either apply the accommodation doctrine in its caselaw or apply a statutory equivalent of it in their code. Therefore, many surface owners in Pennsylvania do not have the protections afforded to surface estate holders in an accommodation doctrine state.

Initially, Pennsylvania addressed the issue of correlative rights in the early twentieth century. In *Friedline v. Hoffman*, the Pennsylvania Supreme Court held that access to a surface estate for extraction purposes will not be permitted if alternative access point that is more reasonable while still being cost effective and profitable already exists.<sup>41</sup> This *Friedline* standard was walked back in 2009 when the Pennsylvania Supreme Court ruled that “a regular surface owner cannot unilaterally impose extra conditions on the subsurface owner beyond those that are reasonable” when the mineral estate is wishing to access the surface estate for extraction purposes.<sup>42</sup> Thus, it appears that Pennsylvania has not yet even accepted a principle similar to that of the accommodation doctrine.

### **b. Kentucky**

Similar to Pennsylvania, the state of Kentucky has not adopted the accommodation doctrine through caselaw or statutory implementation. With respect to correlative rights, Kentucky courts have applied a doctrine in

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<sup>41</sup> *Friedline v. Hoffman*, 115 A. 845 (Pa. 1922).

<sup>42</sup> *Belden & Blake Corp. v. Department of Conservation and Natural Resources*, 969 A.2d 528, 533 (Pa. 2009).

which the “dominant and servient owners have correlative rights and duties which neither may unreasonably exercise to the injury of the other.”<sup>43</sup> Thus, like Pennsylvania, Kentucky is ripe for clarification on issues regarding correlative rights and could possibly find said clarity in the application of the accommodation doctrine or a similar variant to the doctrine.

### **[3] — The Neighbors Beside.**

In instances where one may have to worry about adjoining parcels interfering with the enjoyment of either their surface or mineral estate, one should be incredibly cautious. For example, in *Gestamp Wind North America v. Alliance Coal, LLC.*, a wind farm adjoining a coal mine and filed suit against the mine for altering wind flows and creating coal dust that interfered with the wind farm.<sup>44</sup> In *Gestamp*, the Court of Special Appeals of Maryland ruled that “absent an agreement between the parties or a governmental regulation, a property owner has no right to prevent a neighbor from altering its property in ways that affect air and light on the plaintiff’s property.”<sup>45</sup>

### **[4] — Town and Municipal Neighbors.**

Another important factor which should be taken into consideration is ensuring a project is in full compliance with any relevant county and municipal ordinances which may be in effect. Here, one should consider whether the project will comply with local zoning laws and whether a building permit may be needed and whether or not it can be afforded. Under the precedent established by the West Virginia Supreme Court of Appeals in *Cooper v. City of Charleston*, fees must bear a reasonable relationship to the services rendered by the project.<sup>46</sup>

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<sup>43</sup> Higdon v. Kentucky Gas Transmission Corp., 448 S.W.2d 655 (Ky. 1969).

<sup>44</sup> *Gestamp Wind N. Am., Inc. v. All. Coal, LLC*, No. 1787, Sept. Term, 2019, 2021 WL 3612747 at \*5 (Md. Ct. Spec. App. Aug. 16, 2021).

<sup>45</sup> *Id.* at \*2.

<sup>46</sup> *Cooper v. City of Charleston*, 218 W. Va. 279, 286 (2005).

**[5] — Shared Land Rights.**

At times, property ownership can become quite complex. In Appalachia, it is not uncommon for the surface, shallow gas and oil rights, deep oil and gas rights, and several different coal seams to all be owned by different owners – not to mention any number of utility, roadway, pipelines or other easements or rights-of-way across, under or through the property. This means that different property owners may be forced to co-exist on one parcel of property at a time and may also be subject to limitations of use and rights in the estate.

In property law, typically the express intent of the parties governs concerning the language of deeds and grants of rights such as easements or leases. Initially, when a parcel is acquired and the surface and mineral estates have not been severed, the owner of the property owns from the heavens to the center of the earth and may grant and reserve any and all rights. If the property is severed, estates may be declared either “dominant” or “servient.” If the requirements set forth in a severance document place a burden on one estate, then that estate will be considered servient and the estate that benefits will be considered dominant. While these terms need not be used expressly in the severance deed, the estates still exist regardless.

**§ 4.04. Back to Renewables****[1] — Introduction.**

In the final section, solutions to the various issues regarding renewable development mentioned above are discussed. These solutions include finding ways to take curative actions to alleviate the concerns of potential investors when a potentially detrimental mineral estate is found underneath or near a parcel where renewable development may occur. Included in these methods are acquiring title insurance, obtaining affidavits of non-production, mutual accommodation agreements, or surface use waivers. By pursuing these avenues of curative action, a party interested in renewable development may be able to ensure investors remain interested in the project.

**[2] — Renewable Development and Shared Land Rights.**

Renewable development is typically tied to the surface owner and the rights of the surface estate. Therefore, any discussion of renewable energy must contain a discussion about correlative rights of mineral and surface estates. First, a surface owner or leaseholder should, above all else, conduct a thorough title search to discover who possesses the mineral estate under their surface estate. This will allow the landowner to begin to take preemptive measures to ensure that the accommodation doctrine standards have been met and that both estates can cohabitate in a constructive manner. Furthermore, a title search is the first step to ensuring the cleanliness of a final policy that will be important to the renewable project and its financing parties and any construction financing or tax equity investors. Here, a title policy will need to be as clean as possible because, if it is not, curative actions may need to occur to alleviate the concerns of financing partners within the renewable development project.

**[3] — Curative Action.**

One curative action that may be taken by a surface owner is to attempt to get the mineral estate to sign a surface use waiver. A surface use waiver is an agreement by the mineral interest owner or lessee to “abstain from mineral production on all or a portion of the surface of the subject land.”<sup>47</sup> In such an agreement, the mineral owner will waive rights of way, ingress, egress, and/or exploration of the subsurface mineral estate. Furthermore, surface waivers should also contain a representation by the mineral owner that there have been no assignments of surface rights or development rights except for enumerated leases and rights set forth in the surface waiver agreement. The rights set forth should specifically establish the property affected by an such instrument.

Another curative action that may be taken by a surface owner looking to develop renewable energy projects on a parcel with a dominant mineral estate

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<sup>47</sup> INHERITING THE WIND: A BRIEF GUIDE TO RESOLVING SPLIT ESTATE ISSUES WHEN DEVELOPING RENEWABLE PROJECTS, 2013 No. 5 RMMLF-INST Paper No. 5.

is to get the subsurface estate to sign a mutual accommodation agreement. This type of agreement ensures that both holders can reasonably enjoy their respective estates. A mutual accommodation agreement “generally provide[s] that the project developer will limit the project footprint to an agreed upon area and the mineral rights holder will limit its surface access to an agreed upon area outside the project area.”<sup>48</sup>

Alternatively, a surface estate holder could absolve itself of any waivers or accommodation with and of the mineral estate by outright purchasing the mineral rights. This may prove to be difficult though in areas where oil, gas, and coal are abundant. If acquisition proves to be difficult, a prospective buyer could attempt to file an affidavit of non-production, which would lead to the mineral estate becoming “unleased.” If a party chooses this avenue, it is best if the party that files the affidavit is a disinterested third party (usually a company performs this service for a fee). Before the affidavit is filed, the third party will review the leases, contact the entity that may have a leasehold on the property, review records for active permits, and evidence of production. If no production is found, then the third party will state that there is no current development on the property in question and the recorded lease should be released as most leases are held by production. It is important to note that storage or other activities may extend the lease even if production has not occurred for some time.

#### **§ 4.05. Conclusion.**

In conclusion, as the renewable energy industry continues to develop in the United States, challenges to development will continue to introduce themselves, but solutions will always exist. By conducting the required preliminary measures under CERCLA as well as understanding the issues of correlative rights, the accommodation doctrine, compliance with zoning laws, and any potential curative measures that may mitigate investor concern,

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<sup>48</sup> S. Lauren Reber, *Severed Minerals and Renewable Energy Projects*, NAT. RESOURCES & ENV'T, Fall 2015, at 55.

renewable development can be not only possible, but an advantageous area of economic development in the coming years.



# Chapter 5

## Environment, Social, Governance and Sustainability and Environmental Justice

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### § 5.01. Introduction.

The concepts of environment, social, governance, sustainability, and environmental justice share common elements that warrant focus. Evaluation of each leads to the conclusion that there are shared goals and outcomes and origins. Goals and commitments of one may serve the other, creating broadened benefits for people and the planet. This chapter explores the natural nexus among the three with a goal of identifying mutual benefits to varied stakeholders.

### § 5.02. Environmental, Social, Governance

There are a range of environmental, social and governance (“ESG”) matters that industry is managing today. As one would anticipate, corporate

governance involves board structure, board qualifications, oversight of operations, and shareholder rights. These are traditional business organization issues that are subject to renewed focus by those engaged in all matters of business and free enterprise due to ESG scoring or rating. Simply stated, good governance leads to a healthy business and a positive score.

Diversity of people who participate in a corporation is also a topic of interest. Diversity extends from the directors on the board, through the rank-and-file employees of a company. Observations of late by those who study business function, have concluded that a diverse group of talent results in a better performing entity. For diversity to be an integrated discipline within a business, pay equity must exist within the business as well. The combination of diversity and pay equity serve as a key element of a company's good governance and social performance.

Another topic of relevance to governance and social performance is political spending. The way a company directs its political influence can serve as an indicator of its ethics, government engagement, social policy goals, and environmental stewardship.

Assessment of a company's response to climate change, sustainable natural resource management, and environmental justice also inform of the total ESG perspective of industry. Is ESG everything? It is presenting as if the answer is yes.

As ESG evolves in the world, large government initiatives are being developed. Research and measurements of greenhouse gas emissions across the world are ongoing. The European Union has been engaged in government response to the climate change discussion leading other countries to take action.<sup>1</sup> In the United States, federal agencies also are engaged as evidenced by regulatory initiatives by U.S. Environmental Protection Agency based on the Clean Air Act and the U.S. Securities and Exchange Commission proposed Climate Disclosure rulemaking.<sup>2</sup>

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<sup>1</sup> *Climate Change: what the EU is doing*, EUROPEAN COUNCIL (February 7, 2023), <https://www.consilium.europa.eu/en/policies/climate-change/#:~:text=Under%20the%20European%20climate%20law,EU%20climate%20neutral%20by%202050>.

<sup>2</sup> See *Climate Change Regulatory Actions and Initiatives*, U.S. ENVTL. PROTECTION AGENCY (December 19, 2022), <https://www.epa.gov/climate-change/climate-change->

Everywhere one looks ESG is promoted as a discussion of relevance to today's markets for sustainable economic development and investment. The letter from the Chief Executive Officer, Larry Fink, Blackrock is a popular example of the promotion of ESG by a large investor group.<sup>3</sup> There are new guides and scoring entities, such as the Task Force on Climate Related Financial Disclosures ("TCFD") that claim to serve to inform about business entities that are delivering tangible ESG outcomes.<sup>4</sup>

The bottom line, ESG is impacting how the world is doing business and therefore the practice of law. The headlines in today's media are reporting of carbon reductions, shareholder activism, gender-influenced investments, natural resource management of rare earth metals, climate funds, sustainability successes and failures, and more. In short, every legal practitioner regardless of area of expertise is on notice this issue is impactful on clients of every ilk.

### § 5.03. Sustainability.

A foundational aspect of ESG is sustainability.<sup>5</sup> Emphasis upon values like corporate growth, collaboration, leadership, and care for others combine to deliver a strong corporate mission. The United Nations Sustainable Development Goals ("UNSDGs") provide a list of 17 basic goals that create a list of issues that inform sustainability as follows: no poverty; no hunger; good health and well-being; quality education; gender equality;

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regulatory-actions-and-initiatives; Press Release, U.S. Securities and Exchange Commission, SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors (March 21, 2022) (available at <https://www.sec.gov/news/press-release/2022-46>).

<sup>3</sup> Letter from Larry Fink, Chairman and Chief Executive Officer, BlackRock, to CEOs (2020) (available at <https://www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter>).

<sup>4</sup> TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES, <https://www.fsb-tcfd.org/>.

<sup>5</sup> "Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. To pursue sustainability is to create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations." *Learn about Sustainability*, U.S. ENVTL. PROTECTION AGENCY (November 14, 2022), <https://www.epa.gov/sustainability/learn-about-sustainability>.

clean water and sanitation; affordable and clean energy; decent work and economic growth; industry, innovation and infrastructure; reduced inequalities; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace, justice and strong institutions; and partnerships for the goals.<sup>6</sup> The United Nations Global Compact (“Compact”) focuses upon partnerships to impact principles of human rights labor, environment, and anti-corruption.<sup>7</sup>

Baker Hughes is an example of a member of the Compact and a business leader in sustainability. Lorenzo Simonelli, Chairman and CEO has declared, “Our purpose is clear and our commitment is firm. We make energy, safer, cleaner, and more efficient for people and the planet.”<sup>8</sup> Baker Hughes’ material ESG priorities are to: effectively manage the impact energy transition on its business model; reduce GHG and other air emissions; successfully manage diversity, equity and inclusion; attract, develop and retain talent; and engage with community and stakeholders.<sup>9</sup> These priorities illustrate how sustainability is embedded in daily operations of a large multi-national company.

As noted in the previous section, ESG reporting frameworks are abundantly available and evolving. The UNSDGs, Global Reporting Initiative (“GRI”),<sup>10</sup> Sustainability Accounting Standards Board (“SASB”),<sup>11</sup> TCFD,<sup>12</sup> and Climate Disclosure Project (“CDP”)<sup>13</sup> are among the list of reporting frameworks commonly utilized by corporations as they demonstrate their individual ESG commitments and goals.

Many corporations, like Baker Hughes, have announced net zero emissions goals for greenhouse gas emissions as a means of demonstrating

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<sup>6</sup> *The 17 Goals*, UNITED NATIONS, <https://sdgs.un.org/goals>.

<sup>7</sup> UNITED NATIONS GLOBAL COMPACT, <https://unglobalcompact.org/>.

<sup>8</sup> Joseph Dawley, Director of Legal Sustainability and HSE Law, Baker Hughes, Environmental Justice and ESG: Principles and Actions That Impact People and the Environment, Energy & Mineral Law Foundation 43<sup>rd</sup> Annual Institute (June 13, 2022).

<sup>9</sup> *Id.*

<sup>10</sup> GLOBAL REPORTING INITIATIVE, <https://www.globalreporting.org/>.

<sup>11</sup> SASB STANDARDS, <https://www.sasb.org/>.

<sup>12</sup> TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES, <https://www.fsb-tcfid.org/>.

<sup>13</sup> CLIMATE DISCLOSURE PROJECT, <https://www.cdp.net/en>.

their commitments to the planet. Baker Hughes directs interested stakeholders and shareholders to its enhanced reporting, GHG baseline reset, water and biodiversity, and expanded Scope 3, upstream and downstream emissions reductions.<sup>14</sup> The company directs all interested observers/auditors to its ethics, compliance and transparency reporting; workforce health, safety, and environment; and partnerships as illustrative of its principles and commitment to doing the right thing, always to protect employees, customers, and communities.<sup>15</sup> These are the types of actions companies are assuming to gain confidence of stakeholder and shareholders.

#### § 5.04. Environmental Justice.

The U.S. Environmental Protection Agency articulates “environmental justice” as the fair treatment and meaningful involvement of all people.<sup>16</sup> There have been three informative presidential executive orders that describe and direct the implementation environmental justice: Executive Orders 12898<sup>17</sup>, 13985<sup>18</sup>, and 14008<sup>19</sup>. These orders present common issues as

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<sup>14</sup> Joseph Dawley, Director of Legal Sustainability and HSE Law, Baker Hughes, Environmental Justice and ESG: Principles and Actions That Impact People and the Environment, Energy & Mineral Law Foundation 43<sup>rd</sup> Annual Institute (June 13, 2022).

<sup>15</sup> *Id.*

<sup>16</sup> *Learn About Environmental Justice*, U.S. ENVTL. PROTECTION AGENCY (September 6, 2022), <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice#:~:text=President%20Clinton%20signing%20the%20EJ,environmental%20laws%2C%20regulations%20and%20policies.> (“Environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population bears a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local laws; regulations; and policies. Meaningful involvement requires effective access to decision makers for all, and the ability in all communities to make informed decisions and take positive actions to produce environmental justice for themselves.”)

<sup>17</sup> Exec. Order No. 12,898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, (February 11, 1994).

<sup>18</sup> Exec. Order No. 13,985, *Advancing Racial Equality and Support for Underserved Communities Through the Federal Government*, (January 20, 2021).

<sup>19</sup> Exec. Order No. 14,008, *Tackling the Climate Crisis at Home and Abroad*, (January 27, 2021).

listed above relative to ESG such as: sustainable economic development to manage poverty, equality among people, environmental impacts, community engagement, and climate change/air quality. Rather than ESG type reporting frameworks as applicable to corporations, EPA emphasizes user-friendly environmental justice screening tools<sup>20</sup> which are geographic-based mapping models that provide overlays of key information such as: census data, brownfields, and water and air quality data. The primary goal of USEPA relative to environmental justice is, as stated by EPA Administrator Michael S. Regan, to ensure “every person in the United States has the right to clean air, clean water, and a healthier life no matter how much money they have in their pockets, the color of their skin, or their zip code.”<sup>21</sup>

The practical impact of environmental justice is to expand upon the basic principles of equal treatment where all persons have the same resources and equitable treatment where all persons get what they need by providing a systemic approach where barriers are removed and all people enjoy treatment in a just manner. The practical application of these principles is “EJ movement” which seeks to meaningfully involve those who are politically disenfranchised and/or economically incapable of making significant changes in their neighborhood; strives to end the environmental racism arising from the abuse and neglect of the local environment; and seeks to systemically address and redress the disproportionate burden placed on low-income and minority communities.

### **§ 5.05. Conclusion.**

Environmental justice and ESG synergies are best illustrated in the table on the next page. The practical takeaway is that both target basic principles that are embraced by many public and private individuals and entities as serving the benefits of people and planet. Investment in one aspect serves

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<sup>20</sup> *E.g. EJScreen*, U.S. ENVTL. PROTECTION AGENCY (January 30, 2023), <https://epa.gov/ejscreen>; CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL, <https://screeningtool.geoplatform.gov/>.

<sup>21</sup> Michael Regan, Administrator, U.S. Env'tl. Protection Agency, Remarks for ECOS Spring Meeting (March 16, 2021) (available at <https://www.epa.gov/speeches/administrator-michael-regan-remarks-ecos-spring-meeting-prepared-delivery>).

to enhance the goals of both environmental justice and ESG. The common threads mean commitment to one side of the column will often benefit the other.

### Environmental Justice

#### *Equality: Distribution of Harms and Benefits*

- Disproportionate distribution of environmental negatives to low-income communities, people of color, and indigenous communities
- Harms to human health and communities

#### *Access: Environmental Policy and Decision-Making*

- Unequal access to the environmental policy and decision-making process

#### *Justice: Enforcement of Environmental Laws*

- Unequal enforcement of environmental laws and regulations in burdened communities

### Environmental, Social and Governance

#### *Environmental*

- Climate, Greenhouse gas emissions, water conservation
- Biodiversity, zero waste, circular economy
- Land use, environmental performance

#### *Social*

- Diversity, Equity, and Inclusion, equal pay, human rights, energy access
- Supply chain and material sourcing, Environmental Justice

#### *Governance*

- Compliance, labor practice, health and safety, privacy, cyber security, risk management
- Board composition, executive compensation, shareholder engagement



# Chapter 6

## The Impact of the 2021 Infrastructure Investment and Jobs Act

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### § 6.01. Introduction.

“We’re done talking about infrastructure weeks. We’re going to have an infrastructure decade.”

President Joseph R. Biden.<sup>2</sup>

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<sup>1</sup> With special thanks to Rachel E. Ellenberger and Nadia J. Brooks for their contributions to this chapter.

<sup>2</sup> @JoeBiden, TWITTER (Mar. 1, 2022, 9:26 PM), <https://twitter.com/joebiden/status/1498847180022505472>.

On November 15, 2021, President Biden signed the bipartisan Infrastructure Investment and Jobs Act (“IIJA” or the “Act”)<sup>3</sup> into law, marking the largest long-term investment in US infrastructure and competitiveness in nearly a century. For decades, United States infrastructure has been regarded as compromised due to a lack of investment.<sup>4</sup> The IIJA addresses conventional infrastructure issues like roads and bridges with provisions for formula funding,<sup>5</sup> improving public transportation and data,<sup>6</sup> and protecting critical infrastructure from severe weather events.<sup>7</sup> At the same time, it provides billions of dollars to the states for energy initiatives such as building electric vehicle (“EV”) charging stations and associated infrastructure,<sup>8</sup> delivering clean energy and water across the United States,<sup>9</sup> and connecting every American to reliable high-speed internet.<sup>10</sup>

In order to effectuate the five-year law’s expansive funding goals, 60 new Department of Energy programs were created, including 16 demonstration and 32 deployment programs.<sup>11</sup> Additionally, the law expands funding for 12 existing Research, Development, Demonstration, and Deployment programs.<sup>12</sup> The IIJA’s structure, however, will require a partnership effort

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<sup>3</sup> H.R.3684 - 117th Congress (2021-2022): Infrastructure Investment and Jobs Act, H.R.3684, 117th Cong. (2021), <https://www.congress.gov/bill/117th-congress/house-bill/3684> (hereinafter cited as *IIJA*).

<sup>4</sup> *Modernizing U.S. Infrastructure: the Bipartisan Infrastructure Law*, THE WHITE HOUSE (Nov. 15, 2021), <https://www.whitehouse.gov/cea/written-materials/2021/11/15/the-time-is-now-to-modernize-u-s-infrastructure/>.

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> *President Biden’s Bipartisan Infrastructure Law*, THE WHITE HOUSE, <https://www.whitehouse.gov/bipartisan-infrastructure-law/> (last visited Jan. 25, 2023) (hereinafter cited as *Bipartisan Infrastructure Law*).

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Bipartisan Infrastructure Law Programs*, DEP’T OF ENERGY, <https://www.energy.gov/clean-energy-infrastructure/bipartisan-infrastructure-law-programs> (last accessed Jan. 25, 2023).

<sup>12</sup> *Id.*

between the states, local communities, and the energy industry to achieve its goal of strengthening the nation's outdated energy infrastructure.<sup>13</sup>

Notably, the IIJA is the largest investment in clean energy infrastructure in American history.<sup>14</sup> The Act delivers funding nationwide in four major areas: clean power (\$21.3 billion);<sup>15</sup> clean energy demonstrations (\$21.5 billion);<sup>16</sup> energy efficiency and weatherization retrofits for homes, buildings, and communities (\$6.5 billion);<sup>17</sup> and funding for clean energy manufacturing and workforce development (\$8.6 billion).<sup>18</sup> Accordingly, the IIJA is an important step in the fight against climate change and makes several key investments to advance the nation's climate priorities. The law's provisions are specifically intended to:

- Reduce greenhouse gas emissions in the transportation sector through historic investments in rail and public transit, as well as EV charging stations and other zero-emission fueling infrastructure, like hydrogen, that will help Americans to shift to zero-emissions driving.<sup>19</sup>
- Modernize the United States' power grid, with the largest investment in clean energy transmission in history.<sup>20</sup>
- Make US infrastructure more resilient to the impacts of climate change, including by allocating funds to protect against droughts, floods, and wildfires, in addition to a major investment in weatherization.<sup>21</sup>

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<sup>13</sup> *Id.*

<sup>14</sup> Press Release, The White House, FACT SHEET: The Bipartisan Infrastructure Deal (Nov. 6, 2021) (available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/>) (hereinafter cited as *Bipartisan Infrastructure Deal*).

<sup>15</sup> Taylor Beis, *Clean Energy Infrastructure Funding Services*, STATESIDE, <https://www.stateside.com/cleanenergy> (last visited Jan. 25, 2023) (hereinafter cited as *Beis*).

<sup>16</sup> *DOE Fact Sheet: The Bipartisan Infrastructure Deal Will Deliver for American Workers, Families and Usher in the Clean Energy Future*, DEP'T OF ENERGY (Nov. 9, 2021), <https://www.energy.gov/articles/doe-fact-sheet-bipartisan-infrastructure-deal-will-deliver-american-workers-families-and-0>.

<sup>17</sup> *Beis*.

<sup>18</sup> *Id.*

<sup>19</sup> *Bipartisan Infrastructure Deal*.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

- Make the largest investment in legacy pollution and environmental remediation in US history.<sup>22</sup>

The IIJA aims to move the United States economy towards a future that prioritizes clean energy and lower carbon emissions, and it is likely just the beginning. In the remaining two years of the Biden Administration's first term, the energy and transportation industries should expect to see continued advances in clean energy and climate policies.

The IIJA is also expected to have a direct positive impact on jobs and GDP growth tied to its funding initiatives, including as follows:

<p><b>Energy Innovation</b> \$18 billion in funding \$23 billion in GDP growth 42,000 jobs supported</p>	<p><b>Carbon Transportation and Storage</b> \$5 billion in funding \$23 billion in GDP growth 25,000 jobs supported annually</p>
<p><b>Clean Transportation</b> \$25 billion in funding \$33 billion in GDP growth 52,000 jobs supported</p>	<p><b>Weatherization</b> \$3.5 billion in funding \$4.2 billion in GDP growth 9,000 jobs supported</p>
<p><b>Port Infrastructure for Offshore Wind</b> \$2.25 billion in funding \$2.9 billion in GDP growth 8,000 jobs supported annually</p>	<p><b>Broadband Infrastructure</b> \$4.5 billion in funding \$5.7 billion in GDP growth 31,000 jobs supported</p>
<p><b>Carbon Management</b><sup>23</sup> \$10.6 billion in funding \$32.4 billion in GDP growth 43,000 jobs supported</p>	<p><b>Farms and Forest</b> \$1.3 billion in funding \$5.9 billion in GDP growth 9,000 jobs supported<sup>24</sup></p>

<sup>22</sup> *Id.*

<sup>23</sup> Five billion dollars of Carbon Management funding overlaps with Carbon Transportation funding and Storage funding, and \$6 billion of Carbon Management funding overlaps with Energy Innovation funding. *See Job Support and Economic Growth in the Infrastructure Investment and Jobs Act (IIJA)*, BIPARTISAN POLICY CENTER, <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2021/10/IIJA-Energy-Provisions-Fact-Sheet.pdf> (last visited Jan. 25, 2023).

<sup>24</sup> *Id.*

## § 6.02 Regulatory Reforms of the IIJA.<sup>25</sup>

In addition to its massive funding investments, the IIJA also spurred significant regulatory reform by simplifying the federal permitting process. The most significant regulatory reform to come out of the IIJA is simplifying permitting to reduce project delays by relying on “One Federal Decision (“OFD”).”<sup>26</sup> The federal permitting process under the National Environmental Policy Act (“NEPA”) plays a critical role in considering a project’s potential environmental effects.<sup>27</sup>

“[The National Environmental Policy Act] was passed by Congress to protect the environment by requiring that federal agencies carefully weigh environmental considerations and consider potential alternatives to the proposed action before the government launches any major federal action. NEPA imposes procedural requirements, but not substantive outcomes, on agency action.”<sup>28</sup> However, the decision-making process under the NEPA is widely regarded as unreasonably long due to delays and lack of process transparency.<sup>29</sup> In addition to the federal permitting process, many states layer on their own environmental review processes that can further delay the approval process.<sup>30</sup>

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<sup>25</sup> To check the status of the Department of Energy’s rollout of programs pursuant to the Infrastructure Investment and Jobs Act, see *DoE Bipartisan Infrastructure Law Program & Funding Opportunity Announcements*, DEP’T OF ENERGY, <https://www.energy.gov/bipartisan-infrastructure-law-programs> (last visited July 28, 2022).

<sup>26</sup> AM. ASS’N OF STATE HIGHWAY AND TRANSP. OFFS., AASHTO COMPREHENSIVE ANALYSIS OF THE BIPARTISAN INFRASTRUCTURE BILL INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) 29 (2021), <https://policy.transportation.org/wp-content/uploads/sites/59/2021/09/2021-09-15-AASHTO-Comprehensive-Analysis-of-IIJA-FINAL.pdf>.

<sup>27</sup> See *What is The National Environmental Policy Act*, ENV’T PROT. AGENCY, <https://www.epa.gov/nepa/what-national-environmental-policy-act> (last visited Jan. 25, 2022).

<sup>28</sup> *Lands Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2005).

<sup>29</sup> *Updated NEPA Regulations Will Eliminate Unnecessary Delays, Reduce Costs for Construction Sector*, ASSOCIATED BUILDERS & CONTRACTORS: NEWSLINE (July 22, 2020), <https://www.abc.org/News-Media/Newsline/entryid/17935/updated-nepa-regulations-will-eliminate-unnecessary-delays-reduce-costs-for-construction-sector>.

<sup>30</sup> *Id.*

Recognizing the need to deploy the IIJA’s infrastructure investments in a timely manner, Congress included provisions in the IIJA that update the environmental permitting process for major infrastructure projects and other federal authorizations.<sup>31</sup> The permitting provisions will help to improve agency coordination, to encourage the development of more concise environmental analyses, and to help drive efficient decision-making.<sup>32</sup> These provisions are called the “One Federal Decision” and have the potential to expedite environmental review.<sup>33</sup> Large transportation projects have faced federal permitting delays under the NEPA of seven years on average.<sup>34</sup> Some projects have taken decades just to reach a decision, tying up capital investment.<sup>35</sup> These delays add massive costs to projects as project sponsors attempt to navigate the complicated permitting process, and are complicated further when multiple agencies are involved.<sup>36</sup> It is easy to understand why the OFD provisions had bipartisan support during the IIJA approval process.

The “One Federal Decision” provisions, now codified in the IIJA, originated in the Trump Administration.<sup>37</sup> These provisions require a single environmental document and coordinated schedule for multi-agency reviews, and an average timeline of two years to complete an environmental review, rather than the five-to-seven years that had become the norm.<sup>38</sup>

The IIJA also reauthorizes the FAST-41 Act’s permitting council, which assists the movement of projects through the complicated, multi-agency processes.<sup>39</sup> FAST-41 is the common name for “Title 41 of the Fixing America’s Surface Transportation Act (Act)[.] . . . Enacted in 2015 and signed into law by President Obama, the Act created a new governance structure, set

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31 *IIJA* at § 11301.

32 *Id.*

33 *Id.*

34 *Id.*

35 *Id.*

36 *Id.*

37 *Id.*

38 *Id.*

39 *Id.*

of procedures, and funding authorities to improve the federal environmental review and authorization process for ‘covered’ infrastructure projects.’<sup>40</sup> Under this provision, agencies have a shorter window to file comments on other agencies’ proposed permit conditions.<sup>41</sup>

Following the IIJA’s passage, the intended impact is that energy companies with projects requiring NEPA review will have more certainty the timing of their federal permitting decisions.

### § 6.03. Energy Infrastructure Programs in the IIJA.

The IIJA also includes major funding for various clean energy initiatives that are set for growth over the next decade.

#### [1] — Battery Funding.

The IIJA provides \$7 billion over five years (2022–2026) for battery-related funding opportunities, pursuant to which the Department of Energy has issued a Battery Funding Opportunity Announcement (“FOA”).<sup>42</sup> The topics of the FOA include: commercial-scale domestic production of battery materials; commercial-scale domestic battery cell manufacturing; commercial-scale domestic battery component manufacturing; and commercial-scale domestic battery recycling and end of life infrastructure.<sup>43</sup> As the country continues to electrify many aspects of day-to-day life, battery projects will remain in high demand for the United States.

#### [2] — EV Charging Stations.

Many states are introducing legislation and initiatives to deploy state resources strategically for EV charging infrastructure. For example, Hawaii

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<sup>40</sup> Nathan Eady et al., *Streamlining the Federal Environmental Review Process: The Pros and Cons of FAST-41*, 35-SUM NAT. RESOURCES & ENV’T 18, 18 (2020).

<sup>41</sup> *IIJA* at § 11301.

<sup>42</sup> See *EERE Funding Opportunity Exchange*, DEP’T OF ENERGY, <https://eere-exchange.energy.gov/Default.aspx?Search=DE-FOA-0002678&SearchType=> (last accessed July 29, 2022).

<sup>43</sup> See *id.*

demonstrated a 35 percent increase in electric vehicle ownership,<sup>44</sup> but had an inadequate number of charging stations. The IIJA will provide millions of dollars in federal funding to Hawaii to remedy this issue.<sup>45</sup> The IIJA funding will allow Oregon to invest \$100 million over five years on EV charging stations.<sup>46</sup> In Pennsylvania, state legislators have introduced SB435 to create a framework for building up EV infrastructure by combining the efforts of the transportation and utility sectors.<sup>47</sup> Industry can expect further legislative efforts at the state level to tap into funding from IIJA.

### [3] — Transmission Funding.

In addition to the battery FOA, the Department of Energy issued a notice that the Department intends to issue a FOA to award \$12.5 billion in funding from the IIJA to be used for enhancing resilience, and preventing outages on the electrical grid (\$5 billion); upgrading the electrical grid to ensure reliability and resiliency (\$5 billion); and facilitating transmission line construction (\$2.5 billion).<sup>48</sup> In addition to strengthening the security of US energy supply, greater transmission capacity is expected to facilitate deployment of additional renewable energy sources.<sup>49</sup>

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<sup>44</sup> Nathan Bek, *Electric Vehicles Are on the Rise in Hawaii. Can Charging Infrastructure Keep Up?*, HONOLULU CIVIL BEAT (May 12, 2022), <https://www.civilbeat.org/2022/05/electric-vehicles-are-on-the-rise-in-hawaii-can-charging-infrastructure-keep-up/>.

<sup>45</sup> *Id.*

<sup>46</sup> Climate Office, *Oregon's Five-Year EV Charging Infrastructure Roadmap*, OREGON.GOV, <https://www.oregon.gov/odot/climate/pages/nevi.aspx> (last visited Jan. 25, 2023).

<sup>47</sup> See Tom Ewing, *Pennsylvania Senate Bill Aims for Statewide EV Infrastructure*, DAILY ENERGY INSIDER (June 7, 2021), <https://dailyenergyinsider.com/news/30592-pennsylvania-senate-bill-aims-for-statewide-ev-infrastructure/>; *Pennsylvania State Plan for Electric Vehicle Mobility*, Pa. Dep't of Transp. (July 2022), f.

<sup>48</sup> Press Release, The White House, FACT SHEET: Biden-Harris Administration Races to Deploy Clean Energy that Creates Jobs and Lowers Costs (Jan. 12, 2022) (available at <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/12/fact-sheet-biden-harris-administration-races-to-deploy-clean-energy-that-creates-jobs-and-lowers-costs/>).

<sup>49</sup> *Id.*

#### § 6.04. Funding for Hydrogen Initiatives.

The IIJA reflects the Department of Energy’s commitment to clean hydrogen. Hydrogen is the most abundant element in the universe and can be produced from multiple energy resources.<sup>50</sup> On Earth, hydrogen rarely exists in a pure form, but binds to other elements instead, such as oxygen to form water, nitrogen to form ammonia, and carbon to form methane.<sup>51</sup> For hydrogen energy to be a realistic opportunity, splitting of hydrogen from those other elements is necessary and those separated elements form emissions from hydrogen production pathways.<sup>52</sup> The IIJA’s H2Hubs will support the Department’s ongoing initiative designed to “bring[] together stakeholders to advance affordable hydrogen production, transport, storage, and utilization to enable decarbonization and revenue opportunities across multiple sectors” in the economy.<sup>53</sup> In 2021, the Department also launched the Hydrogen Shot to cut the cost of clean hydrogen to \$1 per 1 kilogram of clean hydrogen in one decade, known as “1 1 1.”<sup>54</sup>

Specifically, the Act establishes a \$2.5 billion grant program to strategically deploy, among other things, hydrogen fueling infrastructure along designated corridors.<sup>55</sup> The grants will be given to the public sector, but the public sector must use the funds to contract with a private entity for the acquisition and installation of publicly-accessible hydrogen fueling infrastructure.<sup>56</sup> There is one exception, wherein a grant recipient may use a portion of the funds to provide operating assistance to a private entity for

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<sup>50</sup> Sandra Safro et al., *Hydrogen Rising: Opportunities and Obstacles for a Hydrogen Economy at Scale*, 42 ENERGY & MIN. L. INST. § 9, (2022).

<sup>51</sup> *Id.* at §9.03.

<sup>52</sup> *Id.*

<sup>53</sup> *H2@Scale*, DEP’T OF ENERGY: HYDROGEN & FUEL CELL TECHS. OFF., <https://www.energy.gov/eere/fuelcells/h2scale> (last visited July 29, 2022).

<sup>54</sup> *Secretary Granholm Launches Hydrogen Energy Earthshot to Accelerate Breakthroughs Toward a Net-Zero Economy*, DEP’T OF ENERGY, <https://www.energy.gov/articles/secretary-granholm-launches-hydrogen-energy-earthshot-accelerate-breakthroughs-toward-net> (last visited July 29, 2022).

<sup>55</sup> *IIJA* at § 11401(a).

<sup>56</sup> *Id.* at § 11401(f).

the first five years of operations after the installation of the infrastructure.<sup>57</sup> This program encourages geographic diversity, but location restrictions do exist.<sup>58</sup>

The Act also establishes the Appalachian Regional Energy Hub Initiative, which empowers the Appalachian Regional Commission, an existing creature of federal statute, to provide technical assistance, to make grants, to enter into contracts, or otherwise provide amounts to individuals or entities in the Appalachian region for projects and activities that, *inter alia*, will help establish a regional energy hub in the Appalachian region for natural gas and natural gas liquids (“NGL”), including hydrogen produced from steam methane reforming (“SMR”)<sup>59</sup> of natural gas feedstocks.<sup>60</sup> However, the money provided to any project cannot be more than 50 percent of the entire cost of the project, with a few exceptions: for a “distressed county,” the amount of federal funds provided can be up to 80 percent; for an “at risk county,” the amount can be up to 70 percent.<sup>61</sup> Additionally, \$200 million for each of fiscal years 2022 through 2026 are appropriated to the Appalachian Regional Commission (“ARC”),<sup>62</sup> \$5 million of which annually is to be used for carrying out the regional energy hub initiative.<sup>63</sup>

The IJA recognizes that hydrogen is a “critical part in the comprehensive energy portfolio” of the United States, and that hydrogen can be produced

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<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> IJA at § 14511(a)(3). “Steam methane reforming (SMR) is a process in which methane from natural gas is heated, with steam, usually with a catalyst, to produce a mixture of carbon monoxide and hydrogen used in organic synthesis and as a fuel. In energy, SMR is the most widely used process for the generation of hydrogen.” STEAM METHANE REFORMING, <https://studentenergy.org/production/steam-methane-reforming/> (last visited Aug. 29, 2022).

<sup>60</sup> *Id.*

<sup>61</sup> IJA at § 14511(b)(1).

<sup>62</sup> *Id.* at § 14511(f)(6). “The Appalachian Regional Commission (ARC) is an economic development partnership agency of the federal government and 13 state governments focusing on 423 counties across the Appalachian Region. ARC’s mission is to innovate, partner, and invest to build community capacity and strengthen economic growth in Appalachia.” APPALACHIAN REGIONAL COMMISSION, [www.arc.gov](http://www.arc.gov) (last visited Aug. 29, 2022).

<sup>63</sup> IJA at § 14511(d). *Hydrogen Research and Development: § 40311 et seq.*

from multiple sources.<sup>64</sup> The Act states, “[t]he purpose of this subtitle is to accelerate research, development, demonstration, and deployment of hydrogen from clean energy sources by[:]”

Providing a statutory definition for the term “clean hydrogen”[;]  
Establishing clean hydrogen strategy and roadmap for the United States[;]  
Establishing a clearing house for hydrogen program information at[;]  
National Energy Technologies Laboratory (NETL) based in West Virginia[;]  
Developing a robust clean hydrogen supply chain and workforce by prioritizing clean hydrogen demo projects in major shale gas regions[; and]  
Establishing regional hydrogen hubs.<sup>65</sup>

The Act vests substantial authority in the Secretary of Energy to execute on a broad hydrogen strategy focused on all aspects of the hydrogen value chain and multiple sectors of the economy.<sup>66</sup>

To that end, the IJA establishes the Clean Hydrogen Research and Development Program (the “Program”).<sup>67</sup> The Program requires the Department of Energy to identify short, medium and long-term challenges to clean hydrogen.<sup>68</sup> The eligible production pathways include “diverse energy sources, including—fossil fuels with CCUS, H<sub>2</sub>-carrier fuels (ethanol and methanol), renewable energy sources, including biomass, [and] nuclear energy.”<sup>69</sup> The eligible uses of clean hydrogen include commercial, industrial, and residential electric power generation; industrial applications, including steelmaking, cement, chemical feedstocks, and process heat; and as a fuel source for both residential and commercial comfort heating and hot water requirements.<sup>70</sup> The eligible transportation, delivery and distribution

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<sup>64</sup> *Id.* at § 40311(a)(1).

<sup>65</sup> *Id.* at § 40311(a)(3).

<sup>66</sup> *Id.* at § 40311(b)(2).

<sup>67</sup> *Id.* at § 40313.

<sup>68</sup> *Id.*

<sup>69</sup> *Id.* at § 40313(e)(2).

<sup>70</sup> *Id.* at § 40313(e)(4).

modes include transmission by pipelines, including retrofitting existing natural gas infrastructure; tanks and other distribution methods; and refueling of vehicles, trains, maritime vessels, or planes including at a central refueling station.<sup>71</sup>

The IIJA also establishes Regional Clean Hydrogen Hubs, appropriating \$8 billion from 2022 through 2026 to support the program.<sup>72</sup> A “Hub” is defined as “a network of clean hydrogen producers, potential clean hydrogen consumers, and connective infrastructure located in close proximity.”<sup>73</sup> The Act mandates that the Department fund at least four regional Hubs.<sup>74</sup> This program aims to demonstrate the production, processing, delivery, storage, and end-use of clean hydrogen, and that these Hubs can be developed into a national clean hydrogen network to facilitate a clean hydrogen economy.<sup>75</sup> The production, processing, delivery, storage, and end-use of clean hydrogen, including innovative uses in the industrial sector, is crucial to the Department of Energy’s strategy for achieving President Biden’s goal of a 100 percent clean electrical grid by 2035 and net-zero carbon emissions by 2050.<sup>76</sup>

The Department of Energy must issue a solicitation for proposals for Hubs within 180 days of the enactment of the IIJA.<sup>77</sup> The Department also must select at least four Hub regions within one year of the submissions in response to the solicitation.<sup>78</sup> At least one Hub must be selected based on each of the following criteria: feedstock diversity – fossil fuels, renewable energy, nuclear energy; diversity of end uses – electric power generation, industrial processes, residential and commercial heating, and transportation; and geographic diversity – located in a different region of the country and

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71 *Id.* at § 40313(e)(6)(C).

72 *Id.* at § 40314.

73 *Id.*

74 *Id.* at § 813(b).

75 *Id.* at § 813(b)(3).

76 *Id.*

77 *Id.* at § 813(c)(1).

78 *Id.* at § 813(c)(2).

will use the energy resources abundant in that region.<sup>79</sup> The Act specifically requires that “[t]o the maximum extent practicable, at least 2 regional clean hydrogen hubs shall be located in parts of the US with greatest natural gas resources.”<sup>80</sup> Furthermore, “[t]he Secretary shall give priority to hubs that are likely to create opportunities for skilled training and long-term employment to the greatest number of residents in the region.”<sup>81</sup>

The agency issued the FOA in September 2022. Based on early concept papers submitted to the Department of Energy, more than 35 entities have been encouraged to submit full applications, which are due on April 7, 2023.

The IIJA also creates the National Clean Hydrogen Strategy and Roadmap, wherein “[t]he Secretary, in consultation with the heads of relevant offices of the Department, shall develop a technologically and economically feasible national strategy and roadmap to facilitate wide-scale production, processing, delivery, storage, and use of clean hydrogen.”<sup>82</sup> In September 2022, the Department of Energy released a draft National Clean Hydrogen Strategy and Roadmap for public comment through December 1, 2022, and may be followed by additional workshops or listening sessions for feedback.<sup>83</sup>

The IIJA also includes certain “laboratory management” directives.<sup>84</sup> The National Energy Technology Laboratory (“NETL”) based in West Virginia, National Renewable Energy Laboratory (“NREL”), and Idaho National Lab are instructed to work together “in a cross-cutting manner” to carry out the Regional Hydrogen Hub program and the Clean Hydrogen

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<sup>79</sup> Julie McNamara, *DOE’s New Hydrogen Hubs Program Comes With Risks - And Opportunities*, THE EQUATION (Apr. 11, 2022 12:43 PM), <https://blog.ucsusa.org/julie-mcnamara/does-new-hydrogen-hubs-program-comes-with-risks-and-opportunities/>.

<sup>80</sup> *IIJA* at § 813(c)(3)(D).

<sup>81</sup> *Id.* at § 813(c)(3)(E).

<sup>82</sup> *Id.* at § 814(a).

<sup>83</sup> *National Clean Hydrogen Strategy and Roadmap (Draft)*, DEP’T OF ENERGY, <https://www.hydrogen.energy.gov/pdfs/clean-hydrogen-strategy-roadmap.pdf> (last visited Jan. 26, 2023).

<sup>84</sup> *Id.* at § 817.

Manufacturing program.<sup>85</sup> The legislation, however, clearly puts its finger on NETL as lead in acting as a “clearinghouse” for information related to the programs, demonstrating the influence that U.S. Senator Joe Manchin had on the legislation.<sup>86</sup>

Pursuant to the Clean Hydrogen Manufacturing and Recycling provisions, “[t]he Secretary shall award multiyear grants to advance new clean hydrogen production, processing, delivery, storage, and use equipment manufacturing technologies and techniques.”<sup>87</sup> This section focuses on efficiency of supply chains as a criteria for eligibility.<sup>88</sup> Further, “[t]he Secretary also shall award multiyear grants for research, development, and demonstration projects to create innovative and practical approaches to increase the reuse and recycling of clean hydrogen technologies.”<sup>89</sup> To that end, the IIJA will make appropriations of \$500 million total, with \$100 million annually from 2022 through 2026.<sup>90</sup>

The Act also creates the Clean Hydrogen Electrolysis Program, which establishes “a research, development, demonstration, commercialization and deployment program” to advance various electrolyzer technologies to reduce the cost of electrolytic hydrogen to less than \$2 per kilogram of hydrogen by 2026.<sup>91</sup> This program specifically is aimed at funding demonstration projects with a broad technology focus, and includes appropriations of \$1 billion from 2022 through 2026.<sup>92</sup>

Of course, projects that increase hydrogen production will not be immune from federal environmental and regulatory oversight. No later than 180 days after enactment of the IIJA, the Secretary of the Department

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85 *Id.*

86 *Id.*

87 *Id.* at § 815(a).

88 *Id.*

89 *Id.* at § 815(b).

90 *Id.* at § 815(c).

91 *Clean Hydrogen Electrolysis Program*, DEP’T OF ENERGY, <https://www.energy.gov/bil/clean-hydrogen-electrolysis-program> (last visited Aug. 29, 2022).

92 *IIJA* at § 816.

of Energy, in consultation with the EPA Administrator, must develop an initial standard for the carbon intensity of clean hydrogen production.<sup>93</sup> The IJJA makes clear that the standard that is developed will apply to hydrogen produced from renewable, fossil fuel with carbon capture, utilization and storage (“CCUS”)<sup>94</sup>; nuclear energy; and “other fuel sources using any applicable production technology.”<sup>95</sup> The Act defines “clean” hydrogen as “hydrogen produced with a carbon intensity equal to or less than 2 kilograms of CO<sub>2</sub>-equivalent produced at the site of production per kilogram of hydrogen produced.”<sup>96</sup> The Secretary will review the standard no later than five years after implementation to determine if it should be tightened.<sup>97</sup>

The Act also establishes a program administered by the Environmental Protection Agency (“EPA”) to award grants and rebates for the replacement of existing school buses with clean and zero-emissions school buses, including those fueled by hydrogen.<sup>98</sup> Priority under this provision will be given to replacement in areas that are rural, low-income, funded by the Bureau of Indian Affairs, or high-need.<sup>99</sup> Up to 100 percent of the replacement costs can be awarded under this program.<sup>100</sup> The EPA Administrator has the discretion to decide whether the funds will be in the form of a grant, a rebate, or a combination of the two.<sup>101</sup> Within 120 days after enactment, the EPA

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<sup>93</sup> *Id.* at § 822.

<sup>94</sup> “Carbon capture, utilization and storage (CCUS), also referred to as carbon capture, utilization and sequestration, is a process that captures carbon dioxide emissions from sources like coal-fired power plants and either reuses or stores it so it will not enter the atmosphere.” CARBON CAPTURE, UTILIZATION & STORAGE, <https://www.energy.gov/carbon-capture-utilization-storage> (last visited Aug. 29, 2022).

<sup>95</sup> *IJJA* at § 40313.

<sup>96</sup> Jim Curry et al., *Infrastructure Bill Provides Billions in Funding for Hydrogen and Carbon Capture, Utilization, and Storage*, BABST CALLAND (Nov. 19, 2021), <https://www.babstcalland.com/news-article/infrastructure-bill-provides-billions-in-funding-for-hydrogen-and-carbon-capture-utilization-and-storage/>.

<sup>97</sup> *IJJA* at § 822(a).

<sup>98</sup> *Id.* at § 741(b).

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

must develop an education and outreach program to promote and explain the award program, including workforce development and apprenticeship programs.<sup>102</sup> This program include appropriations of \$1 billion from 2022 through 2026, with \$500 million allocated to zero-emission buses and \$500 million allocated to clean fuel and zero-emission buses.<sup>103</sup>

Finally, the IIJA includes appropriations of \$2.25 billion for “projects that improve the resiliency of the nation’s ports to address sea-level rise, flooding, extreme weather events, earthquakes, and tsunami inundation, as well as projects that reduce or eliminate port-related criteria pollutant or greenhouse gas emissions, including projects, such as:

- (1) Port electrification or electrification master planning;
- (2) Harbor craft or equipment replacements/retrofits;
- (3) Development of port or terminal micro-grids;
- (4) Providing idling reduction infrastructure;
- (5) Purchase of cargo handling equipment and related infrastructure;
- (6) Worker training to support electrification technology;
- (7) Installation of port bunkering facilities from oceangoing vessels for fuels;
- (8) Electric vehicle charge or hydrogen refueling infrastructure for drayage, and medium or heavy duty trucks and locomotives that service the port and related grid upgrades; or
- (9) Other related to port activities including charging infrastructure, electric rubber-tired gantry cranes, and anti-idling technologies.”<sup>104</sup>

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102 *Id.* at § 741(c).

103 *Id.* at § 741(f).

104 *Id.*

### § 6.05. Renewables, Nuclear, and Environmental Justice Funding.

In addition to the hydrogen energy commitments, the IIJA includes an array of funding for programs focused on renewable energy, nuclear, and environmental justice initiatives.

#### [1] — Nuclear.

The IIJA includes the Civil Nuclear Credit Program, a \$6 billion strategic investment focused on preserving the existing nuclear reactor fleet in the United States.<sup>105</sup>

Under the new program, owners or operators of commercial U.S. reactors can apply for certification to bid on credits to support their continued operations. An application must demonstrate the reactor is projected to close for economic reasons and that closure will lead to a rise in air pollutants and carbon emissions. The Secretary of Energy must also determine that the U.S. Nuclear Regulatory Commission has reasonable assurance that the reactor will continue operating safely. Credits will be allocated to selected certified reactors over a four-year period beginning on the date of the selection and credits can be awarded through September 30, 2031, if funds remain available.<sup>106</sup>

On February 10, 2022, the Department of Energy issued a Notice of Intent and Request for Information on the implementation of the Civil Nuclear Credit Program.<sup>107</sup>

#### [2] — Offshore Wind.

The IIJA is a pivotal development for offshore wind investment.<sup>108</sup> The Act invests \$17 billion in port infrastructure and waterways, which will

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<sup>105</sup> *Civil Nuclear Credit Program*, OFF. OF NUCLEAR ENERGY, <https://www.energy.gov/ne/civil-nuclear-credit-program> (last visited July 29, 2022).

<sup>106</sup> *Id.*

<sup>107</sup> *Notice of Intent and Request for Information Regarding Establishment of a Civil Nuclear Credit Program*, OFF. OF NUCLEAR ENERGY, <https://www.energy.gov/ne/articles/notice-intent-and-request-information-regarding-establishment-civil-nuclear-credit> (last visited July 29, 2022).

<sup>108</sup> *Bipartisan Infrastructure Law*.

result in significant supply chain benefits for the planning and development of offshore wind projects.<sup>109</sup> Even prior to the IIJA's enactment, on March 29, 2021, the Biden Administration announced a new plan for offshore wind energy.<sup>110</sup> The Administration's plan includes a target of 30 gigawatts of offshore wind in the United States by 2030; a new wind energy area in the New York Bight; investments in port infrastructure to support the offshore wind industry; the use of the Department of Energy's Loan Program Office for deployment of offshore wind; and the finalization of environmental review for offshore wind projects.<sup>111</sup>

On May 11, 2021, the Biden Administration approved the Vineyard Wind Project, the first large-scale offshore wind project in the United States.<sup>112</sup> Until that date, the Vineyard Wind project had been on hold for over a year pending approval of the environmental review.<sup>113</sup>

Further, the Bureau of Ocean Energy Management ("BOEM") has begun auctioning leases for offshore wind.<sup>114</sup> Several such auctions already have taken place. BOEM auctioned leases in February 2022 in the New York Bight for offshore wind development.<sup>115</sup> The auction totaled \$4.37 billion,

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109 Press Release, The White House, FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs (Mar. 29, 2021) (available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>).

110 *Id.*

111 *Id.*

112 Press Release, U.S. Dep't of the Interior, Biden-Harris Administration Approves First Major Offshore Wind Project in U.S. Waters (May 11, 2021) (available at <https://www.doi.gov/pressreleases/biden-harris-administration-approves-first-major-offshore-wind-project-us-waters>).

113 Bureau of Ocean Energy Management, Record of Decision, *Vineyard Wind 1 Offshore Wind Energy Project Construction and Operations Plan*, 4, 100 (May 10, 2021), <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Final-Record-of-Decision-Vineyard-Wind-1.pdf>.

114 *See Offshore Wind Leasing Path Forward 2021 - 2025*, BUREAU OF OCEAN ENERGY MGMT., <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/OSW-Proposed-Leasing-Schedule.pdf> (last visited July 29, 2022).

115 *New York Bright*, BUREAU OF OCEAN ENERGY MGMT., <https://www.boem.gov/renewable-energy/state-activities/new-york-bight> (last visited Jan. 25, 2023).

nine times the amount paid in the last auction for offshore wind energy leases.<sup>116</sup> BOEM auctioned leases in May 2022 in Carolina Long Bay, with TotalEnergies and Duke Energy winning leases worth a combined total of \$315 million.<sup>117</sup>

### [3] — Solar.

Solar energy is among the fastest growing sources of new electric generation in the United States.<sup>118</sup> Notably, the U.S. government is working with the private sector to promote the expansion of domestic solar manufacturing capacity, including our capacity to manufacture modules and other inputs in the solar supply chain.<sup>119</sup> Furthermore, the Biden Administration is utilizing \$500 million from the IIJA to fund a program that would demonstrate the viability of deploying clean energy projects on current and former mine land.<sup>120</sup> Ultimately, DOE will deploy five clean energy projects under the program, but two of the projects are required to be solar in nature.<sup>121</sup>

### [4] — Justice40.

The IIJA also incorporates the aims of the Justice40 Initiative, the Biden Administration’s environmental justice and social justice initiative to ensure that 40 percent of the benefits of certain kinds of federal spending

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<sup>116</sup> *Id.*

<sup>117</sup> *Carolina Long Bay*, BUREAU OF OCEAN ENERGY MGMT., <https://www.boem.gov/renewable-energy/state-activities/carolina-long-bay> (last visited Jan. 25, 2023).

<sup>118</sup> Press Release, The White House, Declaration of Emergency and Authorization for Temporary Extensions of Time and Duty-Free Importation of Solar Cells and Modules from Southeast Asia (June 6, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/06/declaration-of-emergency-and-authorization-for-temporary-extensions-of-time-and-duty-free-importation-of-solar-cells-and-modules-from-southeast-asia/> (hereinafter cited as *Declaration*).

<sup>119</sup> *Id.*

<sup>120</sup> *Clean Energy Demonstration Program on Current and Former Mine Land*, DEP’T OF ENERGY, <https://www.energy.gov/oced/clean-energy-demonstration-program-current-and-former-mine-land> (last visited Jan. 25, 2023).

<sup>121</sup> *Id.*

go to disadvantaged communities.<sup>122</sup> The seven categories of investment covered by the Justice40 Initiative are: climate change, clean energy and energy efficiency, clean transit, affordable and sustainable housing, training and workforce development, remediation and reduction of legacy pollution, and the development of critical clean water and wastewater infrastructure.<sup>123</sup> Existing and new programs created by the IIJA that make covered investments in any of these seven categories can be considered Justice40 covered programs.<sup>124</sup> The Department of Energy has made clear that these issues will be a critical component of the evaluation of bids in the H2Hubs funding opportunity.

The White House Council on Environmental Quality released the Climate and Economic Justice Screening Tool (“CEJST”), a geospatial mapping tool to identify “communities that are marginalized, underserved, and overburdened by pollution.”<sup>125</sup> The CEJST breaks down the different issues that will be considered when evaluating a community under the Justice40 Initiative and, relatedly, when awarding funding from the IIJA.<sup>126</sup> Of note, 20 percent of the weight will be given to the category “community benefits: quality jobs and equity.”<sup>127</sup> Entities seeking IIJA funding may be well-served to consider the Justice40 weighting overlaid with their proposals to increase their chance for award.

### § 6.06. IIJA-Associated Administrative Actions.

On June 6, 2022, President Biden authorized the use of the Defense Production Act (“DPA”) to accelerate domestic production of five key clean energy technologies: (1) solar; (2) transformers and electric grid components;

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<sup>122</sup> *Justice40 Initiative*, THE WHITE HOUSE, <https://www.whitehouse.gov/environmentaljustice/justice40/> (last visited Jan. 24, 2023) (hereinafter cited as *Justice40 Initiative*).

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

<sup>125</sup> *Climate and Economic Justice Screening Tool*, COUNCIL ON ENV'T QUALITY, <https://screeningtool.geoplatform.gov/en/> (last visited July 29, 2022).

<sup>126</sup> *Justice40 Initiative*.

<sup>127</sup> *Id.*

(3) heat pumps; (4) insulation; and (5) electrolyzers, fuel cells, and platinum group metals.<sup>128</sup> The DPA gives the President the power to order private sectors of the US economy to produce certain goods; to provide incentives to different sectors of the economy to help them produce certain goods; to provide loans to private companies; and to waive restrictions in order to make production of certain goods easier.<sup>129</sup>

President Biden's authorization announcement received accolades from Democrats as well as climate and clean energy organizations, while some Republicans questioned whether there truly existed an emergency such that President Biden could invoke the DPA.<sup>130</sup> In the past, the DPA has been used in times of crisis.<sup>131</sup> Most recently, President Trump authorized use of the DPA for the production of COVID-19-related medical equipment,<sup>132</sup> and President Biden used the DPA to help address a baby formula shortage.<sup>133</sup>

One argument for a state of emergency is the shortage of solar cells and modules that is jeopardizing new, planned solar installations.<sup>134</sup> Due to the shortage, the United States is unable to import solar modules in sufficient quantities to ensure solar capacity additions necessary to achieve climate and clean energy goals, to ensure electricity grid resource adequacy, and to help combat rising energy prices.<sup>135</sup> To address this crisis, and in addition to President Biden's use of the DPA, the Administration announced that the Department of Commerce will issue regulations temporarily to permit for

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128 *President Biden Invokes Defense Production Act to Accelerate Domestic Manufacturing of Clean Energy*, DEP'T OF ENERGY (June 6, 2022), <https://www.energy.gov/articles/president-biden-invokes-defense-production-act-accelerate-domestic-manufacturing-clean>.

129 *Id.*

130 See Alex Gangitano et al., *Biden Increasingly Relies on DPA, Drawing GOP Scorn*, THE HILL (June 7, 2022), <https://thehill.com/homenews/administration/3515197-biden-increasingly-relies-on-dpa-drawing-gop-scorn/> (hereinafter cited as *Gangitano*).

131 *Id.*

132 *Id.* See also Boris Bershteyn et al., *President Trump Invokes the Defense Production Act in Response to COVID-19*, SKADDEN (Mar. 20, 2020), <https://www.skadden.com/insights/publications/2020/03/president-trump-invokes-the-defense-production>.

133 *Gangitano*.

134 *Declaration*.

135 *Id.*

up to 24 months duty-free access to solar cells and modules from Cambodia, Malaysia, Thailand, and Vietnam.<sup>136</sup> Interested parties should expect to see the Biden Administration take more action to advance its clean energy and climate policies.

### § 6.07. The States.

Notwithstanding the significant funding and programing spurred by the IIJA at the federal level, state governors are also leading the way by adopting innovative strategies to achieve the goals of the IIJA. The White House has asked state governors to appoint infrastructure coordinators to coordinate efforts statewide and provide a point of contact for the Biden Administration during implementation of IIJA goals.<sup>137</sup> As of May 2022, 53 states and territories had appointed state infrastructure coordinators.<sup>138</sup>

Additionally, the White House released the first edition of its Bipartisan Infrastructure Law Guidebook,<sup>139</sup> which will help state, local, Tribal, territorial governments, community members and other key partners understand the objectives of the Act, who to contact, and how to “get ready

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<sup>136</sup> Press Release, The White House, FACT SHEET: President Biden Takes Bold Executive Action to Spur Domestic Clean Energy Manufacturing (June 6, 2022) (available at <https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/06/fact-sheet-president-biden-takes-bold-executive-action-to-spur-domestic-clean-energy-manufacturing/>). For a more in-depth discussion of these issues, see Stacy Ettinger, *Declaration Of Emergency And Authorization For Temporary Extensions Of Time And Duty-Free Importation Of Solar Cells And Modules From SE Asia*, GLOB. POWER L. & POL’Y (June 8, 2022), <https://www.globalpowerlawandpolicy.com/2022/06/declaration-of-emergency-and-authorization-for-temporary-extensions-of-time-and-duty-free-importation-of-solar-cells-and-modules-from-se-asia/>.

<sup>137</sup> Press Release, The White House, FACT SHEET: Biden-Harris Administration Hits the Ground Running to Build a Better America Six Months into Infrastructure Implementation (May 16, 2022) (available at <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/16/fact-sheet-biden-harris-administration-hits-the-ground-running-to-build-a-better-america-six-months-into-infrastructure-implementation/>).

<sup>138</sup> *Id.*

<sup>139</sup> Building a Better America: A Guidebook to the Bipartisan Infrastructure Law for State, Local, Tribal, and Territorial Governments, and Other Partners, THE WHITE HOUSE (May 2022), <https://www.whitehouse.gov/wp-content/uploads/2022/05/BUILDING-A-BETTER-AMERICA-V2.pdf>.

to rebuild.”<sup>140</sup> In today’s pro-competitive environment, the success of the IIJA requires a partnership mentality between federal- and state-level government, and a regional energy transition strategy.

### § 6.08. Conclusion.

In sum, the IIJA aims to move the United States economy towards a future that prioritizes clean energy and lower carbon emissions by investing \$1.2 trillion for transportation and infrastructure spending with \$550 billion of that figure going toward “new” investments and programs.<sup>141</sup> In furtherance of that goal, the IIJA spurred significant regulatory reform by simplifying the federal permitting process. Furthermore, the IIJA funding is broad and expansive, addressing clean energy and power infrastructure, access to broadband internet, nuclear credit programs, water infrastructure, offshore wind and solar projects, and more.<sup>142</sup> Of course, given the scope of the funding and programs, the White House wisely provided guidance to states and local governments, so that a partnership mentality can form to effect change.

Despite the IIJA’s energy goals and ample funding, multiple questions remain regarding how the IIJA’s implementation could change as political winds shift in Washington D.C. It is possible that a new President post-2024 could choose not to spend all the money allocated in the IIJA. Additionally, if control of either or both houses of Congress changes in 2022, the IIJA’s momentum with regard to clean energy could also slow as a result of Republican investigations into the Biden Administration’s activities. Therefore, the Biden Administration’s current pace of implementation could be the true measure of progress for clean energy under the IIJA when judged years from now.

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<sup>140</sup> *Id.*

<sup>141</sup> *Infrastructure Investment and Jobs Act (IIJA) Implementation Resources*, GOV’T FIN. OFFICERS ASS’N, <https://www.gfoa.org/the-infrastructure-investment-and-jobs-act-ija-was> (last visited Jan. 25, 2023).

<sup>142</sup> *Id.*



# Chapter 7

## Hiring and Keeping Employees in the Post-COVID Economy

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### § 7.01. Introduction.

Three years after COVID-19 exploded across the globe, many people want their lives to return to “normal.” For better or worse, however, there is a new “normal” and things will likely never go back to the same way they were. In recognition of this fact, employers are reevaluating how they attract, hire, and retain top talent. Countless articles have been written, supported by empirical data and studies, on how exactly COVID-19 and the pandemic affected the American workforce. This chapter will not re-tread those waters but looks forward to how an employer may adapt and take lessons learned during the pandemic and apply them in the new “normal.”

## **§ 7.02. COVID and the Great Resignation Should Force Employers to Reassess.**

When COVID-19 caused widespread job loss and business disruptions, many looked forward to 2021 as a better year, only to find that the Great Resignation once again shook up the American workforce. By November of 2021, the Great Resignation was at full force and the nations' "quit rate" hit a 20-year high mark. Many believed the two were closely linked, given their temporal proximity, but the Great Resignation was much more than a knee-jerk reaction to the pandemic. A Pew Research Center survey found that the majority of workers who quit a job in 2021 say low pay (63 percent), no opportunities for advancement (63 percent) and feeling disrespected at work (57 percent) were major reasons why they quit. Other top reasons included childcare issues (48 percent among those with a child younger than 18 in the household), a lack of flexibility to choose when they put in their hours (45 percent) or not having good benefits such as health insurance and paid time off (43 percent). Some of these were clearly exacerbated by the pandemic (i.e. childcare and flexible working hours) while others are long-standing issues. In order to combat the effects of both COVID-19 and the Great Resignation, employers should re-evaluate their recruiting, hiring, training, compensation, and advancement procedures to ensure they can offer competitive employment.

### **[1] — Low Pay and Inadequate Benefits Drive Employees Away.**

In response to the COVID-19 pandemic, federal, state, and local government passed new legislation to aid employees. Paid sick leave, stimulus payments, expanded unemployment benefits, expanded child tax credits, and other measures were implemented to aid workers during the tough financial times. This has raised some expectations about what compensation and benefits an employer must offer to retain top talent.

### **[2] — Paid Leave Is Rapidly Becoming a Top Employee Priority.**

During COVID-19, emergency legislation provided some form of paid leave when a worker met certain criteria. Other than those emergency,

temporary measures, there is currently no universal paid parental leave in the United States. Since 1993, employees have largely relied upon the Family Medical Leave Act to provide leave related to the birth or adoption of a child. The FMLA, in its usual non-COVID form, only provides 12 weeks of unpaid, job protected leave after the birth or adoption of a child, but even that is only available when the employer and employee meet certain criteria. There are a few exceptions, of course — certain federal military branches offer paid parental leave for qualifying active duty and reservists, and the newly effective Federal Employee Paid Leave Act provides up to 12 weeks of paid parental leave for federal employees — but generally, there is no federal requirement that an employer offer its employees paid parental leave. Recent efforts to enact federal legislation on paid parental leave fell apart as the Biden administration’s Build Back Better Act failed to get sufficient votes in the Senate.

Without a national paid parental leave policy, the United States sits as an outlier in the global economy. According to the World Policy Center, the United States is one of only eight countries in the United Nations to lack some sort of national paid parental leave. The other seven are Papua New Guinea, Suriname, Micronesia, the Marshall Islands, Nauru, Palau, and Tonga — the last five of which are small island nations.

In the absence of a national policy, states, cities, and private employers in the United States have cobbled together a patchwork of protections. This patchwork is made up of:

- Over a dozen states have loosened the criteria for the state-equivalent of the FMLA so more workers have access to unpaid leave, and several have provided paid parental leave to state employees.
- Ten states — California, Colorado, Connecticut, Massachusetts, Maryland, New Jersey, New York, Oregon, Rhode Island, and Washington — and the District of Columbia currently offer paid family and medical leave. These state programs are funded through employee-paid payroll taxes, and some are also partially funded by employer-paid payroll taxes.
- Sixteen states (including Arizona, Connecticut, California, Colorado, Maine, Maryland, Massachusetts, Michigan, Nevada, New Jersey,

New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington) and the District of Columbia currently require paid sick leave.

- A few states (including California, Colorado, Illinois, Louisiana, Massachusetts, Minnesota, Nevada, North Carolina, Rhode Island and Vermont) and the District of Columbia provide for a limited number of hours annually for parents to attend school-related events and activities for their children.
- Finally, some states have mandated that pregnancy and/or birth is a temporary disability, essentially guaranteeing payment under disability insurance contracts. Similar ordinances have been passed by cities, who provide paid leave to municipal employees.

The most generous policies, however, are often voluntarily offered by private employers — and these are the policies most likely to make headlines. For example, Twitter is one of many private employers who offer paid parental leave, even though they are not required to do so by federal or state law. Other large, national companies like Walmart, Microsoft, Facebook, and Deloitte have been publically lauded for their voluntary paid leave policies. The gold star, however, goes to Netflix, who currently offers up to a year of paid leave to its employees after the birth or adoption of a child. And, it is not just national companies offering this benefit. A 2020 study by the Society for Human Resources Management (“SHRM”) found that over 55 percent of employers offer paid maternity leave and 45 percent offer paid paternity leave, and expects those figures to rise.<sup>1</sup>

The number of employers offering the benefit of paid parental leave is on the rise because more and more employers are recognizing the well-documented positive effects of paid parental leave. Studies have long showed that paid parental leave helps reduce post-partum depression, decreases infant hospitalizations, leads to more regular doctor and wellness checkups, increases emotional development in children, normalizes childcare, and is

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<sup>1</sup> Allen Smith, *SHRM Research: More Employers Are Offering Paid Leave*, THE SOCIETY FOR HUMAN RESOURCE MANAGEMENT, (Sept. 15, 2020), <https://www.shrm.org/resourcesandtools/legal-and-compliance/employment-law/pages/more-paid-leave-offered.aspx>.

associated with lower divorce rates and higher success rates for breastfeeding and childhood vaccinations. These benefits are all in addition to the obvious financial benefits paid parental leave would provide to a family.

Paid parental leave is also good for business. Studies have also shown that such policies increase employee productivity, improve employee retention (particularly in helping new mothers return to the workforce), aid in attracting top talent, boost employee morale, support the mental health and well-being of parents, reduce employee burnout, and make for excellent public relations and marketing. This has only increased with the pandemic, where employees were briefly provided paid leave for child care under emergency federal law, taught children virtually, worked from home, and generally shouldered additional childcare responsibilities.

Given these well-documented benefits, workers and the economy, employers are strongly urged to consider offering some sort of paid parental leave as an employee benefit. An internal audit, done with the aid of counsel, can help a company ensure it is complying with any state or local laws on paid parental leave, and advise the company on what type of paid parental leave policy may work best for it and its workforce. Counsel may also assist in drafting a properly worded, easy to understand written policy and in training management on how to properly administer this new type of paid leave.

### **[3] — Pay Equity Should Be Every Employer’s Goal.**

During the pandemic, women workers were hit harder than their male counterparts: one 2020 study found that a woman’s job was 1.8 times more vulnerable than a man’s, and that women made up 39 percent of the global workforce, yet accounted for 54 percent of overall job losses that year.<sup>2</sup> This is partially because more women work in the health care, food preparation, and personal service industries, which were hit hardest by the shut-downs and quarantines, and partially because women were disproportionately

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<sup>2</sup> Anu Madgavkar, Olivia White, Mekala Krishnan, Deepa Mahajan & Xavier Azcue, *COVID-19 and gender equality: Countering the regressive effects*, MCKINSEY & COMPANY (July 15, 2020), <https://www.mckinsey.com/featured-insights/future-of-work/covid-19-and-gender-equality-countering-the-regressive-effects>.

affected by limited child care and schooling options.<sup>3</sup> Overall, numbers of women in the work force are at a 33-year low following the pandemic.<sup>4</sup> As businesses struggle to get back to normal, it will be critical for that “normal” to correct this trend and seek to establish equal pay, which is parity in compensation regardless of gender. Pay equity is often measured by the “wage gap” or the percent a woman makes compared to a man. The wage gap arises from many intersecting factors, ranging from systematic under-compensation and concentration in lower paying jobs, to sexual harassment and the “motherhood penalty” of maintaining both family and career. In 1979, the U.S. Bureau of Labor Statistics first identified the wage gap where women earned 62 percent of the wages that men earned.<sup>5</sup> As of 2021, when the Bureau released its most recent statistics, that figure sat at 82 percent. Though the wage gap is often thought of as that single statistic, pay equity and the wage gap have more nuance than can be distilled into a single number. Taking a deeper dive can help educate the community and reveal effective strategies to help close it.

It is always critical to remember that the wage gap does not affect all women equally. Intersectionality confirms that gender is not the only factor in the wage gap. The pandemic highlighted how pay inequity is also influenced by a woman’s race, sexual orientation, gender identity, geographic location, education, age, and other factors. For example, according to a study by the Center for American Progress, women of color experience a much larger wage gap than their white counterparts. According to its study of the Bureau’s 2020 census data, Black women made \$0.64, multiracial Black

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<sup>3</sup> See Richard Fry, *Some Gender Disparities Widened In The U.S. Workforce During The Pandemic*, PEW RESEARCH CENTER (Jan. 14, 2022), <https://www.pewresearch.org/fact-tank/2022/01/14/some-gender-disparities-widened-in-the-u-s-workforce-during-the-pandemic/>.

<sup>4</sup> See Ashley Stahl, *The Pandemic And The Gender Pay Gap In 2022*, FORBES (Jan. 21, 2022), <https://www.forbes.com/sites/ashleystahl/2022/01/21/the-pandemic-and-the-gender-pay-gap-in-2022/?sh=5e365e1a347d>.

<sup>5</sup> See *Highlights of Women’s Earnings In 2020*, U.S. BUREAU OF LABOR STATISTICS (Sept. 2021), <https://www.bls.gov/opub/reports/womens-earnings/2020/home.htm#:~:text=In percent2020 percent2C percent20women’s percent20earnings percent20ranged,percent percent20of percent20what percent20men percent20earned.>

women made \$0.63, Asian women made \$1.01, Hispanic women of any race make \$0.57, and white, non-Hispanic women made \$0.79 compared to the \$1.00 earned by white men.<sup>6</sup> A 2022 report by the National Partnership for Women & Families also found that Native American women earned only \$0.60 on the dollar and certain Asian American and Pacific Islander women made only \$0.52.<sup>7</sup> And race and ethnicity are only one branch of inter-sectionality — the Bureau does not maintain comparable stats for non-binary individuals, transgender women, or the greater LGBTQA+ community, but a 2021 study by the Human Rights Campaign Foundation found that women in the LGBTQ+ community generally earn about \$0.90, with trans women earning even less at \$0.60.<sup>8</sup> These inequities persisted before COVID-19, and the pandemic merely highlighted their existence.

The pandemic also highlighted the fact that the wage gap has stagnated. As of 2020 (the latest year in which the Bureau has published statistics), the wage gap sits at 82 percent. Though that progress from the 62 percent wage gap in 1979 should be acknowledged — alongside the people who fought for it — that change has not been consistent over time. The gap closed steadily in the 1980's and 1990's, but has remained stubbornly at or around 82 percent since 2004. That means there has been little meaningful progress in nearly two decades. This continued stagnation, combined with the disparate impact of the pandemic on women workers, means the time is ripe for employers to reassess their pay practices and correct any historical or pandemic-related inequities.

Even the most well-meaning employers may have rollover inequities based on a female employee's prior salary, implicit bias, or problematic

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<sup>6</sup> See Robin Bleisweis, Jocelyn Frye & Rose Khattar, *Women of Color and the Wage Gap*, CENTER FOR AMERICAN PROGRESS (Nov. 21, 2021), <https://www.americanprogress.org/article/women-of-color-and-the-wage-gap/>.

<sup>7</sup> See Fact Sheet, *Quantifying America's Gender Wage Gap by Race/Ethnicity*, National Partnership for Women & Families (Jan. 2022) (available at <https://www.nationalpartnership.org/our-work/resources/economic-justice/fair-pay/quantifying-americas-gender-wage-gap.pdf>).

<sup>8</sup> See *The Wage Gap Among LGBTQ+ Workers in the United States*, HUMAN RIGHTS CAMPAIGN (Jan. 19, 2022), <https://www.hrc.org/resources/the-wage-gap-among-lgbtq-workers-in-the-united-states>.

management. Thus, employers are encouraged to solicit honest, attorney-client privileged audits of their compensation practices, which will empower the company to make informed decisions. The audit should also evaluate the application process (no questions about prior salary, head of householder, or childcare), employee handbooks (remove wage confidentiality policies and add remote work options), job descriptions (to enable detailed comparisons), and performance evaluations (unbiased format and execution) in order to guard against gender-based pay inequity. Armed with an audit and updated policies, the employer is in its best position to make wage adjustments and (re)train its workforce. With proactive and thoughtful action, employers can avoid the many pitfalls, in both litigation and public opinion, that other employers have faced.

### **§ 7.03. Burnout, Recognition, and Respect All Affect Employee Retention.**

During the pandemic, many employees were carrying out their job duties under unique, challenging, and ever-changing conditions. This led to increased instances of employee burnout, which is described by the World Health Organization as an occupational phenomenon resulting from workplace stress that has not been successfully managed, that is characterized by feelings of exhaustion, increased negativity or cynicism related to one's job, and reduced professional efficiency.<sup>9</sup> Burnout rates increased in both 2020 and 2021, and the APA's 2021 Work and Well-being Survey found that 79 percent of employees had experienced work-related stress in the month before the survey, with nearly 3 in 5 employees reported negative impacts of that work-related stress ranging from lack of effort at work (19 percent) and cognitive weariness (36 percent) to emotional exhaustion (32 percent) and physical fatigue (44 percent). Given these rates, employees are, more than ever, looking for respect and appreciation from their management.

With unusual business conditions and burnout at all-time highs, employers are encouraged to adopt a new perspective on performance evaluation and

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<sup>9</sup> *Burn-out an "occupational phenomenon": International Classification of Diseases*, WORLD HEALTH ORGANIZATION (May 28, 2019), <https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases>.

management, and an increased desire by employees for recognition of a job well done. Research has found that anywhere from 53 percent to 82 percent of employees want more recognition from their managers. While many employers may first turn to monetary incentives to boost employee morale and performance, recent studies suggests that non-monetary recognitions and awards can significantly increase employees' self-motivation, performance, and retention rates. Public recognition, congratulatory cards, certificates, and the like can be cost-effective measures to boost employee morale, performance, and job satisfaction. To harness this effective, yet often underutilized tool, employers should consider:

- Training management to provide specific, detailed feedback and recognition to employees when work is completed well;
- Providing management with time and physical resources (blank cards, company swag, etc.) to be able to carry out feedback and recognition;
- “Gamify” certain duties or tasks (think annual training or inventory) to boost employee engagement and fun;
- Offering low-cost or personalized rewards for completing unusual or outside-the-job-description tasks;
- Using the company’s social media or marketing team to tout the personal and/or professional accomplishments of employees;
- Setting up a platform in which management and peers may provide positive feedback;
- Rewarding hard work with a lunch or sweet treat — either in a group or separately, depending on the company’s COVID-19 policies; and
- Keeping HR in the loop of this praise, to be used in more formal performance evaluations.

**§ 7.04. The Pandemic Shines a Light on How Employers Should Address Child Care Issues from Now On.**

The pandemic hit parents hard, forcing employees who had young children to juggle employment, and child care duties with virtual education and their childhood healthy and safety during quarantine. One of the major obstacles for working parents is lack of affordable child care. Only 39 percent

of respondents to McKinsey's American Opportunity Survey who have incomes below \$50,000 and children at home said they could afford child care. That is why, in part, why 42 percent of employers reportedly have plans to expand or add child care benefits as part of their employee compensation in the near future. Doing so can make the employer more attractive to incoming applicants, and it offers a sense of fairness, equalizes the playing field, and reduces stress and anxiety of existing employees. Some of the most popular options for child care benefits include:

- child care subsidies
- work from home days
- paid or unpaid time off to be used specifically for child-related care
- tutors for children
- on-site day care facilities
- backup childcare services
- meaningful partnership with local daycares to offer reduced rates or other perks
- college counseling services

### **§ 7.05. Remote Work Is (Likely) Here to Stay, So Employers Should Plan Accordingly.**

The COVID-19 pandemic forced the American workforce to rapidly change how it conducted business, and businesses that embraced flexibility and adaptability weathered the storm better than some of their competitors. One of the biggest changes to the workplace during COVID-19 pandemic was the rapid shift to remote work. In 2019, only 6 percent of employees worked primarily from their home.<sup>10</sup> This was only a slight increase from the 4 percent in 2009. Overall, prior to the pandemic, three-fourths of American workers had never once worked from home. By May of 2020, however, this number skyrocketed, and 35 percent of employees reported they had worked from home in the month prior due to COVID-19. Most of this rapid shift to remote work occurred in the business and professional

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<sup>10</sup> Patrick Coate, *Remote Work Before, During, and After the Pandemic: Quarterly Economics Briefing Q4 2020*, NCCI (Jan. 25, 2021), [https://www.ncci.com/SecureDocuments/QEB/QEB\\_Q4\\_2020\\_RemoteWork.html](https://www.ncci.com/SecureDocuments/QEB/QEB_Q4_2020_RemoteWork.html).

occupations. By November of 2020, the number of employees who worked from home within the last month had dropped to 24 percent

Though many workers have returned to working on site, instead of from their homes, the opportunity and desire for remote work remains.

A November 2020 survey from McKinsey & Company estimates that 29 percent of workers could work primarily from home without any loss of productivity, with another 10 percent possible with some loss of productivity.<sup>11</sup> That study also confirmed that remote work primarily benefitted certain professions.

### § 7.06. Gig Work is Expanding and Normalizing.

Various surveys have demonstrated that during the height of the COVID-19 pandemic, up to 57 percent of workers would agree to some kind of gig job when they are in-between jobs, and that 36 percent of workers in the U.S. were already freelancing.<sup>12</sup> This represents an increase of 2 million people since 2019. That increase is expected to continue, with the total number of gig workers expected to exceed 90 million by 2028. In short, gig work is predicted to become a normalized, steady, and significant portion of the American workforce over the next few years.

Gig work may be increasing because it is an attractive option for both employers and employees. Employees again appear to enjoy the flexibility and opportunity provided by contingent, freelance, or temporary work. By definition, gig work means the worker is an independent contractor — and not a traditional W2 employee — and has more independence and less company oversight. That means a gig worker can usually choose their own working hours, time management, working location, etc. Studies also show that a gig worker who performs independent work by choice (and not

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<sup>11</sup> Susan Lund, Anu Madgavkar, James Manyika & Sven Smit, *What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries*, MCKINSEY GLOBAL INSTITUTE (Nov. 23, 2020), <https://www.mckinsey.com/featured-insights/future-of-work/whats-next-for-remote-work-an-analysis-of-2000-tasks-800-jobs-and-nine-countries>.

<sup>12</sup> Shannon Shoemaker, *Workforce and Hiring Trends for Employers in a Post-COVID World*, PRECHECK BLOG (June 22, 2021), <https://www.precheck.com/blog/workforce-and-hiring-trends-employers-post-covid-world>.

forced to do so out of economic necessity) has some of the highest reported rates of job satisfaction, even higher than those of traditional employees.<sup>13</sup> Thus, gig work, when executed correctly, can be financially and creatively satisfying for certain workers.

Gig work is something employers can leverage for their own benefits as well. Hiring gig workers allows an employer to access skilled talent when hiring full-time employees has become more challenging. It also allows employers to be selective in their recruiting and hiring process: a gig worker can have the specific, unique, or niche background and skills necessary to complete a single project. Gig work can also be cost-effective for employers, who do not offer the usual benefits like insurance, paid leave, or retirement accounts. This can result in significant savings, as employee benefits make up 32 percent of an employee's compensation, according to the latest data from the U.S. Bureau of Labor Statistics (BLS). Employers can likewise save money on infrastructure, including office space, computers, and traditional supplies, particularly if a gig worker performs duties remotely. Given the benefits to both sides, gig work can make sense in many difference businesses.

Employers are therefore encouraged to take stock of their workforce, identify any positions or areas that need filled, and discern whether the needs or vacancies can be met with gig workers. The caution with gig workers always lies in the proper classification as an independent contractors or W2 employee. Before pursuing gig work, employers are encouraged to meet with counsel to ensure the hire, job, and accompanying logistics comport with this classification.

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<sup>13</sup> James Manyika, Susan Lund, Jacques Bughin, Kelsey Robinson, Jan Mischke & Deepa Mahajan, *Independent Work: Choice, Necessity, And The Gig Economy*, MCKINSEY GLOBAL INSTITUTE (Oct. 2016), <https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Employment%20and%20Growth/Independent%20work%20Choice%20necessity%20and%20the%20gig%20economy/Independent-Work-Choice-necessity-and-the-gig-economy-Executive-Summary.ashx>.

**§ 7.07.           Big Data and Employee Monitoring Can Be Useful Tools, But Must Be Handled Transparently and Appropriately.**

With so much of the workforce going virtual or remote due to the pandemic, there has been a major leap forward in the use of data and analytics in the workplace. Some employers want to track data on employees working virtually, while others are moving to have more meetings done securely through virtual means. According to one report by Forbes, 80 percent of employers use some sort of employee monitoring system in 2022.<sup>14</sup> Big data can be a useful tool to help build efficiency, identify obstacles, monitor projections through different stages, attract a different type of tech-minded talent, improve retention, reduce costs, and accelerate the onboarding process. This does not have to be big budget or exceedingly technical procedures. They can include email monitoring, virtual clocking in and out, tracking the use of computer or certain software, or virtual meeting reports. If some sort of employee monitoring system or big data is being considered, the employer must be sure the process is fair, clear, and transparent and that any data gathered is stored and used responsibly.

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<sup>14</sup> Isaac Kohen, *Three Employee Metrics Worth Measuring In 2022*, FORBES (Mar. 7, 2022), <https://www.forbes.com/sites/theyec/2022/03/07/three-employee-metrics-worth-measuring-in-2022/?sh=1172f84b4817>.



## Chapter 8

# Beyond the DEI Acronym: Tips for a Successful and Legally Compliant Diversity, Equity and Inclusion Program in the Energy and Legal Industries

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### Synopsis

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### § 8.01. Introduction.

Most corporate leaders and attorneys are familiar with the phrase “DEI,” but not all are truly familiar with how diversity, equity, and inclusion (“DEI”) efforts come to realization in companies and for workforces today. DEI efforts in modern corporate America, including in the energy and legal sectors, are constantly developing. In light of today’s “Great Resignation,” building a more diverse, equitable and inclusive work environment has become increasingly important for recruitment and retention. Companies who do not have a DEI program should consider creating one.

While DEI programs differ and are unique to each company, the goal is most often providing every member of the team equal and ample opportunity to contribute, grow, and find fulfillment in their work. Companies who have already developed DEI programs should continue refining their approach to

create more vibrant places of work for colleagues, clients, and communities. Employers in the energy and legal industries should ask themselves these four important questions when building or reevaluating a DEI program:

- What does DEI mean in today's workplace?
- Why does building an effective DEI program matter in today's business world?
- How do I build a DEI program (or what can I do better with my current DEI program)?
- What are common DEI legal pitfalls?

An organization is only as good as its culture. Building that culture to be more diverse, equitable and inclusive supports employees and can lead to better, more productive business outcomes as explained below.

### **§ 8.02. What Does DEI Mean in Today's Workplace?**

What is diversity, equity, and inclusion? Diversity is often referred to as the presence of differences that may include race, gender, religion, sexual orientation, gender identity, ethnicity, nationality, socioeconomic status, language, disability, age, or religious beliefs. Diversity efforts focus on increasing representation of populations that have been - and remain - underrepresented among practitioners in their respective fields. Diversity also includes diversity of thought, perspectives, and approaches.

Equity is often thought of as promoting justice, impartiality and fairness within the procedures, processes, and distribution of resources by institutions or systems. Equity is not the same as equality. Equality involves providing each employee with the same resources, support, or applying the same procedures. Equity recognizes that different people (who come from different backgrounds) need different types of support to succeed. Tackling equity issues requires an understanding of the root causes of outcome disparities within our society. Efforts to create equity in the workplace often look at the goal result and determine (working backward) what individual employees need to reach the established goal. Understanding what different people may need to be successful or feel supported and providing it is often referred to as equity.

Inclusion is often described as a sense of belonging. Inclusion efforts ensure those who are diverse actually feel and are welcomed. Inclusion outcomes are met when an institution and programs are truly inviting to all. Inclusion can be thought of as the practice of diversity and equity working together or the operationalized result of diversity and equity.

### **§ 8.03. Why Does Building an Effective DEI Program Matter in Today’s Business World?**

Following the COVID-19 pandemic, finding candidates, and retaining employees has put a strain on businesses across the country and globe. Statistics show that to attract and retain top talent, employees are considering – if not demanding – that companies have diverse workforces that support inclusivity. Data also shows that having a strong diversity, equity and inclusion program makes good business sense.

“The Great Resignation” has not vanished with the easing of the COVID-19 pandemic at the end of 2021 and start of 2022. To the contrary, nearly 4.4 million Americans quit their jobs in March of 2022 according to the United States Department of Labor.<sup>1</sup> Most employees who are quitting their jobs are not taking themselves out of the job market but are accepting employment with competitors or outside their current industry. Remote work options also make recruiting and retention efforts extremely competitive. As a result, finding and retaining quality talent has required employers to place an increased focus on DEI efforts. What is more, simply having anti-harassment and anti-discrimination policies, or conducting annual training on harassment or implicit biases will not typically be sufficient to attract or retain top talent in the current job market.

Much of the increased demand for DEI efforts is because of America’s changing workforce. The Millennial and Gen Z generations are the most diverse in history. Only 56 percent of the 87 million Millennials in the

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<sup>1</sup> *Job Openings and Labor Turnover Survey*, U.S. DEPARTMENT OF LABOR (Mar. 2022), <https://www.bls.gov/jlt/>.

country are white, as compared to 72 percent of the 76 million members of the baby boomer generation<sup>2</sup>.

This increase in diverse employees entering the workforce has resulted in applicants focusing on DEI efforts when searching for employment opportunities. For example, a 2020 study from Glassdoor revealed that a diverse workplace was important to white workers, but it was of critical importance to minority job seekers<sup>3</sup>. That study showed that 72 percent of women, 89 percent of African Americans, 80 percent of Asians, and 70 percent of Latinos who were surveyed ranked workforce diversity as of top importance in their job search<sup>4</sup>. In a study from *Harvard Business Review*, 50 percent of current employees surveyed reported that they wanted their workplace to do more to increase diversity<sup>5</sup>.

DEI efforts will become increasingly important for employers in the oil and gas industry. The oil and gas industry is expected to see a significant spike in retirement of long-term employees who are reaching retirement age. Some reports are as high as anticipating 50 percent of the employee base looking to retire in the next five to ten years<sup>6</sup>. This significant increase in retiring employees is commonly referred to as “The Great Crew Change”, which refers to a dearth of workers entering the oil-and-gas industry in the 1980s and 1990s due to the economic crash of that time resulting in oil

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<sup>2</sup> Press Release, U.S. Census Bureau, 2020 Census Statistics Highlight Local Population Changes and Nation’s Racial and Ethnic Diversity (Aug. 12, 2021) (available at <https://www.census.gov/newsroom/press-releases/2021/population-changes-nations-diversity.html>).

<sup>3</sup> *Glassdoor’s Diversity and Inclusion Workplace Survey*, GLASSDOOR (Sept. 30, 2020), <https://www.glassdoor.com/employers/blog/diversity-inclusion-workplace-survey/>.

<sup>4</sup> *Id.*

<sup>5</sup> Sylvia Ann Hewlitt, Melinda Marshall, and Laura Sherbin, *How Diversity Can Drive Innovation*, HARVARD BUSINESS REVIEW (Dec. 2013), <https://hbr.org/2013/12/how-diversity-can-drive-innovation>.

<sup>6</sup> Martha Alviles, *The Oil Industry’s Great Crew Change: Why Its Even More Complicated Now*, FORBES (May 2015), <https://www.forbes.com/sites/drillinginfo/2015/05/04/the-great-crew-change-why-its-even-more-complicated-now/?sh=89c3f0c11de3>.

prices hitting record lows<sup>7</sup>. Many engineers, geologists, and other skilled workers sought work outside of the oil and gas industry for more than a decade because of a belief that the industry was unstable. Top executives in the oil and gas industry report being aware of the current and upcoming Great Crew Change and the need to be able to attract top talent from the Millennial and Gen Z generations<sup>8</sup>.

DEI is not only important to many job seekers but can also result in increased productivity and profitability. A PwC study reported diverse companies were more likely to see higher cash flows per employee<sup>9</sup> and revenue increases of up to 19 percent over similarly situated competitors<sup>10</sup>. That same study showed that diverse companies were 70 percent more likely to capture new markets and were 35 percent more likely to perform better financially<sup>11</sup>. In its 2015 report, *Diversity Matters*, McKinsey reported that in its study of 366 public companies, it found that gender, racial, and ethnic diversity correlated to positive financial performance.<sup>12</sup>

Consumers of legal services are also demanding that law firms implement and measure DEI efforts. Over 197 companies that are consumers of legal services have signed onto the American Bar Association's Resolution

<sup>7</sup> *Id.*

<sup>8</sup> *The Great Crew Change: Bridging the Skills Gap in Engineering*, AIRSWIFT, (Mar. 7, 2019), <https://www.airswift.com/blog/the-great-crew-change-bridging-the-skills-gap-in-engineering/>; GLOBAL ENERGY TALENT INDEX REPORT (EnergyJobLine et al., 2022) (available at <https://www.getireport.com/>).

<sup>9</sup> VIVIAN HUNT, DENNIS LAYTON & SARA PRINCE, *DIVERSITY MATTERS* (McKinsey & Co., Feb. 2, 2015) (available at <https://www.mckinsey.com/~media/mckinsey/business%20functions/people%20and%20organizational%20performance/our%20insights/why%20diversity%20matters/diversity%20matters.pdf>).

<sup>10</sup> Rocío Lorenzo, Nicole Voigt, Miki Tsusaka, Matt Krentz, and Katie Abouzahr, *How Diverse Leadership Teams Boost Innovation*, BCG (Jan. 23, 2018), <https://www.bcg.com/publications/2018/how-diverse-leadership-teams-boost-innovation>.

<sup>11</sup> Sylvia Ann Hewlitt, Melinda Marshall, and Laura Sherbin, *How Diversity Can Drive Innovation*, HARVARD BUSINESS REVIEW (Dec. 2013), <https://hbr.org/2013/12/how-diversity-can-drive-innovation>.

<sup>12</sup> VIVIAN HUNT, DENNIS LAYTON & SARA PRINCE, *DIVERSITY MATTERS* (McKinsey & Co., Feb. 2, 2015) (available at <https://www.mckinsey.com/~media/mckinsey/business%20functions/people%20and%20organizational%20performance/our%20insights/why%20diversity%20matters/diversity%20matters.pdf>).

113: Creating a Legal Profession That Reflects the Public it Serves, which was adopted in 2016<sup>13</sup>. The 2021 Corporate Legal Operations Consortium reported that 50 percent of in-house legal departments will request and review DEI data from external law firms<sup>14</sup>. Many companies are adopting incentive-based programs for their outside law firms that adopt successful and innovative DEI programs. This data shows not only are job seekers focusing on a company's DEI efforts, but so too are clients.

#### **§ 8.04. How Do I Build a DEI Program (or What Can I Do to Improve My Current DEI Program)?**

DEI programming is a journey. It is not one size fits all. Understanding that DEI is unique and what is successful in one company may not work in another, below are practical ways to create or improve a DEI program no matter where your company is on the DEI journey.

Key components of a successful DEI program most often involve listening, learning and acting. Because DEI programming, at its core, is about supporting the people within an organization, it is of critical importance to understand and measure how employees experience and view the company's current culture. This listening can (and should) take many forms, from conducting a DEI audit of employees in which you ask pertinent DEI questions on a confidential basis, holding lunches and listening sessions with employees, executives, and stakeholders to convening one-on-one sessions with employees who have expressed interest in and commitment to DEI within the organization.

Listening to those who are employed will provide an opportunity to learn how key stakeholders feel about the company's DEI initiatives. This provides both a starting point and an opportunity to identify problems and set goals. One goal should be to develop a written policy that clearly

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<sup>13</sup> *Model Diversity Pledge Signatories*, AMERICAN BAR ASSOCIATION (Aug. 2022), [https://www.americanbar.org/groups/diversity/DiversityCommission/model-diversity-survey/model\\_diversity\\_survey\\_signatories/](https://www.americanbar.org/groups/diversity/DiversityCommission/model-diversity-survey/model_diversity_survey_signatories/).

<sup>14</sup> 2021 STATE OF THE INDUSTRY REPORT (Corporate Legal Operations Consortium, May 7, 2021) (available at <https://cloc.org/2021-state-of-industry-survey/>).

communicates the company's commitment to diversity, equity and inclusion. In addition, companies may want to consider establishing goals for diversity in recruitment and leadership positions as well as identifying how the company will support employees in both personal and professional development.

Data tracking is essential to a successful DEI program. Gathering meaningful data on DEI allows an employer to identify and address issues early and measure progress. Monitoring and understanding DEI data can be the difference between a program that simply checks a box and one that has and meets long-term goals. Typically, employers will want to track DEI data in the following areas:

*Hiring and recruitment.* Employer should track the diversity of the applicant pool, diversity of recruitment efforts, diversity of interviewers, and diversity in those offered employment.

*Representation and retention.* Employer should track the representation of diverse groups in all areas of the organization. This can assist in understanding areas within the organization that lack diversity or experience problems with retention of diverse hires. Data tracking of work assignments and the staffing of projects and cases or billable rates also assists in understanding how this impacts advancement opportunities within the organization.

*Advancement and participation.* Employer should track data of individuals who are interviewed for and selected for promotions as well as those who are participating in training and other non-formal engagement and advancement opportunities, such as the need for and participation in Employee Resource Groups.

Additional areas for data tracking can involve the use of diverse vendors and diversity in community engagement efforts. For example, is the company supporting different types of charitable or non-profit organizations and does this support reflect the makeup and interests of the workforce at large? Time and again, it has been shown that leveraging DEI data can increase to access, accountability, and transparency within an organization.

The ways to engage in DEI efforts are myriad. From developing inclusive policies regarding gender identity to assisting in adjusting work schedules for

employees with religious commitments, to increasing diversity recruitment efforts, there is not one correct path. The first step is the decision to begin the DEI journey.

### § 8.05. What Are Common DEI Legal Pitfalls?

If a DEI program is not carefully designed and implemented, it can lead to expensive lawsuits involving discrimination and reverse discrimination<sup>15</sup> claims. It is critically important that DEI programs not run afoul of anti-discrimination laws such as Title VII of the Civil Rights Act of 1964,<sup>16</sup> which prohibits discrimination in employment based upon sex, race, color, and national origin. Employers often do not understand what is and is not legally permissible when developing or implementing a DEI program.

Courts have long upheld the legality of affirmative action in certain circumstances to remedy past underrepresentation and discrimination in certain areas. Courts have also upheld other diversity initiatives that do not involve employment-decision making based on a legally protected status. When first addressing this issue, the United States Supreme Court in *United Steel Workers v. Weber*, held that, “Title VII’s prohibition in §§ 703 (a) and (d) against racial discrimination does not condemn all private, voluntary, race-conscious affirmative action plans.”<sup>17</sup> Thirty years later, in

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<sup>15</sup> Title VII protects employees and applicants for employment from discrimination based on race, gender, etc. This includes members who in the majority classes, e.g., Caucasian, and male. In reverse discrimination claim, the plaintiff claims that he or she was a member of a majority class, and the employer made an employment decision in favor of a member of the minority class. *See Zambetti v. Cuyahoga Cmty. Coll.*, 314 F.3d 249 (6th Cir. 2002) (To establish prima facie case of reverse race discrimination under Title VII, the plaintiff must to demonstrate background circumstances to support suspicion that defendant is that unusual employer who discriminates against the majority; to do so, plaintiff can present evidence of defendants’ unlawful consideration of race as a factor in past hiring justifying suspicion that incidents of capricious discrimination against whites because of their race may be likely.)

<sup>16</sup> 42 U.S.C. § 2000e, *et seq.*

<sup>17</sup> The U.S. Supreme Court in *United Steelworkers of America v. Weber*, 443 U.S. 193, 201 (1979), articulated the standard for determining whether a voluntary affirmative action plan is valid under Title VII. The *Weber* court held that the program must 1) be designed to remedy a “manifest imbalance” in a “traditionally segregated job category”; and 2) not “unnecessarily trammel” the rights of nonminority employees, nor serve as an “absolute

*Ricci v. DeStefano*, the Supreme Court held that Title VII does not prohibit an employer from considering how to design a practice in order to provide a fair opportunity for all individuals, regardless of their race, as long as the employer does not engage in race-based decision-making.<sup>18</sup>

Courts of various circuits courts have evaluated – and upheld - diversity initiatives that focus on increasing the opportunities for diverse candidates to be considered for hire or promotion, including programs that set specific goals for considering and interviewing a certain number of diverse candidates. The common thread of these initiatives is that they do not create rigid set asides for hiring or promoting individuals in legally protected classes. Rather, they focus on interviewing and considering certain numbers of diverse candidates. These types of initiatives are often referred to as “Rooney Rules,” which have their origins in the National Football League’s requirement that a certain number of minority applicants be interviewed by NFL teams for open coaching positions.<sup>19</sup> The key to such initiatives is not to make any employment decision “because of” an applicant’s membership in a legally protected class, but to simply provide increased access for consideration to diverse applicants, while evaluating all applicants on the same criteria and selection procedures.

Courts have repeatedly upheld “Rooney Rule” or “affirmative recruitment” initiatives. For example, in *Duffy v. Volle*, the Eighth Circuit explained:

An employer’s affirmative efforts to recruit [minority] applicants does not constitute discrimination. An inclusive recruitment effort enables employers to generate the largest pool of qualified applicants and helps to ensure that [minorities] are not discriminatorily excluded from employment.

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bar” to their advancement. *United Steelworkers of America v. Weber*, 443 U.S. 193, 201 (1979).

<sup>18</sup> *Ricci v. DeStefano*, 557 U.S. 557, 129 S. Ct. 2658 (2009) ( Under Title VII, a public employer cannot institute a race-based policy that discriminates against white employees unless it can show a strong basis in evidence that it would be liable for unintentional discrimination of minority employees by using a race-neutral policy.)

<sup>19</sup> *Rooney Rule*, NATIONAL FOOTBALL LEAGUE OPERATIONS, <https://operations.nfl.com/inside-football-ops/inclusion/the-rooney-rule/>.

This not only allows employers to obtain the best possible employees, but it “is an excellent way to avoid lawsuits.” The only harm to [majority applicants or employees] is that they must compete against a larger pool of qualified applicants. This, of course, “is not an appropriate objection,” and does not state a cognizable harm.<sup>20</sup>

So long as an employer does not make any employment decisions because of a person’s legally protected status, such programs do not violate anti-discrimination laws and can be used in an effective DEI program.

Other legally compliant options to consider include encouraging women or minority applicants to apply and making statements that the employer seeks to recruit candidates who represent the community it serves. Such statements are not prohibited under Title VII because no decision is being made based upon a legally protected characteristic. Employers can also consider implementing a “blind” screening process whereby candidate’s names are redacted during the initial screening process. This can have the result of eliminating an interviewer’s conscious or unconscious biases.

While data from the Equal Employment Opportunity Commission has not revealed an increase in reverse discrimination cases following increases in companies implementing DEI programs, there have been a few outliers. In *Duvall v. Novant Health Inc.*, a jury awarded \$10 million dollars to a white, male former hospital executive who filed a reverse discrimination claim following his termination. Duvall was terminated and replaced with an African American female employee<sup>21</sup>. Duvall claimed the hospital’s DEI program sought to replace white males with minority applicants within certain time frame and used race and gender as a “motivating factor” in its decision making. Duvall cited his positive employment history and reviews. While it is impossible to know what fact convinced the jury to find for Duvall, one key fact appeared to be a hospital executive’s statement that Duvall was terminated for reasons other than performance made to a prospective

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<sup>20</sup> *Duffy v. Wolle*, 123 F.3d 1026, 1038-39 (8th Cir. 1997), *abrogated on other grounds* by *Torgerson v. City of Rochester*, 643 F.3d 1031 (8th Cir. 2011).

<sup>21</sup> *Duvall v. Novant Health Inc.*, Case No. 3:19-CV-00624-DSC (W.D.N.C. Oct 28, 2021).

employer of Duvall's. The Hospital claimed that Duvall was terminated "due to his deficient performance, including his inability to communicate effectively before a group and the delegation of the critical duties of his position to his subordinates." The Duvall case is a lesson to employers that while DEI programs can have meritorious goals, a poorly executed program can lead to significant liability and set back such initiatives for many. Employers should seek legal guidance when developing and implementing a DEI program.

**§ 8.06. Conclusion.**

DEI initiatives are here to stay in corporate America. The benefits of such initiatives are myriad and from increasing diversity of thought to increasing the bottom line. Employers looking to attract and retain top talent in the current challenging job market and beyond should consider investing in meaningful DEI initiatives. Failing to do so may cost you your next hire.



# Chapter 9

## Safeguarding Client Data: Attorneys' Legal and Ethical Duties

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### § 9.01. Introduction.<sup>2</sup>

Confidential data in computers and information systems, including those used by attorneys and law firms, faces greater security threats today than ever

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<sup>1</sup> The views and opinions expressed in this chapter represent the view of the author and not necessarily the official view of Clark Hill PLC. Nothing in this chapter constitutes professional legal advice nor is intended to be a substitute for professional legal advice.

<sup>2</sup> David G. Ries is of counsel in the Pittsburgh, PA office of Clark Hill PLC, where he practices in the Cybersecurity, Data Protection & Privacy Group. He has devoted his legal career to helping organizations traverse complex environmental, technology, and data protection challenges. For over 25 years, he has increasingly focused on cybersecurity, privacy, and information governance. He has used computers in his practice since the early 1980s and

before. And they continue to grow! They take a variety of forms, ranging from e-mail phishing scams and social engineering attacks to sophisticated technical exploits resulting in long term intrusions into law firm networks. They also include lost or stolen laptops, tablets, smartphones, and USB drives, as well as inside threats - malicious, untrained, inattentive, rushed, and even bored personnel.

These threats are a particular concern to attorneys because of their duties of competence in technology and confidentiality. Attorneys have ethical and common law obligations to employ competent and reasonable efforts to safeguard information relating to clients. They also often have contractual and regulatory duties to protect client information and other types of confidential information.

### **§ 9.02. Current Threats.**

Breaches have become so prevalent that there is a new mantra in cybersecurity today – it’s “when, not if” there will be a breach. Robert Mueller, then the FBI Director, put it this way in an address at a major information security conference in 2012:<sup>3</sup>

I am convinced that there are only two types of companies: those that have been hacked and those that will be. And even they are converging into one category: companies that have been hacked and will be hacked again.

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since then has strongly encouraged attorneys to embrace technology – in appropriate and secure ways. Dave frequently speaks and writes nationally on legal ethics, technology, and cybersecurity topics. He is a coauthor of *Locked Down: Practical Information Security for Lawyers, Second Ed.* (American Bar Association 2016) and *Encryption Made Simple for Lawyers* (American Bar Association 2015) and a contributing author to *Information Security and Privacy: A Legal, Business and Technical Handbook, Second Edition* (American Bar Association 2011). He served on the ABA Cybersecurity Legal Task Force and the ABA TECHSHOW Planning Board and is a member of InfraGard’s Legal Cross-Sector Council and ILTA’s LegalSEC Initiative.

<sup>3</sup> Robert S. Mueller, II, FBI Director, RSA Cybersecurity Conference (March 1, 2012) (available at <https://archives.fbi.gov/archives/news/speeches/combating-threats-in-the-cyber-world-outsmarting-terrorists-hackers-and-spies>.)

This is true today for attorneys and law firms as well as other businesses and enterprises. American Bar Association (“ABA”) Formal Opinion 477R (May 2017) (discussed below), describes the same current threat environment:

. . . Cybersecurity recognizes a . . . world where law enforcement discusses hacking and data loss in terms of “when,” and not “if.” Law firms are targets for two general reasons: (1) they obtain, store, and use highly sensitive information about their clients while at times utilizing safeguards to shield that information that may be inferior to those deployed by the client, and (2) the information in their possession is more likely to be of interest to a hacker and likely less voluminous than that held by the client.

Attackers consider law firms to be “one stop shops” because they have high value information of multiple clients that is well organized, often with weaker security than clients. Hackers target money, personally identifiable information that can be converted to money, client business strategy, intellectual property and technology, and information about deals and litigation. Threat actors include cybercriminals, hackers, governments, hacktivists (with political agendas), and insiders.

The news reports of law firm breaches started with a February 2010 *Wired Magazine* article that reported on advanced persistent threats (“APT”s), a particularly nasty form of sophisticated and extended hacking attack. It discussed an example of a 2008 APT attack on a law firm that was representing a client in Chinese litigation:<sup>4</sup>

The attackers were in the firm’s network for a year before the firm learned from law enforcement that it had been hacked. By then, the intruders harvested thousands of e-mails and attachments from mail servers. They also had access to every other server, desktop workstation and laptop on the firm’s network.

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<sup>4</sup> Kim Zetter, *Report Details Hacks Targeting Google, Others*, WIRED MAGAZINE (February 3, 2010), [www.wired.com/2010/02/apt-hacks](http://www.wired.com/2010/02/apt-hacks).

The same month, an article in the San Francisco Chronicle, “Law Firms Are Lucrative Targets of Cybercams,” discussed recent attacks on attorneys, ranging from phishing scams to deep intrusions into law firm networks to steal lawsuit-related information.<sup>5</sup> It reported:

Security experts said criminals gain access into law firms’ networks using highly tailored schemes to trick attorneys into downloading customized malware into their computers. It is not uncommon for them to remain undetected for long periods of time and come and go as they please, they said.

In November 2011, the FBI held a meeting for the 200 largest law firms in New York to advise them about the increasing number of attacks. Bloomberg News reported:<sup>6</sup>

Over snacks in a large meeting room, the FBI issued a warning to the lawyers: Hackers see attorneys as a back door to the valuable data of their corporate clients.

“We told them they need a diagram of their network; they need to know how computer logs are kept,” Galligan [the head of the FBI cyber division in New York City] said of the meeting. “Some were really well prepared; others didn’t know what we were talking about.”

Successful attacks on law firms have continued since these early reports.

The ABA Cybersecurity Legal Task Force serves as a clearinghouse regarding cybersecurity, including information on threats.<sup>7</sup> During 2018, The ABA Journal and the Task Force jointly produced a series of articles,

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<sup>5</sup> Alejandro Martínez-Cabrera, *Law Firms Are Lucrative Targets of Cybercams*, SAN FRANCISCO CHRONICLE (March 20, 2010), [www.sfgate.com/business/article/Law-firms-are-lucrative-targets-of-cybercams-3269938.php](http://www.sfgate.com/business/article/Law-firms-are-lucrative-targets-of-cybercams-3269938.php).

<sup>6</sup> Michael A. Riley and Sophia Pearson, *China-Based Hackers Target Law Firms to Get Secret Deal Data*, BLOOMBERG NEWS (January 31, 2012), [www.bloomberg.com/news/articles/2012-01-31/china-based-hackers-target-law-firms](http://www.bloomberg.com/news/articles/2012-01-31/china-based-hackers-target-law-firms).

<sup>7</sup> Cybersecurity Legal Task Force, AMERICAN BAR ASSOCIATION, [www.americanbar.org/groups/cybersecurity](http://www.americanbar.org/groups/cybersecurity).

“Digital Dangers – Cybersecurity and the Law” that provide a variety of information on digital threats to attorneys and ways of addressing them.<sup>8</sup>

The Introduction to ABA Formal Opinion 483 (October 2018) (discussed below) includes:

Data breaches and cyber threats involving or targeting lawyers and law firms are a major professional responsibility and liability threat facing the legal profession. As custodians of highly sensitive information, law firms are inviting targets for hackers. In one highly publicized incident, hackers infiltrated the computer networks at some of the country’s most well-known law firms, likely looking for confidential information to exploit through insider trading schemes. Indeed, the data security threat is so high that law enforcement officials regularly divide business entities into two categories: those that have been hacked and those that will be.

Law.com published a series of articles on law firm data breaches in October of 2019. It reported on over 100 breaches, based on its review of state websites and information requests to states about breaches reported to states by law firms under data breach notice laws. The first article started with:<sup>9</sup>

A Law.com investigation finds that law firms are falling victim to data breaches at an alarming rate, exposing sensitive client and attorney

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<sup>8</sup> Summaries of the articles and links to them are available at [www.abajournal.com/magazine/cyber](http://www.abajournal.com/magazine/cyber).

<sup>9</sup> Christine Simmons, Xiumei Dong and Ben Hancock, *More Than 100 Law Firms Have Reported Data Breaches. And the Problem Is Getting Worse*, LAW.COM (October 15, 2019), [www.law.com/2019/10/15/more-than-100-law-firms-have-reported-data-breaches-and-the-picture-is-getting-worse](http://www.law.com/2019/10/15/more-than-100-law-firms-have-reported-data-breaches-and-the-picture-is-getting-worse). See also, Christine Simmons, Xiumei Dong and Ben Hancock, *Law Firm Cybersecurity: See Which Firms Reported a Data Breach*, LAW.COM (October 15, 2019), [www.law.com/2019/10/15/here-are-law-firms-reporting-data-breaches](http://www.law.com/2019/10/15/here-are-law-firms-reporting-data-breaches); Christine Simmons, Xiumei Dong and Ben Hancock, *How Vendor Data Breaches Are Putting Law Firms at Risk*, LAW.COM (October 17, 2019), [www.law.com/2019/10/17/how-vendor-data-breaches-are-putting-law-firms-at-risk](http://www.law.com/2019/10/17/how-vendor-data-breaches-are-putting-law-firms-at-risk); and Christine Simmons and Xiumei Dong, *As Hackers Get Smarter, Can Law Firms Keep Up?*, LAW.COM (October 28, 2019), [www.law.com/2019/10/28/as-hackers-get-smarter-can-law-firms-keep-up](http://www.law.com/2019/10/28/as-hackers-get-smarter-can-law-firms-keep-up).

information. These incidents—most unpublicized before now—may just be the tip of the iceberg.

Law firm data breaches have continued in the last several years, including attacks like ransomware, vulnerabilities in on-premises Microsoft Exchange servers, and vulnerabilities in Accellion secure file transfer appliances.

A March 2021 *Forbes* article observed:<sup>10</sup>

“ . . . law firms are increasingly an attractive target [of ransomware] because of the nature of their business. In the course of corporate legal and M&A work, litigation and other legal services they perform, law firms and in-house legal teams collect tons of confidential corporate information and sensitive data like tax returns. They can suffer reputational and financial losses if they are breached, especially if data is exposed.”

In August 2021, Law.com published “Midsize Firms Are Increasingly Suffering from Data Breaches and Cyber Attacks,” in which it reported that “Law firm data breaches in the U.S. this year have already surpassed the total for 2020, and hackers turned their focus on midsize firms given their relatively unsophisticated security.”<sup>11</sup>

The ABA’s 2021 Legal Technology Survey Report reports that law firms have been and continue to be victims of data breaches.<sup>12</sup> The Survey reports that about 25% of respondents overall reported that their firms had experienced a security breach at some point. The question is not limited to the past year, it is “ever.” A breach broadly includes incidents like a lost/stolen computer or smartphone, hacker, break-in, or website exploit.

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<sup>10</sup> AJ Shankar, *Ransomware Attackers Take Aim at Law Firms*, FORBES (March 12, 2021), [www.forbes.com/sites/forbestechcouncil/2021/03/12/ransomware-attackers-take-aim-at-law-firms/?sh=6baabe9da13e](http://www.forbes.com/sites/forbestechcouncil/2021/03/12/ransomware-attackers-take-aim-at-law-firms/?sh=6baabe9da13e).

<sup>11</sup> *Midsize Firms are Increasingly Suffering from Data Breaches and Cyber Attacks*, LAW.COM (August 5, 2021), [www.law.com/mid-market-report/2021/08/05/midsize-firms-are-increasingly-suffering-from-data-breaches-and-cyber-attacks](http://www.law.com/mid-market-report/2021/08/05/midsize-firms-are-increasingly-suffering-from-data-breaches-and-cyber-attacks).

<sup>12</sup> See David G. Ries, *TECHREPORT 2021 Cybersecurity*, AMERICAN BAR ASSOCIATION (December 22, 2021), [www.americanbar.org/groups/law\\_practice/publications/techreport/2021/cybersecurity](http://www.americanbar.org/groups/law_practice/publications/techreport/2021/cybersecurity).

An article in the *American Lawyer* on April 20, 2022, “For Small and Midsize Firms, Threats of Data Breaches Loom Large,” provided an update.<sup>13</sup> It noted that “[t]he latest reports of midsize firms suffering network breaches serve as a cautionary tale that giant firms aren’t the only ones that need to be on the alert about cyber criminals according to interviews with cybersecurity legal experts.”

In June 2022, *Law 360* published “Amid BigLaw Data Attacks, Breaches Surge for Smaller Firms,” which reported on “hundreds of law firms – from BigLaw firms to solo offices – that have reported data breaches in the past year and a half as they become increasingly targeted by cybercriminals, according to public records and cybersecurity experts.”<sup>14</sup> It included some third party breaches that compromised law firm data.

**The greatest security threats to attorneys and law firms today are most likely spearphishing, ransomware, business email compromise, compromised third parties, lost and stolen laptops and mobile devices, and threats from insiders (dishonest, malicious, untrained, rushed, or even bored) also present a high risk.**

These kinds of attacks are frequently successful because of human error by targets. Verizon’s 2021 Data Breach Investigation Report states that 85% of breaches included a human element.<sup>15</sup> The Cybersecurity and Infrastructure Security Agency (“CISA”), part of the U.S. Department of Homeland Security, reported in October 2021 that “over 90% of successful cyber attacks start with a phishing email.”<sup>16</sup>

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<sup>13</sup> *For Small and Midsize Firms, Threats of Data Breaches Loom Large*, LAW.COM (April 20, 2022), [www.law.com/americanlawyer/2022/04/20/for-small-and-midsize-firms-threats-of-data-breaches-loom-large](http://www.law.com/americanlawyer/2022/04/20/for-small-and-midsize-firms-threats-of-data-breaches-loom-large).

<sup>14</sup> Xiumei Dong, *Amid BigLaw Data Attacks, Breaches Surge for Smaller Firms*, LAW360 (June 15, 2022), [www.law360.com/articles/1498395/amid-biglaw-data-attacks-breaches-surge-for-smaller-firms](http://www.law360.com/articles/1498395/amid-biglaw-data-attacks-breaches-surge-for-smaller-firms).

<sup>15</sup> DATA BREACH INVESTIGATION REPORT, VERIZON (2021) (available at <https://www.verizon.com/business/resources/reports/dbir/2021/masters-guide/>).

<sup>16</sup> Press Release, Cybersecurity and Infrastructure Security Agency, CISA Kicks Off Cybersecurity Awareness Month (October 1, 2021) (available at [www.cisa.gov/news/2021/10/01/cisa-kicks-cybersecurity-awareness-month](http://www.cisa.gov/news/2021/10/01/cisa-kicks-cybersecurity-awareness-month)).

While a discussion of the details of each of the threat categories is beyond the scope of this chapter, an important foundation for security is understanding the threats and maintaining constant awareness of them by all users of technology.

Security threats to lawyers and law firms continue to be substantial, real, and growing – security incidents and data breaches have occurred and are occurring. It is critical for attorneys and law firms to understand their duties, recognize these threats, and address them through comprehensive cybersecurity programs.

### **§ 9.03. Duty to Safeguard.**

Attorneys have ethical and common law duties to take competent and reasonable efforts to safeguard information relating to clients and also often have contractual and regulatory duties to protect confidential information.

#### **[1] — Ethical Duties.**

##### **[a] — Ethics Rules.**

Several ethics rules<sup>17</sup> have particular application to protection of client information, including competence (Model Rule 1.1), communication (Model Rule 1.4), confidentiality of information (Model Rule 1.6), supervision (Model Rules 5.1, 5.2 and 5.3), and safeguarding property (Model Rule 1.15).

Model Rule 1.1: Competence covers the general duty of competence. It provides that “A lawyer shall provide competent representation to a client.” This “requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation.” It includes competence in selecting and using technology, including cybersecurity. It requires attorneys who lack the necessary technical competence for security to learn it or to consult with qualified people who have the requisite expertise.

The ABA Commission on Ethics 20/20 conducted a review of the Model Rules and the U.S. system of lawyer regulation in the context of advances in technology and global legal practice developments. One of its core areas of

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<sup>17</sup> MODEL RULES OF PROF'L CONDUCT (Am. Bar Ass'n 2022) (hereinafter cited as “Model Rules”).

focus was technology and confidentiality. Its recommendations in this area were adopted by the ABA at its Annual Meeting in August 2012. The 2012 amendments include addition of the following (underlined) language to the Comment to Model Rule 1.1:

[8] To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology . . .

As of January 2022, 40 states have adopted this addition to the comment to Model Rule 1.1, some with variations from the ABA language.<sup>18</sup>

Model Rule 1.4: Communications also applies to attorneys' use of technology. It requires appropriate communications with clients "about the means by which the client's objectives are to be accomplished," including the use of technology. It requires keeping the client informed and, depending on the circumstances, may require obtaining "informed consent" about use of technology. It requires notice to a client of a material loss or compromise of information relating to the client.

Model Rule 1.6: Confidentiality of Information generally defines the duty of confidentiality. It begins as follows:

A lawyer shall not reveal information relating to the representation of a client unless the client gives informed consent, the disclosure is impliedly authorized in order to carry out the representation or the disclosure is permitted by paragraph (b). . .

Rule 1.6 broadly requires protection of "information relating to the representation of a client;" it is not limited to confidential communications and privileged information. Disclosure of covered information generally requires express or implied client consent (in the absence of special circumstances like misconduct by the client).

The 2012 amendments added the following new subsection (underlined) to Model Rule 1.6:

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<sup>18</sup> *Tech Competence*, LAW SITES BLOG, [www.lawsitesblog.com/tech-competence](http://www.lawsitesblog.com/tech-competence).

(c) A lawyer shall make reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client.

This requirement covers two areas – inadvertent disclosure and unauthorized access. Inadvertent disclosure includes threats like leaving a briefcase, laptop, or smartphone in a taxi or restaurant, sending a confidential e-mail to the wrong recipient, producing privileged documents or data in litigation, or exposing confidential metadata. Unauthorized access includes threats like hackers, cybercriminals, malware, and insider threats.

The 2012 amendments also include additions to Comment [18] to Rule 1.6, providing that “reasonable efforts” require a risk-based analysis, considering the sensitivity of the information, the likelihood of disclosure if additional safeguards are not employed and consideration of available safeguards. The analysis includes the cost of employing additional safeguards, the difficulty of implementing them, and the extent to which they would adversely affect the lawyer’s ability to use the technology. The amendment also provides that a client may require the lawyer to implement special security measures not required by the rule or may give informed consent to forego security measures that would otherwise be required by the rule.

Significantly, the Ethics 20/20 Commission noted that these revisions to Model Rules 1.1 and 1.6 make explicit what was already required rather than adding new requirements.<sup>19</sup>

Model Rule 5.1: Responsibilities of Partners, Managers, and Supervisory Lawyers and Model Rule 5.2: Responsibilities of a Subordinate Lawyer include the duties of competence and confidentiality. Model Rule 5.3:

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<sup>19</sup> “The proposed amendment [to Model Rule 1.1], which appears in a Comment, does not impose any new obligations on lawyers. Rather, the amendment is intended to serve as a reminder to lawyers that they should remain aware of technology, including the benefits and risks associated with it, as part of a lawyer’s general ethical duty to remain competent. . . . This duty is already described in several existing Comments, but the Commission concluded that, in light of the pervasive use of technology to store and transmit confidential client information, this existing obligation should be stated explicitly in the black letter of Model Rule 1.6.” REPORT TO RESOLUTION 105A REVISED, AM. BAR ASS’N COMMISSION ON ETHICS 20/20 (2012).

Responsibilities Regarding Nonlawyer Assistants was amended in 2012 to expand its scope. “Assistants” was expanded to “Assistance,” extending its coverage to all levels of staff and outsourced services, ranging from copying services to outsourced legal services. This requires attorneys to employ reasonable safeguards, like due diligence, contractual requirements, supervision, and monitoring, to ensure that nonlawyers, both inside and outside a law firm, provide services in compliance with an attorney’s ethical duties, including confidentiality.

Model Rule 1.15: Safeguarding Property requires attorneys to segregate and protect money and property of clients and third parties that is held by attorneys. Some ethics opinions and articles have applied it to electronic data held by attorneys.

In June 2012, while the Ethics 20/20 amendments were under consideration, the Wall Street Journal published “Client Secrets at Risk as Hackers Target Law Firms.”<sup>20</sup> It started with:

Think knowing how to draft a contract, file a motion on time and keep your mouth shut fulfills your lawyerly obligations of competence and confidentiality?

Not these days. Cyberattacks against law firms are on the rise, and that means attorneys who want to protect their clients’ secrets are having to reboot their skills for the digital age.

### **[b] — Ethics Opinions.**

A number of ethics opinions, for well over a decade, have addressed professional responsibility issues related to security in attorneys’ use of various technologies. Consistent with the Ethics 20/20 amendments, they generally require competent and reasonable safeguards. Examples include State Bar of Arizona, Opinion No. 05-04 (July 2005), New Jersey Advisory Committee on Professional Ethics, Opinion 701, “Electronic Storage and

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<sup>20</sup> Jennifer Smith, *Client Secrets at Risk as Hackers Target Law Firms*, WALL STREET JOURNAL LAW BLOG (June 25, 2012), <https://blogs.wsj.com/law/2012/06/25/dont-click-on-that-link-client-secrets-at-risk-as-hackers-target-law-firms>.

Access of Client Files” (April 2006), State Bar of Arizona, Opinion No. 09-04 (December 2009): “Confidentiality; Maintaining Client Files; Electronic Storage; Internet” (Formal Opinion of the Committee on the Rules of Professional Conduct); State Bar of California, Standing Committee on Professional Responsibility and Conduct, Formal Opinion No. 2010-179; and New York State Bar Association Ethics Opinion 1019, “Confidentiality; Remote Access to Firm’s Electronic Files,” (August 2014).

Significantly, California Formal Opinion No. 2010-179 advises attorneys that they must consider security before using a particular technology in the course of representing a client. Depending on the circumstances, an attorney may be required to avoid using a particular technology or to advise a client of the risks and seek informed consent if appropriate safeguards cannot be employed.

There are now multiple ethics opinions on attorneys’ use of cloud computing services like online file storage and software as a service (“SaaS”).<sup>21</sup> For example, New York Bar Association Committee on Professional Ethics Opinion 842 “Using an outside online storage provider to store client confidential information” (September 2010), consistent with the general requirements of the ethics opinions above, concludes: “[a] lawyer may use an online data storage system to store and back up client confidential information provided that the lawyer takes reasonable care to ensure that confidentiality is maintained in a manner consistent with the lawyer’s obligations under Rule 1.6.”

Another opinion on safeguarding client data is ABA Formal Opinion 477R, “Securing Communication of Protected Client Information” (May 2017). While focusing on electronic communications, it also explores the general duties to safeguard information relating to clients in light of current threats and the Ethics 20/20 technology amendments to the Model Rules. Its conclusion includes:

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<sup>21</sup> The ABA Legal Technology Resource Center has published a summary with links, *Cloud Ethics Opinions around the U.S.* (available at [https://www.americanbar.org/digital-asset-abstract.html/content/dam/aba/administrative/legal\\_technology\\_resources/cloud-ethics-opinions-2019/cloudethicsopinions2019.pdf](https://www.americanbar.org/digital-asset-abstract.html/content/dam/aba/administrative/legal_technology_resources/cloud-ethics-opinions-2019/cloudethicsopinions2019.pdf)).

Rule 1.1 requires a lawyer to provide competent representation to a client. Comment [8] to Rule 1.1 advises lawyers that to maintain the requisite knowledge and skill for competent representation, a lawyer should keep abreast of the benefits and risks associated with relevant technology. Rule 1.6(c) requires a lawyer to make “reasonable efforts” to prevent the inadvertent or unauthorized disclosure of or access to information relating to the representation.

The next year, the ABA issued Formal Opinion 483, “Lawyers’ Obligations After an Electronic Data Breach or Cyberattack” (October 2018). This opinion reviews lawyers’ duties of competence, confidentiality, communication, and supervision in safeguarding confidential data and in responding to data breaches. It discusses the obligations to monitor for a data breach, stop a breach, restore systems, and determine what occurred. It finds that Model Rule 1.15: Safeguarding Property applies to electronic client files as well as paper client files and requires the care required of a professional fiduciary.

The opinion concludes:

Even lawyers who, (i) under Model Rule 1.6(c), make “reasonable efforts to prevent the unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client,” (ii) under Model Rule 1.1, stay abreast of changes in technology, and (iii) under Model Rules 5.1 and 5.3, properly supervise other lawyers and third-party electronic-information storage vendors, may suffer a data breach. When they do, they have a duty to notify clients of the data breach under Model Rule 1.4 in sufficient detail to keep clients “reasonably informed” and with an explanation “to the extent necessary to permit the client to make informed decisions regarding the representation.”

The opinion notes that the ethical duty to notify applies to current clients. Applying Model Rule 1.9(c), it finds that there is not a requirement to notify a former client of a breach “as a matter of legal ethics.” It does not address obligations under data breach notice laws.

In April of 2019, the Maine Professional Ethics Commission issued Opinion #220. “Cyberattack and Data Breach: The Ethics of Prevention and Response” (April 2019). Its conclusions under the Maine Rules of Professional Conduct are the same as ABA Formal Opinion 483, with the exception that it concludes that the duty to notify applies to both current and former clients.

State Bar of Michigan Opinion RI-381 (February 2020), “Duty to Understand Technology, Including Cybersecurity,” provides an overview of attorneys’ cybersecurity obligations, consistent with the opinions above. On breach notification, it states:

A lawyer has a duty to inform a client of a material data breach in a timely manner. See MRPC 1.3 (duty to act with reasonable diligence and promptness in representing a client.) A data breach is “material” if it involves the unauthorized access, destruction, corruption, or ransoming of client ESI protected by MRPC 1.6 or other applicable law, or materially impairs the lawyer’s ability to perform the legal services for which the lawyer has been hired. The duty to inform includes the extent of the breach and the efforts made and to be made by the lawyer to limit the breach.

The Pennsylvania Bar Association issued Formal Opinion 2020-300, “Ethical Obligations for Lawyers’ Working Remotely” (April 2020) to address work-at-home issues arising from the COVID-19 pandemic. The opinion reviews attorneys’ ethical duties to employ competent and reasonable efforts to safeguard information relating to clients and provides best practices for attorneys performing legal work and communications remotely.

The opinion concludes:

The COVID-19 pandemic has caused unprecedented disruption for attorneys and law firms and has renewed the focus on what constitutes competent legal representation during a time when attorneys do not have access to their physical offices. In particular, working from home has become the new normal, forcing law offices to transform themselves into a remote workforce overnight. As a result, attorneys must be particularly cognizant of how they and their staff work

remotely, how they access data, and how they prevent computer viruses and other cybersecurity risks.

In addition, lawyers working remotely must consider the security and confidentiality of their procedures and systems. This obligation includes protecting computer systems and physical files and ensuring that the confidentiality of client telephone and other conversations and communications remain protected.

Although the pandemic created an unprecedented situation, the guidance provided applies equally to attorneys or persons performing client legal work on behalf of attorneys when the work is performed at home or at other locations outside of their physical offices, including when performed at virtual law offices.

California Formal Opinion No. 2020-203 (unauthorized access by third parties to electronically stored confidential client information), consistent with the other opinions, covers attorneys' duty to assess risks and take reasonable steps to minimize risks. It also provides that attorneys are required to monitor for breaches, conduct a reasonable inquiry in the event of a breach, and to notify clients. It notes the difference between ABA Formal Opinion 483 and Maine Opinion #220 on duty to notify former clients but does not express a view on notice to former clients. Its Digest states:

Lawyers who use electronic devices which contain confidential client information must assess the risks of keeping such data on electronic devices and computers, and take reasonable steps to secure their electronic systems to minimize the risk of unauthorized access. In the event of a breach, lawyers have an obligation to conduct a reasonable inquiry to determine the extent and consequences of the breach and to notify any client whose interests have a reasonable possibility of being negatively impacted by the breach.

Most recently, the ABA issued Formal Opinion 498, "Virtual Practice" (February 2021). Consistent with earlier ABA and state ethics opinions, its headnote includes:

*. . . When practicing virtually, lawyers must particularly consider ethical duties regarding competence, diligence, and communication, especially when using technology. In compliance with the duty of confidentiality, lawyers must make reasonable efforts to prevent inadvertent or unauthorized disclosures of information relating to the representation and take reasonable precautions when transmitting such information. Additionally, the duty of supervision requires that lawyers make reasonable efforts to ensure compliance by subordinate lawyers and nonlawyer assistants with the Rules of Professional Conduct, specifically regarding virtual practice policies.*

The opinion includes a discussion of 1. Hardware/Software Systems, 2. Accessing Client Files and Data, 3. Virtual meeting platforms and videoconferencing, 5. Virtual Document and Data Exchange Platforms, and 6. Smart Speakers, Virtual Assistants, and Other Listening-Enabled Devices.

### **[c] — Ethics Rules — Electronic Communications.**

E-mail and electronic communications have become everyday communications forms for attorneys and other professionals. They are fast, convenient, and inexpensive, but also present serious risks to confidentiality. It is important for attorneys to understand and address these risks.

The Ethics 2000 revisions to the Model Rules, over 15 years ago, added Comment [17] (now [19]) to Model Rule 1.6. For electronic communications, it requires “reasonable precautions to prevent the information from coming into the hands of unintended recipients.” It provides:

*. . . This duty, however, does not require that the lawyer use special security measures if the method of communication affords a reasonable expectation of privacy. Special circumstances, however, may warrant special precautions. Factors to be considered in determining the reasonableness of the lawyer’s expectation of confidentiality include the sensitivity of the information and the extent to which the privacy of the communication is protected by law or by a confidentiality agreement . . .*

This Comment requires attorneys to take “reasonable precautions” to protect the confidentiality of electronic communications. Its language about “special security measures” has often been viewed by attorneys as providing that they never need to use “special security measures” like encryption. While it does state that “special security measures” are not generally required, it contains qualifications and notes that “special circumstances” may warrant “special precautions.” It includes the important qualification - “if the method of communication affords a reasonable expectation of privacy.”

There are, however, questions about whether unencrypted Internet e-mail affords a reasonable expectation of privacy. Respected security professionals for years have compared the security of unencrypted e-mail to postcards or postcards written in pencil.<sup>22</sup> A June 2014 post by Google on the Google Official Blog<sup>23</sup> and a July 2014 New York Times article<sup>24</sup> use the same analogy – comparing the security of unencrypted e-mails to postcards and comparing encryption to envelopes.

Comment [19] to Rule 1.6 also lists “the extent to which the privacy of the communication is protected by law” as a factor to be considered. The federal Electronic Communications Privacy Act<sup>25</sup> and similar state laws make unauthorized interception of electronic communications a crime. Some observers have expressed the view that this should be determinative, and attorneys should not be required to use encryption. The better view is to treat legal protection as only one of the factors to be considered. As discussed below, some of the newer ethics opinions conclude that encryption may be

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<sup>22</sup> E.g., BRUCE SCHNEIER, *E-MAIL SECURITY - HOW TO KEEP YOUR ELECTRONIC MESSAGES PRIVATE*, (John Wiley & Sons, Inc. 1995) p. 3, BRUCE SCHNEIER, *SECRETS & LIES: DIGITAL SECURITY IN A NETWORKED WORK*, (John Wiley & Sons, Inc. 2000) p. 200, and LARRY ROGERS, *EMAIL – A POSTCARD WRITTEN IN PENCIL*, Special Report, (Software Engineering Institute, Carnegie Mellon University 2001).

<sup>23</sup> *Transparency Report: Protecting Emails as They Travel Across the Web*, GOOGLE OFFICIAL BLOG (June 3, 2014) <http://googleblog.blogspot.com/2014/06/transparency-report-protecting-emails.html>.

<sup>24</sup> Molly Wood, *Easier Ways to Protect Email from Unwanted Prying Eyes*, NEW YORK TIMES (July 16, 2014), [www.nytimes.com/2014/07/17/technology/personaltech/ways-to-protect-your-email-after-you-send-it.html?\\_r=0](http://www.nytimes.com/2014/07/17/technology/personaltech/ways-to-protect-your-email-after-you-send-it.html?_r=0).

<sup>25</sup> 18 U.S.C. §§ 2510-2522.

a reasonable measure that should be used, particularly for highly sensitive information.

**[d] — Ethics Opinions – Electronic Communications.**

An ABA ethics opinion in 1999 and several state ethics opinions concluded that special security measures, like encryption, are not generally required for confidential attorney e-mail.<sup>26</sup> However, these opinions, like Comment [19], contain qualifications that limit their general conclusions.

Consistent with the questions raised by security experts about the security of unencrypted e-mail, some ethics opinions express a stronger view that encryption may sometimes be required. For example, New Jersey Opinion 701 (April 2006), discussed above, notes at the end: “where a document is transmitted to [the attorney] . . . by email over the Internet, the lawyer should password a confidential document (as is now possible in all common electronic formats, including PDF), since it is not possible to secure the Internet itself against third party access.”<sup>27</sup> This was over fifteen years ago.

California Formal Opinion No. 2010-179, Pennsylvania Formal Opinion 2011-200, and Texas Ethics Opinion 648 (2015) provide that encryption may sometimes be required. A July 2015 ABA article notes “The potential for

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<sup>26</sup> For example, ABA Formal Opinion No. 99-413, *Protecting the Confidentiality of Unencrypted E-Mail* (March 10, 1999) (“based upon current technology and law as we are informed of it . . . a lawyer sending confidential client information by unencrypted e-mail does not violate Model Rule 1.6(a) . . .” “ . . . this opinion does not, however, diminish a lawyer’s obligation to consider with her client the sensitivity of the communication, the costs of its disclosure, and the relative security of the contemplated medium of communication. Particularly strong protective measures are warranted to guard against the disclosure of highly sensitive matters.”) and District of Columbia Bar Opinion 281, “Transmission of Confidential Information by Electronic Mail,” (February 1998), (“In most circumstances, transmission of confidential information by unencrypted electronic mail does not per se violate the confidentiality rules of the legal profession. However, individual circumstances may require greater means of security.”).

<sup>27</sup> File password protection in some software, like current versions of Microsoft Office, Adobe Acrobat, and WinZip uses encryption to protect security. Adobe Acrobat also contains containers for multiple files called PDF Portfolios that can be encrypted with password protection. They are sometimes easier to use than encryption of e-mail and attachments. However, the protection can be limited by use of weak passwords that can be easy to break or “crack.”

unauthorized receipt of electronic data has caused some experts to revisit the topic and issue [ethics] opinions suggesting that in some circumstances, encryption or other safeguards for certain email communications may be required.”<sup>28</sup>

In May 2017, the ABA Standing Committee on Ethics and Professional Responsibility issued Formal Opinion 477R, “Securing Communication of Protected Client Information.” The Opinion revisits attorneys’ duty to use encryption and other safeguards to protect e-mail and electronic communications in light of evolving threats, developing technology, and available safeguards. It suggests a fact-based analysis and finds that “the use of unencrypted routine email generally remains an acceptable method of lawyer-client communication,” but “particularly strong protective measures, like encryption, are warranted in some circumstances.”

Opinion 477R, consistent with these newer opinions and the article, concludes:

A lawyer generally may transmit information relating to the representation of a client over the internet without violating the Model Rules of Professional Conduct where the lawyer has undertaken reasonable efforts to prevent inadvertent or unauthorized access. However, **a lawyer may be required to take special security precautions to protect against the inadvertent or unauthorized disclosure of client information when required by an agreement with the client or by law, or when the nature of the information requires a higher degree of security.**

(Emphasis added.)

The Opinion references the Ethics 20/20 amendments to Comment [18] to Model Rule 1.6 and its discussion of factors to be considered in determining competent and reasonable efforts.

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<sup>28</sup> Peter Geraghty and Susan Michmerhuizen, *Encryption Connoption*, EYE ON ETHICS, YOUR ABA (July 2015).

It explains that a:

. . . lawyer has a variety of options to safeguard communications including, for example, using secure internet access methods to communicate, access and store client information (such as through secure Wi-Fi, the use of a Virtual Private Network, or another secure internet portal), using unique complex passwords, changed periodically, implementing firewalls and anti-Malware/Anti-Spyware/Antivirus software on all devices upon which client confidential information is transmitted or stored, and applying all necessary security patches and updates to operational and communications software.” Furthermore, “[o]ther available tools include encryption of data that is physically stored on a device and multi-factor authentication to access firm systems.

It provides general guidance and leaves details of their application to attorneys and law firms, based on a fact-based analysis on a case-by-case basis.

A current opinion, Pennsylvania Formal Opinion 2022-400, “Ethical Obligations for Lawyers Using Email and Transmitting Confidential Information” (October 2022), referencing ABA Formal Opinion 477R, concludes:

Attorneys transmit information relating to the representation of a client by email despite knowing that email is not secure and may not, absent additional precautions, assure the confidentiality of the information contained in or attached to the communication. For Pennsylvania attorneys to meet their ethical obligations, this Committee concludes that, under the Pennsylvania Rules of Professional Conduct, an attorney may communicate using email by complying with the following conditions:

- An attorney **must consider** the security risks associated with email, when evaluating the mandatory obligation under Rule 1.6(d) to make reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client;
- After evaluating the benefits and risks associated with email, an attorney **may conclude** that competence requires the use of encryption software or secure file-sharing options for specific email;

- An attorney **must recognize** that certain information, absent additional security precautions such as the use of a password or encryption, should never be sent by email, including but not limited to such as information for which the client has requested maximum security;
- Consistent with the obligations imposed by Rule 1.4, an attorney **must consider** whether to advise clients about the risks associated with sending information by email, and **must advise** client of the risks when dealing with highly sensitive materials, and items for which the client has requested maximum security;
- Consistent with the obligations imposed by Rule 1.4, when advising clients about the risks associated with sending information by email, an attorney **must discuss** with the client and determine whether the attorney and client will communicate by email and, if so, whether the client desires any limitations as to the nature of the communications or materials attached to them;
- In addition, to satisfy an attorney's Rule 1.1 duty of competence and the obligations under Rule 1.6(d) obligations, an attorney **must consider** whether under specific circumstances, communicating or transmitting certain information by email satisfies the attorney's Rule 1.6(a) duty of confidentiality obligations; and,
- After evaluating the benefits and risks associated with email, and after communicating with the client about communication methods, an attorney **may conclude** that competence requires the use of encryption software or secure file- sharing options (e.g., Citrix ShareFile) for email.

Like the ABA it provides general guidance and leaves details of their application to attorneys and law firms.

In addition to complying with any applicable ethics and legal requirements, the most prudent approach to the ethical duty of protecting electronic communications is to have an express understanding with clients (preferably in an engagement letter or other writing) about the nature of communications that will be (and will not be) sent electronically and whether or not encryption and other security measures will be utilized. It has now

reached the point where all attorneys should have encryption available for use in appropriate circumstances.

**[e] — Conclusion – Ethics Duties.**

The key professional responsibility requirements from these ethics rules and opinions are: (1) competent and reasonable efforts to safeguard client data, including electronic communications, (2) communication with clients about security, (3) appropriate supervision, and (4) ongoing review as technology, threats, and available safeguards evolve. Competence requires an understanding of limitations in attorneys’ knowledge and obtaining appropriate assistance when necessary. Communication includes obtaining clients’ informed consent, in some circumstances, and notifying clients of a material breach or compromise. It is important for attorneys to consult the rules, comments, and ethics opinions in the relevant jurisdiction(s).

**[2] — Common Law and Contractual Duties.**

Along with the ethical duties, there are parallel common law duties defined by case law in the various states. The Restatement (3rd) of the Law Governing Lawyers (2000-2021) summarizes this area of the law, including Section 16(2) on competence and diligence, Section 16(3) on complying with obligations concerning client’s confidences, and Chapter 5, “Confidential Client Information.” Breach of these duties can result in a malpractice action.

There are also increasing instances when lawyers have contractual duties to protect client data, particularly for clients in regulated industries, such as health care and financial services that have regulatory requirements to protect privacy and security.

For example, the Association of Corporate Counsel has adopted Model Information Protection and Security Controls for Outside Counsel Possessing Company Confidential Information that companies can use for security requirements for outside counsel.<sup>29</sup>

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<sup>29</sup> *Model Information Protection and Security Controls for Outside Counsel Possessing Company Confidential Information*, ASSOCIATION OF CORPORATE COUNSEL (March 10, 2017), [www.acc.com/resource-library/model-information-protection-and-security-controls-outside-counsel-possessing-0](http://www.acc.com/resource-library/model-information-protection-and-security-controls-outside-counsel-possessing-0).

**[3] — Regulatory Duties.**

Attorneys and law firms that have specified personal information about their employees, clients, clients' employees, or customers, opposing parties and their employees, or even witnesses may also be covered by federal and state laws that variously require reasonable safeguards for covered personal information about individuals and notice in the event of a data breach.<sup>30</sup>

In addition, court confidentiality orders sometimes include requirements for safeguarding covered information.

**§ 9.04. Complying with the Duties.**

Understanding all the applicable duties is the first step, before moving to the challenges of compliance by designing, implementing, and maintaining an appropriate risk-based information security program, appropriately scaled to the size of the practice and the sensitivity of the information.

**[1] — Cybersecurity Overview.**

Cybersecurity is a process to protect the confidentiality, integrity, and availability of information. Comprehensive security must address people, policies and procedures, and technology. While technology is a critical component of effective security, the other aspects must also be addressed. As explained by Bruce Schneier, a highly respected security professional, “[i]f you think technology can solve your security problems, then you don’t understand the problems and you don’t understand the technology.”<sup>31</sup> The best technical security is likely to fail without adequate attention to people and policies and procedures. Many attorneys incorrectly think that security is just for Information Technology staff or consultants. While IT has a

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<sup>30</sup> For example, Internal Revenue Code, 26 U.S.C. Section 6713, Internal Revenue Procedure 2007-40, Gramm-Leach-Bliley Act, 15 U.S.C. Sections 6801-6809 and National Conference of State Legislatures -State Data Security Laws ([www.ncsl.org/research/telecommunications-and-information-technology/data-security-laws.aspx](http://www.ncsl.org/research/telecommunications-and-information-technology/data-security-laws.aspx)) and State Security Breach Notification Laws ([www.ncsl.org/research/telecommunications-and-information-technology/security-breach-notification-laws.aspx](http://www.ncsl.org/research/telecommunications-and-information-technology/security-breach-notification-laws.aspx)).

<sup>31</sup> BRUCE SCHNEIER, SECRETS AND LIES — DIGITAL SECURITY IN A NETWORKED WORLD (John Wiley & Sons, Inc. 2000) at p. xii.

critical role, everyone, including management, all attorneys, and all support personnel, must be involved for effective security.

An important concept is that security requires training and ongoing attention. It must go beyond a onetime “set it and forget it” approach. A critical component of a law firm security program is constant vigilance and security awareness by all users of technology. As an ABA report aptly put it:<sup>32</sup>

Lawyers must commit to understanding the security threats that they face, they must educate themselves about the best practices to address those threats, and **they must be diligent in implementing those practices every single day.**

(Emphasis added.)

Every user from the newest hire to senior management has a role in effective cybersecurity. Training is essential. Everyone with access to technology should be thoroughly trained in safe computing, both initially and periodically thereafter. All users should know how to use technology securely; be aware of current threats and how to protect against them; know what to do if there is an incident; and know how to get answers to questions. Beyond formal training, there should be constant security awareness, with everyone considering security as a part of everything they do with computers, mobile devices, and data.

At the ABA Annual Meeting in August 2014, the ABA adopted a resolution on cybersecurity that is consistent with this general approach:<sup>33</sup>

**RESOLVED,** That the American Bar Association encourages all private and public sector organizations to develop, implement, and maintain an appropriate cybersecurity program that complies with applicable ethical and legal obligations and is tailored to the nature and scope of the organization and the data and systems to be protected.

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<sup>32</sup> JOSHUA POJE, SECURITY SNAPSHOT: THREATS AND OPPORTUNITIES, ABA TECHREPORT 2013 (ABA Legal Technology Resource Center, 2013).

<sup>33</sup> *Resolution on Cybersecurity*, AM. BAR ASS’N. (August 2014) (available at [www.americanbar.org/content/dam/aba/directories/policy/annual-2014/2014\\_hod\\_annual\\_109.docx](http://www.americanbar.org/content/dam/aba/directories/policy/annual-2014/2014_hod_annual_109.docx)).

This resolution recommends an **appropriate cybersecurity program** for all private and public sector organizations, which includes law firms.

An initial step for a cybersecurity program is assigning responsibility for security. This includes defining who is in charge of security and defining everyone's role, including management, attorneys, and support personnel.

A security analysis starts with an inventory of information assets and data to determine what needs to be protected and then a risk assessment to identify anticipated threats to the information assets.

The next step is development, implementation, and maintenance of a comprehensive cybersecurity program to manage the identified risks.

The methods for managing a risk include:

1. Eliminate the risk;
2. Control the risk;
3. Transfer the risk (insurance, indemnity, etc.); and
4. Accept the risk.

It is generally a combination of these methods.

Control of identified risks includes implementing and maintaining reasonable physical, administrative, and technical safeguards to protect against them. This is generally the most difficult part of the process.

Cybersecurity is best viewed as a part of the information governance process, which manages documents and data from creation to final disposition – including security and privacy.<sup>34</sup> Managing data is a critical part of information governance, including security, privacy, and records and information management. Effective management includes a current inventory, classification, safeguarding, managing from creation to final disposition, and secure disposition where appropriate. Effective management requires minimization of data – collection and retention of only what is necessary and secure disposition of data that is no longer required or needed. **Management**

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<sup>34</sup> See *Information Governance Reference Model* (IGRM), EDRM, [www.edrm.net/frameworks-and-standards/information-governance-reference-model](http://www.edrm.net/frameworks-and-standards/information-governance-reference-model). EDRM is an organization that publishes resources for e-discovery and information governance. See also *Information Governance*, ARMA INTERNATIONAL, [www.arma.org/page/Information\\_Governance](http://www.arma.org/page/Information_Governance).

**and minimization of data is an essential part of an effective security program.**

A cybersecurity program should cover the core security functions - identify, protect, detect, respond, and recover. While detection, response, and recovery have always been important parts of security, they have too often taken a back seat to protection. Since security incidents and data breaches are increasingly viewed as sometimes being inevitable, these other functions have taken on increased importance.

As discussed above, the program should address people, policies and procedures, and technology and include assignment of responsibility for security, policies and procedures, controls, training, ongoing security awareness, monitoring for compliance, and periodic review and updating.

Understanding the threats (like phishing, ransomware, and email business compromise), having current information about them, and maintaining constant awareness of them by all users of technology, are important foundations for security. Current threat information is available from basic sources, like alerts and tips from CISA and the FBI, and advanced sources like the Legal Services Information Sharing and Analysis Organization<sup>35</sup> (paid membership) and threat intelligence services from cybersecurity service providers (paid subscription).

An incident response plan is an important part of a cybersecurity program. Like the program, the plan should be appropriately scaled to the size of the firm and the sensitivity of the information. Identifying internal and external resources and preparing processes and technology in advance is necessary for effective incident response.<sup>36</sup>

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<sup>35</sup> LEGAL SERVICES INFORMATION SHARING AND ANALYSIS ORGANIZATION, <https://www.ls-isao.com>.

<sup>36</sup> See Sharon D. Nelson, David G. Ries, and John W. Simek, *What to Do When Your Data is Breached*, MICHIGAN BAR JOURNAL (September 2018), [www.michbar.org/file/barjournal/article/documents/pdf4article3480.pdf](http://www.michbar.org/file/barjournal/article/documents/pdf4article3480.pdf); David G. Ries, *Cybersecurity for Attorneys: The Ethics of Incident Response*, LAW PRACTICE TODAY (November 2020), [www.lawpracticetoday.org/article/cybersecurity-attorneys-ethics-incident-response](http://www.lawpracticetoday.org/article/cybersecurity-attorneys-ethics-incident-response); and *The Sedona Conference Incident Response Guide* (January 2020), [https://thesedonaconference.org/publication/Incident\\_Response\\_Guide](https://thesedonaconference.org/publication/Incident_Response_Guide).

The requirement for lawyers is reasonable security, not absolute security. For example, New Jersey Ethics Opinion 701 states “[r]easonable care,” however, does not mean that the lawyer absolutely and strictly guarantees that the information will be utterly invulnerable against all unauthorized access. Such a guarantee is impossible . . .” Recognizing this concept, the Ethics 20/20 amendments to the Comment to Model Rule 1.6 include “. . . [t]he unauthorized access to, or the inadvertent or unauthorized disclosure of, confidential information does not constitute a violation of paragraph (c) if the lawyer has made reasonable efforts to prevent the access or disclosure.”

Security involves thorough analysis and often requires balancing and trade-offs to determine what risks and safeguards are reasonable under the circumstances. There is frequently a trade-off between security and usability. Strong security often makes technology very difficult to use, while easy to use technology is frequently insecure. The challenge is striking the correct balance among all of these often-competing factors.

The Ethics 20/20 amendments to Comment 18 to Rule 1.6 provide some high-level guidance. As discussed above, the following factors are applied for determining reasonable and competent safeguards:

Factors to be considered in determining the reasonableness of the lawyer’s efforts include the sensitivity of the information, the likelihood of disclosure if additional safeguards are not employed, the cost of employing additional safeguards, the difficulty of implementing the safeguards, and the extent to which the safeguards adversely affect the lawyer’s ability to represent clients (*e.g.*, by making a device or important piece of software excessively difficult to use).

This is a risk-based approach that is now standard in cybersecurity.

A comprehensive security program should be based on a standard or framework. Examples include the National Institute for Standards and Technology (“NIST”) Framework for Improving Critical Infrastructure Cybersecurity, Version 1.1, (April 2018),<sup>37</sup> other more comprehensive NIST

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<sup>37</sup> *Cybersecurity Framework*, NIST, [www.nist.gov/cyberframework](http://www.nist.gov/cyberframework).

standards, like NIST Special Publication 800-53, Revision 5, Security and Privacy Controls for Federal Information Systems and Organizations (September 2020)<sup>38</sup> and standards referenced in it (a comprehensive catalog of controls and a process for selection and implementation of them through a risk management process) (designed for government agencies and large organizations), and the International Organization for Standardization's ("ISO"), ISO/IEC 27000 family of standards,<sup>39</sup> (consensus international standards for comprehensive Information Security Management Systems ("ISMS") and elements of them). The Center for Internet Security ("CIS") has published the CIS Controls v8<sup>40</sup> that provides globally recognized best practices for securing IT systems and data.

These standards can be a challenge for small and mid-size firms. The ABA Cybersecurity Legal Task Force maintains a website with resources for attorneys and law firms generally and for solo practitioners and small law firms.<sup>41</sup> The Task Force has recently published the *Vendor Contracting Project: Cybersecurity Checklist, Second Edition* (2021),<sup>42</sup> available free to ABA members.

Federal agencies provide cybersecurity resources for small and midsize businesses. CISA maintains a website with Resources for Small and Midsize Businesses;<sup>43</sup> NIST has a Small Business Cybersecurity Corner website;<sup>44</sup> and the Federal Trade Commission ("FTC") maintains a website,

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<sup>38</sup> *Security and Privacy Controls for Federal Information Systems and Organizations*, NIST (September 2020), <https://csrc.nist.gov/publications/detail/sp/800-53/rev-5/final>.

<sup>39</sup> *ISO/IEC 27001 and related standards*, ISO, [www.iso.org/isoiec-27001-information-security.html](http://www.iso.org/isoiec-27001-information-security.html).

<sup>40</sup> *CIS Critical Security Controls*, CENTER FOR INTERNET SECURITY, [www.cisecurity.org/controls](http://www.cisecurity.org/controls).

<sup>41</sup> *Cybersecurity Resources for Small Law Firms*, AMERICAN BAR ASSOCIATION, [www.americanbar.org/groups/cybersecurity/small-solo-resources](http://www.americanbar.org/groups/cybersecurity/small-solo-resources).

<sup>42</sup> *Vendor Contracting Project: Cybersecurity Checklist, Second Edition* (2021), AMERICAN BAR ASSOCIATION, [www.americanbar.org/products/ecl/ebk/411859099](http://www.americanbar.org/products/ecl/ebk/411859099).

<sup>43</sup> CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY, [www.cisa.gov/uscert/resources/smb](http://www.cisa.gov/uscert/resources/smb).

<sup>44</sup> *Small Business Cybersecurity Corner*, NIST, [www.nist.gov/itl/smallbusinesscyber](http://www.nist.gov/itl/smallbusinesscyber).

Cybersecurity for Small Business, which includes links to a number of tailored security resources.<sup>45</sup>

The ABA now offers as a member benefit a variety of free live and on demand webinars, including a number of webinars on cybersecurity and privacy. They're a great resource – and free for members.<sup>46</sup> Recent examples include: “Cybersecurity Ethics: Safeguarding Client Data in Today’s Emerging Hybrid Practice” (July 2022 and on demand),<sup>47</sup> “Ethically Responding to Data Breaches and Cyberattacks: A Road Map for Lawyers” (December 14, 2021 and on demand),<sup>48</sup> “An Ethical Cybersecurity Playbook for the New Normal in Law Practice” (November 2021),<sup>49</sup> “Cybersecurity and Data Privacy: Understanding the Basics to Practice (and Outsource) Ethically and Safely,” (September 20, 2021 and on demand),<sup>50</sup> and “Best of ABA TECHSHOW: Of PEN Tests and Policies” (August 21, 2021 and on demand).<sup>51</sup>

ILTA (the International Legal Technology Association) has a LegalSEC initiative that provides the legal community with guidelines for risk-based information security programs, including publications, peer group discussions, webinars, an annual LegalSEC Summit conference, and other

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<sup>45</sup> *Cybersecurity for Small Business*, FEDERAL TRADE COMMISSION, [www.ftc.gov/tips-advice/business-center/small-businesses/cybersecurity](http://www.ftc.gov/tips-advice/business-center/small-businesses/cybersecurity).

<sup>46</sup> *Free Member Benefit CLE Library*, AMERICAN BAR ASSOCIATION, [www.americanbar.org/cle-marketplace/cle-library](http://www.americanbar.org/cle-marketplace/cle-library).

<sup>47</sup> *Cybersecurity Ethics: Safeguarding Client Data in Today’s Emerging Hybrid Practice*, AMERICAN BAR ASSOCIATION (July 2022), [www.americanbar.org/events-cle/eecd/ondemand/424196898](http://www.americanbar.org/events-cle/eecd/ondemand/424196898).

<sup>48</sup> *Ethically Responding to Data Breaches and Cyberattacks: A Road Map for Lawyers*, AMERICAN BAR ASSOCIATION (December 14, 2021), [www.americanbar.org/events-cle/eecd/ondemand/418705274](http://www.americanbar.org/events-cle/eecd/ondemand/418705274).

<sup>49</sup> *An Ethical Cybersecurity Playbook for the New Normal in Law Practice*, AMERICAN BAR ASSOCIATION (November 2021), [www.americanbar.org/events-cle/eecd/ondemand/417383354](http://www.americanbar.org/events-cle/eecd/ondemand/417383354).

<sup>50</sup> *Cybersecurity and Data Privacy: Understanding the Basics to Practice (and Outsource) Ethically and Safely*, AMERICAN BAR ASSOCIATION (September 20, 2021), [www.americanbar.org/events-cle/eecd/ondemand/415527267](http://www.americanbar.org/events-cle/eecd/ondemand/415527267).

<sup>51</sup> *Best of ABA TECHSHOW: Of PEN Tests and Policies*, AMERICAN BAR ASSOCIATION (August 21, 2021), [www.americanbar.org/events-cle/eecd/ondemand/414733684](http://www.americanbar.org/events-cle/eecd/ondemand/414733684).

live programs; some materials are publicly available while others are available only to members.<sup>52</sup>

The Sedona Conference, a research and educational institute, has published *The Sedona Conference Commentary on Law Firm Data Security* (July 2020).<sup>53</sup> It identifies “ways that organizations and their law firms should approach and address organization expectations and firm capabilities regarding data security.”

A comprehensive cybersecurity program should include the following elements:

- Assignment of responsibility for security
- Managing and minimizing data
- An inventory of information assets and data
- A risk assessment
- Appropriate administrative, technical and physical safeguards to address identified risks
- Managing new hires, current employees and departing employees
- Training
- An incident response plan
- A backup and disaster recovery program
- Managing third-party security risks, and
- Periodic review and updating

While checklists are helpful for cybersecurity programs, it important to use them appropriately. Security is not a “check the box” or “set it and forget it” process. It is important to devote continuing attention to security and to periodically review and update cybersecurity programs.

Law firms and other businesses and organizations have faced security challenges from the COVID-19 shut-downs and expanded remote access and work-at home. Government agencies and security organizations have provided updated standards and guidance to address these remote work challenges.

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<sup>52</sup> *LegalSEC*, ILTA, [www.iltanet.org/resources/legalsec](http://www.iltanet.org/resources/legalsec).

<sup>53</sup> *The Sedona Conference Commentary on Law Firm Data Security*, THE SEDONA CONFERENCE (July 2020), [https://thesedonaconference.org/publication/Commentary\\_on\\_Law\\_Firm\\_Data\\_Security](https://thesedonaconference.org/publication/Commentary_on_Law_Firm_Data_Security).

Examples include the CISA,<sup>54</sup> NIST,<sup>55</sup> CIS,<sup>56</sup> and the SANS Institute.<sup>57</sup> As with standards and frameworks, it is best to review these resources, select one or more that best fit a law firm's circumstances, and use it or them in the security process.

Law firms and others are now facing security challenges from the evolving hybrid work environment, with some workers returning to the office full time, some continuing to work remotely full time, and some working partly in the office and partly at home.

Following high profile data breaches that impacted federal and state agencies and the private sector, like SolarWinds, Microsoft Exchange, and Colonial Pipeline, President Biden signed Executive Order 14028, "Improving the Nation's Cybersecurity," on May 12, 2021.<sup>58</sup> It is intended to modernize cybersecurity defenses by protecting federal networks, improving information-sharing between the U.S. government and the private sector on cyber issues, and strengthen the United States' ability to respond to cyber incidents.

The order includes five security best practices: (1) backup data, system images, and configurations and test backups, (2) update and patch systems promptly, (3) test the incident response plan, (4) check security through third-party review, like penetration testing, and (5) segment networks. It also covers additional safeguards, including logging, multifactor authentication, extended detection and response (advanced security tools), use of secure cloud

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<sup>54</sup> *Telework Guidance and Resources*, CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY, [www.cisa.gov/telework](http://www.cisa.gov/telework); *Guidance for Securing Video Conferencing*, CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY, [www.cisa.gov/publication/guidance-securing-video-conferencing](http://www.cisa.gov/publication/guidance-securing-video-conferencing).

<sup>55</sup> *Telework Security Basics*, NIST, [www.nist.gov/blogs/cybersecurity-insights/telework-security-basics](http://www.nist.gov/blogs/cybersecurity-insights/telework-security-basics).

<sup>56</sup> CIS Critical Security Controls v7.1 Telework and Small Office Network Security Guide, Center for Internet Security, [www.cisecurity.org/white-papers/cis-controls-telework-and-small-office-network-security-guide](http://www.cisecurity.org/white-papers/cis-controls-telework-and-small-office-network-security-guide).

<sup>57</sup> SANS Security Awareness Work-from-Home Deployment Kit, SANS, [www.sans.org/security-awareness-training/sans-security-awareness-work-home-deployment-kit](http://www.sans.org/security-awareness-training/sans-security-awareness-work-home-deployment-kit).

<sup>58</sup> Exec. Order No. 14,028, Executive Order on Improving the Nation's Cybersecurity (May 12, 2021) (available at [www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity](http://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity)).

services, and zero trust architecture (an enhanced approach to authentication and authorization). Its requirements are mandatory for covered federal agencies and government contractors and recommended for the private sector. Recommendations for the private sector, like breach notification, may become mandates through laws and regulations.

In July 2021, CISA launched StopRansomware,<sup>59</sup> an interagency website to provide a one-stop location for resources to prevent and respond to ransomware. In November 2021, CISA published the *Cybersecurity Incident & Vulnerability Response Playbooks*<sup>60</sup> in accordance with the executive order. While they are required for covered agencies and government contractors, the playbooks, and the activities to implement them, should be helpful to the private sector, including law firms. In response to the cyberthreats from Russia's invasion of Ukraine, CISA launched Shields Up, a website with security resources for organizations of all sizes.<sup>61</sup>

In October 2022, CISA published baseline *Cybersecurity Performance Goals* ("CPG"s)<sup>62</sup> that "are intended to help establish a common set of fundamental cybersecurity practices for critical infrastructure, and especially help small- and medium-sized organizations kickstart their cybersecurity efforts." The CPGs are intended to be implemented in concert with the NIST Cybersecurity Framework. They include an abridged subset of actions to help organizations prioritize their security investments.

## [2] — Cybersecurity Services.

Attorneys and law firms will often need assistance in developing, implementing, and maintaining cybersecurity programs because they do not have the requisite knowledge and experience. For those who need assistance, it

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<sup>59</sup> STOP RANSOMWARE, [www.cisa.gov/stopransomware](http://www.cisa.gov/stopransomware).

<sup>60</sup> Press Release, Cybersecurity and Infrastructure Security Agency, CISA Releases Incident and Vulnerability Response Playbooks to Strengthen Cybersecurity for Federal Civilian Agencies (November 16, 2021), [www.cisa.gov/news/2021/11/16/cisa-releases-incident-and-vulnerability-response-playbooks-strengthen](http://www.cisa.gov/news/2021/11/16/cisa-releases-incident-and-vulnerability-response-playbooks-strengthen).

<sup>61</sup> *Shields Up*, CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY, [www.cisa.gov/shields-up](http://www.cisa.gov/shields-up).

<sup>62</sup> *Cybersecurity Performance Goals*, CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY, [www.cisa.gov/cpg](http://www.cisa.gov/cpg).

is important to find an IT consultant with knowledge and experience in security or a qualified security consultant. Qualified consultants can provide valuable assistance in this process.

An increasing number of law firms are using service providers for assistance with developing and implementing security programs, for third-party reviews and audits of security, and for services like security scans and penetration testing to identify vulnerabilities. A growing trend is to outsource **part** of the security function by using a managed security service provider (MSSP) for functions such as remote administration of security devices like firewalls, remote updating of security software, and 24 X 7 X 365 remote monitoring of network security.

### **[3] — Cloud Service Providers.**

Secure cloud services, like Microsoft 365 (Office 365), Google Workspace (G Suite), and cloud practice management platforms, can provide a higher level of security than many attorneys and law firms can provide on their own, particularly for solos and small and mid-size firms. In selecting and using cloud services, attorneys should follow the recommendations in the cloud ethics opinions discussed above, including “reasonable care to ensure that confidentiality is maintained in a manner consistent with the lawyer’s obligations under Rule 1.6.”

It is important to securely configure the cloud service (like using multifactor authentication and enabling and retaining logs), to provide for security of the endpoint computers and devices connecting to the cloud, and to provide a secure connection to the cloud (like a virtual private network). Managing third-party security risks is important for all service providers and others that can connect to a law firm network. The ABA Cybersecurity Legal Task Force has published the Vendor Contracting Project: *Cybersecurity Checklist, Second Edition (2021)*<sup>63</sup> that is free for ABA members.

### **[4] — Cyber Insurance.**

Law firms are increasingly obtaining cyber insurance to transfer some of the risks to confidentiality, integrity, and availability of data in their computers and information systems. This emerging form of insurance can cover gaps

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<sup>63</sup> *Vendor Contracting Project: Cybersecurity Checklist, Second Edition (2021)*, AMERICAN BAR ASSOCIATION, [www.americanbar.org/products/ecd/ebk/411859099](http://www.americanbar.org/products/ecd/ebk/411859099).

in more traditional forms of insurance, covering areas like restoration of data, incident response costs, and liability for data breaches. Because cyber insurance is an emerging area of coverage and policies differ, it is critical to understand what is and is not covered by policies and how they fit with other insurance. It is important to consult with an attorney or broker with current experience in this area.

The ABA Center for Professional Responsibility has published *Protecting Against Cyber Threats: A Lawyer's Guide to Choosing a Cyber Liability Insurance Policy, Second Ed.* (2020) that provides guidance in this area.<sup>64</sup> The ABA recently presented webinars on this topic, including “Best of ABA TECHSHOW: Demystifying Cyber Insurance” (February 15, 2022 and on demand)<sup>65</sup> and “Firm Resiliency: Protecting Your Practice with Cyber Insurance” (October 5, 2021 and on demand).<sup>66</sup> Because the cyber insurance landscape changes, it is important to have up to date information.

### § 9.05. Conclusion.<sup>67</sup>

Attorneys have ethical and common law duties to take competent and reasonable efforts to safeguard information relating to clients and often have contractual and regulatory duties. These duties provide minimum standards

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<sup>64</sup> EILEEN R. GARCZYNSKI, *PROTECTING AGAINST CYBER THREATS: A LAWYER'S GUIDE TO CHOOSING A CYBER LIABILITY INSURANCE POLICY* (Am. Bar Ass'n., 2<sup>nd</sup> ed. 2020) (available at [www.americanbar.org/products/inv/book/385016340](http://www.americanbar.org/products/inv/book/385016340)).

<sup>65</sup> *Best of ABA TECHSHOW: Demystifying Cyber Insurance*, AMERICAN BAR ASSOCIATION (February 15, 2022), [www.americanbar.org/events-cle/ecd/ondemand/420038164](http://www.americanbar.org/events-cle/ecd/ondemand/420038164).

<sup>66</sup> *Firm Resiliency: Protecting Your Practice with Cyber Insurance*, AMERICAN BAR ASSOCIATION (October 5, 2021), [www.americanbar.org/events-cle/ecd/ondemand/413638534](http://www.americanbar.org/events-cle/ecd/ondemand/413638534).

<sup>67</sup> This paper is periodically updated and used as course materials for programs for the American Bar Association and other legal groups. Condensed versions of it have been published in articles including: “Cybersecurity for Attorneys: Addressing the People Part of Security,” *Law Practice Today* (November 2022), “Cybersecurity for Attorneys: The Ethics of Securing Your Virtual Practice,” *Law Practice Today* (October 2021), “Cybersecurity for Attorneys: The Ethics of Incident Response,” *Law Practice Today* (November 2020), “Cybersecurity for Attorneys: Addressing the Legal and Ethical Duties,” *Law Practice Today* (November 2019), “Safeguarding Client Data: Legal Ethics in a Breach-a-Day World,” *Trusts & Estates* (February 2018), and “Cybersecurity for Attorneys: Understanding the Ethical Obligations,” *Law Practice Today* (March 2012).

with which attorneys are required to comply. Attorneys should aim for even stronger safeguards as a matter of sound professional practice and client service. The safeguards should be included in a risk-based, comprehensive security program.

Attorneys have three options for addressing these duties: know the requirements, threats, and relevant safeguards, learn them, or get qualified assistance. For most attorneys, it will be a combination of all three.

### **§ 9.06. Additional Information.**

American Bar Association, Business Law Section, Cyberspace Law Committee, [www.americanbar.org/groups/business\\_law/committees/cyberspace](http://www.americanbar.org/groups/business_law/committees/cyberspace)

American Bar Association, Cybersecurity Legal Task Force, [www.americanbar.org/groups/cybersecurity](http://www.americanbar.org/groups/cybersecurity)

American Bar Association, Cybersecurity Legal Task Force, *The ABA Cybersecurity Handbook: A Resource for Attorneys, Law Firms, and Business Professionals, Third Edition* (American Bar Association 2022)

American Bar Association, Cybersecurity Resources, [www.americanbar.org/groups/cybersecurity/resources](http://www.americanbar.org/groups/cybersecurity/resources), provides links to cybersecurity materials and publications by various ABA sections, divisions, and committees

American Bar Association, Law Practice Division, [www.lawpractice.org](http://www.lawpractice.org), including the Legal Technology Resource Center, ABA TECHSHOW, webinars, and publications, [www.americanbar.org/groups/departments\\_offices/legal\\_technology\\_resources](http://www.americanbar.org/groups/departments_offices/legal_technology_resources)

American Bar Association, *A Playbook for Cyber Events, Second Edition* (American Bar Association 2014)

American Bar Association, Section of Litigation, Privacy and Data Security Committee, [www.americanbar.org/groups/litigation/committees/privacy-data-security](http://www.americanbar.org/groups/litigation/committees/privacy-data-security)

American Bar Association, Section of Science and Technology Law, Information Security Committee, [www.americanbar.org/groups/science\\_technology/committees](http://www.americanbar.org/groups/science_technology/committees)

John T. Bandler, *Cybersecurity for the Home and Office: The Lawyer's Guide to Taking Charge of Your Own Information Security* (American Bar Association 2017)

Center for Internet Security, a leading security organization that publishes consensus-based best security practices like the *CIS Controls and Secure Configuration Benchmarks*, [www.cisecurity.org](http://www.cisecurity.org)

Cybersecurity and Infrastructure Security Agency (CISA), part of the U.S. Department of Homeland Security, [www.cisa.gov/uscert](http://www.cisa.gov/uscert), includes resources for implementing the NIST Framework for business, [www.cisa.gov/uscert/resources/business](http://www.cisa.gov/uscert/resources/business), and small and midsize business, [www.us-cert.gov/ccubedvp/getting-started-smb](http://www.us-cert.gov/ccubedvp/getting-started-smb))

Daniel Garrie and Bill Spernow, *Law Firm Cybersecurity* (American Bar Association 2017)

Federal Trade Commission (FTC), Data Security Resources for Business, [www.ftc.gov/tips-advice/business-center/privacy-and-security/data-security](http://www.ftc.gov/tips-advice/business-center/privacy-and-security/data-security), Small Business Cybersecurity, [www.ftc.gov/tips-advice/business-center/small-businesses/cybersecurity](http://www.ftc.gov/tips-advice/business-center/small-businesses/cybersecurity)

ILTA (International Legal Technology Association) LegalSEC, provides the legal community with guidelines for risk-based information security programs, including publications, peer group discussions, webinars, an annual LegalSEC Summit conference and other live programs; some materials are publicly available while others are available only to members, <https://www.iltanet.org/resources/legalsec>

International Organization for Standardization (ISO), publishes the ISO/IEC 27000 family of standards, consensus international standards for comprehensive Information Security Management Systems (ISMS) and elements of them, [www.iso.org/isoiec-27001-information-security.html](http://www.iso.org/isoiec-27001-information-security.html)

National Institute of Standards and Technology (NIST), <http://csrc.nist.gov/publications>, publishes numerous standards and publications, including the *Framework for Improving Critical Infrastructure Cybersecurity, Version 1.1*, (April 2018), [www.nist.gov/cyberframework](http://www.nist.gov/cyberframework), and Small Business Cybersecurity Corner website, [www.nist.gov/itl/smallbusinesscyber](http://www.nist.gov/itl/smallbusinesscyber).

SANS Institute, [www.sans.org](http://www.sans.org), a leading information research, education, and certification provider, includes resources like the *SANS Reading Room*, *the Critical Security Controls*, *Securing the Human*, and *OUCH!* (a monthly security newsletter for end users)

Sharon D. Nelson, David G. Ries and John W. Simek, *Encryption Made Simple for Lawyers* (American Bar Association 2015)

Sharon D. Nelson, David G. Ries and John W. Simek, *Locked Down: Practical Information Security for Lawyers, Second Edition* (American Bar Association 2016)

The Sedona Conference, *The Sedona Conference Commentary on Law Firm Data Security* (July 2020), [https://thesedonaconference.org/publication/Commentary\\_on\\_Law\\_Firm\\_Data\\_Security](https://thesedonaconference.org/publication/Commentary_on_Law_Firm_Data_Security).



# Chapter 10

## Lying, Cheating, and Stealing: Bad Business and Bad Ethics<sup>1</sup>

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<sup>1</sup> This chapter is based on a paper that was originally presented at the Energy & Mineral Law Fall Symposium held October 11-13, 2022 in Lexington, Kentucky.

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**§ 10.01. Theme: We Should Know Ethics.**

**[1] — Jacobellis’s Case.<sup>2</sup>**

In 1962, Nico Jacobellis showed a motion picture called “Les Amants” (“The Lovers”) in the theater he managed in Cleveland Heights, Ohio. The main story depicted an unhappy marriage and the wife falling in love with a young archaeologist. At the end of the movie there is an explicit, but fragmentary and fleeting, love scene. Ohio laws at the time prohibited the possession of “lewd and lascivious” films, and pursuant to these laws, the Ohio authorities confiscated the film and prosecuted Mr. Jacobellis. He was fined \$2,500 and, alternately, sentenced to the Ohio workhouse.

His case was appealed, unavailing, through the Ohio state court system and ultimately to the United States Supreme Court where the court reached its decision in *Jacobellis v. Ohio*.<sup>3</sup> In this case the United States Supreme Court assumed the unseemly task of deciding on a case-by-case basis whether explicit sex scenes, such as that in *Les Amants*, are “obscene” and thereby outside the protection of the constitutional guarantees of freedom of speech and the press. Six of the nine justices wrote or had separate opinions, some multi-sectioned, and with some justices concurring in parts, but not all, of the others’ opinions. The only coherent message of the case was that

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<sup>2</sup> Jacobellis v. Ohio, 84 S. Ct. 1676 (1964).

<sup>3</sup> *Id.*

Mr. Jacobellis's conviction was reversed and it memorialized Justice Potter Stewart's observation about obscenity: "I know it when I see it."<sup>4</sup>

The same can be said of ethics! Moral and ethical principles of right and wrong should be imbedded in our fiber, so that we 'know it when we see it.' Certainly our clients and courts will expect not only that we know ethics, but that we will abide by ethical principles. As lawyers we have express rules that govern our conduct, and as counselors that obligation extends to the advice and guidance we give to clients.

### § 10.02. Religious Traditions and Cicero.

Much of what is seen in core ethics rules derives from religious traditions and ancient philosophy: the Christian Bible, the Old Testament, the Qur'an, and the writings of ancient philosophers. In turn, much of our common law and sometimes statutory provisions derive from these same core concepts.

In the Christian tradition the Ten Commandments dictate: Thou shall not tell a lie and Thou shall not steal.<sup>5</sup>

Judaism teaches that "veracity is not merely a virtue that perfects individual character and brings man closer to God, but ... affects the relations of man with fellow man. . . . Were men not expected to practice it, no social life could exist, for no one would trust his fellow man or would have confidence in his word. . . . the Rabbis of the Talmud . . . placed [truth] as one of the three pillars that support the world, meaning of course the social world. Were these pillars to fall, the entire social structure of human life would crumble."<sup>6</sup>

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<sup>4</sup> *Id* at 197.

<sup>5</sup> *Exodus* 20:15-16 (Old Hebrew Testament); *see also Exodus* 23:24; *Leviticus* 19:23; *Deuteronomy* 25:13; *Proverbs* 16:11; *Proverbs* 20:10; and *Micah* 6:11.

<sup>6</sup> Rabbi B. Kohler of Charleston, West Virginia, in conversation with the author (notes on file with author).

In the Qur'an, Allah is seen as the "All-hearing the All-seeing,"<sup>7</sup> the "All-knowing"<sup>8</sup>, the "Witness of all things,"<sup>9</sup> and from these, the admonition is to act honestly and in a noble way as He will know even that which is held privately. Further, "Allah is ever watchful over you"<sup>10</sup> and "If three men conspire secretly together . . . He is their fourth;" and further, "He is the witness of all things",<sup>11</sup> so if a lie is told, cheating occurs or stealing is done in secret, He is there. Allah "has commanded fairness"<sup>12</sup> so that justice and honesty guide conduct, with the further admonition: "do not be led by caprice, lest you swerve from the truth; for if you distort your testimony or decline to give it, know that Allah is aware of all the things you do."<sup>13 14</sup>

The ancient philosopher, Cicero, taught that what is morally wrong can never be advantageous and to do wrong damages our character.<sup>15</sup> He would offer: if we gain material advantage from wrongdoing we damage our own character, the most valuable thing we have. For example, if we tell a lie, we might gain temporary advantage, but ultimately the lie will be found out and we will never be trusted.

Cicero's views of morally correct behavior attempted to show how a person could discern possible degrees of unethical behavior. Cicero contrasts two situations where humans may see that one person's conduct is more punishable than another's. Cicero depicts a merchant who has traveled far to sell grain to the citizens of Rome. At the time, Rome was experiencing a severe famine, so grain was a rare commodity in the country. Thus, the

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<sup>7</sup> *The Qu'ran* 42:2 (M.A.S. ABDEL HALEEM, *THE QU'AN: ENGLISH TRANSLATION AND PARALLEL ARABIC TEXT*, (Oxford Press, 2004)).

<sup>8</sup> *Id.* at 15:86.

<sup>9</sup> *Id.* at 34:47.

<sup>10</sup> *Id.* at 4:1.

<sup>11</sup> *Id.* at 34:47.

<sup>12</sup> *Id.* at 7:29.

<sup>13</sup> *Id.* at 4:135.

<sup>14</sup> *See also* SAMIR FAYYAD KHAWALDEH, *THE MOST BEAUTIFUL NAMES OF ALLAH*, (Goodward Books, 2004).

<sup>15</sup> *See generally* Randy Richards, *Cicero and the Ethics of Honest Business Dealings*, *THE ONLINE JOURNAL OF ETHICS*, vol. 1, no. 2; MARCUS TULLIUS CICERO, *CICERO: SELECTED WORKS*, (Michael Grant trans., Penguin Classics, 1971).

merchant could sell the grain to the eager Roman consumers for a very high price. Nevertheless, while traveling to Rome, the merchant observed many other ships traveling to Rome to sell grain as well. The merchant knew his grain would not sell at the high price he had hoped for if the Roman citizens knew that the supply of grain was about to increase. The moral question was whether the merchant should disclose this fact to his purchasers.

In a second example, Cicero speaks of a man eager to sell his house to a friend who was a prospective buyer. The seller invited the friend to dinner so that his friend might look at the house. However, before the dinner, the man, whose house is near the water on an island, convinces all the fishermen on the island to bring their boats to the water near his house to fish, and personally catch their dinner and bring it to him and his friend. The fishermen do this and the man is very impressed. He is so impressed that he decides to buy the man's house. Nonetheless, before buying the man's house, the friend inquires whether the fishermen always gather around the house and fish. The man, eager to sell his house, represents to his friend that this is a common occurrence at his home and that it was one of the pleasures of living in it. Of course, when the friend moved in, the fishermen were no longer there and the friend felt foolish, but was left knowing he could never trust the seller again. The seller by his dishonesty damaged his own character and reputation, according to Cicero, the most valuable attributes he had.

A question proposed by Cicero was whether, in the two examples, one man's actions were more reprehensible than the other. This is a question often proposed to juries who must decide what kind of conduct deserves punishment. However, above and beyond that question, juries must also measure the degree of wrongful conduct and find an appropriate punishment in monetary damages. Is there any arbitrary scale that a jury could use to determine this amount? In the pragmatic world a Justice Richard Neely, the author of an opinion studied below (*TXO Production Corp. v. Alliance Resources Corp.*), a scale for wrongful conduct ranging from "really stupid" to "really mean" is suggested. Perhaps Neely would find no fault, or possibly "stupid" conduct, with the merchant in the first example, but find the seller's conduct in the second example "really mean" and, consequently, worth a lot in damages. Most people would probably view the examples the same

way. However, Cicero thinks differently. In his analysis Cicero finds that the men in both examples are equally culpable. In Cicero's view, no matter what the degree of wrongful conduct, the conduct is still wrong and therefore damaging to the character.

Our society is diverse and complex and the only sense of what is right and wrong in a given situation which results in a lawsuit may be the morals of the local jury that hears the evidence. One could say that, morally speaking, Cicero probably expects more out of human beings than Neely does. Certainly, Neely is justified in opinion on punitive damages, that degrees of wrongdoing exist and these degrees in turn justify levels of punitive damages.

### **§ 10.03. Legal Duties Based on Ethical Principles.**

The Commandments, the Talmud, the Qur'an, and rules of society, and philosophy are, it is submitted, the basis for legal duties. In many instances the law follows ethical rules and will recognize a legal duty (also an ethical duty) and provide for a cause of action if the duty is violated. For example, Cicero provides the example of a property owner selling property with defects known only to the seller. Cicero would offer that the seller must do right and advise the buyer of the defects so that there can be an honest deal. In today's world the law recognizes a duty to disclose unknown defects. If this duty is violated the buyer has a cause of action to sue the seller to recover damages and possibly rescind the transaction. If, instead of innocently forgetting to disclose - conduct that Justice Neely, as discussed below, might characterize as "stupid", the seller actively conceals and deceives, the seller can be characterized as "mean", and egregious violation of the duties will be deemed to occur with the door open to a punitive lesson in the form of punitive damages.

### **§ 10.04. Case Studies.**

#### **[1] — Case Study Overview.**

This presentation focuses on several mineral law cases where simple problems became huge disasters. In each, innocuous circumstances were mishandled, oftentimes by landmen and attorneys, and as a result the cases, as the proverbial saying goes, 'went to hell in a handbasket.' Each involves

findings of reprehensible conduct and enormous punitive damage awards. Each could have been tested by the standard: “I know it (wrongdoing) when I see it.” The opinions of the jurists who ultimately decided these cases on appeal beg the question: is there hyperbole and exaggeration in these opinions or are the verdicts justified? Most businesses and people in the mineral industry are good and decent people. It is indeed a rare occasion to find a “really mean” person as Justice Neely would have it in his *TXO Production Corp. v. Alliance Resources Corp.* opinion.<sup>16</sup> What is it, then, that leads judges and juries to punish, often in a big way, reprehensible conduct, and what is it that makes the conduct reprehensible or at a minimum wrong?

It is submitted that the rules violated in these cases are not so much rules of law, they are rules of life, rules that guide a civil and orderly society. These rules are best summarized in two of the Ten Commandments: Thou shalt not steal, and Thou shalt not tell a lie; and a combination of these two: Thou shalt not cheat or chisel.

Below are five case studies that involve violations of fundamental duties, and in each case the violations are also of core ethics. In each the awards of punitive damages are so high, the wrongdoers might have wished to resort to the flogging which would have occurred in Cicero’s day. In each the wrongfulness of the conduct is based upon basic rules of life, rules which should be imbedded in our moral fiber, rules which could be tested by Justice Stewart’s standard: We should know them when we see them.

## **[2] — Case Study No. 1: *TXO Production Corp. v. Alliance Resources Corp.***

### **[a] — Facts.**

In *TXO Production Corp. v. Alliance Resources Corp.*,<sup>17</sup> the following occurred:

TXO Production Corp. (“TXO”) identified an area of oil and gas to develop in McDowell County, West Virginia, in the early 1980s. It, like most

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<sup>16</sup> TXO Production Corp. v. Alliance Resources Corp., 509 U.S. 443, 453 n.15 (1993).

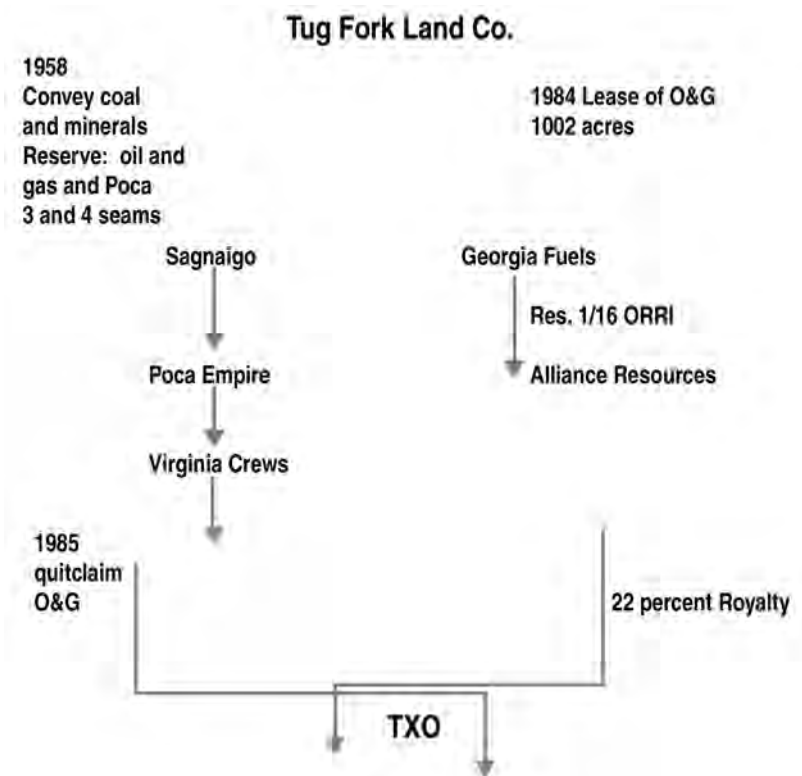
<sup>17</sup> TXO Production Corp. v. Alliance Resources Corp., 187 W.Va. 457, 419 S.E.2d 870 (1992), affirmed 509 U.S. 443 (1993).

oil and gas companies, secured leases in this area and obtained assignments of other leases to control an area sufficient for its investment in pipelines and infrastructure.

One of the tracts was, by West Virginia standards, a relatively large tract of 1002 acres known as the Blevins Tract, which TXO secured by an assignment of an oil and gas lease from the lessee, Alliance Resources, in a deal where TXO agreed to pay \$20 per acre and a total of 22 percent in royalties.

TXO then employed lawyers to do a title search and in their title report the title attorneys concluded that there was an ambiguity in a mineral severance deed and that it was unclear whether the deed reserved all the oil and gas or only the oil and gas in the Pocahontas seams of coal.

To resolve this title question a landman for TXO approached the grantee of the deed in question and attempted to get the grantee to sign an affidavit,



which, although convoluted, tended to indicate that the reservation of the oil and gas was limited to the oil and gas in the Pocahontas seams of coal. The grantee refused to sign the affidavit.

TXO then obtained a quitclaim deed in which the holder of the questionable title conveyed to oil and gas to TXO for the sum of \$6000.

The chain of title was as follows:

After recording its deed TXO disclosed to its assignor, Alliance Resources Corp. (“Alliance”), and Tug Fork (its lessor) that a title problem existed and attempted to negotiate a lower royalty based upon the asserted title defect. Unable to obtain such an agreement TXO instituted a declaratory judgment action to quiet title. Lessor parties counterclaimed with a slander of title claim.

**[b] — To Hell in a Handbasket.**

Jury Verdict: \$19,000 compensatory damages, \$10,000,000 punitive damages.

The Circuit Court found that the Signaigo severance deed was unambiguous and clearly reserved the oil and gas in the Lessor. There was no real title problem.

A tenant under a lease is estopped to deny the title of its landlord. Thus, TXO, to the extent it needed to clear title, had an obligation to take title in the name of its lessor, or at a minimum, treat its own title as held in trust for its lessor. Taking title in its own name was wrongful.

The effort by TXO to obtain the Signaigo affidavit was found to be the procurement of a false affidavit. TXO was dishonest.

The title defect claim and declaratory judgment action were bogus. According to the WV Court: TXO “knowingly and intentionally brought a frivolous declaratory judgment action against [Lessor] to clear a purported cloud on title” with the “real intent” being “to reduce the royalty payments.”

Evidence was allowed at trial to show that TXO used bogus title defects in other cases to negotiate for lower royalty rates and the court liberally allowed this evidence to go to the jury.

What really happened in the TXO case: An innocuous title question and declaratory judgment action became a trial for slander of title. Malice, an essential element of slander of title, was shown by the use of the bogus

title defect, the deed purporting to convey good title to TXO in denial of the lessor's title and using all of this to ratchet the royalty rate down. To add icing on the cake, the assignor and lessor were allowed to show similar conduct by TXO in other cases. They did so by tendering the testimony of other plaintiff's attorneys in other cases from other states, and this testimony was highly inflammatory.

On appeal the West Virginia Supreme Court upheld the punitive damage award of \$10,000,000 in a colorful opinion that distinguished between really stupid defendants and really mean defendants. Ultimately, the United States Supreme Court affirmed the holding, but on terms less colorful.

Remittur on \$10 million: No!! TXO did not act "as gentlemen"!<sup>18</sup>

**[c] — Lesson.**

Do not use bogus claims or break fundamental rules to extract a better bargain, in essence, do not cheat! Act as gentlemen!

**[3] — Case Study No. 2: *Church and Mullins Corporation v. Bethlehem Minerals Company.***

**[a] — Facts.**

In *Church and Mullins Corporation v. Bethlehem Minerals Company*,<sup>19</sup> the following occurred:

In 1964, a survey team from Bethlehem Minerals Company ("Bethlehem") appeared on John Johnson's property in advance of its mining operation. Johnson, claiming title, forcefully evicted the Bethlehem surveyors.

Bethlehem filed a complaint against Johnson claiming title to the mineral estate and in this suit, Bethlehem obtained an ex parte temporary restraining order, based on an affidavit of good title, which prevented Mr. Johnson from interfering with the surveying, and after Johnson and his lessee,

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<sup>18</sup> TXO Production Corp. v. Alliance Resources Corp., 187 W.Va. 457, 419 S.E.2d at 875 (1992).

<sup>19</sup> Church and Mullins Corporation v. Bethlehem Minerals Company, 887 S.W.2d 321 (Ky. 1992).

Church and Mullins Corporation (“Church”), began mining, Bethlehem got a restraining order against Johnson and his lessee from mining.

Johnson counterclaimed asserting he owned both the surface as well as the minerals.

In 1965, Bethlehem obtained a report from its attorney indicating that problems may exist with Bethlehem’s claim of title and reciting many of Johnson’s claims to title.

By 1975 Bethlehem had mined “several hundred thousand tons” from the Johnson tract.

**[b] — To Hell in a Handbasket.**

Verdict against Bethlehem: \$16,947,778 for willful trespass.

Mining occurred, not only without disclosure, but without the knowledge of the court or Johnson, and despite pending litigation, its attorney’s opinion that title may be bad, and the challenge to title by the property owner.

In addition, while mining itself on the property, Bethlehem filed for an injunction to prevent Johnson and his lessee from mining on the same property.

During trial, Bethlehem’s chief property engineer gave a false testimony in support of the injunction against Johnson and Church, leading the court to say that Bethlehem’s chief property engineer had a “cavalier attitude ... toward the truth”.<sup>20</sup>

By 1975, most of the disputed coal had been mined by Bethlehem.

**[c] — Lesson.**

Do not steal thinking you might get away with it, and, do not lie!

**[4] — Case Study No. 3: *Seeco, Inc. v. Hales*.**

**[a] — Facts.**

In *Seeco, Inc. v. Hales*,<sup>21</sup> 7000 royalty owners instituted this class action case claiming underpayment of royalty. The lessee/producer, SEECO, was

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<sup>20</sup> *Id.* at 325.

<sup>21</sup> *Seeco, Inc. v. Hales*, 341 Ark. 673, 22 S.W.3d 157 (2000).

owned by a holding company, Southwestern Energy Company, which also owned a public utility, Arkansas Western Gas Company (“AWG”). SEECO entered a gas sale contract with its sister company AWG dedicating substantial gas reserves for a 20 year term.

While other issues were in play, the royalty owners focused on the fact that the sale prices between the related Southwestern Energy companies were well below the prices that it could have obtained. While this benefitted the ratepayers of SEECO’s affiliated utility company, it violated the duty to its royalty owners to get the best price available.

Plaintiffs produced expert testimony that SEECO failed to obtain the best price it could for its gas and thereby underpaid royalty, and that, in large measure this was attributed to the relationship between the affiliated companies.

Moreover, SEECO was shown to have sent misleading information to the royalty owners and the appellate court made an issue of the fact that SEECO failed to include in its regular royalty statements the AWG contract price which it could have obtained.

### **[b] — To Hell in a Handbasket.**

The verdict in the case was \$62,136,827 in compensatory damages and \$31,085,330 in prejudgment interest for a total award of \$93,222,157. Subsequent news reports reported that Southwestern Energy was selling its utility business, AWG, and suspending its quarterly dividend to fund the payment of \$109,000,000 to the plaintiff-royalty owners.

This case was referred to me years ago by my friend Tom Allen at Dominion who gave the following assessment:

In most cases where a jury returns an extreme verdict, something happens during the course of the litigation itself that compels the jurors to severely punish those responsible for whatever shenanigans occurred. In this case the unfortunate event (for Southwestern Energy) was the closing argument by its attorney.

The head of Southwestern was a respected businessman by the name of Charles Scharlau. Counsel for the royalty owners (Attorney

Howard) tried to depersonalize the three corporate defendants by emphasizing, in his closing argument that the case was against three corporate defendants – not against any individual.

When his turn came counsel for the Southwestern (Tom Mars) made an impassioned speech emphasizing that there were indeed real people involved, that the case wasn't against a couple faceless corporations but was against Charles Scharlau; who, he asserted, was a respected pillar of the community with a sterling reputation. And according to Mars "... not once, until this case was filed has anybody ever accused him of cheating people, treating people unfairly, breaching his obligations to people or committing conspiracy to commit fraud."

Whoops. It turns out that a couple of years earlier Mr. Scharlau had been sued by Vesta Energy. Vesta's complaint included claims of fraud, misrepresentation, fraudulent inducement, breach of fiduciary duties, wrongful interference with contract, and conspiracy. Double Whoops – the same attorney. Tom Mars, represented Mr. Scharlau in that case as well. So when Mr. Mars made the argument about Scharlau's character and about "no one ever accusing him before" of these sorts of things, he knew it was not true. The attorney for the landowners knew about the earlier case and brought it to the judge's attention. The judge wasn't too happy about the very misleading closing argument; to correct the situation, the judge allowed Mr. Howard, counsel for the landowners, to read to the jury the complaint against Scharlau in the earlier vesta case. Then the judge allowed Howard to make an impassioned speech of his own, focused about "the truth coming home to roost" in jury's hands.

Bingo. A \$109 million verdict, judgment for the royalty owners. And the sale of the entire Arkansas Western Gas Company in order to pay for it.<sup>22</sup>

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<sup>22</sup> Tom Lane, Professional Ethics for Energy & Mineral Lawyers, Energy & Mineral Law Foundation 26th Annual Institute (May 17, 2005).

**[c] — Lesson.**

Be honest!! You might be found out otherwise.

**[5] — Case Study No. 4: *Grynberg v. Citation Oil and Gas Corp.*****[a] — Facts.**

In *Grynberg v. Citation Oil and Gas Corp.*,<sup>23</sup> the following occurred: Citation Oil and Gas (“Citation”) was the operation of numerous wells in a field in South Dakota under Joint Operating Agreements with various owners.

As operator Citation was responsible for managing the exploration and production of oil and for accounting for profits and expenses on behalf of all of the owners.

After several years of operations one of the owners, TIPCO, had an audit conducted which showed that Citation mis-allocated costs among the wells to its advantage.

Despite the audits showing Citation failed to reallocate costs among the other owners, neither the TIPCO audit or Citation’s response to TIPCO were revealed to the other owners. Rather than make proper allocations Citation subsequently shifted additional expenses to some of the owner to its further advantage and made false accounting reports.

The owners ultimately brought suit for the improper accounting seeking both compensatory and punitive damages.

**[b] — To Hell in a Handbasket.**

VERDICT:

\$222,850 for breach of contract

\$354,200 for fraud

\$4,800,000 punitive damages

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<sup>23</sup> *Grynberg v. Citation Oil and Gas Corp.*, 573 N.W.2d 493 (S.D. 1997).

Although this was a breach of contract action where punitive damages are not available, fraud is an independent tort for which punitive damages can be awarded.

A “contract is not a license allowing one party to **cheat** or defraud the other.”<sup>24</sup>

The “twin purposes of punitive damages – deterrence and punishment – are well served in a contract case where one party commits an intentional tort like deceit.”<sup>25</sup>

Remittur to \$1,000,000 on punitive damages because (i) the \$4.8 million is 10 percent of Citations “entire net worth” and “more significantly,” represents “all of Citations net income for an entire year.”<sup>26</sup>

**[c] — Lesson.**

Do not “cheat”!!!

**[6] — Case Study No. 5: *Tawney v. Columbia Natural Resources*.**

**[a]— Facts.**

In *Tawney v. Columbia Natural Resources*,<sup>27</sup> the West Virginia court rendered a landmark opinion in holding that post production costs could not be deducted from a landowner’s oil and gas royalty. The decision was based on a certified question from the trial court in order to provide guidance on a key issue in the pending class action case. Subsequent to this decision, the case before the trial court resulted in a landmark jury verdict totaling \$405,000,000 in Roane County, West Virginia.

The issues that were ultimately tried in that case included the deduction of post production costs and volume losses and also the validity of flat rate royalty leases and a forward sale of gas. The compensatory damages in the case were \$135,000,000 and notably punitive damages of \$270,000,000. The West Virginia court declined to consider an appeal of the judgment on

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<sup>24</sup> *Id.* at 501.

<sup>25</sup> *Id.* at 502.

<sup>26</sup> *Id.* at 506.

<sup>27</sup> *Tawney v. Columbia Natural Resources*, 219 W. Va. 299, 633 S.E.2d 22 (2006).

the jury verdict and the case settled while a writ of certiorari was sought in the Supreme Court.

This discussion is about what did not get reviewed by an appellate court.

**[b] — To Hell in a Handbasket.**

Deductions of costs resulted in a damages of \$10,159,672

Deductions of under-reported volumes: 6,544,318

Deductions of line losses: \$33,187,809

Royalties on flat rate leases: \$40,258,132

Forward sale of gas: \$44,185,207

Total: \$134,335,138

Punitive Damages \$270,000,000

Total: \$405,000,000

**[1] — Deceptive Royalty Statements.**

Royalty statements affirmatively stated no deductions and did not disclose volume deductions, whereas, internal accounting showed specific cost and volume deductions. In short the reports to royalty owners were deceptive in two respects, they falsely stated that no cost deductions were taken and they failed to report actual volumes of gas produced.

**[2] — Forward Sales.**

The forward sales of gas, known as the Mahonia Contracts, were entered by the executives of Columbia Natural Resources (“Columbia”) in advance of a hostile acquisition by NiSource Inc. The two sales committed most of the gas in the Columbia system to forward sales and generated \$150,000,000 in the first sale and \$250,000,000 in the second.

The proceeds of the sales funded golden parachutes for the departing Columbia executives.

In the years following the Mahonia Contracts gas prices skyrocketed so that Columbia received roughly \$3.50 for gas under the contracts, while market prices averaged \$7. Royalty was paid on the lower number, rather than actual market values from time to time, and the difference, \$44,185,207, was awarded to the plaintiffs as compensatory damages.

**[c] — Lesson.**

Be honest and don't cheat!

**§ 10.05. Rules of Legal Ethics.****[1] — Preamble: A Lawyer's Responsibilities.**

A lawyer is a representative of clients, an officer of the legal system and a public citizen having special responsibility for the quality of justice.

As a representative of clients, a lawyer performs various functions. As advisor, a lawyer provides a client with an informed understanding of the client's legal rights and obligations and explains their practical implications. As advocate, a lawyer zealously asserts the client's position under the rules of the adversary system. As negotiator, a lawyer seeks a result advantageous to the client but consistent with requirements of honest dealing with others.

Many of a lawyer's professional responsibilities are prescribed in the Rules of Professional Conduct ("The Rules"), as well as substantive and procedural law. However, a lawyer is also guided by personal conscience and the approbation of professional peers. A lawyer should strive to attain the highest level of skill, to improve the law and the legal profession and to exemplify the legal profession's ideals of public service.

The Rules presuppose a larger legal context shaping the lawyer's role. That context includes court rules and statutes relating to matters of licensure, laws defining specific obligations of lawyers and substantive and procedural law in general. The Rules do not, however, exhaust the moral and ethical considerations that should inform a lawyer for no worthwhile human activity can be completely defined by legal rules. The Rules simply provide a framework for the ethical practice of law.

**[2] — Client-Lawyer Relationship.****Rule 1.2. Scope of representation.**

(d) A lawyer shall not counsel a client to engage . . . in conduct that the lawyer knows is . . . fraudulent, but a lawyer may discuss. . . .<sup>28</sup>

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<sup>28</sup> MODEL RULES OF PROF'L CONDUCT r. 1.2.

**Rule 1.6. Confidentiality of information.**

\* \* \*

(b) A lawyer may reveal such information to the extent the lawyer reasonable believes necessary:

- (1) to prevent the client from committing a criminal act. . . .<sup>29</sup>

**Rule 1.13. Organization as client.**

(b) If a lawyer for an organization knows that an officer, employee or other person associated with the organization is engaged in action . . . that is a violation of a legal duty to the organization, the lawyer shall proceed as is reasonably necessary in the best interest of the organization<sup>30</sup>

**[3] — Advocate.****Rule 3.1. Meritorious claims and contentions.**

A lawyer shall not . . . assert . . . an issue . . . unless there is a basis for doing so that is not frivolous . . . .<sup>31</sup>

**Rule 3.3. Candor toward the tribunal.**

(a) A lawyer shall not knowingly:

- (1) make a false statement of material fact or law to a tribunal;

\* \* \*

- (4) offer evidence that the lawyer knows to be false.<sup>32</sup>

**Rule 3.4. Fairness to opposing party and counsel.**

A lawyer shall not:

\* \* \*

- (b) falsify evidence. . . .<sup>33</sup>

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<sup>29</sup> MODEL RULES OF PROF'L CONDUCT r. 1.6.

<sup>30</sup> MODEL RULES OF PROF'L CONDUCT r. 1.13.

<sup>31</sup> MODEL RULES OF PROF'L CONDUCT r. 3.1.

<sup>32</sup> MODEL RULES OF PROF'L CONDUCT r. 3.3.

<sup>33</sup> MODEL RULES OF PROF'L CONDUCT r. 3.4.

**[4] — Transactions with Persons Other Than Clients.****Rule 4.1. Truthfulness in statements to others.**

In the course of representing a client a lawyer shall not knowingly:

- (a) make a false statement of material fact or law to a third person; or
- (b) fail to disclose a material fact to a third person when disclosure is necessary to avoid assisting a criminal or fraudulent act by a client. . . .<sup>34</sup>

**Rule 4.4. Respect for rights of third persons.**

In representing a client, a lawyer shall not use means that have no substantial purpose other than to embarrass, delay, or burden a third person, or use methods of obtaining evidence that violate the legal rights of such a person.<sup>35</sup>

**§ 10.06. Guidelines for Civility and Courtesy.**

In recent years various states, including Kentucky,<sup>36</sup> Ohio,<sup>37</sup> Pennsylvania,<sup>38</sup> Virginia<sup>39</sup> and West Virginia,<sup>40</sup> have implemented standards that recognize the “fast-paced existence” in which we live, the “instant communication” through electronic means that sometimes “renders thoughtfulness nearly impossible.”<sup>41</sup> Accordingly, these guidelines have been adopted to achieve civility and courtesy, sometimes under the most difficult circumstances, and they apply to lawyers and their duties to other lawyers, the courts, and to clients, and also apply to judges in their duties to lawyers and each other.

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<sup>34</sup> MODEL RULES OF PROF'L CONDUCT r. 4.1.

<sup>35</sup> MODEL RULES OF PROF'L CONDUCT r. 4.4.

<sup>36</sup> S. Ct. of Kentucky, *Code of Professional Courtesy*.

<sup>37</sup> S. Ct. of Ohio, Commission on Professionalism, *Professional Ideals for Ohio Lawyers and Judges* (2023).

<sup>38</sup> 204 Pa. Code § 99.1.

<sup>39</sup> Va. State Bar, *Professional Guidelines* (2023).

<sup>40</sup> S. Ct. of Appeals of W.Va., *Standards of Professional Conduct*.

<sup>41</sup> *Id.*

These guidelines, or sometimes “ideals”,<sup>42</sup> go beyond to strictures of the rules of professional conduct and strike at many of the core ideals found in simple ethics. Certainly if one is civil and courteous, it goes without saying honesty and veracity are implied.

### § 10.07. **Business Ethics.**

There are no formally recognized rules governing business conduct. In some instances companies voluntarily publish internal codes that provide core guidelines and expectations to employees. These codes often address the simple notion of good citizenship, conflicts, dealing with customers, dealing with the government, participating in the political process, keeping accurate and complete books and records, unwanted sexual attention, and drugs and alcohol.

One such publication admonishes employees to be honest, fair, and obey the law, and asks its employees to consider, if they had to explain and justify a decision or action to their family, a neighbor, the newspaper or the company would they be embarrassed or uncomfortable.

### § 10.08. **Conclusions.**<sup>43</sup>

1. Duties are often defined by morals-ethics.
2. Follow basic rules of law.
3. Don't ever act in violation of a court order.
4. If error is committed, err on the side of:

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<sup>42</sup> S. Ct. of Ohio, Commission on Professionalism, *Professional Ideals for Ohio Lawyers and Judges* (2023).

<sup>43</sup> Other sources consulted in preparation of this chapter were West Virginia Ethics Commission, *The Ethics Act*; W. Va. Code, Ch. 6B, Art. 1, *et. seq.*; Monsignor P. Edward Sadie, Charleston, West Virginia; Rabbi B. Kohler, Charleston, West Virginia; *Really Mean and Really Stupid: Exxon Funds Attack on Punitive Damages* (Feb. 19, 1999) (on file with author).

- a. Honesty
  - b. Full disclosure (*TXO, Silk, Tawney*)
  - c. Adhering to basic legal principles (*TXO*)
5. Don't lie, cheat or steal; the truth will likely be discovered.



**Chapter 11**  
**Ownership and Development**  
**of Rare Earth Elements and Critical Minerals**  
**in Mine Drainage in West Virginia<sup>1</sup>**

**Robert E. Akers, Esq.**  
*Committee on Energy*  
*West Virginia House of Delegates*  
**Charleston, West Virginia<sup>2</sup>**

**Synopsis**

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<sup>1</sup> This chapter is based on a paper that was presented at the Energy & Mineral Law Foundation Fall Symposium, October 12-14, 2022.

<sup>2</sup> Appreciation is extended to the following for their participation in the preparation of this writing: Members and Staff of the West Virginia House of Delegates; Staff of the West Virginia Department of Environmental Protection; Paul Ziemkiewicz, Director, WVU Water Research Institute; Victoria A. Sullivan, Law Student, West Virginia University College of Law

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**§ 11.01. Introduction and Background.**

**[1] — West Virginia University Research on Mine Drainage.**

West Virginia University has been researching the viability of extracting rare earth elements and other critical minerals from mine drainage and coal mine waste through its West Virginia Water Research Institute.<sup>3</sup> This work is being performed on an abandoned coal mine site in cooperation with the

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<sup>3</sup> *Manchin: United States needs a push to develop critical minerals for technology*, WEST VIRGINIA WATER INSTITUTE (April 11, 2022), <https://wvwi.wvu.edu/news/2022/04/11/manchin-united-states-needs-a-push-to-develop-critical-minerals-for-technology>

West Virginia Department of Environmental Protection, who currently has responsibility for the site.<sup>4</sup> Researchers have determined that mine drainage is a source of rare earth elements and critical minerals which can be extracted from water through treatment.<sup>5</sup> Mine drainage is a large source of water pollution in the United States, and the commercial sale of dissolved minerals could potentially offset costs of cleaning up polluted streams.<sup>6</sup> West Virginia University holds one issued United States Patent for the treatment process and currently has two additional provisional patent applications pending with the United States Patent and Trademark Office.<sup>7</sup>

## [2] — Mine Drainage Pollution Source and Content

Water from rain and snowmelt naturally flows through rock formations which have been disturbed by mining activity. If the mineral pyrite is present, exposure to air and water will convert it to sulfuric acid and dissolved iron which becomes part of the water. The process makes the water acidic. The acidic water dissolves many metals and minerals found within the disturbed rock including the regulated materials manganese, selenium, and aluminum.<sup>8</sup>

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<sup>4</sup> *Domestic Critical Mineral Supply Chains*, Senate Committee on Natural Resources, 117th Congress (2021-2022), March 31, 2022 (available at <https://www.energy.senate.gov/services/files/3FE0D2F4-1001-44FF-B0C1-9B535DA41935>) (Written Testimony of Paul F. Ziemkiewicz).

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> United States Patent No. US 10,954,582 B2 (dated March 23, 2021).

<sup>8</sup> See Skousen, Jeff & Sexstone, Alan & Ziemkiewicz, Paul, *Acid Mine Drainage Control and Treatment*, RECLAMATION OF DRASTICALLY DISTURBED LANDS (American Society of Agronomy & American Society for Surface Mining and Reclamation, 2000) (available at [https://www.researchgate.net/publication/253085017\\_Acid\\_Mine\\_Drainage\\_Control\\_and\\_Treatment](https://www.researchgate.net/publication/253085017_Acid_Mine_Drainage_Control_and_Treatment)); Donovan, J.J. and Ziemkiewicz, P.F., Early Weathering Behavior of Pyritic Coal Spoil Piles Interstratified with Chemical Amendments, International Land Reclamation and Mine Drainage Conference and the Third International Conference on the Abatement of Acidic Drainage, Pittsburgh PA (April 24-29, 1994); Ziemkiewicz, P.F. and Lovett, R.J., The Rate of Pyrite Dissolution: Comparison of Field and Laboratory Studies, International Land Reclamation and Mine Drainage Conference and the Third International Conference on the Abatement of Acidic Drainage, Pittsburgh PA (April 24-29, 1994); and Ziemkiewicz, P.F. and Meek, F.A., Long term Behavior of Acid Forming Rock: Results of Twelve-Year Field Studies, International Land Reclamation and Mine Drainage Conference and the

In addition, metals, frequently referred to as rare earth elements and critical minerals such as cobalt, nickel and zinc also enter solution and move with the water into ground water and streams in proximity to the mining activity.<sup>9</sup> The resulting low pH level of the water and the concentrations and types of dissolved minerals are site specific and vary by location. This polluted water solution, referred to as mine drainage, is one of the most significant causes of stream degradation in the Appalachian Mountains. The acidic nature of the water, and its concentrations of minerals, could be in violation of water quality standards and, if so, must be brought into compliance with the law through expensive and on-going treatment. West Virginia Water Research Institute has found through its research that mine drainage can be effectively treated to not only remove the pollutants, but to also separate the valuable rare earth elements and critical minerals including cobalt, lithium, nickel, manganese, and zinc.<sup>10</sup>

### **[3] — West Virginia Legislative Interest.**

The West Virginia Legislature's attention was captured by the university research and prompted legislation during its General Session in the year 2022.<sup>11</sup> West Virginia has a long history of mineral development and a

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Third International Conference on the Abatement of Acidic Drainage, Pittsburgh PA (April 24-29, 1994).

<sup>9</sup> Vass, C.R., Noble, A. & Ziemkiewicz, P.F., *The Occurrence and Concentration of Rare Earth Elements in Acid Mine Drainage and Treatment By-products: Part 1—Initial Survey of the Northern Appalachian Coal Basin*, MINING, METALLURGY & EXPLORATION (2019) (available at <https://doi.org/10.1007/s42461-019-0097-z>); Vass, C.R., Noble, A. and Ziemkiewicz, P.F., *The occurrence and concentration of rare earth elements in acid mine drainage and treatment by-products: Part 2: Regional Survey of Northern and Central Appalachian Coal Basins*, MINING, METALLURGY & EXPLORATION, (2019) (available at [HTTPS://doi.org/10.1007/s42461-019-00112-9](https://doi.org/10.1007/s42461-019-00112-9)).

<sup>10</sup> Larochele, T.; Noble, A.; Ziemkiewicz, P.; Hoffman, D.; Constant, J., *A Fundamental Economic Assessment of Recovering Rare Earth Elements and Critical Minerals from Acid Mine Drainage Using a Network Sourcing Strategy*, MINERALS (2021) (available at <https://doi.org/10.3390/min11111298>). These materials also include varying amounts of Scandium, Yttrium, Lanthanum, Cerium, Praseodymium, Neodymium, Samarium, Europium, Gadolinium, Terbium, Dysprosium, Holmium, Erbium, Thulium, Ytterbium, and Lutetium.

<sup>11</sup> H.B. 4003, 85th Leg., Regular Session, 2022 (Enrolled Committee Substitute).

well-developed body of common law and statutory law regarding mineral ownership and development.<sup>12</sup> However, rare earth elements and critical minerals have never been developed in the state's history.

The Delegates and Senators were inspired by the university research and its potential to become a viable industry in the state.<sup>13</sup> However, they were concerned that ownership disputes and litigation might harm the research and development of this potential resource.<sup>14</sup> Researchers desired some level of certainty regarding the ownership of the extracted minerals.<sup>15</sup> In response, bills were submitted during the 2022 General Session and, after debate and amendment, the legislature enacted a new statute intended to provide some level of certainty regarding ownership of the dissolved minerals to encourage research and investment by the government and private parties.<sup>16</sup> The legislation was aimed at fostering a new wealth generating industry and providing citizens and wildlife with cleaner water flowing in West Virginia's streams and rivers.<sup>17</sup>

#### **[4] — Summary of New West Virginia Statute.**

The new statute is found in a single section of the Abandoned Mine Lands and Reclamation Act and declares that all chemical compounds with economic value which are derived from the treatment of mine drainage are part of the waters of the state and may be sold for commercial gain and benefit by the party removing them from the water.<sup>18</sup> The legislature found this necessary to encourage investments in the treatment of mine drainage and to maintain reasonable standards of purity and quality of the waters of

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12 J. THOMAS LANE, COAL, OIL AND GAS (West Virginia University College of Law, 2006).

13 *WV Senate passes bill clarifying who profits from extracting rare earth elements from mine drainage*, WEST VIRGINIA WATER RESEARCH INSTITUTE (March 11, 2022), <https://wvwwri.wvu.edu/news/2022/03/11/wv-senate-passes-bill-clarifying-who-profits-from-extracting-rare-earth-elements-from-mine-drainage>.

14 *Id.*

15 *Id.*

16 H.B. 4003, 85th Leg., Regular Session, 2022; *See also* W. VA. CODE R. §22-2-10.

17 W. VA. CODE R. §22-2-10(a) and (b).

18 W. VA. CODE R. §22-2-10(c) and (d).

the state to protect the health of the public and wildlife.<sup>19</sup> The legislature considered many legal doctrines in common and statutory law, both state and federal, before selecting language.

**§ 11.02. Overview of Legal Considerations and Duties Affecting Ownership and Development of Dissolved Rare Earth Elements and Critical Minerals.**

**[1] — Riparian and Water Rights.**

**[a] — General Legal Background and Definitions.**

Landowner rights to water flowing beneath, across, or adjoining land is a difficult and voluminous subject for examination. Determining what rights someone may have to water, or any minerals dissolved within water, depends upon a complex analysis of state and federal law, and additionally, will vary widely depending upon the type of water. The common law evolved to govern three general types of water; these being surface water, streams, and subterranean water.<sup>20</sup>

Surface water is water from rain and snow flowing over or just under the surface with no channel cut in the soil.<sup>21</sup> Also known as surface runoff, it is widely spread, flows naturally downward from slopes, and may be found in wet, spongy, or boggy land.<sup>22</sup> A landowner may use and divert this type of water freely under the common law, provided no harm is done to another's land.<sup>23</sup>

A stream or watercourse consists of a defined channel with a bed and banks.<sup>24</sup> It may be, in whole or in part, either on the surface or subterranean, and contains either continuously or intermittently flowing water in a direction defined by its channel.<sup>25</sup>

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<sup>19</sup> W. VA. CODE R. §22-2-10(a) and (b).

<sup>20</sup> 20 M.J., WATERS AND WATERCOURSES § 2 (2021).

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> 20 M.J., WATERS AND WATERCOURSES § 4 (2021).

<sup>24</sup> 20 M.J., WATERS AND WATERCOURSES § 2 (2021).

<sup>25</sup> *Id.*

Subterranean waters or subsurface waters percolate through the soil and rocks under the surface, but do not exist in a well-defined channel.<sup>26</sup> Water percolating through the ground without a defined channel is not a stream.<sup>27</sup> Subsurface water normally belongs to the landowner, just as the rocks and minerals beneath the surface.<sup>28</sup>

These three types of water under common law are largely used by the United States' Office of Surface Mining Reclamation and Enforcement to administer the Surface Mining Control and Reclamation Act, but with different names.<sup>29</sup> A stream is referred to as surface water in the federal statute, surface water is referred to as diffused surface water in the federal statute, and subterranean water is referred to as ground water in the federal statute.<sup>30</sup>

Mine drainage, which is not intentionally injected or controlled, is free flowing by nature and may be found in any of the three types of water.<sup>31</sup> However, mine drainage treatment normally occurs at a point where the water is contained in a stream or pond with defined boundaries and therefore would be considered a watercourse at common law or surface water under Surface Mining Control and Reclamation Act.<sup>32</sup>

Generally, a riparian landowner has a right to reasonable use of a stream's water but does not own the water.<sup>33</sup> A riparian landowner's rights are subject to the rights of the other riparian landowners, who are entitled to use of the stream water with substantially the same flowrate and

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<sup>26</sup> 20 M.J., WATERS AND WATERCOURSES § 8 (2021).

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> Robert E. Beck, *Water and Coal Mining in Appalachia: Applying the Surface Mining Control and Reclamation Act of 1977 and the Clean Water Act*, 106 W. VA. L. REV. 629 (2004).

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> 20 M.J., WATERS AND WATERCOURSES § 10 (2021); *Gaston v. Mace*, 33 W. Va. 14, 10 S.E. 60 (1889).

purity.<sup>34</sup> All riparian owners have equal rights to the water flow with normal uncontaminated purity.<sup>35</sup>

As discussed below, the state and federal governments have a legal duty to protect landowners and all three types of water from contamination by mine drainage pollution through the common law and statutory law.

### **[b] — *Jus Publicum.***

*Jus publicum* is a common law doctrine whereby the state government has a duty to regulate streams to ensure the public can exercise a right of navigation, fishing, hunting, and other public uses, regardless of riparian owner's rights to a stream.<sup>36</sup> The legislature has discretion to manage water resources in the best interest of the public.<sup>37</sup> The doctrine has a long history and predates contamination by most of the chemical pollutants found in water today.<sup>38</sup> *Jus publicum* is generally supportive of the West Virginia Legislature's new statute to the extent the mine drainage pollution has negative effects upon public hunting and fishing in state waters.

### **[2] — Federal Statutory Duties.**

The Clean Water Act, the Surface Mining Control and Reclamation Act, the Federal Safe Drinking Water Act, their predecessors, and subsequent amendments were enacted to address issues concerning water pollution in the United States.<sup>39</sup> These federal statutes greatly expanded the government's role in regulating landowners and riparian owner's rights to limit pollution

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<sup>34</sup> *Id.*

<sup>35</sup> *International Shoe Co. v. Heatwole*, 126 W. Va. 888, 30 S.E.2d 537 (1944).

<sup>36</sup> Larry W. George, *Public Rights in West Virginia Watercourses: A Unique Legacy of Virginia Common Lands and the Jus Publicum of the English Crown*, 101 W. VA. L. REV. (1998) at 454-455.

<sup>37</sup> *Id.* At 455.

<sup>38</sup> *Id.*

<sup>39</sup> Robert E. Beck, *Water and Coal Mining in Appalachia: Applying the Surface Mining Control and Reclamation Act of 1977 and the Clean Water Act*, 106 W. VA. L. REV. 629 (2004).

in all types of waters.<sup>40</sup> The statutes impose governmental duties to oversee and ensure waters of the state are kept clean of potentially harmful pollutants.

**[a] — Federal Clean Water Act.**

The Clean Water Act regulates point sources of pollution from all industrial activities including coal mining.<sup>41</sup> To the extent that mine drainage is a point source; the federal act imposes a duty through a permitting system to keep pollution below predefined limits from entering the water.<sup>42</sup> A permittee has a duty to treat and dispose of pollution above the maximum limits set by the regulating body.<sup>43</sup>

**[b] — Federal Surface Mining Control  
and Reclamation Act.**

The Surface Mining Control and Reclamation Act is a federal environmental statute establishing a nationwide program to protect society and the environment from the adverse effects of coal mining operations and to approximately restore the surface to its original condition before mining operations began.<sup>44</sup> One stated purpose of the statute is to promote the reclamation of areas mined both before and after the enactment of the statute and to prevent damage to water resources caused by pollution.<sup>45</sup> Mine drainage is specifically mentioned within the statute.<sup>46</sup>

**[c] — Federal Safe Drinking Water Act.**

The Safe Drinking Water Act was enacted to protect the quality of drinking water in the United States and protects water which is used or might be used for drinking, whether from above ground or underground

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<sup>40</sup> *Id.*

<sup>41</sup> 33 U.S.C. § 1362.

<sup>42</sup> 33 U.S.C. § 1342.

<sup>43</sup> *Id.*

<sup>44</sup> Robert E. Beck, *Water and Coal Mining in Appalachia: Applying the Surface Mining Control and Reclamation Act of 1977 and the Clean Water Act*, 106 W. VA. L. REV. 629 (2004) at 642.

<sup>45</sup> 30 U.S.C. § 1201; 30 U.S.C. § 1202.

<sup>46</sup> 30 U.S.C. § 1231 and § 1232.

sources.<sup>47</sup> With respect to surface and groundwater, this act establishes state programs and minimum standards to protect underground sources of drinking water from underground injection of fluids.<sup>48</sup> While not specifically regulating mine drainage, the act expands the duty of the state and federal governments to protect potential sources of water for human consumption.

### **[3] — West Virginia Statutory Duties.**

In the State of West Virginia, its Department of Environmental Protection, as well as other departments and agencies, administer state statutory programs consistent with federal statutory requirements.<sup>49</sup> To satisfy federal requirements, the West Virginia Legislature enacted statutes and authorized legislative rules to govern the type and amounts of harmful pollutants which may be discharged into the waters of the state.<sup>50</sup> These statutes and legislative rules are required for the state to administer the state laws in compliance with the three federal acts, and they create obligations for the state to protect water quality.

### **[a] — West Virginia’s Water Pollution Control Act.**

The Water Pollution Control Act applies to mine drainage to the extent it creates a discharge into the state’s water from a point source of pollution.<sup>51</sup> To comply with the federal Clean Water Act, the State of West Virginia must maintain reasonable standards of purity and quality of the state’s water consistent with public health and public enjoyment; the propagation and protection of animal, bird, fish, aquatic and plant life; and the expansion of employment opportunities and industrial development.<sup>52</sup> The state is empowered by the statute to develop standards of water quality, effluent limitations for point sources, and a permitting system to prevent

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<sup>47</sup> 42 U.S.C. § 300f.

<sup>48</sup> 42 U.S.C. § 300h.

<sup>49</sup> W. VA. CODE R. §22-1 et seq.

<sup>50</sup> W. VA. CODE §22-11-1 et seq. *See also* W. VA. CODE R. §47-2, Requirements Governing Water Quality Standards.

<sup>51</sup> W. VA. CODE R. §22-11-1 et seq.

<sup>52</sup> W. VA. CODE R. §22-11-2.

contamination of the waters of the state.<sup>53</sup> If a discharge of mine drainage has a point source, this statute requires the state to ensure the effluent does not exceed permitted levels when entering the waters of the state through water quality and effluent limitations.<sup>54</sup> Coal mining operations are specifically mentioned within one section of this statute and are governed thereby.<sup>55</sup>

**[b] — West Virginia’s Ground Water Protection Act.**

The Ground Water Protection Act will apply to the extent mine drainage flows into and contaminates the ground water.<sup>56</sup> The statute establishes a regulatory system and minimum levels of contaminants in compliance with the federal Safe Water Drinking Act. When the groundwater is hydrologically connected with surface water and other ground water, the statute specifically states that the groundwater standards will apply to protect surface water and other ground water.<sup>57</sup> The statute empowers various state agencies to develop groundwater protection practices and to establish a permitting system to prevent groundwater contamination from facilities and activities including design, operation, management, closure, remediation, and monitoring.<sup>58</sup> Thus, the state government is obligated under this statute to clean up mine drainage pollution to prevent its contamination of ground water and applicable surface waters.

**[c] — West Virginia’s Surface Coal Mining and Reclamation Act.**

The Surface Mining and Reclamation Act applies to mine drainage.<sup>59</sup> The act is an environmental statute intended to restore the affected land

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53 W. VA. CODE R. §22-11-4, 6, and 8.

54 *Id.*

55 W. VA. CODE R. §22-11-22a.

56 W. VA. CODE R. §22-12-4.

57 *Id.*

58 W. VA. CODE R. §22-12-5.

59 W. VA. CODE R. §22-3-13(b)(10); *See also* Robert E. Beck, *Water and Coal Mining in Appalachia: Applying the Surface Mining Control and Reclamation Act of 1977 and the Clean Water Act*, 106 W. VA. L. REV. 629 (2004).

to a condition capable of supporting the uses which it could support prior to mining.<sup>60</sup> In the act, the West Virginia Legislature expressed concern regarding environmental pollution, both in the water and in stream beds, to preserve public safety and support wildlife through reclamation of mine lands.<sup>61</sup> The statute creates a permitting system which must be followed for lands to be legally mined and includes a reclamation plan.<sup>62</sup> The statute expressly includes a provision encouraging the use of the best technology available to minimize adverse impacts on the environment, including water.<sup>63</sup> Moreover, it authorizes the Department of Environmental Protection to allow experimentation and research, provided there is no additional risk to the protection of public health and safety below established standards.<sup>64</sup> Unlike the Water Pollution Control Act, the Surface Mining and Reclamation Act regulates mine drainage from non-point sources, but the point source pollution standards apply to establish the mine permit effluent limitations because the reclamation plan accounts for the collection and treatment of surface runoff from the disturbed mining area.<sup>65</sup> This act also creates the Special Reclamation Water Trust Fund into which the Department of Environmental Protection must deposit funds received under the new statute.<sup>66</sup> Thus, this statute requires the private parties and state government to clean up mine drainage to prevent its contamination of ground water and applicable surface waters by using the best available technology, which may ultimately include the processes being developed by university researchers.

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<sup>60</sup> W. VA. CODE R. §22-3-13(b)(2); *See also* Robert E. Beck, *Water and Coal Mining in Appalachia: Applying the Surface Mining Control and Reclamation Act of 1977 and the Clean Water Act*, 106 W. VA. L. REV. 629 (2004) at 641.

<sup>61</sup> W. VA. CODE R. §22-3-2(a)(2) and (b)(4) and W. VA. CODE R. §22-3-13(b)(14).

<sup>62</sup> W. VA. CODE R. §22-3-8 and 10.

<sup>63</sup> W. VA. CODE R. §22-3-13(b)(24) and W. VA. CODE R. §22-3-14(b)(9).

<sup>64</sup> W. VA. CODE R. §22-3-29.

<sup>65</sup> Robert E. Beck, *Water and Coal Mining in Appalachia: Applying the Surface Mining Control and Reclamation Act of 1977 and the Clean Water Act*, 106 W. VA. L. REV. 629 (2004) at 651 through 652.

<sup>66</sup> W. VA. CODE R. §22-2-10(c) and W. VA. CODE R. §22-3-11(g).

**[d] — West Virginia’s Abandoned Mine Land  
and Reclamation Act.**

The Abandoned Mine Land and Reclamation Act has a stated purpose of establishing and maintaining a program to restore and reclaim West Virginia’s land and water resources.<sup>67</sup> It was enacted to create a legal mechanism and funding intended to reclaim and restore previously mined land which does not meet the present-day standards for reclamation.<sup>68</sup> The statute creates two funds which are to be used to remedy and abate pollution in the waters of the state.<sup>69</sup> The state is authorized to reclaim surface impacts of mining and to remove water and other matter which endanger life, property, the public welfare, safety, or degrade the environment.<sup>70</sup> Moreover, the state is authorized to construct and operate facilities to control water pollution from mine drainage.<sup>71</sup> This act also creates the Acid Mine Drainage Abatement and Treatment Fund into which the Department of Environmental Protection must deposit funds received under the new statute.<sup>72</sup> This statutory system requires the state government to clean up mine drainage from abandoned mine lands to prevent contamination of the state’s waters.

The research concerning the removal of rare earth elements from mine drainage is currently being conducted on lands which fall into this category.<sup>73</sup> Hence the new statute was placed under this chapter of the code, but is written broadly to apply to all mining operations.

**[e] — Additional West Virginia Statutes.**

The state has two additional statutory obligations to ensure the state’s waters are used for the enjoyment of all its citizens, although not specifically

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<sup>67</sup> W. VA. CODE R. §22-2-2.

<sup>68</sup> *Id.*

<sup>69</sup> W. VA. CODE R. §22-2-4.

<sup>70</sup> W. VA. CODE R. §22-2-8.

<sup>71</sup> W. VA. CODE R. §22-2-9.

<sup>72</sup> W. VA. CODE R. §22-2-10(c) and W. VA. CODE R. §22-2-4(b).

<sup>73</sup> *Domestic Critical Mineral Supply Chains*, Senate Committee on Natural Resources, 117th Congress (2021-2022), March 31, 2022 (available at <https://www.energy.senate.gov/services/files/3FE0D2F4-1001-44FF-B0C1-9B535DA41935>) (Written Testimony of Paul F. Ziemkiewicz).

addressing mine drainage or water quality. The first is the Natural Streams Preservation Act which was enacted to preserve and protect the free-flowing nature of designated streams.<sup>74</sup> The second is the Water Resources Protection and Management Act which claims that the waters of the state are a valuable public resource held by the state for the use and benefit of the public.<sup>75</sup> This second act also creates a water resources management plan for the use of surface and ground water resources.<sup>76</sup>

#### **[4] — State’s Duty to Reduce or Eliminate Mine Drainage Pollutants.**

State and federal laws discussed above impose legal duties borne by the state government and private parties to protect the public, wildlife, and downstream riparian owner’s rights from water which is contaminated by pollutants found in mine drainage. The West Virginia Legislature enacted the new statute in furtherance of this duty, which was described in the subsections (a) and (b), concerning Public Policy and Legislative Findings, Intent, and Purpose, respectively.<sup>77</sup>

#### **[5] — Deed, Lease, and Contract Interpretation Issues.**

Landowners, coal operators, governments, and other parties are bound by chain of title documents, mineral leases, and various contractual agreements of many types. The terms and conditions within these arrangements may affect ownership of minerals dissolved in mine drainage if the development was contemplated and burdened by the parties to the arrangement. There is an enormous body of common law in the State of West Virginia interpreting the meaning of language in these types of arrangements; but generally, the intention of the parties to the document will govern<sup>78</sup> and the document will

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<sup>74</sup> W. VA. CODE R. §22-13-1 et seq.

<sup>75</sup> W. VA. CODE R. §22-26-1 et seq.

<sup>76</sup> *Id.*

<sup>77</sup> W. VA. CODE R. §22-2-10(a) and (b).

<sup>78</sup> 5C M.J., DEEDS § 57 (2022); *Energy Dev. Corp. v. Moss*, 591 S.E.2d 135, 214 W. Va. 577 (2003); and *Bruen v. Thaxton*, 126 W. Va. 330, 28 S.E.2d 59 (1943).

be construed as of the date and under the circumstances of its execution.<sup>79</sup> The development of the rare earth elements and critical minerals dissolved within the mine drainage water have not normally been developed in the state's history and depending upon the wording and circumstances would likely not have been contemplated by the parties.

To achieve some level of comfort regarding legal rights under this common law, the government and private mineral developers might need to analyze each of the documents burdening all the individual land parcels within the applicable water drainage area for each treatment facility; the goal being to cooperate with all possible owners to develop the minerals and avoid litigation. The complexity of this analysis and the large size of a water drainage area make this a nearly impossible task. This is especially true considering the new treatment technology being developed is in its infancy and is processing the water, not extracting the minerals from the land. The legislature was motivated to enact the new statute because of the negative effects of the common law on the resource development and by questions regarding whether an analysis under the common law was even necessary, given that the minerals are dissolved in the state water. The new statutory language was intended to offer some certainty for the developers of these mineral resources.

### **[6] — Rule of Capture.**

The common law rule of capture is a rule of non-liability in that an operator or landowner normally has no liability for damages due to oil and natural gas drainage from an adjacent property.<sup>80</sup> The rule was adopted in West Virginia and, in certain circumstances, remains valid law.<sup>81</sup> When an oil and natural gas well drains oil and natural gas from under a neighbor's land, the oil and natural gas essentially becomes the drilling landowner's property once it reaches the surface.<sup>82</sup> This rule acknowledges that it is

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<sup>79</sup> *Id.*

<sup>80</sup> *Gain v. South Penn Oil Co.*, 76 W. Va. 769, 86 S.E. 883 (1915).

<sup>81</sup> *Id.*

<sup>82</sup> *Powers v. Union Drilling*, 194 W. Va. 782, 461 S.E.2d 844 (1995).

nearly impossible to know exactly where a free-flowing fluid or gas might have originated.<sup>83</sup>

Like the rule of capture, those who separate and take possession of the dissolved minerals from the mine drainage are awarded ownership of the separated minerals under the new statute. The minerals are suspended in solution with the free-flowing natural water courses, so it is nearly impossible to determine with certainty from what property the minerals originated.<sup>84</sup> As such, there is a clear parallel, which is generally supportive, between the new statutory language and the rule of capture.

### **[7] — Real Property or Personal Property.**

Legally, there are two basic classes of property. Real property is generally defined as land and anything erected or growing upon or affixed to land.<sup>85</sup> Personal property is generally defined as everything subject to ownership, not coming under the definition of real property.<sup>86</sup> Personal property is either readily movable from place to place or an intangible thing.<sup>87</sup>

Valuable minerals removed from mine drainage might be considered either personal or real property depending upon the type of water in which they are dissolved and the stage of development or removal from the water.<sup>88</sup> If mine drainage containing the minerals is percolating underground in subterranean water, the minerals and water might be determined to be real property, provided the mine drainage is not in a defined channel.<sup>89</sup> If the mine drainage containing the minerals is dissolved in free flowing surface water which has been captured and controlled, it might be determined that the water and minerals are personal property.<sup>90</sup> Though not contemplated by

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<sup>83</sup> *Id.*

<sup>84</sup> Hall v. Vernon, 47 W. Va. 295, 34 S.E. 764 (1899).

<sup>85</sup> *Real Property*, BLACK'S LAW DICTIONARY (6<sup>th</sup> Ed., 1991).

<sup>86</sup> *Personal property*, BLACK'S LAW DICTIONARY (6<sup>th</sup> Ed., 1991).

<sup>87</sup> 21A M.J., WORDS AND PHRASES, Personal Property (2022).

<sup>88</sup> Peterson v. Hall, 57 W. Va. 535, 50 S.E. 603 (1905).

<sup>89</sup> 20 M.J., WATERS AND WATERCOURSES § 8 (2021).

<sup>90</sup> 20 M.J., WATERS AND WATERCOURSES § 2 (2021) and 20 M.J., WATERS AND WATERCOURSES § 8 (2021)

the new statute, waste piles and landfills with mine waste containing these minerals, could be either personal or real property largely depending upon the location, control, and issues surrounding abandonment.<sup>91</sup> Regardless of the source and location of the mine drainage, once separated from the water, the dissolved minerals will become personal property.<sup>92</sup>

A court's determinations regarding the type of water in which the minerals are dissolved<sup>93</sup>, the source of the mine drainage<sup>94</sup>, and the status of development of the dissolved minerals<sup>95</sup> will have serious effects regarding what law is applied and ultimately who is entitled to receive value from separated minerals at common law. These questions are further complicated when issues of abandonment are considered.<sup>96</sup>

### **[8] — Abandonment Issues.**

Abandonment generally means the voluntary relinquishment of property rights with the intention of not ever reclaiming them or vesting them in another.<sup>97</sup> Generally, to abandon, an owner must intend to abandon and commit some act or acts to carry out the abandonment.<sup>98</sup> Real property, personal property, and equitable rights to property may be lost by abandonment and claimed by others depending upon the individual facts of a case.<sup>99</sup>

Most states have enacted various statutes through the years which have altered the common law of abandonment in specific situations. West Virginia has statutes which concern abandonment regarding unclaimed

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91 1A M.J., ABANDONMENT § 1 (2022). *See also Mine tailings as real or personal property*, 75 A.L.R.4th 965.

92 *Carter v. Tyler County Court*, 45 W. Va. 806, 32 S.E. 216 (1899).

93 20 M.J., WATERS AND WATERCOURSES § 2 (2021) and 20 M.J., WATERS AND WATERCOURSES § 8 (2021)

94 1A M.J., ABANDONMENT § 1 (2022). *See also Mine tailings as real or personal property*, 75 A.L.R.4th 965

95 *Carter v. Tyler County Court*, 45 W. Va. 806, 32 S.E. 216 (1899).

96 1A M.J., ABANDONMENT § 1 (2022).

97 *Id.*

98 *Id.*

99 1A M.J., ABANDONMENT § 2 through § 4 (2022).

property,<sup>100</sup> landlord-tenant issues,<sup>101</sup> foreclosure issues,<sup>102</sup> and oil and gas wells and leases.<sup>103</sup> However, the West Virginia common law still governs abandonments of recorded and prescriptive rights of way.<sup>104</sup> The common law of abandonment in conjunction with the new statute will play a paramount role in determining who has rights to the minerals extracted from mine drainage.

### **[9] — Mine Permitting and Post-Mining Treatment.**

Prior to coal mining, an operator is required to receive a mining permit issued under West Virginia's Surface Coal Mining and Reclamation Act by the Department of Environmental Protection.<sup>105</sup> The permit is normally only for the right to mine coal at a specific location and includes an obligation to manage environmental impacts and by-products of mining.<sup>106</sup> A reclamation plan is prepared prior to the issuance of a mining permit and includes obligations to treat mine drainage pollution to levels below Clean Water Act limitations.<sup>107</sup> Rare earth elements and critical mineral extractions are not normally covered under existing coal mining permits. Rather, the extraction of rare earth elements and critical minerals occurs as part of the water treatment under a permit.

In some circumstances, companies have not followed through on their permit obligations, had their permits revoked, forfeited associated financial assurance, and lost their right to mine coal.<sup>108</sup> In these situations, the Department of Environmental Protection is required by law under a

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100 W. VA. CODE R. §36-8-2.

101 W. VA. CODE R. §55-3A-3 and W. VA. CODE R. §37-6-6.

102 W. VA. CODE R. §38-1-17.

103 W. VA. CODE R. §36-4-9a.

104 John W. Fisher II, *A Survey of the Law of Easements in West Virginia*, 112 W. VA. L. REV. 637 (2010) at 749.

105 W. VA. CODE R. §22-3-9.

106 W. VA. CODE R. §22-3-1 et seq.

107 W. VA. CODE R. §22-3-10.

108 W. VA. CODE R. §22-3-17.

federal court ruling<sup>109</sup> to assume responsibility for the reclamation plan of the permitted site and the treatment of the water pollution. Under certain circumstances and if desired by any party, the department may reinstate a prior permit.<sup>110</sup>

After forfeiture, a new National Pollutant Discharge Elimination System (NPDES) permit is normally issued by the department to govern the department's management of the mine drainage.<sup>111</sup> To satisfy the requirements of the newly issued NPDES permit, the Department of Environmental Protection may construct new water treatment facilities, or they may operate existing facilities. The current university research is being conducted on a forfeited mine site, but private parties may eventually adopt the new technology. If the technology becomes commercially viable, the department may transfer its obligations under an NPDES permit to interested private parties or issue a new permit if appropriate.<sup>112</sup> Once a permit is transferred or reinstated by the department, the statutory rewards would transfer to the private party with the permit obligations under the new statute.<sup>113</sup>

The new statute recognizes prior and future contractual obligations undertaken by private parties and the Department of Environmental Protection in subsections (c) and (d) with a proviso against interference with "any existing contract or the ability of the department to enter into an agreement with private parties".<sup>114</sup> This provision represents the legislature's intent to preserve the status quo for those satisfying their obligations to treat the mine drainage and reward them with the added benefit of the potential revenue to offset the costs associated with cleaning up the water pollution. If a permittee has walked away from its obligations, the statute rewards the

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<sup>109</sup> W. Virginia Highlands Conservancy, Inc. v. Huffman, 588 F. Supp. 2d 678 (N.D.W. Va. 2009).

<sup>110</sup> W. VA. CODE R. §22-3-17(b).

<sup>111</sup> W. VA. CODE R. §22-11-8.

<sup>112</sup> W. VA. CODE R. §22-11-11.

<sup>113</sup> W. VA. CODE R. §22-2-10(c) and (d).

<sup>114</sup> W. VA. CODE R. §22-2-10(c) and (d).

Department of Environmental Protection with additional revenue to assist with mine drainage treatment. The proviso also recognizes the possibility that the Department of Environmental Protection may one day wish to transfer an assumed permit obligation to a private party.

**[10] — Persuasive Authority from the State of Utah  
for Dissolved Mineral Ownership.**

On point legal authority is scarce regarding ownership of minerals dissolved in water, but two cases from the early 1900s in the State of Utah do provide some persuasive guidance concerning ownership. The cases concern copper dissolved in mine drainage. These persuasive holdings predate the modern statutory and regulatory controls on water pollution, but highlight common law rules concerning abandonment, capture, and the differences between real and personal property.

In *Stephens Hays Estate, Inc. v. Togliatti*, the plaintiff mineral owner filed suit against the defendant surface owner in a failed effort to quiet title under a mineral reservation to water containing dissolved copper.<sup>115</sup> The surface owner was processing water both from a stream under an extraction permit and from water percolating through the surface owner's soil.<sup>116</sup> The surface owner was extracting the dissolved copper from the water solution by operating a precipitation plant.<sup>117</sup> The Supreme Court of Utah reasoned that the characteristics of the water containing copper in solution are unlike the characteristics of minerals, and thusly the court did not extend the definition of mineral beyond what is generally understood by including the water as a mineral.<sup>118</sup> Citing the law of abandonment, the court determined that the dissolved copper came from abandoned mine tailings upstream of the surface owner's operation.<sup>119</sup> The court held that water containing dissolved copper

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<sup>115</sup> *Stephens Hays Estate, Inc. v. Togliatti*, 85 Utah 137, 38 P.2d 1066 (1934).

<sup>116</sup> *Id.*

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

is not a mineral, thus allowing the surface owner to continue the operation with good title to the dissolved copper.<sup>120</sup>

In *Utah Copper Co. v. Montana-Bingham Consol. Mining Co.*, the plaintiff filed suit to condemn a right of way to lay a pipeline across the defendant's land to extract water containing dissolved copper and other minerals from the plaintiff's surface deposit of mine tailings.<sup>121</sup> The plaintiff intended to process the water and remove the dissolved minerals for commercial value.<sup>122</sup> The defendant argued the water and dissolved minerals belonged to the defendant because the water was percolating through the defendant's soil.<sup>123</sup> The court did not discuss the question directly of whether the dissolved minerals were part of the water or a separate mineral estate, but held that so long as the water was extracted only from the plaintiff's surface dump, the water and dissolved minerals belonged to plaintiff.<sup>124</sup> The court further indicated that the water and dissolved minerals would belong to the defendant if and when the water was permitted to escape from the dump and percolate through the defendant's soil.<sup>125</sup>

These holdings are supportive of the new statute in that the dissolved minerals are part of the water, not a separate mineral interest, and once abandoned by the mining operation and property owner, are the property of the person or entity separating the dissolved minerals from the mine drainage.

### § 11.03. New West Virginia Statutory Provisions.

The new language in the West Virginia Code is added as a new section under the Abandoned Mine Lands and Reclamation Act, being §22-2-10, and is titled "Benefits derived from substances separated by treatment

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120 *Id.*

121 *Utah Copper Co. v. Montana-Bingham Consol. Mining Co.*, 69 Utah 423, 255 P. 672 (1926).

122 *Id.*

123 *Id.*

124 *Id.*

125 *Id.*

of pollution from mine drainage in the waters of the state; public policy; legislative findings, intent, and purpose; severability.”

**[1] — Public Policy and Legislative Findings, Intent, and Purpose.**

The first two subsections of the new statute provide background and justification for the legislation. These first two sections read as follows:

(a) Public Policy. It is the long-standing public policy of the State of West Virginia, pursuant to § 22-11-1 et seq. of this code, the Water Pollution Control Act, that the state is compelled to maintain reasonable standards of purity and quality of the waters of the state which are consistent with public health and the protection of all forms of life. It is also the long-standing public policy of this state, pursuant to § 20-2-1 et seq. of this code, that wildlife resources in this state shall be held as a public trust by the state and protected for the use and enjoyment of its citizens.<sup>126</sup>

(b) Legislative Findings, Intent, and Purpose. The Legislature finds that treatment of mine drainage reduces environmental harm by reducing toxic substances and pollution in the waters of the state. The Legislature finds that the necessary and expensive treatment of mine drainage to remove pollution from the waters of the state, and disposal of the same, may produce materials that contain valuable concentrations of rare earth elements, critical materials, and other substances which may be utilized for commercial gain. The Legislature finds that these materials found within the waters of the state are part of the water and can only be separated from the water with expensive and continuing investments of resources which may last for decades. The Legislature enacts this section with the intent of fulfilling the state’s obligations to maintain reasonable standards of purity and quality of the waters of the state,

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<sup>126</sup> W. VA. CODE R. §22-2-10(a).

consistent with public health and the protection of all forms of life, by encouraging investments into the treatment of mine drainage.<sup>127</sup>

## **[2] — Statutory Language Concerning Ownership and Development.**

### **[a]— Department of Environmental Protection.**

The statutory language concerning ownership is found in two subsections with different but similar language which reflects the different circumstances of different parties. The first subsection, found in subsection (c), governs the West Virginia Department of Environmental Protection. When a permittee fails to meet its obligations or forfeits its coal mining permit, the Department of Environmental Protection takes over the responsibility of mine reclamation and treatment of any mine drainage.<sup>128</sup> This obligation lasts for many years or even decades at great expense and varies from site to site. At the end of the year 2021, the department had assumed responsibility for 183 abandoned mine sites with 21 more sites under review or construction.<sup>129</sup> The department spends approximately \$4.5 million dollars annually on mine drainage treatment.<sup>130</sup> To offset these high costs for the treatment of mine drainage, the legislature enacted subsection (c) which states in part:

(c) Notwithstanding any provision of this code or common law to the contrary, all chemical compounds, elements, and other potentially toxic materials which are found within the waters of this state, which are derived from the treatment of mine drainage, and which have economic value, may be used, sold, or transferred by the Department of Environmental Protection, or its designee, for

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<sup>127</sup> W. VA. CODE R. §22-2-10(b).

<sup>128</sup> W. VA. CODE R. §22-3-11(g); *W. Virginia Highlands Conservancy, Inc. v. Huffman*, 588 F. Supp. 2d 678 (N.D.W. Va. 2009).

<sup>129</sup> SPECIAL RECLAMATION FUND ADVISORY COUNCIL, ANNUAL REPORT TO THE WEST VIRGINIA LEGISLATURE (2022) at page 12.

<sup>130</sup> *Water Treatment – Operation and Maintenance Cost*, OFFICE OF SPECIAL RECLAMATION, WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, INTERNAL REPORT (October 2020).

commercial gain and benefit. All funds received by the department shall be deposited at the discretion of the secretary into the Special Reclamation Water Trust Fund or the Acid Mine Drainage Set-Aside Fund, and used by the department to fulfill its obligations under this code: . . .<sup>131</sup>

Thus, any funds received by the department from its sale of minerals because of the treatment of mine drainage must be held and used by the department to fulfill its obligations of maintaining reasonable standards of purity and quality of the waters of the state, consistent with public health and the protection of all forms of life.

### **[b] — Other Interested Parties.**

The second subsection containing language concerning ownership is subsection (d). This subsection governs all other parties who may be treating mine drainage, except the Department of Environmental Protection. Normally this would be a coal mining company satisfying its obligations under a permit. Again, this obligation can last for many years at great expense to the permittee. As of July 21, 2022, there are 210 privately held NPDES permits which include mine drainage treatment.<sup>132</sup>

To offset treatment costs and perhaps to derive a profit from the treatment of mine drainage, the legislature enacted this subsection which states in part:

(d) Notwithstanding any provision of this code or common law to the contrary, all chemical compounds, elements, and other potentially toxic materials which are found within the waters of this state which are derived from the treatment of mine drainage, and which have economic value, may be used, sold, or transferred by any party, other than the department, who successfully removes said chemical compounds, elements, and other potentially toxic materials from the waters of this state for commercial gain and benefit: Provided, That nothing in this subsection shall be con-

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<sup>131</sup> W. VA. CODE R. §22-2-10(c).

<sup>132</sup> WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, INTERNAL REPORT, (Database Queried July 21, 2022).

strued to interfere with any existing contract or the ability of parties to enter into an agreement with respect to the removal, sale, or transfer of said chemical compounds, elements, and other potentially toxic materials...<sup>133</sup>

Thus, any funds received by any party, other than the Department of Environmental Protection, from the treatment of mine drainage are the property of the treating party. This was enacted to maintain reasonable standards of purity and quality of the waters of the state, consistent with public health and the protection of all forms of life, and to foster industrial development.

**[c] — Proviso and Severability.**

Included within the two subsections are provisos to afford constitutional protection to existing contractual agreements. In subsection (c) concerning the West Virginia Department of Environmental Protection, the proviso reads:

emical compounds, elements, and other potentially toxic materials.<sup>134</sup>

In subsection (d) concerning parties other than the department, the proviso reads:

*...Provided,* That nothing in this subsection shall be construed to interfere with any existing contract or the ability of parties to enter into an agreement with respect to the removal, sale, or transfer of said chemical compounds, elements, and other potentially toxic materials.<sup>135</sup>

Finally, to afford additional constitutional protection to parties utilizing the statute, a severability clause is included as subsection (e), which reads:

(e) The provisions of this section are severable, and if any part of this section is adjudged to be unconstitutional, unenforceable, or

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<sup>133</sup> W. VA. CODE R. §22-2-10(d).

<sup>134</sup> W. VA. CODE R. §22-2-10(c).

<sup>135</sup> W. VA. CODE R. §22-2-10(d).

invalid, that determination does not affect the continuing validity of the remaining provisions of this section.<sup>136</sup>

#### **§ 11.04. Possible Constitutional Challenges.**

One of the significant issues surrounding the new statute is the argument that it is either a constitutionally prohibited taking of the dissolved minerals or the impairment of existing contracts.

##### **[1] — Challenges Based Upon Takings Provisions.**

At its most fundamental level, a taking is the transfer of possession or control of property from the current owner to another.<sup>137</sup> When property is taken by a private party from another private party without proper authorization, tort, contract, criminal, and property law concepts govern this behavior including waste, trespass, theft, and conversion.<sup>138</sup> The regulation of behavior between private parties has always been seen as part of the primary role of government in safeguarding our liberties.<sup>139</sup>

When property is taken by actions of a governmental agency or certain governmental monopolies, the behavior is further regulated to protect owners from the monopoly power of governments.<sup>140</sup> This protection is found in the takings provisions of our constitutions which establish requirements of just compensation and due process limitations.<sup>141</sup> A taking by a government occurs not only with physical seizure of property, but also when the government's action has an unduly harsh impact on an owner's use and enjoyment of their property; one example is stringent zoning laws placed on the economic viability of property use.<sup>142</sup>

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<sup>136</sup> W. VA. CODE R. §22-2-10(e).

<sup>137</sup> *Taking*, BLACK'S LAW DICTIONARY, (6th Ed., 1991).

<sup>138</sup> *Id.*

<sup>139</sup> THE DECLARATION OF INDEPENDENCE, Preamble, para. 2 (U.S. 1776).

<sup>140</sup> *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 98 S. Ct. 2646, 57 L. Ed. 2d 631 (1978).

<sup>141</sup> U.S. CONST. amend. V; W. VA. CONST. art. 3.

<sup>142</sup> *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 98 S. Ct. 2646, 57 L. Ed. 2d 631 (1978).

The United States Constitution, 5th Amendment, prohibits the taking of property as follows:

**No person shall** be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor **be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.**<sup>143</sup> [Emphasis added.]

The West Virginia Constitution, Article 3, prohibits the taking of property as follows:

Private property shall not be taken or damaged for public use, without just compensation; nor shall the same be taken by any company, incorporated for the purposes of internal improvement, until just compensation shall have been paid, or secured to be paid, to the owner; and when private property shall be taken, or damaged for public use, or for the use of such corporation, the compensation to the owner shall be ascertained in such manner as may be prescribed by general law: Provided, That when required by either of the parties, such compensation shall be ascertained by an impartial jury of twelve freeholders.<sup>144</sup>

Moreover, the West Virginia Constitution, Article 3, also relevantly states:

No person shall be deprived of life, liberty, or property, without due process of law, and the judgment of his peers.<sup>145</sup>

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<sup>143</sup> U.S. CONST. amend. V.

<sup>144</sup> W. VA. CONST. art. 3, § 9.

<sup>145</sup> W. VA. CONST. art. 3, § 10.

To prove a claim of taking, a plaintiff landowner has the burden to establish the deprivation of a constitutionally protected property interest by state action without due process and just compensation.<sup>146</sup> An individual has a constitutionally protected property interest when they are entitled to a benefit created and defined by a source independent of the Constitution, such as state or federal law.<sup>147</sup>

A plaintiff landowner will have to overcome many issues to establish that the dissolved minerals are a constitutionally protected property interest.<sup>148</sup> First, the plaintiff may have to establish that the dissolved minerals are a separate and distinct estate in land, and not merely part of the water as discussed above. Further, a plaintiff may need to prove that the dissolved minerals came from the plaintiff's land, not from another parcel in the watershed. Additionally, as discussed above, the plaintiff may need to establish they did not previously abandon the dissolved minerals and that the rule of capture does not apply. If these types of issues can be overcome, a plaintiff may have a constitutionally protected property interest.

As previously stated, the new statute is divided into two parts. A plaintiff's case may be based upon the different code sections depending upon what type of entity holds the permit, the state, or a private party. The first, subsection (c), governs the Department of Environmental Protection, a governmental agency, and its agents.<sup>149</sup> The second, subsection (d), governs other private parties.<sup>150</sup> The legislature included the severability clause in subsection (e) to help avoid issues concerning the constitutionality of the new statute. This may preserve the functionality of the remaining portions of the new statute in the case of an adverse finding by the court system.<sup>151</sup>

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146 *Willis v. City of Virginia Beach*, 90 F. Supp. 3d 597 (2015); *Collins v. City of Bridgeport*, 525 S.E.2d 658, 206 W. Va. 467 (1999). *See also* *Tapia v. City of Albuquerque*, 10 F. Supp. 3d 1207 (2014).

147 *Id.*

148 *Id.*

149 W. VA. CODE R. §22-2-10(c).

150 W. VA. CODE R. §22-2-10(d).

151 W. VA. CODE R. §22-2-10(e).

If a plaintiff successfully establishes that a taking has occurred, they would be entitled to the benefit of receiving just compensation for the dissolved minerals which were taken and the rights to future compensation.<sup>152</sup> However, upon establishing ownership of the dissolved minerals through the constitutional challenge, the plaintiff may also become responsible for the liability of treating the water to within legally acceptable Clean Water Act<sup>153</sup> limits for future discharges. This may include applying for and receiving an NPDES permit from the Department of Environmental Protection for the discharge of what has judicially been determined is their pollution.<sup>154</sup> They may also be responsible for compliance with the Surface Coal Mining and Reclamation Act<sup>155</sup> and the Ground Water Protection Act<sup>156</sup> depending upon the specific situation.

### [2] — Challenges Based upon Contract Provisions.

The West Virginia Constitution, Article 3, prohibits the impairment of contracts as follows:

The privilege of the writ of habeas corpus shall not be suspended. No person shall be held to answer for treason, felony, or other crime, not cognizable by a justice, unless on presentment or indictment of a grand jury. **No bill of attainder, ex post facto law, or law impairing the obligation of a contract, shall be passed.**<sup>157</sup>  
[Emphasis added.]

Moreover, the West Virginia Supreme Court of Appeals has interpreted this constitutional provision stating:

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152 W. VA. CONST. art. 3, §9; U.S. CONST. amend. V.

153 W. VA. CODE R. §22-11-1 et seq.

154 W. VA. CODE R. §22-11-1 et seq. *See also* W. VA. CODE R. §47-2.

155 W. VA. CODE R. §22-3-1 et seq.

156 W. VA. CODE R. §22-12-1 et seq.

157 W. VA. CONST., art. 3, §4.

[T]he contract clause prohibits the passage of a statute or law which impairs the obligation of an existing contract.<sup>158</sup>

Aware of the prior existing agreements and permits in effect, the legislature included the following language to comply with the constitutional requirement against the impairment of contracts:

*...Provided, That nothing in this subsection shall be construed to interfere with any existing contract or the ability of parties to enter into an agreement with respect to the removal, sale, or transfer of said chemical compounds, elements, and other potentially toxic materials.*<sup>159</sup>

This language was included in the new statutory provisions to avoid injustice and constitutional challenges. Of course, the prior agreements would have to be valid, enforceable, and not abandoned at the time of passage to receive any protection.<sup>160</sup>

### **§ 11.05. Conclusions.**

[1] The legislature drafted the new statutory language to focus on reducing the environmental harm caused by mine drainage by encouraging investments in the removal of pollution from rivers and streams. This was done by helping to clarify legal title to potentially valuable substances derived from the treatment of the water and by allowing for any commercial gain to be enjoyed by the party burdened by the expense of the water treatment. The state has a legal duty, either directly or through oversight, to maintain reasonable standards of purity and quality of the waters, consistent with public health and the protection of all forms of life. The legislation should help to fulfill the state's obligations.

[2] The new statutory language is narrowly written to minimize its overall legal effect on existing common and statutory laws. It is located

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<sup>158</sup> *Devon Corp. v. Miller*, 167 W. Va. 362, 280 S.E.2d 108 (1981), cert. denied, 455 U.S. 993, 102 S. Ct. 1622, 71 L. Ed. 2d 855 (1982); and *Shell v. Metropolitan Life Ins. Co.*, 181 W. Va. 16, 380 S.E.2d 183 (1989).

<sup>159</sup> W. VA. CODE R. §22-2-10(d).

<sup>160</sup> *Devon Corp. v. Miller*, 167 W. Va. 362, 280 S.E.2d 108 (1981).

within the Abandoned Mine Lands and Reclamation Act and applies only to substances produced from treating mine drainage. Any party wishing to begin treatment of mine drainage will need a permit issued by the Department of Environmental Protection to begin operation and secure any commercial gain. Finally, the new statute contains both a savings clause to protect existing contracts and a severability clause to help avoid invalidation by legal challenges.

[3] The new statute's effects on water pollution, property ownership, and the fledgling industry are just beginning, but given the research's potential and the nation's economic and security interests, the uncertain future may coalesce into a meaningful resource.



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