

# SUSTAINABLE DEVELOPMENT LAW & POLICY



EXPLORING HOW TODAY'S DEVELOPMENT AFFECTS FUTURE GENERATIONS AROUND THE GLOBE

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# EDITORS' NOTE

Each decade, new challenges present themselves to the citizenry of the globe. Some challenges include concerns about the environment, technological innovation, economic productivity, and international competitiveness. Investment in infrastructure facilities is crucial to addressing these challenges. Numerous past infrastructure investments have been responsible for significant improvements in the overall quality of life in terms of health, safety, economic opportunity, and leisure time and activities. Yet, much remains to be done if we desire a future with a cleaner environment, with safer urban streets, with increased mobility and economic opportunity for the disadvantaged, and with an economy well equipped to compete in the international arena.

In attempting to answer the query of “Why is infrastructure important?” this issue of the *Sustainable Development Law & Policy Brief* seeks to highlight the linkages between infrastructure and overall quality of life as well as the potential importance of public infrastructure spending to the aggregate economy. Our first article, *A Nuclear Threat: The Tenth Circuit’s Shocking Misinterpretation of Preemption Demanding an Amendment to the Price-Anderson Act*, by Stephanie Fishman analyzes how the Tenth Circuit’s misinterpretation of the “nuclear incident” at Rocky Flats will negatively impact innovation in an industry critical to essential human services such as energy, power, and national security, and thus renders nuclear market participants susceptible to a new and undefined liability. Author Florianne Silvestri in her article, *Wind Power and the Legal Challenges with NEPA and the ESA* uses the state of Ohio as a case study to discuss how the wind energy sector must often overcome legal challenges such as the National Environmental Policy Act and Endangered Species Act.

This issue also includes seven featured articles exploring other important infrastructure topics. Nicole Waxman argues that the United States Supreme Court’s weakening of the waiver of federal sovereign immunity under the Comprehensive Environmental Response, Compensation and Liability Act is preventing federally-contaminated sites such as the Washington Navy Yard from being fully remediated. Our second featured article by Kate Juon asserts that although the slogan, “reduce, reuse, and recycle” (“Three Rs”) originated in the United States,

the United States lags behind many other countries because they have more effectively applied the principles of the Three Rs within their own waste management systems on a national level. Alycia Kokos argues that the South African Constitution which grants every citizen has the right to have access to sufficient water needs to be qualitatively defined to ensure that the government is held accountable, and thus compelled to take action.


Amanda Stoner demonstrates how the permitting process under the Clean Water Act is better suited to regulate large dischargers such as “industrial, commercial, and municipal point sources” rather than individual septic systems in remote communities of Appalachia because people living in economically depressed areas are unable to apply for permits, pay an application fee, and volunteer to be monitored by government authorities. Alexandra Nolan discusses the downfall of the Urban Housing and Development Act of 1992 in Manila, Philippines and how it is being constitutionally challenged by citizens losing their homes to foreign corporations. Elena Franco asserts that the review of new infrastructure projects should take into account the relationship between the built environment, climate change, and natural disasters because this interconnectedness poses additional vulnerability to our infrastructure and our population. Mark Yurich discusses how the workers in the Gig Economy are seeking reclassification from independent contractors to employees under the Fair Labor Standards Act and other state laws in order to receive employment benefits, including minimum wage and overtime protection.

On behalf of the *Sustainable Development Law and Policy* staff, we would like to thank all of the authors who contributed their time, efforts, and scholarship to this issue. We would also like to thank our staff for all of their hard work and dedication to *SDLP*. Lastly, we would like to thank our readers for your continuing interest and support of *SDLP*.

Sincerely,



Luke Trompeter  
Co-Editor in Chief



Ingrid Lesemann  
Co-Editor in Chief

# ABOUT SDLP

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Because our publication focuses on reconciling the tensions found within our ecosystem, it spans a broad range of environmental issues such as sustainable development; trade; renewable energy; environmental justice; air, water, and noise regulation; climate change; land use, conservation, and property rights; resource use and regulation; and animal protection.

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# A NEW NUCLEAR THREAT: THE TENTH CIRCUIT'S SHOCKING MISINTERPRETATION OF PREEMPTION DEMANDING AN AMENDMENT TO THE PRICE-ANDERSON ACT

Stephanie Fishman\*

## INTRODUCTION

Nuclear power will be the key to America's energy future. While we still live in the wake of Soviet-era nuclear stereotypes, the horror of Chernobyl, and face dilemmas on where to store the waste, nuclear energy is the safest, cleanest, and most reliable source.<sup>1</sup> A nuclear energy facility can produce energy at a ninety-one percent efficiency rate, 24/7, with zero carbon emissions. Additionally, nuclear plants run on uranium—an element so energy-rich that a single fuel pellet the size of a fingertip contains as much energy as 17,000 cubic feet of natural gas, 149 gallons of oil, or one ton of coal—saving the United States nearly twelve billion dollars a year in energy costs.<sup>2</sup> Thus, the federal government maintains a strong interest in propping up the nuclear industry, despite the stigmas about nuclear waste.<sup>3</sup>

The Rocky Flats Plant is a nuclear weapons production facility located just sixteen miles from the densely populated city of Denver.<sup>4</sup> Dow Chemical first operated the plant under a contract with the federal government, and then Rockwell International Corporation acquired the contract.<sup>5</sup> However, plant operations halted in 1989 when the Federal Bureau of Investigation (FBI) raided the facility and unearthed indications of environmental crimes.<sup>6</sup> Plant workers mishandled radioactive waste and the community theorized that some of the waste had been poured into the ground, released into the air, and permeated the soil throughout the area.<sup>7</sup> As this news emerged, the plant's neighbors saw their property values plummet.<sup>8</sup> Consequently, in 1990, the property owners filed a class action suit under Colorado state tort law and the federally mandated Price-Anderson Act (PAA or "the Act"), alleging that the operators of the nuclear plant negligently mishandled high-threat radioactive and nuclear materials.<sup>9</sup> The dual authority action proceeded in hopes of recovering for damages caused by releases of plutonium and other hazardous substances.<sup>10</sup>

The PAA, which was enacted in 1957 to promote the growth and innovation of nuclear enterprises, currently serves as insurance coverage to nuclear power plants in the event of an incident or accident.<sup>11</sup> The Act is designed to protect the nuclear industry against liability claims arising from nuclear incidents while still ensuring compensation coverage for the general public.<sup>12</sup> To promote the investment of nuclear energy plants given the nexus of low liability and likelihood for risk, the Act establishes

a no-fault insurance-type system, in which the first \$12.6 billion of payout is industry-funded.<sup>13</sup>

However, after twenty-five years of litigation, the United States Court of Appeals for the Tenth Circuit ultimately held that the plaintiffs in the Rocky Flats case did not meet the criteria to bring their suit under the PAA, and that they had to rely solely on Colorado state tort law and assert a nuisance claim.<sup>14</sup> The court held that plaintiffs alleging injury from "lesser nuclear occurrences"—that is, injuries failing to meet the PAA's threshold of bodily injury or property damage—could recover damages under state tort law.<sup>15</sup> This resulted in more than \$1 billion judgment for a group of plaintiffs whose injury was characterized as a "lesser nuclear occurrence."<sup>16</sup> The characterization as a "lesser nuclear occurrence" meant that the damage at the Rocky Flats Plant did not constitute enough harm to trigger the PAA compensation scheme; as a nuclear incident, the plant was personally liable.<sup>17</sup>

Despite how dangerous to the industry that figure may seem, the lasting consequences of the decision could be even graver. For instance, the Tenth Circuit's decision provides the plaintiffs with an option to circumvent the PAA's entire nuclear liability regime.<sup>18</sup> The decision allows a plaintiff to file a claim, regardless of the degree of nuclear harm and elevated PAA criteria, which could result in a judgement against the nuclear plant and effectively end the energy innovation taking place.<sup>19</sup> Citizens injured in some way by a nuclear plant deserve compensation and justice. Yet, in siding with the plaintiffs, the Tenth Circuit overturned the PAA's vigilantly crafted equilibrium of protecting the public from harm created by radioactive material, while defying the comprehensive nuclear liability regime for owners and operators of nuclear facilities.<sup>20</sup> This result creates an incentive for defendants of nuclear tort actions to allow Price-Anderson judgments against them, which is likely preferable to the litigation of a state tort claim.<sup>21</sup> While the Tenth Circuit's misinterpretation of the "nuclear incident" at Rocky Flats resulted in a damages amount that exceeded the compensation intentionally allocated for this type of event by Congress, it also contradicted Ninth Circuit and Fifth Circuit.<sup>22</sup> Consequently, the decision will negatively impact innovation

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in an industry critical to essential human services such as energy, power, and national security.<sup>23</sup>

The Tenth Circuit's decision renders nuclear market participants susceptible to a new and undefined liability. This uncertainty has a cascade of negative consequences. First, such uncertainty threatens to destabilize and weaken the value of the PAA's compensation system by disrupting the settled expectations of participants and investors in the nuclear market.<sup>24</sup> Second, it discourages added participation and investment in nuclear energy within the United States.<sup>25</sup> Further, it threatens to make the United States an outlier among countries with commercial nuclear energy programs, many of which are governed by international nuclear liability conventions predicated on the principles inherent in the PAA.<sup>26</sup> Aside from the political and industrial consequences stemming from *Cook v. Rockwell International Corp.*,<sup>27</sup> the decision may ultimately allow the court to regulate the industry as a means to modify an industry that is rapidly modernizing, effectively amending the definition of a "nuclear incident" within the PAA.<sup>28</sup>

This Article analyzes the preemption concerns raised by the Tenth Circuit decision in *Cook v. Rockwell International Corp.*, and the sweeping outcomes for the nuclear energy industry. Part II provides background information on the PAA, the federal law that preempts the Tenth Circuit decision, and compares the preemption doctrine in similar energy contexts.<sup>29</sup> Part III analyzes the extensive impacts that the Tenth Circuit's preemption misinterpretation, and current posture of the law from this decision, poses for nuclear energy companies, the power industries, and judicial review.<sup>30</sup> Part III also acknowledges that while this was a bad judgment with negative repercussions for the legal and nuclear communities, the definition of a "nuclear incident" in the Atomic Energy Act (AEA) should conform to the related definition of "nuclear damage" in the Convention on Supplementary Compensation for Nuclear Damage.<sup>31</sup> This will ensure that the legal framework from the *Cook* decision has a limited impact and is better defined going forward.<sup>32</sup> Communities should receive monetary compensation for injuries permeating out of nuclear plants. Therefore, the PAA should be amended allowing citizens injured from modern nuclear occurrences to merit compensation under the liability regime specifically designated for that type of injury.

## II. BACKGROUND

### A. OVERVIEW OF THE PRICE-ANDERSON ACT (PAA): INCENTIVIZING ENERGY INNOVATION

Nuclear power plants and nuclear reactors are often located within a few hours' drive of major cities, like Los Angeles and New York.<sup>33</sup> The Three Mile Island plant, for example, is located near Philadelphia, Pennsylvania with a metropolitan area radius encompassing over 2 million people.<sup>34</sup> Such proximity raises questions about the safety of the plant and the cost resulting from a nuclear accident. Congress enacted the PAA in 1957 to provide answers to such questions.<sup>35</sup> In 1957, the United States wanted to promote the development of nuclear energy to

decrease dependence on fossil fuels.<sup>36</sup> The country was developing nuclear weapons, aligning with the International Atomic Energy Agency (IAEA), and propping up nuclear power plants, and while nuclear innovation posed a number of safety risks, it was ordered as the first economic alternative to coal.<sup>37</sup> Nuclear power plants emit fewer radioactive materials into the environment than a traditional coal-burning plant.<sup>38</sup>

Prior to 1957, an obstacle emerged for the development of cleaner energy. To transition from a government controlled industry to a privately operated facility conducting innovative energy development an enormous amount of insurance was required.<sup>39</sup> Insurers were unwilling and unable to provide risk coverage to this seemingly perilous industry whose major product possesses all the features of uninsurability.<sup>40</sup> Consequently, Congress passed the PAA as an amendment to the AEA, ensuring substantial funds are available to compensate the public in the event of an accident.<sup>41</sup>

The PAA's success comes from its twofold subsidy on the nuclear industry. First, it limits the amount of primary insurance that nuclear operators must carry—an uncalculated subsidy in terms of insurance premiums that they do not have to pay.<sup>42</sup> This distorts electricity markets by masking nuclear power's unique safety and security risks, and grants nuclear power an unfair and undesirable competitive advantage over other energy alternatives.<sup>43</sup> Second, the PAA caps the liability of operators in the event of a serious accident or attack, leaving taxpayers responsible for most of the damages beyond.<sup>44</sup>

In passing the PAA, Congress capped the amount of liability an energy company could face in the event of an accident. Through this program, the nuclear energy industry maintains \$43.2 billion in liability coverage by the federal government.<sup>45</sup> Thus, the PAA creates exclusive liability for nuclear operators for injury arising from a "nuclear incident," and supplies a large pool of funds to ensure prompt and fair compensation for citizens physically or economically injured.<sup>46</sup> In turn, the PAA upholds the framework for nuclear plant insurance and sets an upper limit on industry-wide liability.<sup>47</sup> The PAA worked well when insurance funds allocated under the Act disbursed approximately \$71 million in claims and litigation costs related to the 1979 accident at Three Mile Island.<sup>48</sup> The Act has proven so successful that Congress used it as a model for legislation to protect the public against potential losses or harm from other hazards.<sup>49</sup>

This \$12.6 billion makes capital investment in the nuclear energy industry more attractive to investors because their risk is minimized and fixed.<sup>50</sup> Thus, the PAA incentivizes investment in an area of the energy industry whose development and innovation comes with potentially significant risks.

Consequently, the Act is a double-edged sword for the public that it purports to protect. While the legislation has a provision to protect the people, it was primarily intended protect the industry and bolster investor confidence.<sup>51</sup> Congress carefully crafted the Act to create a federal nuclear liability regime.<sup>52</sup> The Act protected nuclear facility owners and operators from potentially crippling charges arising from state tort actions.<sup>53</sup> For example, the Act contains an exclusive liability regime and

a comprehensive financial protection scheme serving the dual purpose of protecting the public and encouraging nuclear development.<sup>54</sup> Additionally, Congress drafted the Act to minimize its interference with state tort law.<sup>55</sup> The Act's legislative history repeatedly stressed the limited nature of the federal intrusion.<sup>56</sup> On the liability front, to facilitate prompt and equitable compensation in the event of a "nuclear incident," the PAA channels liability exclusively to the operator, without the need for claimants to prove fault on only part of the operator or other entities at the facility.<sup>57</sup> Another limitation of the PAA is the definition of "nuclear incident"; the Act defines it broadly as "any occurrence . . . within the United States causing . . . bodily injury, sickness, or death, or loss of or damage to property, arising out of or resulting from the radioactive, toxic, or other hazardous properties of source, special nuclear, or byproduct material."<sup>58</sup> The particularity of the words restrict the type of harm the PAA provides coverage for, and in an era of modern technology and advanced nuclear research, harm could be in a lesser or different form and not trigger the Act.

Despite this broad definition of "nuclear incident," not every personal injury suit brought against Commission licensees triggers the PAA's compensation scheme unless it is an extraordinary nuclear occurrence ("ENO").<sup>59</sup> The accident causing the harm must be sufficiently severe to classify as an ENO. One example where plaintiff's claims failed to meet the ENO criteria was in *Silkwood v. Kerr-McGee Corp.*<sup>60</sup> This case is significant to current PAA preemption analysis because it revolves around coverage for a nuclear occurrence being within federal jurisdiction.<sup>61</sup> The PAA issue in *Silkwood* was whether the amendment impliedly preempted punitive damages awarded in a suit not brought pursuant to the Nuclear Regulatory Commission's ("NRC") ENO provisions.<sup>62</sup> The Court found that Congress prohibited states from regulating nuclear safety, but did not prohibit judicial recourse for those injured by illegal conduct.<sup>63</sup> Ultimately, the PAA explicitly draws a roadmap for the procedural nuances associated with bringing a nuclear claim.

#### *i. Price-Anderson Act Jurisdictional Elements*

The Act has two provisions specifically conferring jurisdiction to federal trial courts. One provides that, when there has been a nuclear incident, "any indemnitor or other interested person" may petition the federal district court for a determination as to whether the liability for the incident may exceed the coverage mandated by the Act.<sup>64</sup> Pursuant to this section, a federal district court might find it necessary to supervise distribution from the indemnity fund.<sup>65</sup> The second relevant section of the Price-Anderson Act provides in pertinent part:

(2) With respect to any public liability action arising out of or resulting from an extraordinary nuclear occurrence, the United States district court in the district where the extraordinary nuclear occurrence takes place . . . shall have original jurisdiction without regard to the citizenship of any party or the amount in controversy. Upon motion of the defendant or of the Commission, any such

action pending in any State court or United States district court shall be removed or transferred to the United States district court having venue under this sub-section.<sup>66</sup>

The relationship between the PAA and a state tort claim is hierarchical. For example, the Supreme Court relied on the PAA as the primary remedy for addressing state tort claims involving the nuclear industry.<sup>67</sup> Circuits agree that the legislative history of the PAA indicates that Congress intended that state tort law be the basis of suits resulting from nuclear accidents, the Act contains provisions that align significantly with the underlying state law even in the absence of an ENO declaration.<sup>68</sup> By extending the PAA's coverage through the 1988 Amendments to the ENO criteria, Congress expressly granted rights, otherwise unavailable under state tort law.<sup>69</sup>

#### *1. PRICE-ANDERSON ACT AMENDMENT OF 1966 AND 1988*

Congress has continually extended the timeline of the PAA's coverage, and it has made significant changes to the language in the twenty-two years between 1966 and 1988. First, in 1966, Congress amended the PAA, requiring those indemnified under the Act to waive common law defenses, like contributory negligence, if an action was raised after an "extraordinary nuclear occurrence."<sup>70</sup> Congress expressed concern that aspects of state tort law, like statutes of limitation that were too short to allow actions following radiation exposure, could frustrate the PAA's purpose of compensating victims of nuclear incidents.<sup>71</sup> Congress believed this approach reflected the methodology found in the original PAA: "interfering with State law to the minimum extent necessary."<sup>72</sup> Furthermore, the legislative history for the 1966 Amendments included that "a claimant would have exactly the same rights as today under existing law, including benefit of a rule of strict liability if applicable State law so provides."<sup>73</sup>

Following the events of Three Mile Island in 1979, Congress amended the PAA again in 1988. This second change granted United States district courts original and removal jurisdiction over "public liability action" which "aris[es] out of or as result from a nuclear incident."<sup>74</sup> The Act was amended because the Three Mile Island accident could not be consolidated into federal court since it did not reach the level of an "extraordinary nuclear incident."<sup>75</sup> Thus, the 1988 Amendments solved this issue by reducing the "extraordinary" threshold at which the provisions of the PAA would apply, making the Act less rigid. Means for action after the implementation of the 1988 Amendments include "legal liability arising out of or resulting from a nuclear incident," and no longer the requirement to have an ENO.<sup>76</sup>

#### *2. THE RELATIONSHIP BETWEEN THE PRICE-ANDERSON ACT AND THE CONVENTION ON SUPPLEMENTARY COMPENSATION*

The PAA proved successful enough within the United States to inform international regulations on nuclear liability. The Convention on Supplementary Compensation for Nuclear Damage (CSC) provides a global nuclear liability and compensation scheme.<sup>77</sup> Its regime guarantees timely reimbursement

when facing particularized injury from international nuclear energy incidences.<sup>78</sup> In addition to maintaining internationally agreed upon terms and definitions, the CSC features the creation of an international insurance pool to supplement the amount of compensation available for nuclear damage resulting from an incident.<sup>79</sup> Mirroring the principles of the United States' PAA, the CSC functions as an internationally respected liability standard for nuclear damage adhered to across the globe.<sup>80</sup> Therefore, the definition of "nuclear damage" similarly encompasses a broader spectrum of liability for an incident, accident, or lesser occurrence.<sup>81</sup> However, unlike the specific "nuclear incident" definition included in the PAA, the CSC's definition of "nuclear damage" includes economic loss and impairment of the environment.<sup>82</sup> Differences in terminology, such as the example of "nuclear damage," make it easier and more mathematically efficient to receive compensation from a nuclear accident, which is less financially devastating to the energy innovation within the nuclear industry.

The CSC is significant for having borrowed concepts from the PAA in its formulation. However, with the advancement of nuclear technology and the evolution of nuclear incidences occurring at plants in the United States, the PAA should adopt the broader definition from the international compensation plan that it helped create so that plaintiffs are likely to be compensated by a federal fund intended for this type of harm.

#### B. THE CASE WITH THE BILLION DOLLAR PAY OUT: SUMMARY OF *COOK V. ROCKWELL INTERNATIONAL CORP.* AND ASSOCIATED CONSEQUENCES OF THE DECISION

A childhood in Colorado often consists of many outdoor activities, such as playing in the mountains and swimming in the many lakes and streams. Finding out that those streams were contaminated with weapon-grade plutonium would be devastating. This is likely the story for anyone living outside of Denver in the 1970s.

With the increased proliferation of nuclear energy, courts began seeing litigation against nuclear power plants in the area of negligent handling of material.<sup>83</sup> Most notably, the claim in *Cook v. Rockwell International Corp.* stemmed from the mishandling of radioactive waste at the nuclear weapons facility located near downtown Denver.<sup>84</sup> During the Cold War, Dow Chemical and Rockwell International Corp. operated the plant under contracts with the federal government.<sup>85</sup> Adjacent property owners claimed harm began in 1989, when FBI agents raided the plant and unearthed signs of environmental crimes.<sup>86</sup> Evidence at trial implied that plant workers disposed of radioactive waste into the ground, where the waste leaked into bodies of water; and released radioactive particles into the air, which then migrated onto the soil around the plant.<sup>87</sup> Unfortunately, the plant did not have a spotless environmental legacy prior to 1989 either. For example, the history of the plant included plutonium fires in 1957 and 1969 that wafted toxic smoke over the Denver metropolitan area<sup>88</sup> and leaking barrels of radioactive waste and other small accidents contaminated downstream communities.<sup>89</sup> In addition to diminished

health and safety conditions, the contamination caused nearby residential property values to decline, prompting the property owners to file a lawsuit against the plant operators under both the PAA and state nuisance law.<sup>90</sup>

In 2006, a federal jury convicted Dow Chemical and Rockwell International Corporation on charges of negligent conduct.<sup>91</sup> Two years later, a Colorado federal judge ordered the companies to pay a total of \$926 million in damages, including \$549 million in prejudgment interest due to extensive pre-trial delays.<sup>92</sup> The Tenth Circuit vacated that decision in September 2010, siding with the defendants in finding that plutonium contamination by itself was not adequate cause to seek damages under the PAA, which led to the plaintiffs' appeal on state law grounds.<sup>93</sup>

In 2015, after twenty-five years of a complicated law suit involving radiation forensics, nuclear experts, a variety of litigation tricks,<sup>94</sup> and procedural reversals and remands,<sup>95</sup> the Tenth Circuit reversed the holding again in favor of the property owners. The Tenth Circuit held the claim originally brought under the PAA was invalid, and the case was alternatively a matter of state tort law.<sup>96</sup> The plaintiffs in the case were awarded over \$900 million plus interest, for a total award upwards of \$1 billion.<sup>97</sup> Instead of using money from the funding pool designed to compensate this type of harm, the award came from the nuclear plant's pocket.<sup>98</sup> The plaintiffs took advantage of this misjudgment by abandoning the mechanisms and benefits provided by the PAA and pursuing the background state law nuisance claim instead.<sup>99</sup> In response, the defendants argued that such an action was preempted by the PAA, which the court of appeals ultimately rejected.<sup>100</sup> Thus, allowing non-PAA state law claims for such "lesser occurrences" renders the Act's limitation on aggregate liability meaningless.<sup>101</sup>

#### C. THE PREEMPTION DOCTRINE AND ITS APPLICATION TO THE NUCLEAR FIELD

When state regulations conflict with a federal law, it triggers Article VI of the U.S. Constitution, which declares: "[t]he laws of the United States which shall be made in pursuance thereof . . . shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding."<sup>102</sup> Thus, a federal court may require a state to stop certain behavior it believes interferes or conflicts with a federal law.<sup>103</sup> This is the Supremacy Clause, and it gives rise to what is known as the doctrine of federal preemption.<sup>104</sup> However, application of the preemption doctrine is rarely straightforward.<sup>105</sup> In fact, the preemption doctrine gets extremely complicated and controversial.<sup>106</sup> As the Environmental Law Reporter notes, "ascertaining the presence of such federal-state conflicts is largely a matter of statutory interpretation."<sup>107</sup> When determining whether Congress chose to expressly preempt state law, courts look to the plain meaning and explicit statutory command.<sup>108</sup> However, when Congress fails to expressly address either the presence or scope of preemption within the statute, courts must somehow accommodate the tension between the competing constitutional



procedures.<sup>109</sup> Courts attempt this by inquiring into the purposes of the federal statutory scheme and by delving into the congressional intent behind its enactment.<sup>110</sup>

This implied preemption presents more complicated questions for courts. Judges must look beyond the language of the federal statutes to determine whether Congress has occupied the field in which the state is attempting to regulate, or whether the enforcement of the state law frustrates the federal purpose.<sup>111</sup> In determining whether to infer a congressional design excluding state regulation, courts first examine the language and legislative history of the federal statute.<sup>112</sup> Beyond that, they eschew any rigid formula and look instead to general criteria. For example, general criteria like the pervasiveness of the federal regulatory scheme and the need for nationally uniform regulation.<sup>113</sup> The imprecision of these indicia give courts substantial leeway in determining whether implied preemption should be found in particular cases.<sup>114</sup>

The next shift in the development of the preemption doctrine occurred during the 1940s. Within a six-year period, the Court decided *Hines v. Davidowitz*<sup>115</sup> and *Rice v. Sante Fe Elevator Corp.*<sup>116</sup> Although both decisions preserved the congressional intent requirement for finding preemption, taken together they greatly expanded the permissible scope of the Court's inquiry into legislative intent.<sup>117</sup> The Court in *Hines* held that preemption was proper where the state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress."<sup>118</sup> *Rice* went further, holding that preemptive intent could be inferred from such factors as the pervasive nature of the federal scheme or a dominant federal interest in the subject area.<sup>119</sup>

Subsequently, after 2007, there was a tendency for the Supreme Court to err on the side of broadly interpreting preemption as a means to promote judicial efficiency.<sup>120</sup> Conforming to the trend, at the Circuit Court level, when faced with facts involving state regulations of nuclear facilities, federal regulations prevailed every time.<sup>121</sup> The Three Mile Island incident in Pennsylvania, for instance, intensified national debate over the merits of nuclear power through the lens of a preemption scope.<sup>122</sup> To gain control over the future of energy and power plants, several states enacted statutes to impose restrictions and conditions on the siting of any new power reactors within their borders.<sup>123</sup> "While logical, these state statutory restrictions ignite a legal dilemma as to which of the federal laws governing nuclear development preempt state and local regulatory authority."<sup>124</sup>

Several cases illustrate the premise that the federal government sought to reign supreme on nuclear safety issues. For example, *Northern States Power Co. v. Minnesota*<sup>125</sup> represents a federal case wrestling with the preemptive effect of nuclear provisions of the AEA, where the Eighth Circuit found the state incapable to impose radiation standards more restrictive than criteria defined by the Atomic Energy Commission.<sup>126</sup> The preemption analysis in *Northern States* was more straightforward in comparison to preemption analysis of the nuclear regulations on the West Coast. In *Pacific Legal Foundation v. State Energy*

*Resources Conservation & Development Commission*,<sup>127</sup> the California Warren-Alquist Act required conditions for nuclear plant certification was more than an attempt to minimize radiation hazards.<sup>128</sup> Therefore, the court scrutinized the extent of federal preemption of state ability to control nuclear development beyond reducing radiation risks.<sup>129</sup> Thus, whether courts apply a broad and expansive preemption breakdown regarding states' nuclear regulations, as in *Northern States*, or a direct language argument for preemption as in *Pacific Legal Foundations*, the rulings bode potentially unwell for enacted state laws attempting to regulate future nuclear energy development.<sup>130</sup> The AEA preempts laws regulation radiation hazards.

In an attempt to clarify the regulatory power of federal and state authorities over nuclear development, Congress added § 274 to the AEA in 1959.<sup>131</sup> This amendment detailed the procedure by which the AEA could transfer its regulatory authority over certain types of nuclear material to the states.<sup>132</sup> The PAA prohibited the Commission, however, from ceding its authority over especially hazardous activities and materials.<sup>133</sup> Additionally, Section (k) of the 1959 amendment expressly preserved all state or local regulatory activities designed "for purposes other than protection against radiation hazards."<sup>134</sup> Thus, the expressions of congressional intent within the legislative history of the 1959 amendment demonstrated that Congress likely wished to preempt state law to some degree.<sup>135</sup> Building on this explicit preemption, in 1988 when Congress enacted the PAA amendments, it transformed the "Price-Anderson landscape," and resolved the tension between exclusive federal regulation of nuclear safety and state law compensation for injuries.<sup>136</sup>

### III. ANALYSIS

To preempt state law causes of action and clarify liability under the PAA, Congress should amend the PAA by utilizing the negative impacts from *Cook*. Individuals should be liable for lesser "nuclear occurrences" because it will ensure damages are paid from the fund and protect the longevity of nuclear innovation.

The Tenth Circuit's misinterpretation of preemption principles calls for an amendment to the PAA that stimulates nuclear innovation while still heavily compensating the general public. The *Cook* case gave the Tenth Circuit an opportunity to paint the modern preemption stroke on an industry in desperate need of modernization. It also gave the Tenth Circuit a chance to clarify preemption concerns and affirm the rationale surfacing out of its fellow Circuits. The United States' nuclear programs are essential to empowering the country.<sup>137</sup> In contrast to the less reliable wind and solar energy options, nuclear energy provides the United States with a consistent and steady power source.<sup>138</sup> Despite the advantages to nuclear innovation, hazardous events contributed to public fear of the industry.<sup>139</sup> However, the accident at Three Mile Island that created skepticism of nuclear energy was two generations ago.<sup>140</sup> Since then, engineers have developed designs to avoid such failures.<sup>141</sup> Further, the Three Mile Island incident expressly met the criteria outlined in the PAA for liability coverage.<sup>142</sup> With the advancement of nuclear technology and measures taken to insulate themselves from

liability within the industry, Congress and the regulators are at a crossroads with the PAA and the terms and technical definitions from the 1950's that it encompasses.<sup>143</sup> Based on the confining procedural criteria of the PAA, and the way a plaintiff may only raise a PAA claim if the technical benchmarks are satisfied, the Tenth Circuit in *Cook v. Rockwell Int'l Corp.* misinterpreted preemption principles. Yet, in examining the consequences of the Tenth Circuit's rationale in *Cook*, it is first essential to examine preemption concerns to understand how the Tenth Circuit established the holding that directly contradicts that of other Circuits—reconciling bad facts and creating consequential law. After examining the significant impacts and whether the decision was preempted, it is clear the decision precipitates an essential amendment to the PAA that will in turn protect nuclear plants from having to pay billions in damages for mere occurrences, and further protect nuclear innovation.

#### A. THE TENTH CIRCUIT DECISION IN *COOK* IS SIGNIFICANT FOR CONFLICTING WITH JUDICIAL PRECEDENT, CONGRESSIONAL INTENT, AND FOR OPENING THE LITIGATION FLOODGATES

The *Cook* decision is significant because it contradicts other Circuits, unravels congressional intent regarding the federal law, and widens the judicial door by creating the option to circumvent the PAA with a nuclear liability claim. The nuclear industry invested in innovation by trusting the PAA's nuclear liability regime.<sup>144</sup> The Tenth Circuit's decision jeopardizes the industry by creating new risks, in addition to the dangers associated with the activity on its face.<sup>145</sup> For example, there is a real probability that nuclear owners and operators, and thus, government entities, could be burdened with significant judgments—perhaps upwards of billions of dollars—in favor of plaintiffs who may not have suffered harm that Congress deemed significant enough to warrant compensation under the PAA.<sup>146</sup> If courts rely on *Cook* in cases of alleged harmful occurrences compliance with the federal safety standards would not provide any protection.<sup>147</sup> Cities could be subject to millions of dollars in damages, as assessed by a lay jury, even though the hazard may constitute an undetectable amount, like in the Three Mile Island accident.<sup>148</sup> While the creation of new risks could be extensive, they are still hypothetical. Concrete application of the decision's significance begins with its lack of precedent.

#### 1. *COOK* REPRESENTS AN UNPRECEDENTED DECISION

The *Cook* court's decision represents a split with the Fifth Circuit and is at odds with the reasoning of other Circuits to hear a similar matter.<sup>149</sup> For instance, the Tenth Circuit completely disagreed with the holding of *Cotroneo*, and instead found support in the reasoning of the dissent in *Cotroneo*.<sup>150</sup> The Tenth Circuit departed from other Circuit decisions when choosing between a suit under PAA or under state tort law. There have been numerous nuclear liability claims triggered by narrowly tailored state statutes within the other Circuit.<sup>151</sup> Consistently, the court has held that a plaintiff who asserted a PAA claim could not pursue a freestanding state-law claim outside the PAA based

on the same alleged facts.<sup>152</sup> Similarly, the Ninth Circuit<sup>153</sup> has relied on the language of the PAA taking precedence over state law in cases that closely paralleled the facts of *Cook*. The Ninth Circuit consistently held that “[t]he PAA is the exclusive means of compensating victims for any and all claims arising out of nuclear incidents.”<sup>154</sup>

In departing from other Circuits, the Tenth Circuit's decision will create uncertainty in the application of the PAA. Application ambiguity will particularly impact a number of nuclear industry players that are located within the Tenth Circuit, including Department of Energy's ("DOE") Waste Isolation Pilot Plant facility (the nation's only disposal facility for high-level nuclear waste), the Sandia National Laboratory, and the Los Alamos National Laboratory, all of which are important national security facilities.<sup>155</sup> Simply by virtue of their physical location, facilities in the Tenth Circuit now face uncertainty about their potential liability exposure even if a nuclear incident never occurs. In addition to being an unprecedented decision and contradicting other Circuits on analogous cases, the *Cook* decision questions Congress's intent in determining what scenarios merit coverage.

#### 2. *THE COOK DECISION UNRAVELS CONGRESSIONAL INTENT*

In *Cook*, the Tenth Circuit substituted its views for the judgment of Congress. The PAA is an example of a legislative economic scheme, in which Congress has sought “to structure and accommodate the burdens and benefits of economic life.”<sup>156</sup> It is clear that Congress intended the PAA to provide a safety net of private insurance for government indemnification and claims of “public liability” which arise from a “nuclear incident.”<sup>157</sup> This is clear in part because Congress's amendment to the PAA in 1988 includes all nuclear incidents with federal jurisdiction and prohibits punitive awards in certain circumstances.<sup>158</sup> Additionally, the PAA does not allow recovery for claims such as psychiatric damages or emotional distress not connected to physical bodily injury.<sup>159</sup> Moreover, as the Tenth Circuit explained in another context, “the inclusion of certain remedies and the exclusion of others under the federal scheme would be completely undermined” if plaintiffs remained “free to obtain remedies under state law that Congress rejected.”<sup>160</sup> The same principle holds here: Congress specifically delineated the claims that plaintiffs may bring related to nuclear harm under the PAA.<sup>161</sup> Permitting plaintiffs to make an overt end-run around the federal nuclear liability system to bring alternative claims under state law would undermine the entire federal scheme.

Then-Judge Gorsuch, in writing the *Cook* opinion, discussed Congress's intent in drafting the PAA.<sup>162</sup> While he justified his narrow interpretation of intent by only looking at particular areas of the language, he neglected the bigger industry motivation that Congress preserved, as shown in the many amendments to extend the PAA.<sup>163</sup> In substituting the court of appeals opinion for the intent of Congress, Judge Gorsuch leverages an angle to the preemption analysis for strengthening his rationale.<sup>164</sup> Nevertheless, he missed the mark in analyzing the preemption doctrine, which determined the outcome of his decision.<sup>165</sup> The



Tenth Circuit claimed that the Supreme Court disfavors preemption, and that the text of the PAA “merely affords a federal forum when a nuclear incident is ‘assert[ed]’.”<sup>166</sup> However, “[n]othing in this language speaks to what happens when a nuclear incident is alleged but unproven.”<sup>167</sup> In addition to explicitly contradicting the intent of Congress and misinterpreting preemption principles, *Cook* also could widen the litigation gate and lower the threshold for bringing a nuclear liability claim to court. Notably, in deciding that the PAA is not a complete preemption statute, the opinion omitted any discussion of several cases that the defendants relied on in support of their preemption argument.<sup>168</sup>

The statutory terminology and nuclear labeling in the PAA contributed to the preemption misinterpretation.<sup>169</sup> In its holding, the Tenth Circuit designated alleged but unproven “nuclear incidents” as “lesser nuclear occurrences” and stated, “it’s hard to conjure a reason why Congress would allow plaintiffs to recover for a full panoply of injuries in the event of a large nuclear incident but insist they get nothing for a lesser nuclear occurrence.”<sup>170</sup> Likewise, the PAA does not independently define “occurrences,” “nuclear occurrences,” or “lesser nuclear occurrences.”<sup>171</sup> There is historical fluctuation on broadening and narrowing technical terms in order to establish preemption interpretations. In acknowledging historical preemption concerns presented in nuclear driven cases, the standards articulated by *Hines* and *Rice*, for example, were so broadly phrased that congressional intent to preempt could be found in any area of comprehensive federal legislation.<sup>172</sup>

### 3. COOK OPENS COURT DOORS TO CIRCUMVENT PAA

Should future courts confronting a state law face-off with the PAA choose to follow the reasoning of *Cook*, many state laws aimed at limiting or conditioning nuclear growth will prevail in federal court.<sup>173</sup> After *Cook*, anyone can sue a nuclear power plant without needing to satisfy the nuclear incident requirements outlined by the PAA. If plaintiffs prove they suffered from a “nuclear incident,” they are entitled to relief under the PAA, subject to certain limitations provisions built in “to ensure that liabilities arising from large nuclear incidents don’t shutter the nuclear industry . . . .”<sup>174</sup> However, if the plaintiffs cannot prove a “nuclear incident” under the PAA, but can prove some sort of “lesser occurrence” or “lesser state law nuisance,” they may proceed on their state law claims.<sup>175</sup> Thus, plaintiffs can circumvent coverage fanned out by the PAA. There is now the likelihood that owners and operators could be individually charged with significant judgments without a cap—potentially in the billions of dollars—in favor of litigants who may not have suffered harms that Congress deemed significant enough to warrant compensation under the PAA.<sup>176</sup> Even if plaintiffs were unsuccessful, without the framework of the PAA, such cases may sit in court for years in protracted, complex, and expensive litigation.<sup>177</sup> It is clear that the authority under state tort law could lead to a better pay out.<sup>178</sup> In examining the significant impacts *Cook* may have on judicial efficiency and the industry, the consequences should stimulate an amendment to the definition of a “nuclear incident.”<sup>179</sup>

## B. THE PAA SHOULD HAVE PREEMPTED STATE TORT LAW IN THE TENTH CIRCUIT

The Tenth Circuit’s decision conflicts with every other Circuit that has considered the preemptive nature of the PAA.<sup>180</sup> The question for the court hinged on the determination of whether the challenged state law is one that the federal law was intended to preempt.

In looking beyond the express language of federal statutes to determine whether Congress has occupied the field in which the state is attempting to regulate, whether a state law directly conflicts with federal law, or whether enforcement of the state law might frustrate federal purposes, the Tenth Circuit misstated this analysis. If the court looked to the pervasiveness of the regulating federal scheme, the federal interest at stake with the PAA, and the danger of frustrating federal goals in determining whether a challenged state law can stand, the majority would arrive at a different holding.

The PAA’s liability scheme mirrors the preemption doctrine, under which “the preemptive force of a statute is so extraordinary” that normal state law claims are converted into federal claims for efficient and equitable resolutions.<sup>181</sup> As the Court acknowledged in *El Paso Natural Gas Co. v. Neztosie*, the PAA is analogous in its preemptive force to another federal legislative system under the Employee Retirement Income Security Act of 1974 (“ERISA”) and the Labor Management Relations Act.<sup>182</sup> Moreover, the Tenth Circuit should have applied the analysis from *Neztosie* to their decision in *Cook*.<sup>183</sup> The Court in *Neztosie* observed that the 1988 Amendments provide “clear indications of the congressional aims of speed and efficiency” in the resolution of claims.<sup>184</sup> Federal legislative systems that create exclusive federal causes of action, such as ERISA and the PAA, are more appropriately analogues than the Class Action Fairness Act, which the Tenth Circuit cited by analogy in *Cook*.<sup>185</sup>

Congress intended for the federal government to regulate the safety aspects of the construction and operation of energy facilities and power plants.<sup>186</sup> This rationale is consistent with Sixth and Seventh Circuit holdings and their assessment of intent. Those Circuits found that Congress did not wish to create a stand-alone federal tort for a public liability action.<sup>187</sup> The analysis provided that the substantive rules for decision in such action shall be derived from state law, which, despite its prior preemption concern, might encompass substantive issues like the requisite duty of care and the burden of proof for causation.<sup>188</sup> Therefore, the vision was for state law to augment the federal regime substantively, not circumvent it.

### 1. THE SUPREME COURT’S ROLE IN THE TENTH CIRCUIT’S PREEMPTION ANALYSIS

The Tenth Circuit’s reliance on *Silkwood v. Kerr-McGee*<sup>189</sup> is incorrect. After examining both the preemption doctrine generally and its application in the nuclear field specifically, the opinion in *Silkwood* maintains distinguishable authority over the *Cook* decision.<sup>190</sup> In *Silkwood*, the Court, voting 5-4, found that federal law did not impliedly preempt a \$10 million dollar punitive damages award against a nuclear power plant for

negligently allowing employee, *Silkwood*, to be contaminated with plutonium.<sup>191</sup> While *Silkwood* held that Congress had no intention, when it amended the AEA of 1954, of forbidding the States to provide remedies for injuries from radiation. Congress did wish to protect the nuclear industry from frivolous claims that lacked scientific backing.<sup>192</sup> Additionally, *Silkwood* was decided in 1984, four years before the 1988 Amendments to the PAA, which established the liability action as the new and sole federal cause of action.<sup>193</sup> Thus, the Tenth Circuit needed to distinguish *Cook* from *Silkwood* since *Cook* possessed the elements for complete preemption.

The Supreme Court made clear that federal law completely occupies the field of nuclear safety and preempts state action in this area. Therefore, courts believed that federal law similarly dictates the duty a defendant owes to a plaintiff in a public liability action.<sup>194</sup> Regarding radiation injuries in *Silkwood*, preemption should not be based on grounds “that the Federal Government has so completely occupied the field of safety” that state remedies are precluded.<sup>195</sup> Instead the Court must determine if “there is an irreconcilable conflict between the federal and state standards,” or if the imposition of state standards for damages interferes with the purpose of the federal law.<sup>196</sup> However, it is unclear if there is a difference between occupying the field and conflicting between standards in this context. Thus, any liability action with significant federal ingredients satisfying preemption is consistent with the facts alleged to have occurred in *Cook* at the Rocky Flats Plant.

Despite the Supreme Court giving wide latitude to the states to regulate nuclear power within their borders and the significance of *Silkwood*, the *Cook* decision establishes new parameters governing preemption in the energy field.<sup>197</sup> For example, the Tenth Circuit erred when it downplayed its preemption analysis just because the defendants failed to invoke implied preemption doctrine and appeared to disclaim reliance on it.<sup>198</sup> The Tenth Circuit also relied on the fact that because both companies deflected on conflict preemption principles by not addressing them, and the possibility of using preemption as an affirmative defense, that the defendants forfeited any application of preemption.<sup>199</sup> Regardless, just because the defendants appeared to relinquish the argument of preemption as an affirmative defense, should not mean that preemption did not exist in this case.<sup>200</sup> Unlike in *Silkwood*, state standards interfere with the purpose of the PAA in *Cook*.<sup>201</sup> Therefore, the Tenth Circuit’s omission of a federal preemption argument is strongest when it hinges on the fact that the plaintiffs failed to meet the PAA criteria of being a nuclear incident.<sup>202</sup> However, the Tenth Circuit did not rely on this as their justification.<sup>203</sup>

Even in circumstances outside of the nuclear incident arena, if any state regulation or law conflicts with a nationalized policy it may be preempted. In *American Insurance Association v. Garamendi*,<sup>204</sup> the Supreme Court considered the constitutionality of a California law designed to help California Holocaust survivors collect on unpaid insurance claims from German insurance companies.<sup>205</sup> Despite the absence of any clear statement preempting state laws such as California’s, the Court found

that the state law conflicted with national policy and “st[ood] in the way of federal, diplomatic objectives.”<sup>206</sup>

Additionally, the Tenth Circuit leveraged plain meaning to omit preemption considerations in *Cook*. The narrowly tailored definition of a “nuclear incident” contributed to Judge Gorsuch’s misinterpretation of preemption. As discussed above, the scope of compensable claims under the PAA is circumscribed by the Act’s definition of “nuclear incident” – i.e., “any occurrence . . . causing . . . bodily injury, sickness, death, or loss of or damage to property arising out of or resulting from the radioactive, toxic, or other hazardous properties of nuclear material.”<sup>207</sup> As a matter of law and until the *Cook* case, the definition of “nuclear incident” established the threshold for asserting a compensable injury from a release of radiation.<sup>208</sup> A plaintiff who cannot demonstrate bodily injury or property damage as defined by the PAA cannot meet the prerequisites for a liability action, and thus cannot maintain any action for a radiation-related claim.<sup>209</sup> Therefore, when the claim in *Cook* satisfied what the Tenth Circuit deemed as a “lesser nuclear occurrence,” the court argued that plaintiffs failed to meet the PAA criteria, and thus, eliminated a preemption argument.<sup>210</sup> The ambiguity in the definition of the term “lesser nuclear occurrence” is a critical problem emerging from the *Cook* decision. Given the evolving nature of the nuclear industry, the definition permitting coverage under the PAA is too narrow and has contributed to the removal of the PAA authority and the unprecedented damage award.<sup>211</sup> Moving forward, courts should consider the definition of a nuclear incident more broadly when looking to apply PAA funds for liability coverage.

The Tenth Circuit should have never been able to justify reliance on state law for this matter. Radiation exposure and improper handling of nuclear waste has the same consequence in Colorado as in Florida or New York. The Tenth Circuit’s actions illustrate one of the reasons for federal preemption: the issue is too complex to place in the hands of applying varied state law causes of action.<sup>212</sup> Whether or not courts could use state law causes of action and their own standard of care to regulate nuclear safety through huge monetary awards was the underlying policy issue addressed by the Supreme Court in *Silkwood*. That was the “tension” the majority opinion found Congress allowed when it did not create a federal cause of action in the statute. The *Cook* verdict is exactly the evil feared by the *Silkwood* dissenters.<sup>213</sup> While the Supreme Court’s analysis of preemption questions in *Silkwood* demonstrates a willingness to allow greater state regulation of the nuclear energy industry than that which had previously been permissible under the *Northern States* decision, there is a shift at the Circuit level to take back the federal rule when a nuclear incident is involved. As a result, *Cook* obscured both the basis for its own particular outcome, as well as the factors weighed by the Court in deciding preemption cases in the nuclear field in general.

### C. DESTRUCTIVE CONSEQUENCES FOR THE NUCLEAR INDUSTRY AND JUDICIAL EFFICIENCY

For the past several decades, a hiatus on building new nuclear-power plants stymied the nuclear industry.<sup>214</sup> The reasons for the halt in construction have included public outrage over the Three Mile Island meltdown, increasing regulation, and plant operators' need to insure against a multitude of risks.<sup>215</sup> Nuclear energy companies invested in this industry in reliance of the PAA's thorough liability regime.<sup>216</sup> The Tenth Circuit's opinion enables communities and people to circumvent the PAA, with its punitive cap, and bring a claim under state tort law, which could be fatal to the industry. Companies already heavily invested in the nuclear market can do little to mitigate this new risk. And companies not yet invested in the United States nuclear market will be discouraged to participate, invest, or further expand—a result precisely contrary to congressional and executive branch policy and intent.<sup>217</sup> Additionally, the Tenth Circuit's decision threatens to destabilize the global market for nuclear energy, which is an important component of the United States' energy mix, particularly in light of climate change concerns. Not only does the decision put pressure on further investment in American nuclear facilities, it also runs counter to internationally accepted nuclear liability standards.<sup>218</sup> Companies are unwilling to participate in the nuclear market in countries where operator liability and minimum claim requirements do not exist.<sup>219</sup> For example, India has not followed the international nuclear liability regulations because its nuclear liability law provides, among other things, that operators may have a right of recourse against suppliers for nuclear damages.<sup>220</sup>

The lack of liability regulation conflicts with the international norm of channeling all nuclear responsibility to the operator. And not surprisingly, the potential for nuclear supplier liability in India has had the effect of discouraging many nuclear suppliers from engaging in the Indian nuclear market, inhibiting that market's growth.<sup>221</sup> Consequently, the Tenth Circuit's decision to permit certain state tort claims for "lesser nuclear occurrences" could well introduce a similar market-dampening effect into the United States that India experienced.<sup>222</sup> It unleashes potentially significant and uncertain liability from the constraints of the federal statute designed to curb it, discouraging domestic and foreign actors from participating in the market. In the process, the United States "could lose considerable influence over standards governing safety and waste management" and even a seat at the nuclear nonproliferation discussion table.<sup>223</sup> The world may be unwilling to move toward potentially safer designs. In addition to steering the private sector away from nuclear investment, the *Cook* decision widens the judicial door for more litigation.<sup>224</sup> Because of this newly created framework, the size of the verdict, and future interpretations of the PAA's preemptive effect (or lack thereof), legal analysis moving forward should distinguish *Cook*, and look to redefine the criteria of the PAA in line with international compensation conventions.

### D. SILVER LINING: JUDICIAL CATASTROPHE STIMULATES PAA AMENDMENT

The *Cook* decision represents a significant departure from existing case law, which holds that allegations even potentially falling under the PAA preempted all state law claims based on harm allegedly caused by exposure to or contamination from radioactive materials.<sup>225</sup> One positive aspect is that while the Tenth Circuit decision in *Cook* is preempted by federal law and generates grave consequences for the nuclear energy industry, it may ultimately stimulate an additional amendment to the PAA, as a means to regulate coverage of an industry that is rapidly modernizing. An amendment to the technical definitions and criteria within the PAA could ensure that a decision like *Cook* does not occur in the future. In amending the PAA,<sup>226</sup> Congress was well aware that the PAA compensation system must operate as a consistent part of a larger federal framework governing the safe use of nuclear energy.<sup>227</sup> Congress knew that "[n]umerous federal questions would necessarily arise in the course of litigation under this Act, and questions must be resolved consistently with the pervasive federal scheme."<sup>228</sup>

The definition of a "nuclear incident," as originally promulgated in the AEA, needs to be updated to conform to the related definition of "nuclear damage" in the Convention on Supplementary Compensation (CSC).<sup>229</sup> That way, when there is a nuclear incident at a plant, a community may receive federal funds for the harm because the federal liability will cover even a nuclear occurrence, which is less than an incident. Further, Congress should adopt the report language clarifying that a "nuclear incident" under the framework of the PAA covers any release of radioactivity in excess of regulatory limits. Adopting a federal incident standard as the liability action standard of care harmonizes federal preemption with precedent. Ultimately, Congress should amend the PAA to completely preempt state law causes of action, but also to clarify that public liability under the PAA should apply to lesser "nuclear occurrences." Such an amendment would close the loophole illustrated in *Cook* and help the PAA better achieve its goals.<sup>230</sup> Adhering to the technical criteria of the CSC will strengthen United States nuclear safety credibility domestically and internationally.

The defendant's duty is to comply with the federal incident definition standards through which the complete federal preemption of nuclear safety is effectuated.<sup>231</sup> If the defining language and compensable criteria modifies in parallel fashion with the industry's innovation, Congress's scheme to provide coverage to the nuclear community will remain intact.

### CONCLUSION

Given the denial of certiorari, the Tenth Circuit decision expands the scope of liability for nuclear power defendants in PAA cases, where the criteria for PAA coverage is not met, and allows plaintiffs to prevail under state tort law. However, the Tenth Circuit should have found plaintiff's claims preempted by federal law for occupying the field of safety compensation and frustrating the federal purpose. And while the decision fosters an array of negative impacts to the nuclear industry, it precipitates



the need to address the technical definitions and criteria of the Price-Anderson Act. Upon amending the definition of a “nuclear incident,” pursuant to the language in the Convention of

Supplementing Compensation, the PAA will resume the all-encompassing role that Congress intended and prevent future judicial reliance on *Cook*.



## ENDNOTES

<sup>1</sup> See generally David Brown, *Nuclear Power is Safest Way to Make Electricity, According to Study*, WASH. POST (Apr. 2, 2011), [https://www.washingtonpost.com/national/nuclear-power-is-safest-way-to-make-electricity-according-to-2007-study/2011/03/22/AFQUBQC\\_story.html?utm\\_term=.abb40f207826](https://www.washingtonpost.com/national/nuclear-power-is-safest-way-to-make-electricity-according-to-2007-study/2011/03/22/AFQUBQC_story.html?utm_term=.abb40f207826) (explaining that nuclear power is safer and more reliable than other forms of energy production and the danger of catastrophe is overstated).

<sup>2</sup> *Nuclear in the Energy Mix*, NUCLEAR ENERGY INST., <https://www.nei.org/fundamentals/nuclear-in-the-energy-mix> (last visited Apr. 6, 2018).

<sup>3</sup> See also *U.S. Nuclear Power Policy*, WORLD NUCLEAR ASS'N (Feb. 2018), <http://www.world-nuclear.org/information-library/country-profiles/countries-t-z/usa-nuclear-power-policy.aspx> (outlining how the United States government has supported nuclear energy since the late 1990s).

<sup>4</sup> See John Aguilar, *Payouts to Property Owners in Long-Running Rocky Flats Suit Should Start in 2017*, DENVER POST (Aug. 8, 2016, 6:00 PM), <http://www.denverpost.com/2016/08/08/rocky-flats-payout-property-owners/> (noting the site occupies 6,500 acres of land).

<sup>5</sup> *Dow Chemical-Rockwell's Plutonium Nuisance & Price-Anderson Flats*, MINING AWARENESS (June 24, 2015), <https://miningawareness.wordpress.com/2015/06/24/dow-chemical-rockwells-plutonium-nuisance-price-anderson-rocky-flats/>.

<sup>6</sup> *Cook v. Rockwell Int'l Corp.*, 618 F.3d 1127, 1131 (10th Cir. 2010).

<sup>7</sup> See John McGahren, *Implications of Cook v. Rockwell: Tenth Circuit Finds Price-Anderson Act Does Not Preempt Nuisance Claim*, KEY DEVELOPMENTS IN ENVIRONMENTAL LAW 81, 81-82 (Stanley D. Berger ed., 2015), available at <https://www.morganlewis.com/-/media/files/publication/outside-publication/chapter/chapter-6-key-developments-environmental-law-2015.ashx> (explaining that evidence of pollution came out during litigation).

<sup>8</sup> *Cook*, 618 F.3d at 1133.

<sup>9</sup> *Cook v. Rockwell Int'l Corp.*, 151 F.R.D. 378, 380 (D. Colo. 1993).

<sup>10</sup> See *id.* at 382 (evidencing that the plaintiffs specified plutonium and volatile organic compounds in their lawsuit).

<sup>11</sup> U.S. DEP'T OF ENERGY, REPORT TO CONGRESS ON THE PRICE-ANDERSON ACT 1 (1999), <https://energy.gov/sites/prod/files/gcprod/documents/paa-rep.pdf> [hereinafter U.S. DEP'T OF ENERGY REPORT].

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

<sup>13</sup> See generally *Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59, 64-69 (1978) (finding that the Act survived a constitutional challenge in the Supreme Court).

<sup>14</sup> *Cook v. Rockwell Int'l Corp.*, 790 F.3d 1088, 1090-91 (10th Cir. 2015).

<sup>15</sup> *Id.* at 1096.

<sup>16</sup> See McGahren, *supra* note 7 at 82-83 (explaining the judicial process that led to this decision).

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

<sup>18</sup> See *infra* Part III.A.3 (analyzing the potential impact of the Tenth Circuit's decision in *Cook*).

<sup>19</sup> See *infra* notes 217-227 and accompanying text (explaining the negative effect lesser claims have on nuclear energy investment, innovation and production).

<sup>20</sup> See Petition for Writ of Certiorari at 2-3, *Dow Chem. Co. v. Cook*, 790 F.3d 1088 (10th Cir. 2015) (No. 15-791).

<sup>21</sup> See *infra* notes 215-216 and accompanying text (highlighting why nuclear plant defendants will be incentivized to submit to PAA judgements).

<sup>22</sup> See *infra* Part III.A.1 (discussing the Tenth Circuit's departure from the reasoning of other circuits).

<sup>23</sup> Mark Zepezauer, “Take the Rich Off Welfare,” AZ: Odonian Press, (1996), p. 86 (looking at how the damage at Chernobyl cost the Former Soviet Union \$358 billion in liability). U.S. NUCLEAR REG. COMM'N, BACKGROUNDER ON NUCLEAR INSURANCE AND DISASTER RELIEF (Jan. 2018), <https://www.nrc.gov/docs/ML0327/ML032730606.pdf> [hereinafter NUCLEAR INSURANCE AND DISASTER RELIEF].

<sup>24</sup> See Petition for Writ of Certiorari at 5, *Dow Chem. Co.*, 790 F.3d at 1088 (No. 15-791).

<sup>25</sup> *Liability for Nuclear Damage*, WORLD NUCLEAR ASS'N, <http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/liability-for-nuclear-damage.aspx> (last visited Apr. 6, 2018).

<sup>26</sup> See Mark King, *Federal Preemption of the State Regulation of Nuclear Power: State Law Strikes Back – Silkwood v. Kerr-McGee Corporation*, 60 CHI.-KENT L. REV. 989, 995 (1984).

<sup>27</sup> 790 F.3d 1088, 1090 (10th Cir. 2015).

<sup>28</sup> See discussion *infra* Part III.A.2 (analyzing how the Tenth Circuit's holding departed from Congressional intent).

<sup>29</sup> See *infra* Part II (providing background on the PAA); see also 42 U.S.C. § 2210(n) (2012) (mandating the normally available defenses be waived); § 2210(s) (describing the limits of punitive damages in an action arising out of an extraordinary nuclear occurrence (ENO) mandate); *Cook*, 790 F.3d at 1095 (holding that the defendants waived preemption as an affirmative defense and that this sufficed as justification to disregard preemption).

<sup>30</sup> See *infra* Part III.A (analyzing the Tenth Circuit's decision in *Cook*).

<sup>31</sup> See *infra* Part III.D (acknowledging the potential for a future PAA amendment); see also International Atomic Energy Agency, Convention on Supplementary Compensation for Nuclear Damage, July 22, 1998, I.A.E.A. INFCIRC/567 (containing internationally accepted definitions to technical nuclear terms in the Annex and establishing that the Annex to the Convention reflects key principles that nuclear liability laws should contain).

<sup>32</sup> Part III also asserts that Congress should adopt the report language clarifying that a nuclear incident, under the PAA, covers any release of radioactivity in excess of regulatory limits, and those are the only ones compensable since the Nuclear Regulatory Commission remains in the drafting phase of a new report to Congress on the proposed extension to the PAA. See *infra* Part III.D.

<sup>33</sup> See generally Bill Dedman, *Nuclear Neighbors: Population Rises Near US Reactors*, NBC NEWS (Apr. 14, 2011, 7:00 PM ET), [http://www.nbcnews.com/id/42555888/ns/us\\_news-life/t/nuclear-neighbors-population-rises-near-us-reactors/#.WYnqNPtTY](http://www.nbcnews.com/id/42555888/ns/us_news-life/t/nuclear-neighbors-population-rises-near-us-reactors/#.WYnqNPtTY) (providing an interactive map of where active nuclear plants sit in relation to where a person lives); Joseph Stromberg, *Do You Live Within 50 Miles of a Nuclear Power Plant?*, SMITHSONIAN.COM (Mar. 13, 2014), <http://www.smithsonianmag.com/science-nature/do-you-live-within-50-miles-nuclear-power-plant-180950072/> (providing an interactive map of where active nuclear plants sit in relation to where a person lives).

<sup>34</sup> See Stromberg, *supra* note 32.

<sup>35</sup> See generally Arnold W. Reitze, Jr. & Deborah J. Rowe, *The Price-Anderson Act—Limited Liability for the Nuclear Industry*, 17 E.L.R. 10,185, 10,186 (1987) (explaining that the legislative intent of PAA to address issues of safety for citizens living near nuclear power plants); 42 U.S.C. § 2210-14 (2012).

<sup>36</sup> U.S. DEP'T OF ENERGY, THE HISTORY OF NUCLEAR ENERGY, [https://energy.gov/sites/prod/files/The%20History%20of%20Nuclear%20Energy\\_0.pdf](https://energy.gov/sites/prod/files/The%20History%20of%20Nuclear%20Energy_0.pdf) (last visited Mar. 28, 2018) (discussing nuclear energy as both an affordable and a non-fossil fuel source).

<sup>37</sup> See *id.* (predicting that the nuclear industry would not continue to grow any bigger due to public sentiment and economics).

<sup>38</sup> *Compare What Are Nuclear Wastes and How Are They Managed?*, WORLD NUCLEAR ASS'N, <http://www.world-nuclear.org/nuclear-basics/what-are-nuclear-wastes.aspx> (last visited Mar. 19, 2018) (providing information about the impact of nuclear wastes) with *Natural Radiation in Wastes From Coal-Fired Power Plants*, U.S. EPA, <https://www3.epa.gov/radtown/coal-fired-power-plants.html> (last visited Mar. 19, 2018) (providing information about the impact of coal wastes).

<sup>39</sup> See NUCLEAR INSURANCE AND DISASTER RELIEF, *supra* note 22.

<sup>40</sup> See generally 42 U.S.C. § 2210 (2012) (outlining the indemnification and limitation of liability).

<sup>41</sup> See S. Rep. No. 100-70, at 122 (1988) (striking a balance of providing compensation to injured citizens while also maintaining funds sufficient to sustain and develop the industry).

*continued on page 38*

# THE FEDERAL GOVERNMENT'S SOVEREIGN IMMUNITY UNDER CERCLA AND ITS EFFECTS ON THE HAZARDOUS WASTE CLEANUP OF THE DISTRICT OF COLUMBIA'S WASHINGTON NAVY YARD

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The United States Supreme Court's weakening of the waiver of federal sovereign immunity under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or "the Act") is preventing federally-contaminated sites such as the Washington Navy Yard from being fully remediated. In 1998, the United States Environmental Protection Agency (EPA) designated the Navy Yard—a property with a lengthy history of hazardous waste contamination—as a priority for cleanup pursuant to CERCLA.<sup>1</sup> However, the hazardous waste currently contaminating the Navy Yard has not been remediated due to a lack of intra-governmental enforcement. This inaction leaves the people who live and work near the Navy Yard exposed to hazardous waste, which can have very severe health consequences.<sup>2</sup>

The Navy Yard consists of 71.5 acres of land in Southeastern Washington, D.C. that was set aside on presidential order and officially opened in 1799 to serve as a naval shipbuilding and repair facility.<sup>3</sup> The facility was re-designated as a Naval Gun Factory in 1886,<sup>4</sup> and factory operation lasted until the 1940s.<sup>5</sup> Remediation of the Navy Yard's hazardous waste contamination pursuant to CERCLA did not begin until 2016, which was eighteen years after the Navy Yard was designated as a priority site for remediation efforts.<sup>6</sup> The Washington Navy Yard is highly contaminated with toxic substances yet is located less than one mile from residential apartments, office buildings, and the Washington Nationals Baseball Stadium.<sup>7</sup> CERCLA was passed by Congress to address this exact issue; however, the length of time which has passed without meaningful remediation of this site suggests that there are issues with the enforcement of CERCLA cleanup for government actors.

Despite being listed on the NPL for twenty years, the Navy Yard remains contaminated and remediation measures have stalled.<sup>8</sup> In comparison, it takes between thirteen and fifteen years on average to clean up a contaminated site.<sup>9</sup> This delay may be due to the United States Navy's 2011 proposal to take no remedial action on one of the many hazardous waste sites located within the Navy Yard. This no-action decision was based on a summary of potential human health risks from the lead contamination at the site, but still allowed some residents, including children, to remain exposed.<sup>10</sup>

In 1980, Congress passed CERCLA to address the need to remediate, or clean up, hazardous waste sites across the country.<sup>11</sup> CERCLA provides for strict, retroactive, and joint and

several liability for *any* current or past owner or operator of a hazardous waste site, *any* person who arranged for the disposal of hazardous waste and *any* party who transported the hazardous waste.<sup>12</sup> Joint and several liability means that one responsible party can be held liable for the full extent of the damages caused, even if some of the damage was caused by other parties.<sup>13</sup> Under the CERCLA National Contingency Plan,<sup>14</sup> the EPA is required to designate the most serious hazardous waste sites on a list known colloquially as the National Priorities List (NPL).<sup>15</sup> A hazardous waste site is only eligible for federal funding if it is placed on the NPL.<sup>16</sup>

A potentially responsible party (PRP) can be held liable under CERCLA in one of two ways.<sup>17</sup> First, a party can be liable under section 107(a) of the Act, which states that a party that incurred cleanup costs may sue the PRP to recover these costs.<sup>18</sup> These cases are typically brought by the EPA, which sues a PRP to recover the cost of the EPA's cleanup of a hazardous waste site.<sup>19</sup> Second, a PRP may sue another PRP for contribution toward the clean-up costs under section 113(f)(1).<sup>20</sup>

Federal sovereign immunity is a legal doctrine that prevents the federal government from being sued by citizens.<sup>21</sup> The federal government can only be sued if a statute waives this sovereign immunity.<sup>22</sup> A provision of CERCLA states that "each department, agency, and instrumentality of the United States (including the executive, legislative and judicial branches of the government)" shall be held as liable as any other party and thereby waives sovereign immunity.<sup>23</sup> Historically, the Supreme Court has upheld the federal government's liability for sites that it contaminates.<sup>24</sup> The Navy is liable as an owner or operator, and according to the statute, does not have sovereign immunity.<sup>25</sup> The Supreme Court has held that holding the federal government liable under CERCLA section 107 only when the government owns or operates a facility where the release or threatened release occurs, is a reasonable interpretation of the statute.<sup>26</sup> The Court's narrow construction of federal liability under CERCLA prevents the federal government from being held liable to the full extent that a private party would be, namely as an arranger or transporter of hazardous waste.<sup>27</sup>

The Superfund Amendments and Reauthorization Act of 1986 (SARA) left CERCLA's waiver provision unchanged, but listed the provision under a "Federal Facilities" heading.<sup>28</sup>

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This addition may be interpreted to only subject the federal government to liability for sites that it owns and operates, but not to sites that it regulates, such as “private parks or other private facilities.”<sup>29</sup> As a result, the federal government’s liability—in comparison to the liability of private parties who may also be liable as arrangers and transporters—is limited. The limited enforcement of federal liability under CERCLA has delayed the cleanup of the Washington Navy Yard, which is the only NPL site in the District of Columbia.<sup>30</sup> As a past operator, the Navy is liable for cleanup of the Navy Yard under CERCLA §107(a)

and therefore is responsible for full remediation costs—including damages to natural resources—despite its status as a government actor.<sup>31</sup>

The weakening of the federal waiver of sovereign immunity has prevented citizen suits from being brought by those who may suffer from this dangerous contamination. To address this issue, the Supreme Court should reinforce CERCLA’s waiver of sovereign immunity, and therefore hold the Navy liable for cleaning up the Washington Navy Yard’s hazardous waste contamination within a reasonable amount of time.



## ENDNOTES

<sup>1</sup> U.S. ENVTL. PROT. AGENCY, NPL SITE NARRATIVE FOR WASHINGTON NAVY YARD (1998), <https://semsub.epa.gov/work/03/900232.pdf>.

<sup>2</sup> *Health and Ecological Hazards Caused by Hazardous Substances*, U.S. ENVTL. PROT. AGENCY (2017), <https://www.epa.gov/emergency-response/health-and-ecological-hazards-caused-hazardous-substances>.

<sup>3</sup> U.S. ENVTL. PROT. AGENCY, *supra* note 1.

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

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

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

<sup>7</sup> U.S. NAVY, PROPOSED PLAN SITE 17 AT THE WASHINGTON NAVY YARD, 1, 2 (May 2011), [https://www.navfac.navy.mil/niris/WASHINGTON/WASHINGTON\\_NAVY\\_YARD/N00171\\_001515.pdf](https://www.navfac.navy.mil/niris/WASHINGTON/WASHINGTON_NAVY_YARD/N00171_001515.pdf).

<sup>8</sup> *What is the Current Site Status? Washington Navy Yard, Washington, DC*, U.S. ENVTL. PROT. AGENCY, <https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0300031#Status>.

<sup>9</sup> Martha Ellen Wingfield et al., *Contamination and Climate Change: Examining the Relationship between Virginia’s Hazardous Waste Sites and Public Health*, ENVTL. STEWARDSHIP CONCEPTS (2009), [https://d10k7k7mywg42z.cloudfront.net/assets/4c7002fadabe9d45d3000029/water\\_resources\\_poster.pdf](https://d10k7k7mywg42z.cloudfront.net/assets/4c7002fadabe9d45d3000029/water_resources_poster.pdf).

<sup>10</sup> *Id.* at 8.

<sup>11</sup> *Superfund: CERCLA Overview*, U.S. ENVTL. PROT. AGENCY (2017), <https://www.epa.gov/superfund/superfund-cercla-overview>.

<sup>12</sup> Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9607(a)(1-4) (1980).

<sup>13</sup> RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT OF LIABILITY § 10 (AM. LAW INST. 2000).

<sup>14</sup> For information on the National Contingency Plan, visit the EPA’s overview of the National Oil and Hazardous Substances Pollution Contingency Plan Overview. See *National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Overview*, U.S. ENVTL. PROT. AGENCY (2017), <https://www.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview> (explaining that the National Contingency Plan is the federal government’s “blueprint for responding to both oil spills and hazardous substance releases”).

<sup>15</sup> 42 U.S.C. § 9605(a)(8)(B).

<sup>16</sup> *EPA Updates the National Priorities List to Clean Up Contamination and Protect Communities*, U.S. ENVTL. PROT. AGENCY (2018), <https://www.epa.gov/newsreleases/epa-updates-national-priorities-list-clean-contamination-and-protect-communities>.

<sup>17</sup> 42 U.S.C. §§ 9607(a) (commonly known as section 107(a)); § 9613(f)(1).

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

<sup>19</sup> See generally *United States v. Carolina Transformer Co.*, 978 F.2d 832, 835 (4th Cir. 2001).

<sup>20</sup> See 42 U.S.C. § 9613(f)(1) (1980); see generally *United States v. R.W. Meyer, Inc.*, 889 F.2d 1497, 1498 (6th Cir. 1989).

<sup>21</sup> Barry Breen, *Federal Supremacy and Sovereign Immunity Waivers in Federal Environmental Law*, 15 ENV. L. REV. 10326, 10327 (1985).

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

<sup>23</sup> 42 U.S.C. § 9620(a)(1) (1980).

<sup>24</sup> See *FMC Corp. v. U.S. Dep’t of Commerce*, 29 F.3d 833, 849-50 (3d Cir. 1994) (en banc) (upholding the decision to hold the federal government liable for cleanup costs under CERCLA).

<sup>25</sup> 42 U.S.C. § 9620(a)(4).

<sup>26</sup> *FMC Corp.*, 29 F.3d at 849.

<sup>27</sup> 42 U.S.C. § 9620(a)(4); *FMC Corp.* 29 F.3d at 847 (Sloviter, C.J., dissenting); *National Priorities List (NPL) Sites – by State*, U.S. ENVTL. PROT. AGENCY (2018), <https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#DC>.

<sup>28</sup> Stephen G. Davison, *Governmental Liability Under CERCLA*, 25 B.C. ENVTL. AFF. L. REV. 47, 49 (1997), available at <http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1270&context=ealr>.

<sup>29</sup> *FMC Corp.* 29 F.3d at 847 (Sloviter, C.J., dissenting).

<sup>30</sup> *National Priorities List (NPL) Sites – by State*, U.S. ENVTL. PROT. AGENCY (2018), <https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#DC>.

<sup>31</sup> *Id.*

# RECYCLING AS A NATION

Kate Juon\*

“Reduce, reuse, and recycle” is a slogan that resonates throughout the world as the quintessential words that encapsulate the basis for sustainable waste management.<sup>1</sup> Though the “Three Rs” originated in the United States,<sup>2</sup> many other countries have more effectively applied the principles of the Three Rs within their own waste management systems.<sup>3</sup> Even compared to countries that developed waste management systems much later,<sup>4</sup> the United States continues to lag behind.<sup>5</sup> For example, in South Korea, sustainable waste management is a top priority and requires all citizens to “reduce the generation of wastes to the maximum extent possible and [to treat] generated waste in an environmentally-friendly manner.”<sup>6</sup> Under this federal regulation, South Korea has not only created one set classification of waste and rules for all waste discharge and treatment, but it standardized responsibility for the national and local governments.<sup>7</sup> South Korea’s Ministry of Environment plans, frames, supports, and implements this policy for the local governments.<sup>8</sup> Could the United States be falling behind in its overall goal to reduce the amount of waste generated because waste management has been and continues to be a state or even city-mandated responsibility?

In the United States, the Resource Conservation and Recovery Act (RCRA) remains the only federal legislation requiring the Environmental Protection Agency (EPA) to create guidelines for solid waste disposal and regulations.<sup>9</sup> Yet, RCRA only mentions recycling via a call to increase the federal purchase of products made with recycling content.<sup>10</sup> Without any mention of an enforcement mandate, the responsibility of creating policy and implementation of these policies are left to state and local governments like the District of Columbia (DC).<sup>11</sup>

With the passage of the Sustainable Solid Waste Management Amendment Act<sup>12</sup> in 2014, D.C. has made some progress in advancing a more sufficient recycling program. Included in this Act is the implementation of a public list of recyclable materials and a compost collection program throughout D.C., and the mandatory source separation of solid waste into three categories: recyclable materials, compostable materials, and trash.<sup>13</sup> Other provisions include the addition of many items to the recyclables list in January 2018,<sup>14</sup> the nickel-a-bag tax,<sup>15</sup> and the ban on the use of polystyrene or foam.<sup>16</sup> D.C.’s Department of Public Works has even set goals to divert 80% of its waste by 2032.<sup>17</sup> With ambitious goals to become the “healthiest, greenest, and most livable city in the United States” with a goal to zero waste,<sup>18</sup> D.C. has made improvements but there are still many challenges that the city faces before it can truly become “Zero Waste D.C.”

The majority of waste management policy focuses on post-treatment of waste and less so on the actual generation of waste prior to disposal.<sup>19</sup> Instead of focusing on creating a shared

responsibility between governments and its citizens, D.C., and generally most cities in the United States, utilize an enforcement strategy that makes it easier or more desirable for citizens to recycle.<sup>20</sup> For example, D.C. had failed in an attempt to encourage more recycling by replacing the thirty-two gallon bins with ones that are 50% larger.<sup>21</sup> With varying lists of recyclable items across the United States, many residents “experiment” by putting objects into the recycle bins, believing that it “could” be recycled.<sup>22</sup> Since rules and community awareness varies considerably state to state and even city to city, recycling is a confusing endeavor that many Americans find inconvenient and time-consuming.<sup>23</sup> Most people do not realize that non-recyclables actually contaminate recyclables and decreases the value of its recyclability.<sup>24</sup> As a transient city, D.C.’s recyclable list does not even coincide with the lists of neighboring cities.<sup>25</sup> With these differing lists, mistakes and confusion are more likely to occur in a city like D.C. where thousands are commuting from neighboring counties like Fairfax and Arlington<sup>26</sup> as the rules do not cross state or even city lines.

In countries like South Korea, however, recycling has become a habitual part of daily life and even welcomed by communities.<sup>27</sup> The Wastes Control Act was created in 1986 to extend responsibility beyond local government<sup>28</sup> and share the burden of waste management with all citizens.<sup>29</sup> Essentially a polluter-pay system,<sup>30</sup> all citizens are obligated to buy and strictly use the designated bags for each type of recyclables.<sup>31</sup> In addition, since 2013, citizens are now obligated to pay for food waste.<sup>32</sup> This regulation has contributed to a 10% decrease in overall food waste in South Korea’s capital, Seoul, alone.<sup>33</sup> Today, Seoul has five factories that process food waste and turn it into animal feed.<sup>34</sup> Additionally with biogas, a byproduct of food recycling, each plant can create enough renewable energy to meet about 90% of its electricity needs.<sup>35</sup> Though a strict and rather intrusive system, South Korea’s “shared responsibility” system has enhanced the people’s outlook of waste management as well as broader environmental issues in the country.<sup>36</sup> With the implementation of the Wastes Control Act, Korea has even seen the recycling rate increase from under 10% to 80%.<sup>37</sup>

Could the lack of a federal regulation be the fundamental reason that the United States is lagging in its ability to increase the impact of the Three Rs? And if so, would a system similar to Korea’s waste management system be welcomed in the United States? With states like Arizona facing resistance to even the nickel-a-bag tax,<sup>38</sup> it is hard to imagine how a polluter-pay system could work in a country that has, since its inception, practiced a more “make-it-easier” approach to recycling.<sup>39</sup> However, what could be a potentially viable first step is to create a national

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recyclable list that is adopted by all states. Many Americans do not make an effort to recycle because of the confusion of recyclable and non-recyclable items across state and even city lines as well as the inaccessibility, inconvenience, and time-consuming nature of a nonstandard and unstructured system that the United

States continues to attempt to implement.<sup>40</sup> With the United States not likely being receptive to a national fine-based system, nationwide awareness of what can and cannot be recycled would positively increase the overall recycling rate.



## ENDNOTES

<sup>1</sup> C. R. C. Mohanty, *Reduce, Reuse and Recycle (the 3Rs) and Resource Efficiency as the basis for Sustainable Waste Management*, UNCRD, 29, (May 9, 2011), [www.un.org/esa/dsd/csd\\_pdfs/csd-19/learningcentre/presentations/May%209%20am/1%20-%20Learning\\_Centre\\_9May\\_ppt\\_Mohanty.pdf](http://www.un.org/esa/dsd/csd_pdfs/csd-19/learningcentre/presentations/May%209%20am/1%20-%20Learning_Centre_9May_ppt_Mohanty.pdf).

<sup>2</sup> Rachelle Gordon, "Reduce, Reuse, Recycle." *It's a familiar phrase to most, but where did it come from?*, RECYCLE NATION (May 11, 2015), <https://recyclenation.com/2015/05/history-of-three-r-s/>.

<sup>3</sup> See WASTE MGMT. REVIEW, (July 17, 2015), <http://wastemanagementreview.com.au/south-korea-legislates-towards-a-zero-waste-society/> (finding that with the introduction of the Waste Management Law in 1986, South Korea's landfill rates have dropped from over 90% to 10% and its recycling rates have grown from 10% to 80% by 2015).

<sup>4</sup> *Id.* ("[P]ivotal moment in South Korea's waste management was the Waste Management Law, which came into effect in December 1986"); see also *Why No National Recycling Law in the U.S.?*, BUS. ETHICS (Nov. 21, 2010), <http://business-ethics.com/2010/11/21/why-no-national-recycling-law-in-the-u-s/> ("[In 1976], Congress passed the Resource Conservation and Recovery Act (RCRA), which remains the cornerstone of federal solid waste and recycling legislation.") [hereinafter BUS. ETHICS].

<sup>5</sup> See Alex Gray, *Which Countries Recycle the Most?*, WORLD ECON. FORUM (Dec. 18, 2017), <https://www.weforum.org/agenda/2017/12/germany-recycles-more-than-any-other-country/> (finding that South Korea recycles 53.7% of its municipal waste and is third in the list of top ten recyclers, United States, with under 35%, is 25th); see also Diane Rehm Show: *New Challenges to Recycling in the United States* (July 7, 2015), <https://dianerehm.org/shows/2015-07-07/new-challenges-to-recycling-in-the-united-states> (finding that recycling rates overall is 34% but some states are above 50% and others well under 10%) [hereinafter *New Challenges*].

<sup>6</sup> Wastes Control Act, Act No. 3904, Dec. 31, 1986, amended by Act. No. 14532, Jan. 17, 2017 (S. Kor.).

<sup>7</sup> Legislative Council of the Hong Kong Special Administrative Region: Delegation of the Panel on Environmental Affairs, Report on the Duty Visit to the Republic of Korea to Study its Experience on Waste Management 5 (2013), <http://www.legco.gov.hk/yr13-14/english/hc/papers/hc1129cb1-412-a-e.pdf> [hereinafter LC PAPER].

<sup>8</sup> *Id.* at 6.

<sup>9</sup> BUS. ETHICS, *supra* note 4 (distinguishing 1965's Solid Waste Disposal Act, America's very first federal solid waste law, which did not mention recycling).

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

<sup>11</sup> *New Challenges*, *supra* note 5 (explaining how recycling rates differ state-by-state as some states like California and Oregon have very comprehensive laws driving up the overall recycling rate of the United States whereas D.C. increased the size of its blue bins as a way to encourage people to recycle more); see generally Aaron C. Davis, *American recycling is stalling, and the big blue bin is one reason why*, WASH. POST (June 20, 2015), [https://www.washingtonpost.com/local/dc-politics/american-recycling-is-stalling-and-the-big-blue-bin-is-one-reason-why/2015/06/20/914735e4-1610-11e5-9ddc-e3353542100c\\_story.html?utm\\_term=.a42b04442eb4](https://www.washingtonpost.com/local/dc-politics/american-recycling-is-stalling-and-the-big-blue-bin-is-one-reason-why/2015/06/20/914735e4-1610-11e5-9ddc-e3353542100c_story.html?utm_term=.a42b04442eb4) (explaining how consumers are increasing the amount of garbage that is being mixed with recyclable material because of the bigger bins thereby contaminating the recycled goods).

<sup>12</sup> Sustainable Solid Waste Management Amendment Act of 2014, D.C. Code Ann. § 8-1031.01 (2014).

<sup>13</sup> *Id.*; see also Cole Rosengren, *How 5 local governments just expanded their recycling programs*, WASTE DRIVE (Nov. 7, 2017), <https://www.wastedrive.com/news/how-5-local-governments-just-expanded-their-recycling-programs/510071> (referring to the recent and increased promotion of the Zero Waste DC initiative and nothing that the compost collection must be in place

but the D.C. government has begun an initiative to begin the compost program within the next five years).

<sup>14</sup> Rosengren, *supra* note 13.

<sup>15</sup> *Skip the Bag, Save the River*, DEP'T OF ENERGY & ENV'T, <https://doee.dc.gov/page/bags> (last visited Mar. 30, 2018).

<sup>16</sup> *Food Service Ware*, DEP'T OF ENERGY & ENV'T, <https://doee.dc.gov/foodservice-ware> (last visited Mar. 30, 2018).

<sup>17</sup> *Sustainable DC Plan*, D.C. MUN. GOV. 10 (2011), [http://www.sustainabledc.org/wp-content/uploads/2017/03/SDC\\_Plan\\_2016\\_compressed2.pdf](http://www.sustainabledc.org/wp-content/uploads/2017/03/SDC_Plan_2016_compressed2.pdf).

<sup>18</sup> *Id.* at 2.

<sup>19</sup> See *New Challenges*, *supra* note 5 (explaining the trend of states that an "easier way" is the "better way"); see also Davis, *supra* note 11 ("Environmental advocates believed that the only way to increase participation in recycling programs was to make it easier.")

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

<sup>21</sup> Aaron C. Davis, *D.C. said it was recycling – it wasn't. Nearly 53 tons of plastic trash cans sent to landfill*, WASH. POST (May 20, 2014), [https://www.washingtonpost.com/local/dc-politics/pictures-show-dc-may-have-dumped-trash-cans-that-it-said-were-being-recycled/2014/05/20/1f4c2a24-df9a-11e3-810f-764fe508b82d\\_story.html?utm\\_term=.18d83c422eef](https://www.washingtonpost.com/local/dc-politics/pictures-show-dc-may-have-dumped-trash-cans-that-it-said-were-being-recycled/2014/05/20/1f4c2a24-df9a-11e3-810f-764fe508b82d_story.html?utm_term=.18d83c422eef) (explaining how replacing the old, smaller cans actually congested the streets and while trying to dump the plastic bins, the city decided to incinerate instead of recycling the recyclable cans).

<sup>22</sup> Davis, *supra* note 11 (explaining how this phenomena is likely caused by the fact that information is not properly dispersed throughout the communities).

<sup>23</sup> Drew Desilver, *Perceptions and realities of recycling vary widely from place to place*, PEW RES. CTR. (Oct. 7, 2016), <http://www.pewresearch.org/fact-tank/2016/10/07/perceptions-and-realities-of-recycling-vary-widely-from-place-to-place/>.

<sup>24</sup> Davis, *supra* note 11.

<sup>25</sup> *Compare District Recycling Fact Sheet*, ZERO WASTE DC (Jan. 1, 2018), [https://dpw.dc.gov/sites/default/files/dc/sites/dpw/page\\_content/attachments/DC%20Recycling%20Fact%20Sheet.pdf](https://dpw.dc.gov/sites/default/files/dc/sites/dpw/page_content/attachments/DC%20Recycling%20Fact%20Sheet.pdf) (allowing paper cups and containers whereas Arlington and Alexandria do not allow disposable cups), with *Recycling at Home*, City of Alexandria, Va. (last updated Oct. 26, 2017 12:40 PM), <https://www.alexandriava.gov/RecyclingAtHome#acceptable> (specifying no "take-out containers" unlike D.C. and Arlington), and *What to Recycle in Arlington*, ARLINGTON CTY. GOV'T, <https://recycling.arlingtonva.us/residential/trash-recycling/> (allowing shredded paper into its recycling bins whereas Arlington specifically does not allow shredded paper).

<sup>26</sup> Nick Iannelli, *Report reveals habits of D.C. commuters*, WASHINGTON'S TOP NEWS (Aug. 14, 2015, 8:16 AM), <https://wtop.com/dc-transit/2015/08/report-reveals-habits-of-dc-commuters/slide/1/> (finding that in 2015, there were 95,323 commuters from Fairfax County per day and 48,944 from Arlington County).

<sup>27</sup> Karim Chrobog, *In South Korea, An Innovative Push to Cut Back on Food Waste*, YALE ENV'T 360 (May 20, 2015), [https://e360.yale.edu/features/in\\_south\\_korea\\_an\\_innovative\\_push\\_to\\_cut\\_back\\_on\\_food\\_waste](https://e360.yale.edu/features/in_south_korea_an_innovative_push_to_cut_back_on_food_waste) (describing how many Korean residents have embraced the "highly intrusive" measures for the common good).

<sup>28</sup> LC PAPER, *supra* note 7, at 5.

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

<sup>30</sup> *Id.* at 7.

<sup>31</sup> *Id.* at 7-8.

<sup>32</sup> *Id.* at 10-11; see also Mori Rothman, *These policies helped South Korea's capital decrease food waste*, PBS NEWS HOUR (Mar. 19, 2017, 3:40 PM), <https://www.pbs.org/newshour/show/>

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# WIND POWER AND THE LEGAL CHALLENGES WITH NEPA AND THE ESA

Florianne Silvestri\*

## I. INTRODUCTION

The wind energy sector has emerged as a leading renewable energy source within the United States.<sup>1</sup> Many states, including Ohio, have been developing projects that encourage the use of wind energy as a renewable source.<sup>2</sup> Typically, the wind energy sector will establish wind farms onshore or offshore.<sup>3</sup> Many onshore wind farms have massive propellers called wind turbines that generate the wind power.<sup>4</sup> Each turbine has four basic parts: (1) “a rotor or blades (usually three per tower)[;]” (2) an “enclosure containing a drive train usually having a gearbox and a generator[;]” (3) “a tower which supports the rotor and the drive train[;]” and (4) “electronic equipment such as controls, ground support equipment, and grid interconnection equipment.”<sup>5</sup>

These towers with three rotating blades generate electricity.<sup>6</sup> For onshore farms, these turbines vary in size with rotating blades and tower heights between fifty meters to ninety meters.<sup>7</sup> Because most blades and turbines today are sturdier, lengthier, and larger, they operate at more dependable wind speeds at higher altitudes, and thus generate more electricity because amount of land required is reduced, which results in cost savings with improved efficiency.<sup>8</sup> These improvements could increase wind energy’s production by 67% more than previously installed turbines, regaining more than 700,000 square miles to be utilized for wind energy.<sup>9</sup>

This paper focuses on the legal obstacles that wind energy developers may encounter with National Environmental Policy Act (NEPA) and the federal Endangered Species Act (ESA), and uses Ohio statutes as an example of how a developer may avoid or minimize such problems. Part II explores the wind power within the United States and its benefits and disadvantages, and utilizes the Ohio administrative compliance process as a wind energy project case study. Part III examines NEPA and the federal ESA, and compares it to Ohio’s version of the ESA. Following this, Part IV evaluates the legal challenges that a wind power project, especially in Ohio, may experience with NEPA and the federal ESA.

## II. WIND POWER: HISTORY AND ITS DOUBLE-EDGED SWORD

This section gives an overview of the industry of wind power in the United States and its advantages and disadvantages. Furthermore, this section evaluates the history and growth of the wind industry in Ohio. Lastly, this section outlines the administrative compliance process in Ohio for a wind developer to establish a renewable energy plant.

## A. WIND POWER IN THE UNITED STATES

Wind power has greatly expanded across the United States during the twenty-first century.<sup>10</sup> An average of 20 million Americans now power their homes with wind energy, and around forty-one states, Guam, and Puerto Rico have implemented “utility-scale wind energy projects.”<sup>11</sup> As of January 2018, the wind industry within the United States has installed enough wind turbines to generate the ability of 89,077 megawatts of electricity for 26 million American households.<sup>12</sup>

Presently, across Puerto Rico, Guam, and forty-one other states in the United States, more than 52,000 wind turbines are functioning.<sup>13</sup> Internationally, almost two hundred countries, previously including the United States, have entered into an international climate change agreement, focused on renewable energy.<sup>14</sup>

Behind China, the United States is the world’s second leading wind energy market generating electricity.<sup>15</sup> Wind power has become cheaper and more competitive.<sup>16</sup> The cost for wind power has continuously decreased since 1980 while the total facility of wind energy in the U.S. has increased.<sup>17</sup>

The significant wind energy producers are General Electric and Vestas, which covered 85% of the U.S. market in 2016.<sup>18</sup> Wind energy is the “third-largest source of U.S. electric-generating capacity additions” after solar power and natural gas.<sup>19</sup> Over the last decade, wind energy has provided for an additional 31% of all new generation capability, illustrating wind power as a frontrunner in the renewable energy resource market.<sup>20</sup>

## B. ADVANTAGES AND DISADVANTAGES

The utilization of wind power as a renewable energy source includes many advantages for the United States. First, the U.S. wind power industry employed “102,500 full-time equivalent (FTE) jobs” related to the strategy, development, and implementation of wind power ventures within the United States.<sup>21</sup> In 2016 alone, the wind industry added 15,000 jobs.<sup>22</sup> Wind farm projects have also contributed economic benefits to the communities around the wind farm projects.<sup>23</sup> Local and state government may also benefit from sales and income tax from new wind

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farm projects' construction as well as real estate tax from new project equipment.<sup>24</sup>

Moreover, wind farm projects provide income to lower socioeconomic areas with royalty payments or leases to landowners.<sup>25</sup> When wind farm projects use leased lands or lands involving royalty fees to the landowners, the landowners receive additional income and have the opportunity to remain on their own land to continue their daily activities, such as farming and ranching.<sup>26</sup> Overall, the U.S. wind energy industry has paid landowners \$245 million for annual lease payments.<sup>27</sup> Wind farm projects also allow different uses for the land like as habitats for wildlife, grazing for livestock, and recreational activities.<sup>28</sup>

Additionally, the wind energy initiative has significantly reduced our dependency on fossil fuels and saved 87 billion gallons of water from Americans' consumption.<sup>29</sup> As wind power had been effective to reduce the United States' dependence on water consumption, wind power has become a part of the diversification of different renewable sources that generate electricity.<sup>30</sup> Wind power can contribute a significant part to Americans' energy conservation and needs.<sup>31</sup>

Also, wind power can assist states that have renewable portfolio standards to achieve their targets for renewable sources generating electricity.<sup>32</sup> As a limitless resource, wind power utilizes no fuel<sup>33</sup> and generates neither greenhouse gases nor air pollution.<sup>34</sup> Wind energy projects also do not include any solid or hazardous waste.<sup>35</sup> Other types of non-renewable energy, like coal, produce grave waste disposal problems while generating electricity.<sup>36</sup>

Wind power includes its disadvantages as well. Wind does not correlate with human consumption for energy.<sup>37</sup> Instead, wind power depends on atmospheric conditions, it varies with speed and accessibility, and it cannot be stored for latter usage.<sup>38</sup> As the wind energy industry develops better turbine design and controls for electricity, various wind farms' speeds largely determine the farms' costs,<sup>39</sup> and sites may vary.<sup>40</sup>

Other concerns for wind power involve "a man-made plague" within communities, dividing various habitats, devastating ecosystems, and negatively affecting wild birds.<sup>41</sup> Opponents complain about the aesthetic impact of wind farms.<sup>42</sup> The wind turbines may also provide "interference with communications, shadow flicker, the noise produced by rotating blades, effect on hunting and other forms of recreation, health effects of low-frequency sound, impact on aircraft communications, radar navigation and surveillance systems, safety issues and ice throws from the blades of turbines."<sup>43</sup> Many bird and bat deaths resulting from collisions with the wind energy farms have been documented as well.<sup>44</sup>

While wind power has shortcomings on various levels, it is important to realize that while these difficulties exist, wind energy is renewable and has many positive attributes that may outweigh the problems.

## C. WIND POWER IN OHIO

The state of Ohio joined the renewable energy initiative as the twenty-seventh state on July 31, 2008, when the legislature passed a renewable portfolio standard within Ohio Revised Code 4928.64.<sup>45</sup> This renewable portfolio standard mandated that Ohio generate 12.5% of its energy from renewable sources, including wind power, by 2026.<sup>46</sup> Even though this progress was halted in 2014 when Ohio Governor John Kasich signed Senate Bill 310, which froze the renewable portfolio standard until 2017, Governor Kasich vetoed to continue the freeze in December 2016.<sup>47</sup>

Despite this initial setback, the wind power industry in Ohio has provided between two thousand to three thousand employment opportunities for Ohio residents.<sup>48</sup> Additionally, the wind power industry has given landowners in Ohio between \$1 million to \$5 million in annual lease payments for wind power projects.<sup>49</sup> Therefore, even though the renewable portfolio standard did not increase between 2014 and 2017, wind energy continues to develop as a renewable energy source for electricity.

## D. OHIO ADMINISTRATIVE COMPLIANCE PROCESS

The standard application for a wind power plant within Ohio starts with the Ohio Power Siting Board ("OPSB" or "the Board"), which was created in 1972.<sup>50</sup> Ohio Revised Code § 4906 outlines the powers of the OPSB.<sup>51</sup> The Board's purpose focuses on encouraging energy source strategies that support the implementation of energy capability and transmission functionalities in Ohio, incentivizing Ohio's economy, and conserving land utilization and the environment.<sup>52</sup> Wind energy projects in Ohio cannot go forward absent OPSB's approval.<sup>53</sup>

The Board includes eleven members, seven with voting power and four without voting power.<sup>54</sup> The chairperson of the Public Utilities Commission performs as chairperson of the Board.<sup>55</sup> Directors from the Department of Agriculture, Health, Natural Resources, Development Services Agency, and Environmental Protection Agency, and a public person as an engineer and a governor's appointee from the Ohio Consumers' Counsel's nominees are the other six voting members.<sup>56</sup> Two state House Representatives and two Senators encompass the last four non-voting members.<sup>57</sup>

The OPSB requires any serious utility developer, involving a wind energy producer as an "economically significant wind farm," to apply for a "certificate of environmental compatibility and public need."<sup>58</sup> An "economically significant wind farm" includes wind turbines and other infrastructures that contain a "single interconnection to the electric grid" and would be constructed, including the ability, to operate at a total capability between five to fifty megawatts.<sup>59</sup>

The wind energy developer is required to provide a pre-application letter to the OPSB fifteen days before a public informational meeting occurs.<sup>60</sup> A public informational meeting must occur before the wind energy developer applies for a certificate with the OPSB.<sup>61</sup> The developer utilizes this meeting as a chance to provide information about its anticipated application with the OPSB and to receive public feedback.<sup>62</sup> When the wind energy



developer meets the pre-application requirements, the wind energy developer submits the application with the OPSB, which has sixty days to review the application.<sup>63</sup> During this process, the OPSB staff request other involved parties' and agencies' comments to provide a recommendation to the OPSB.<sup>64</sup> If the OPSB approves the application, the OPSB provides a letter of completeness to the application.<sup>65</sup> If the OPSB rejects the application, the OPSB addresses the application's incompleteness with the wind developer.<sup>66</sup>

Upon approval, the wind energy developer complies with appropriate notification of the accepted and completed application,<sup>67</sup> it pays filing and other associated fees,<sup>68</sup> and the OPSB sets an official filing deadline with additional public and adjudicatory hearing dates.<sup>69</sup> The local public hearing addresses the immediate community's concerns about the wind developer's application and is considered within the OPSB's official record during the decision making process.<sup>70</sup> The public provides sworn statements at the local public hearing that a court reporter transcribes, including exhibits and the public's sworn commentary and testimony.<sup>71</sup>

The adjudicatory hearing under an administrative law judge presents the involved parties in the application the opportunity to cross-examine witnesses and submit previously filed sworn testimony.<sup>72</sup> However, a participant may not be included in both types of hearings,<sup>73</sup> and an intervener, an individual that engages in the evidentiary hearing with either cross-examination or filing sworn testimony,<sup>74</sup> may withdraw to allow another person to testify and advocate on its behalf at the local public hearing.<sup>75</sup>

Within fifteen days of the OPSB's acceptance of the wind developer's application, the first public notice of the applicant's filing is required to be posted.<sup>76</sup> Within the duration of sixty to ninety days, the OPSB starts the local public and evidentiary hearings.<sup>77</sup> The OPSB staff will provide a report within fifteen days before the local public hearing to the OPSB.<sup>78</sup> Another public notice is then required to be posted within the period of seven to twenty one days before the local public hearing as well.<sup>79</sup>

The local public hearing occurs near the proposed site for the wind developer.<sup>80</sup> The evidentiary hearing ensues at the offices of the OPSB.<sup>81</sup> When the local public and evidentiary hearings finish, the involved parties may file briefs or provide closing remarks.<sup>82</sup> Within ninety days after the hearings are completed, the administrative law judge prepares a proposed decision on the wind developer's application and project and submits it to the OPSB.<sup>83</sup> The OPSB considers the draft propositions at their monthly meetings.<sup>84</sup>

Based upon the administrative law judge's proposed decision, the local public and evidentiary hearings, and the OPSB's investigation, the OPSB decides whether or not to issue the applicant's certificate to permit construction.<sup>85</sup> Upon the Board's issued decision, the applicant may appeal the OPSB's decision within thirty days for a rehearing.<sup>86</sup> After the appeal is filed, the OPSB has thirty days from the filing date of the appeal to decide.<sup>87</sup> If the OPSB denies the certificate's issuance again, the applicant may appeal to the Ohio Supreme Court within sixty days.<sup>88</sup>

Currently, the Ohio Power Sitting Board has approved the wind power plant projects Greenwich, Black Fork, Scioto Ridge, Buckeye I and II, and Hardin and Northwest Ohio are under construction.<sup>89</sup> Timber Road I, II, and III, Hog Creek I and II, and Blue Creek has operational sites, and the application for Icebreaker in Lake Erie and Republic Wind are pending stage as of February 5, 2018.<sup>90</sup> Therefore, as the renewable portfolio standard has been re-evaluated and allowed to move forward, Ohio will continue to develop and produce wind energy.<sup>91</sup>

### III. NEPA AND THE ENDANGERED SPECIES ACTS

The following section addresses NEPA and the federal ESA, in which both acts have been utilized separately and together to challenge wind power projects' development. Ohio has its own state version of the ESA as well that the paper compares, and a wind developer in Ohio should have awareness of all both federal laws and Ohio's version of the ESA.

#### A. THE NATIONAL ENVIRONMENTAL POLICY ACT

The federal National Environmental Policy Act ("NEPA") also influences any wind energy implementation efforts that include "federal action significantly affecting the quality of the human environment."<sup>92</sup> NEPA was passed in 1969, and the Council of Environmental Quality within the President's Executive Office oversees NEPA compliance.<sup>93</sup> NEPA focuses on the implementation of a federal policy that advocated for more productivity and harmony among humans and the surrounding environment.<sup>94</sup> NEPA takes a procedural approach to reinforce that federal agencies provide a "hard look" at their actions and the resulting environmental results.<sup>95</sup> Importantly, a failure to comply with NEPA can result in a lawsuit that halts the proposed federal action until compliance is accomplished.<sup>96</sup> A private individual may bring a lawsuit against a federal agency, in which he or she has alleged that the agency has violated NEPA, for judicial review pursuant to the Administrative Procedure Act after the private individual has pursued necessary administrative appeals.<sup>97</sup>

As a federal agency engages in any major federal action that significantly affects the human environment's quality, NEPA requires that the federal action perform an environmental impact statement ("EIS").<sup>98</sup> An EIS addresses:

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental affects which cannot be avoided should the proposal be implemented,
- (iii) [reasonable range of] <sup>a</sup>alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.<sup>99</sup>

A major federal action may involve an agency's latest or re-visited rules, regulations, plans, policies, or procedures.<sup>100</sup> The federal agency begins the EIS process by placing a Notice of Intent in the Federal Register notifying the public about the agency's analysis and the process, in which the public may provide its input.<sup>101</sup> The Notice of Intent allows the federal agency and the public to decide on the concerns and potential options to be in the EIS.<sup>102</sup> The draft EIS allows for the public's commentary for at least forty-five days.<sup>103</sup> The federal agency then considers all the public commentary and may analyze further.<sup>104</sup>

Then, the final EIS is placed within the Federal Register, including the federal agency's replies to the public commentary.<sup>105</sup> The federal agency waits at least thirty days until it concludes with a final decision on its action, except when the agency adds the thirty days alongside a formal internal appeals process.<sup>106</sup> After the federal agency places a Notice of Availability in the Federal Register with the accessibility to the draft and final EIS for the public, the federal agency then issues its Record of Decision that includes a rationale of the agency's conclusion, a description of the agency's deliberated alternatives, and the agency's strategy for monitoring and mitigation.<sup>107</sup> Sometimes, a supplemental EIS may be required when substantial fluctuations occur with the federal agency's action that are germane to the apprehension regarding the environment, or when new significant events or material related to the environmental impacts affect the federal agency's actions.<sup>108</sup> If a supplement EIS is needed, the federal agency follows the same process for a draft or final EIS.<sup>109</sup>

A federal agency may choose to prepare an "Environmental Assessment" ("EA") to determine whether an EIS is necessary.<sup>110</sup> Less extensive than a full-blown EIS, an EA evaluates with appropriate investigation and evidence whether an EIS should be prepared depending on the federal agency's action.<sup>111</sup> Within its evaluation, the EA examines if a federal action has the possibility to produce significant impacts on the environment.<sup>112</sup> The EA contains an explanation for the proposal, "alternative [courses of action for any proposal which involves unresolved conflicts concerning alternative uses of available resources,] the environmental impacts of the proposed action and the alternatives, and a listing of agencies and persons consulted."<sup>113</sup>

If a federal agency concludes that the federal action will not significantly affect the environment, and the federal agency determines an EIS is not needed, the federal agency releases a "Finding of No Significant Impact" ("FONSI").<sup>114</sup> A FONSI explains the agency's rationale for its conclusion that no significant effects would result from the action.<sup>115</sup> However, if the EA illustrates that the proposal would have significant environmental effects, the agency would create an EIS.<sup>116</sup>

A federal agency's action may be excluded categorically under NEPA. To qualify for this type of exclusion, the federal agency's action falls into a category that does "not individually

or cumulatively have a significant effect on the human environment and which have been found to have no such effect" within an agency's NEPA application regulations.<sup>117</sup> Although an agency's action may be considered as a categorical exclusion, when "extraordinary circumstances" occur, an agency is required to prepare an EA or EIS.<sup>118</sup> This action may significantly impact the environment, even as a categorical exclusion, under emergency circumstances.<sup>119</sup>

Sometimes, a federal action may include a state or private action that a federal agency funds, approves, or causes.<sup>120</sup> When this federalization of the state or private action occurs, the action is subject to NEPA.<sup>121</sup> For example, when a federal permit is issued to a private or state project that would constitute a federal action falling under the realm of NEPA.<sup>122</sup> Therefore, wind developer as a private actor may fall under the realm of NEPA.

## B. THE ENDANGERED SPECIES ACT ("ESA")

The Endangered Species Act (16 U.S.C. §§ 1531 *et seq.*) passed in 1973 and significantly impacted the wind energy implementation within the United States.<sup>123</sup> The ESA governs the federal agencies and departments that safeguard the ecosystems and protects threatened and endangered species, including their critical habitats.<sup>124</sup> The U.S. National Oceanic and Atmospheric Administration Fisheries Services (previously known as the National Marine Fisheries Service) in the Department of Commerce and U.S. the Fish & Wild Service ("FWS") within the Department of the Interior regulate under this Act.<sup>125</sup>

The ESA provides procedural and substantive protection for species designated as endangered or threatened under the ESA.<sup>126</sup> An important part of the ESA that a wind developer should consider is Section 9, which prohibits anyone, including a wind developer, from the "taking" of listed species on public and private land.<sup>127</sup> Section 9 and what constitutes a "taking" is addressed later in more detail.

However, a wind developer should first understand that Section 4 of the ESA governs the listing of the species as endangered or threatened.<sup>128</sup> An endangered species is considered "likely to become extinct throughout all or a large portion of their range."<sup>129</sup> However, a threatened species is "likely to become endangered in the near future."<sup>130</sup> The listing is on the mere basis of science, not economics.<sup>131</sup> If the FWS or the NOAA Fisheries is considering a species for listing, a notice is published with the Federal Register with supportive studies and an explanation.<sup>132</sup> Within one year, the FWS or the NOAA Fisheries evaluates whether the species should be listed, and if so, publishes a notice in the Federal Register.<sup>133</sup> After 30 days, the listing is operative.<sup>134</sup>

A private individual may petition the agency, i.e. FWS or NOAA Fisheries, to add a species, and the agency may respond within 90 days.<sup>135</sup> If the individual's petition is considered, then the agency would perform more exploration and a status review.<sup>136</sup> Within one year when the agency received the petition, the agency would determine whether the listing is justified.<sup>137</sup> If the agency fails to make a determination, then the Act provides

private individuals to bring a lawsuit to require the agency to meet the deadlines and that the species obtains safeguarding.<sup>138</sup>

The ESA also permits the Secretary to designate critical habitats of a threatened or endangered species.<sup>139</sup> A critical habitat is a location “with particular physical or biological features essential to a listed species that may require special management and protection if the species is to survive and recover.”<sup>140</sup> The Secretary has vast discretion to evaluate the critical habitat’s designation to “the maximum extent prudent”<sup>141</sup> with the “best scientific and commercial data available.”<sup>142</sup> A decision is not considered as prudent as (1) human action or a taking threatens the species and the critical habitat may escalate the threat to the species, or (2) the Secretary’s designation does not benefit the species.<sup>143</sup> The FWS or the NOAA Fisheries may decline a location for a critical habitat, where the exclusion’s benefits outweigh the area designation’s advantages, unless the exclusion would eliminate the species.<sup>144</sup> Public feedback is involved in public hearings and commentary.<sup>145</sup> Once a critical habitat is created with anticipated territory, the agency places it in the Federal Register.<sup>146</sup> With public feedback, the agency then finalizes the critical habitat’s territory, and critical habitats come into play with federal agencies.<sup>147</sup>

Section 7(a)(2) forbids a federal action that may adversely modify a critical habitat or may jeopardize the continued existence of a listed species.<sup>148</sup> A federal action incorporates agency action and private actions that a federal agency funds, permits, or performs; therefore, for both types of actions, the agency is required to engage with the FWS or the NOAA Fisheries to reinforce that the action only minimally harms the protected species and not adversely modify or terminate its critical habitat.<sup>149</sup> The ESA mandates formal consultation when the action “‘may affect’” a critical habitat or listed species.<sup>150</sup> Once a formal consultation is triggered, the FWS or the NOAA Fisheries creates a biological opinion that evaluates the action’s possible effects to the listed species and advises procedures that an agency may implement if the action, including the “cumulative effects[,]”<sup>151</sup> is “likely to jeopardize the continued existence” or “result in the destruction or adverse modification of the critical habitat” of the listed species.<sup>152</sup>

However, even if a federal agencies’ action may influence a critical habitat or a listed species, a formal consultation may be preventable when a federal agency starts an informal consultation with the FWS<sup>153</sup> or NOAA Fisheries.<sup>154</sup> The agency participates with FWS or NOAA Fisheries to develop changes to the action or “‘reasonable and prudent alternatives’” to prevent “‘jeopardizing a listed species or adversely modifying a species’ final critical habitat.”<sup>155</sup> If the agency has the ability to perform the action without adverse effect to listed species or critical habitats, the consultation process ends.<sup>156</sup> If the consultation determines otherwise, then a formal consultation is triggered.<sup>157</sup>

Section 9 of the ESA prohibits anyone from “taking” a member of a listed species.<sup>158</sup> A “take” comprises of an action “to harass, harm, pursue, hunt shoot wound kill, trap, capture, or collect or to attempt to engage in any such conduct.”<sup>159</sup> A take includes directly hurting the listed animals *or* damaging the

habitat “that may indirectly cause death or injury by disrupting feeding, breeding, or other essential behavior patterns.”<sup>160</sup> This section of the ESA is particularly important as discussed later regarding wind power developer and their projects.

However, the FWSs may issue an incidental take permit (“ITP”) pursuant to Section 10(a)(2) of the ESA to permit a government or private individual’s activity that would incidentally take a protected species.<sup>161</sup> The permit would be granted because the activity’s taking is necessarily incidental and not the activity’s main objective.<sup>162</sup> If a private individual performs the activity that incidentally results in a taking, the ESA mandates that an ITP must have a habitat conservation plan (“HCP”) accompanying the ITP’s application.<sup>163</sup> Public comments are allowed on both the HCP and the ITP.<sup>164</sup> An HCP imposes minimization and mitigation measures for the activity involving the affected species before the FWS issues the ITP.<sup>165</sup> An HCP permits expansion when an HCP identifies “with scientific credibility that the impacts of proposed habitat changes are minimized to the ‘maximum extent practicable’ and that the take will not reduce the likelihood that the species will survive and recover.”<sup>166</sup> Having a HCP implemented reduces the likelihood that the private individual would encounter liability or further imposed measures.<sup>167</sup>

Finally, Section 11 outlines the criminal and civil penalties for those who violate the ESA.<sup>168</sup> The ESA also provides a citizen suit provision, in which an individual may bring a lawsuit against any individual or entity who violates the ESA or against the Secretary of Interior for failure to comply with a discrete mandatory duty.<sup>169</sup> An individual must provide a 60-day notice of intent before initiating the citizen suit.<sup>170</sup> Section 11(e) also permits the government to enforce compliance with the ESA as well.<sup>171</sup> The following section examines Ohio’s version of the ESA and the protection that Ohio provides for the listed species.

### C. OHIO’S ENDANGERED SPECIES ACT

Some states have enacted their own endangered species laws.<sup>172</sup> Ohio has provided state level protection to species located within the state of Ohio that face extinction. Ohio essentially prevents anyone from taking both federal and state listed species, with a few exceptions, and punishes violators with a misdemeanor.<sup>173</sup> Ohio Revised Code § 1531.25 provides statutory authority to the “chief of the division of wildlife” to regulate and approve governing law that limits the “taking or possession of native wildlife,” including eggs or offspring that the authoritative figure considers as threatened on a state scale.<sup>174</sup> The revised code also addresses that the authority bestowed to the “chief” includes naming endangered species, including fish and wildlife, pursuant to Section 4 of the Endangered Species Act.<sup>175</sup> These endangered species would either be natural to Ohio, migrate, or “are otherwise reasonably likely to occur” within Ohio.<sup>176</sup> The code allows for the taking of threatened species on the state level for science, education, zoology, and propagation for the species’ preservation purposes with the “chief[’s]” written permits.<sup>177</sup> The code also acknowledges that the Ohio law would not interfere with the federal law regarding the limitations on taking or



possession of species under the federal ESA for science, education, zoology, and preservation for species pursuant to a federal license or permit.<sup>178</sup> Should a violation occur under this section, the individual is guilty of a first degree misdemeanor.<sup>179</sup>

Having this law as a base line, the Ohio Administrative Code Chapter 1501:31-23-01 lists the designated as endangered natural species and subspecies for wild animals in accordance with Ohio Revised Code §1531.25.<sup>180</sup> This chapter also addresses the illegality of taking, moving, proposing to retail, retailing, or retaining the wild animals without a prior written permit unless the wild animals are collected under subsection B or acquired outside of the state and propagated for preservation.<sup>181</sup> Moreover, the chapter outlines when a written permit may be provided when an individual desires to engage with the endangered wild animals for science, zoology, education, or propagation purposes and the lengthy process and requirements they entail.<sup>182</sup> Finally, Ohio Administrative Code Chapter § 1501:31-23-02 lists the designated natural species and subspecies of wild animals as threatened.<sup>183</sup>

#### IV. THE LEGAL CHALLENGES WITH FEDERAL ESA AND NEPA

Wind power plants may encounter certain legal challenges, particularly with NEPA and ESA compliance. Cases in Ohio and other jurisdictions present examples of such obstacles that a wind power plant, especially in Ohio, may experience with NEPA and/or ESA. These cases also indicate how a wind developer can avoid or minimize NEPA and ESA difficulties. Particularly, a wind developer looking to develop a project in Ohio should also be aware that Ohio has its own version of the ESA that must be complied with.<sup>184</sup> However, Ohio's version of the ESA has not been present in much litigation.<sup>185</sup>

An Ohio case, *Union Neighbors United, Inc., v. Jewell*, illustrates how a private wind developer can trigger NEPA compliance issues by obtaining an incidental take permit in order to avoid ESA Section 9 liability.<sup>186</sup> Buckeye Wind Energy, LLC ("Buckeye") consulted with the FWS and Ohio Department of Natural Resources Division of Wildlife ("Department") to evaluate the project's effect on the wildlife on the plan's site.<sup>187</sup> Buckeye complied with pre-construction field analysis, and the FWS provided a notice of intent to conduct an evaluation period on the plan and solicited public comments.<sup>188</sup> Buckeye and the FWS collaborated on the HCP, and Buckeye applied for the issuance of an ITP to avoid Section 9 liability under the ESA.<sup>189</sup> The FWS then issued a final EIS and HCP.<sup>190</sup>

Subsequently, Union Neighbors United, Inc., a third party, proposed that the FWS evaluate another alternative during the final EIS's public comments' period.<sup>191</sup> They suggested to examine whether a cut-in speed for 6.5 m/s would be another alternative within the HCP to reduce the number of bats' deaths.<sup>192</sup> The FWS did not follow Union Neighbor's United's proposal and issued the ITP to Buckeye with its Record of Decision and its Statement of Findings.<sup>193</sup>

Union Neighbors United consequently filed a lawsuit.<sup>194</sup> The lawsuit alleged the FWS's issuance of the ITP was

"arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law under NEPA and the ESA."<sup>195</sup> As a result, Buckeye intervened into the lawsuit.<sup>196</sup> The District Court affirmed Buckeye's and the defendants' motions for summary judgment holding that the Service complied with the ESA's conditions for the ITP and NEPA's requirement for reasonable alternatives.<sup>197</sup>

Union Neighbors United then appealed to the D.C. Circuit Court of Appeals.<sup>198</sup> The Court of Appeals examined the FWS's alternatives, and concluded that the alternatives stated "reflect 'a need to ensure that take of Indiana Bats is avoided and minimized to the maximum extent practicable and to ensure that the impact of any remaining take is fully mitigated' and 'to protect the habitat of Indiana bats.'"<sup>199</sup>

While the court reviewed the alternatives, the court acknowledged that the FWS "did not consider any reasonable alternative that would be economically feasible while taking fewer bats than Buckeye's proposal."<sup>200</sup> The only other alternative that the Service evaluated to take fewer bats was not . . . economically feasible[.]<sup>201</sup> The FWS should have known that other alternatives, like Union Neighbors United's, were "economically viable" and been awareness these other proposals where fewer bats would be taken.<sup>202</sup>

The court concluded that the FWS did not examine "a reasonable range of alternatives" in the draft or final EIS, including Union Neighbors' proposal for the usage of a "cut-in speed higher than 6.0 m/s," when the FWS granted the ITP to Buckeye.<sup>203</sup> Therefore, the Service's decision was "arbitrary and capricious" and violated NEPA.<sup>204</sup>

However, Union Neighbors United did not prevail on their ESA claim.<sup>205</sup> The Court of Appeals determined that that the FWS's interpretation of "impacts" under ESA was "persuasive."<sup>206</sup> The court examined the definition of impact and concluded that "impacts" was defined as "the effect of the taking on the species as a whole, which necessarily includes population and subpopulations."<sup>207</sup> The court also evaluated legislative history and the FWS's interpretation as well.<sup>208</sup> FWS's interpretation and the legislative history, the court defined term "impacts" as "the populations or subpopulations of the species as a whole, rather than the discrete number of individual members of the species."<sup>209</sup>

Finally, the court agreed with the Department's interpretation of "minimization and mitigation" towards the taking's impacts and was not "arbitrary or capricious."<sup>210</sup> Union Neighbors United addressed concerns about the "the interplay between the phrases 'to the maximum extent practicable' and 'minimize and mitigate such impacts.'"<sup>211</sup> Union Neighbors United argued that the former phrase acted independently from the latter phrase.<sup>212</sup> However, the court determined through their evaluation of the ESA that the FWS's interpretation was paralleled with the court's conclusion<sup>213</sup> and considered the FWS's findings and Buckeye's mitigation measures.<sup>214</sup> The court believed the FWS had appropriately concluded, "[I]f combined minimization and mitigation fully offset the take, it [did] not matter whether Buckeye *could* do more; Buckeye had already satisfied what

[was] required under the ESA.”<sup>215</sup> Therefore, the court did not consider the FWS’s findings as “arbitrary or capricious.”<sup>216</sup>

Consequently, the D.C. Court of Appeals held that the FWS complied with the ESA, but not NEPA.<sup>217</sup> This case illustrated that Buckeye’s seeking approval for an ITP assisted Buckeye to avoid a “take” pursuant to the ESA.<sup>218</sup> Since the ITP mandated federal approval, the federal action triggered NEPA.<sup>219</sup> But as the FWS did not fully comply with NEPA, the project was stopped.<sup>220</sup> The case also demonstrated how Union Neighbors United utilized both statutes to act as checks on Buckeye’s wind plan project.<sup>221</sup>

*Sierra Club v. Kenna* shows how a private wind developer’s choice to seek a right-of-way access on federal land when it also had the option of a private road gave rise to challenges under the ESA and NEPA.<sup>222</sup> North Sky River Energy (“NSRE”) applied for a right-of-way over federal property with the Bureau of Land Management (“BLM”) to construct a service road for the wind development project and “underground power transmission lines and power optic communications lines.”<sup>223</sup> Consequently, BLM performed an EA for the service road and found that its review should be limited to the environmental effects of the service road since the wind development project and the service road plan were separate entities.<sup>224</sup> Its EA concluded with a finding of no significant impact (“FONSI”).<sup>225</sup> Because of the EA and the FONSI, BLM issued the right-of-way since the service road would produce a smaller environmental impact than the utilization of private land to gain entry to the wind development project.<sup>226</sup> Essentially, BLM examined that even if BLM did not grant the right-of-way, the wind project also had the option of a private road to gain entry to the wind development project.<sup>227</sup>

The Plaintiffs, Sierra Club and other environmental organizations, brought suit to challenge BLM’s decision granting the right-of-way, and NSRE intervened as a defendant.<sup>228</sup> Plaintiffs pleaded that the BLM’s decision violated NEPA and ESA.<sup>229</sup> Plaintiffs alleged that the route over the private land option would not be a feasible alternative because NSRE would have to acquire access from a significant number of private landowners.<sup>230</sup> Therefore, the United States District Court for the Eastern District of California examined whether BLM’s decision was invalid that the wind development project and the service road were not interconnected, requiring a larger environmental evaluation under the ESA and NEPA.<sup>231</sup>

First, pursuant to the ESA claim, the court examined whether BLM could identify support that the service road provided “some benefit” to BLM’s intentions separate from assisting the wind development project, in which BLM’s decision would be “reasonable” to allow NSRE to construct the service road with NSRE’s monetary support.<sup>232</sup> The court acknowledged that BLM demonstrated “some benefits” that supported BLM’s intentions separate from the development or assistance to the wind project.<sup>233</sup> BLM’s intentions were for the public’s benefits at no additional cost to the public.<sup>234</sup>

Essentially, the court concluded that BLM illustrated the wind development project was “not the ‘but for’ cause” for the service road since other benefits were considered.<sup>235</sup> BLM only

had to demonstrate that the administrative record contained evidence that demonstrated that service road “was not the ‘but for’ cause” of the wind development project.<sup>236</sup> Since this analysis is intertwined with the Plaintiffs’ NEPA claim, the court presented its more detailed rationale there.<sup>237</sup> Consequently, its decision that the service road and the wind development project were not interconnected, was not considered as “arbitrary, capricious, or contrary to law.”<sup>238</sup> Based upon this conclusion, the court found BLM did not violate the ESA when BLM limited the EA to the effects of the service road and decided formal consultation was not needed pursuant to the ESA.<sup>239</sup>

Second, the court explored the Plaintiffs’ NEPA claim that BLM’s FONSI in its EA was contrary to the law since BLM did not analyze the wind development’s impacts.<sup>240</sup> In essence, the Plaintiffs alleged that the service road and the wind development project were within the same project.<sup>241</sup> The Plaintiffs’ argument rested upon the notion that BLM’s approval for the service road was a precondition to the wind development project and constituted a major federal action.<sup>242</sup>

However, the court disagreed with the Plaintiffs’ argument because the administrative record and its facts demonstrated that BLM had knowledge about the number of parcels, owners, and how much of a right-of-way would be included in the private road alternative.<sup>243</sup> BLM evaluated the facts and made an appropriate decision<sup>244</sup> because the final EA had illustrated the details, including the work and timeframe, and the environmental effects of the private road option.<sup>245</sup> Therefore, because BLM properly analyzed the entire situation, BLM’s decision was not “arbitrary, capricious or contrary to law.”<sup>246</sup> Overall, the Plaintiffs failed on both NEPA and ESA claims presented before the court.<sup>247</sup>

The U.S. Court of Appeals for the Ninth Circuit affirmed the lower court’s conclusions in *Sierra Club v. BLM*.<sup>248</sup> The appeals court decided that BLM appropriately considered and consulted the direct effects of the service road, but did not need to with the wind development project since the wind project was a private development on private land.<sup>249</sup> The court emphasized that the service road and the wind project were separate plans and not connected.<sup>250</sup> Since the wind project was “not funded, authorized, or constructed by any federal agency,” BLM did not need any consultation pursuant to the ESA.<sup>251</sup> Moreover, BLM did not need to consider the indirect effects of the wind development project as a part of BLM’s action for the service road since the administrative record demonstrated that the wind development project would be constructed and finished without the service road, given the private road alternative.<sup>252</sup> Furthermore, the court agreed that the wind development project and the service road were “separate and apart from each other” and “fail[ed] the ‘but for’ causation test” since “neither [was] an integral part of the other, neither depend[ed] on the other for its justification.”<sup>253</sup>

The appeals court also explored the Plaintiffs’ NEPA claim and agreed with the lower court that since the wind project development and the service were separate, BLM did not need to examine the wind development project’s impacts.<sup>254</sup> BLM did not need to complete an EIS since the EA addressed an in depth examination of the service road, and the wind



development project was not a federal action or related to the service road project and employed separate functionality.<sup>255</sup> Therefore, once again, the court found that BLM did not violate NEPA or the ESA.<sup>256</sup>

The United States District Court for the Eastern District in California and the U.S. Court of Appeals for the Ninth Circuit demonstrated that NSRE as a wind developer with two options—either the right-of-way or the private road—to access to the wind development project would avoid a formal consultation under the ESA and a detailing of the impact of the wind development project under NEPA.<sup>257</sup> Since the right-of-way for the separate service road was not connected with the wind development project and had separate benefits, both courts concluded that BLM only had to address the service road's effects and that the wind development project was not a federal project.<sup>258</sup> In a nutshell, the courts' decisions showed that a wind developer may minimize the risks of triggering NEPA and ESA by having alternative solutions that do not include a federal agency's action like the approval for the right-of-way, and by presenting the private action (the wind development project) as a separate entity from the federal action (the right-of-way).<sup>259</sup>

*Animal Welfare Institute v. Beech Ridge Energy, LLC*, is an illustrative case that focuses on the ESA and wind power development.<sup>260</sup> Invenergy, the parent company, contacted BHE Environmental to handle the environmental services and compliance of the wind power project and the FWS in West Virginia.<sup>261</sup> BHE Environmental implemented a mist-nest survey at various sites near where the project would be placed during the summer.<sup>262</sup> In total, seventy-eight bats were caught and represented six different species.<sup>263</sup> No Indiana bats were found.<sup>264</sup> Beech Ridge Energy then applied for a siting certificate for the project, and BHE submitted a risk assessment to FWS and the West Virginia Department of Natural Resources ("the Department").<sup>265</sup> FWS and the Department shared their concern about the Indiana bats and recommended site surveys before construction occurred.<sup>266</sup>

BHE performed a cave study and found no Indiana bats.<sup>267</sup> Public and evidentiary hearings occurred, and BHE performed another mist-net survey at twelve different areas during the following summer, where the turbines would be built.<sup>268</sup> No Indiana bats were captured, and no additional evaluations were conducted even though the FWS and Department had recommended more studies.<sup>269</sup> BHE gave FWS and the Department BHE's final risk assessment and concluded that the wind project threatened a low possibility of injury to the Indiana bats.<sup>270</sup>

In response, FWS expressed their concern about the Indiana bats and recommended additional studies and mist-net surveys over a three year period before construction occurred, to follow with the FWS' 2003 interim guidance, and the formation and production of "an adaptive management plan to minimize the risk of harm" to the Indiana bats as a federally listed species.<sup>271</sup> Despite FWS' concern, the Department presented an order affirming the sitting certificate to the Beech Ridge Energy and decided that no Indiana Bats resided near the site.<sup>272</sup> The Department denied re-hearing on the issued order.<sup>273</sup> The FWS

followed up again with their recommendations for more surveys and studies, including radar and thermal imagery, stating that mist netting was not sufficient by itself.<sup>274</sup> The FWS left the decision to apply for an ITP to the Beech Ridge Energy.<sup>275</sup> The Department then permitted the project's construction to begin as long as the issued order's conditions before construction were met.<sup>276</sup>

Plaintiffs Animal Welfare Institute, David G. Cowan, and Mountain Communities for Responsible Energy sued defendants Invenergy and Beech Ridge Energy, LLC, for injunctive and declaratory relief.<sup>277</sup> The Plaintiffs alleged that wind project's development and operation would engage in a "take" of the Indiana bats, an endangered species and would violate Section 9 of the Endangered Species Act.<sup>278</sup> New critical information was discovered during discovery.<sup>279</sup>

The United States District Court for the District of Maryland concluded that a citizen suit under the ESA could be brought with an allegation of "wholly-future violations" of the ESA when "no past violation has occurred."<sup>280</sup> The court evaluated the credibility of both parties' expert witnesses<sup>281</sup> and determined even though the Indiana bats would generally be less likely to be located in caves within five miles of the wind development during the fall and spring, the lack of hibernacula did not destroy the prospect that Indiana bats resided there, and also that the externalities of the construction likely increased the chance that Indiana bats would be found at the site.<sup>282</sup>

Based upon the court's examination of the presented evidence, the court determined with "virtual certainty" that the Indiana bats' were at the project site during the fall, summer, and spring.<sup>283</sup> But because of hibernation patterns, the Indiana bats would be less likely to be present there during winter.<sup>284</sup> Moreover, the bats' hibernacula with two caves near the development's site and the bats' travel distance supported the possibility that the bats were present.<sup>285</sup> The development's physical attributes including "suitable roosting snaps" and "habitat 'sinks'" that construction expanded<sup>286</sup> together with the BHE employee's acoustic data supported the court's conclusion.<sup>287</sup>

The court then turned to evaluate whether a take of the Indiana bats would be present at the development site.<sup>288</sup> Since other wind power sites had reported other bat species killed,<sup>289</sup> and post construction surveys of bats' deaths were ineffective,<sup>290</sup> the court agreed with the Plaintiffs' expert witnesses that "there [was] a virtual certainty that Indiana bats [would] be harmed, wounded, or killed, imminently" at the development's site,<sup>291</sup> and the project would violate Section 9 of the ESA within the fall, summer, and spring months.<sup>292</sup>

Therefore, the court concluded that the wind power plant project did not adequately study the presence of Indiana bats.<sup>293</sup> Although the project already had some wind turbines in development during the lawsuit, the court permitted the project to continue only if Beech Ridge Energy applied and obtained an ITP for Indiana bats.<sup>294</sup>

Thus, this case illustrated a cautionary tale about the importance of adequate research and survey methods throughout the duration of the wind development project to adequately assess

if an ITP is needed, so the wind developer can timely apply and receive an ITP to avoid Section 9 liability for a listed species.<sup>295</sup> Taking the necessary, precautionary steps to account for a listed species that occupy a certain area of land, in which the wind developer plans to build upon, should be implemented properly, or the wind developer may encounter a whirlwind of ESA liability.<sup>296</sup> However, as other previously discussed cases demonstrated, even if a wind power project obtained an ITP, the wind power project still would have to exercise sound judgment with a HCP and comply with the requirements for the ESA and NEPA since the issuance of the ITP, a federal action, would trigger NEPA as well.<sup>297</sup> This continuous process to comply with NEPA and the ESA could allow the wind developer to minimize risks in the future.

Although the past cases highlight that NEPA is triggered either when a wind developer received a ITP or a right-of-way for a service road as federal action,<sup>298</sup> the case *Protect Our Communities Found v. Salazar*, explored NEPA-based challenges to a wind project on federal land, where the Plaintiffs contested the Record of Decision from the Department of Interior for the Ocotillo wind development project in the Sonoran Desert in California.<sup>299</sup> The Plaintiffs alleged violations of NEPA and sought injunctive relief under the Administrative Procedure Act.<sup>300</sup> Leading up to this matter, BLM developed a final EIS to evaluate the effects of the wind power project within the public land, and BLM's approval of 112 wind turbines on a 10,151-acre right-of-way.<sup>301</sup>

The Plaintiffs pled several violations pursuant to NEPA. The first allegation included that the BLM only adopted the wind power project's aspirations as its own and thus, limited its reasonable alternatives.<sup>302</sup> The court, however, concluded that BLM included in its purpose and need that the wind power project would provide BLM an opportunity to implement the promotion of renewable and safe energy, which an executive order, the Energy Policy Act of 2005, and a Department of Interior order emphasized.<sup>303</sup>

The Plaintiffs also alleged BLM did not consider other renewable sources beyond wind power.<sup>304</sup> Yet, the court dismissed this allegation since the final EIS indicated BLM did consider the alternative sources of renewable energy.<sup>305</sup> Finally, the Plaintiffs argued that BLM was at fault for only considering the actual project site instead of other lands, private and public, and for not evaluating other similarly situated projects for other alternative renewable sources.<sup>306</sup> Once again, the court dismissed the allegation since the Plaintiffs did not adequately support their allegation and concluded that the EIS did include reasonable alternatives and did not violate NEPA.<sup>307</sup>

The Plaintiffs, moreover, alleged that BLM did not partake in a "hard look" at the wind power project's infrasound affecting public health and the low frequency noise.<sup>308</sup> The court evaluated BLM's final EIS and found that the EIS addressed the effects of infrasound and low frequency noise, including non-perceptible and non-audible, and deferred to BLM's conclusion that the effects would be minimal.<sup>309</sup> The court found that

BLM's determination was not "arbitrary, capricious or an abuse of discretion."<sup>310</sup>

Additionally, the court disagreed with the Plaintiffs' other allegations: BLM did not consider the audible noise of the project's effects;<sup>311</sup> BLM was wrong to not consider the mitigation measures for noise impacts including the wind turbines' setbacks;<sup>312</sup> BLM did not analyze the full impact of the visual effects for the project;<sup>313</sup> and BLM did not examine the impacts on the Peninsular Bighorn Sheep.<sup>314</sup> The Plaintiffs finally argued that BLM did not consider the wind power project's impacts on the low income and minority populations.<sup>315</sup> Assuming arguendo that the impacts on low income and minority populations were relevant, the court decided BLM appropriately considered the impacts, and the impacts would not be negatively affected.<sup>316</sup>

The court then declined the Plaintiffs' argument that the final EIS did not consider nor implement all the mitigation plans after the environmental review had occurred.<sup>317</sup> The court found that all mitigation plans did not have to be completely confirmed before the Department executed the record of decision and agreed that BLM did not violate NEPA.<sup>318</sup>

As *Protect Our Communities Foundation v. Salazar* demonstrated, the Plaintiffs utilized NEPA for the majority of their allegations to contest the wind power development project. Other cases that also exemplify a plaintiff utilizing similar arguments with NEPA to challenge a wind power project include *Vermonters for a Clean Environment, Inc. v. Madrid*,<sup>319</sup> *Protect Our Communities Foundation v. Jewell*,<sup>320</sup> and *Oregon Natural Desert Association v. Jewell*.<sup>321</sup>

Therefore, as explored above, a wind developer may encounter various legal hurdles with NEPA and the ESA, and these cases illustrate the potential outcomes that may result from such legal obstacles. First off, a wind developer should understand that state and federal laws might overlap and apply to their wind energy project. Having an awareness of which laws exist and apply to the wind project will provide a wind developer a forewarning regarding which legal obstacles the project may encounter preconstruction, during construction, and post construction. Additionally, understanding and complying with the local application and approval process for an energy source project is essential to create a hopefully smooth transition from the wind project designed on paper to its actual implementation.

Second, a wind developer must recognize that NEPA and the ESA may be triggered by the same action. For example, when a wind developer applies for an ITP to avoid a take under the ESA, this ITP also triggers NEPA as well since the ITP requires federal approval.


Third, a wind developer may be proactive by lawfully avoiding NEPA and the ESA if the wind developer takes preventive steps to avoid triggering either law. For instance, with adequate research and survey methods, a wind developer may, just in case, seek an ITP to avoid potential liability under Section 9 of the ESA for a listed species. As noted above, this ITP would trigger NEPA since the issuance of the ITP is a federal action, and the wind developer would need to develop a HCP as well pursuant to the ESA.

Fourth, a wind developer may limit the risks of triggering the ESA and NEPA by developing an alternative solution that does not require a federal agency's action, such as a private road, allowing the wind project to remain separated as a private entity.

Thus, proactivity, knowledge about the existing state and federal laws, and understanding the local application and permit process provide a wind developer the necessary tools to have a successful development of a wind energy project.

## V. CONCLUSION

All over the United States, wind power has developed into a powerful renewable energy source. As discussed above, private wind energy developers should be worried about ESA "takes." While an approved ITP may assist a wind developer to avoid or

minimize liability pursuant to Section 9 of the ESA, an issued ITP as a federal action could bring the wind developer under the scope of NEPA. Other federal actions such as federal funding, land, or authorizations such as a right-of-way may additionally prompt NEPA compliance. Both NEPA and the ESA could be used as a plaintiff's sword and a defendant's shield when a wind energy developer properly complies, avoiding liability and minimizing risk to its development. As a wind energy developer pursues development and implementation of a wind farm, this paper provides a strategy with the hope that that wind developers, including those in Ohio, may minimize or evade the possible entanglements with NEPA and the ESA. A proactive wind energy developer is better than a reactive one. 

## ENDNOTES

<sup>1</sup> See Chris Mooney, *The U.S. Wind Energy Boom Couldn't Be Coming at a Better Time*, WASH. POST (Aug. 10, 2015), [https://www.washingtonpost.com/news/energy-environment/wp/2015/08/10/the-boom-in-wind-energy-couldnt-be-coming-at-a-better-time/?utm\\_term=.003f5e60ec6f](https://www.washingtonpost.com/news/energy-environment/wp/2015/08/10/the-boom-in-wind-energy-couldnt-be-coming-at-a-better-time/?utm_term=.003f5e60ec6f) (reporting that increased wind turbine installation, low costs, and advancing technologies have resulted in wind production making up five percent of U.S. electricity demand).

<sup>2</sup> U.S. Wind Energy State Facts, AM. WIND ENERGY ASS'N, <http://www.awea.org/resources/statefactsheets.aspx?itemnumber=890> (last visited Feb. 25, 2018) (graphing the installed wind generating capacity across the United States).

<sup>3</sup> See Office of Energy Efficiency & Renewable Energy, *Wind Vision: About*, DEP'T OF ENERGY, <http://energy.gov/eere/wind/wind-vision> (last visited Feb. 25, 2018) (analyzing the installed wind power generation across the United States).

<sup>4</sup> See Ronald H. Rosenberg, *Making Renewable Energy a Reality—Finding Ways to Site Wind Power Facilities*, 32 WM. & MARY ENVTL. L. & POL'Y REV. 635, 649 (2008) (explaining that wind turbines convert wind force into electricity).

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

<sup>6</sup> *Id.* at 650.

<sup>7</sup> *Id.* at 651.

<sup>8</sup> See U.S. DEP'T OF ENERGY, *REVOLUTION . . . NOW: THE FUTURE ARRIVES FOR FIVE CLEAN ENERGY TECHNOLOGIES—2015*, 4 (2015), [hereinafter *REVOLUTION . . . NOW*] <http://www.energy.gov/sites/prod/files/2015/11/f27/Revolution-Now-11132015.pdf> (reporting that modern wind turbines blades are 108% longer than those installed in 1999 and 48% taller).

<sup>9</sup> *Id.* at 4-5.

<sup>10</sup> See *Wind Energy Facts at a Glance*, AM. WIND ENERGY ASS'N, <http://www.awea.org/Resources/Content.aspx?ItemNumber=5059> (last visited Feb. 25, 2018) (graphing the increase in wind generation across the United States between 2001 and 2017 and finding an 80,000 megawatt increase across that time).

<sup>11</sup> *Id.*

<sup>12</sup> See *Wind Power Closes 2017 Strong, Lifting the American Economy*, AM. WIND ENERGY ASS'N (Jan. 30, 2018), <https://www.awea.org/4Q2017press> (explaining that technological advances and ingenuity have led to the increased wind energy production).

<sup>13</sup> *Wind Energy Facts at a Glance*, *supra* note 10.

<sup>14</sup> See *Paris Agreement—Status of Ratification*, UNITED NATIONS CLIMATE CHANGE, [http://unfccc.int/paris\\_agreement/items/9444.php](http://unfccc.int/paris_agreement/items/9444.php). (noting that 175 of the 197 parties to the Paris Climate Agreement have ratified the Convention). The current Trump administration announced plans to remove the United States from the international climate change agreement called the Paris Agreement; Kim Willsher, *World Leaders Take Aim at Climate Change and Trump*, LA TIMES (Dec. 12, 2017, 1:30 PM), <http://www.latimes.com/world/europe/la-fg-france-climate-change-summit-20171212-story.html>. Despite this, Americans, thirty-eight states, and cities have illustrated their commitment to the Paris Agreement, promoting renewable energy. *Id.*

<sup>15</sup> U.S. DEP'T OF ENERGY, OFFICE OF EFFICIENCY & RENEWABLE ENERGY, 2016 WIND TECHNOLOGIES MARKET REPORT iv (2016), <https://energy.gov/sites/prod/>

[files/2017/10/f37/2016\\_Wind\\_Technologies\\_Market\\_Report\\_101317.pdf](files/2017/10/f37/2016_Wind_Technologies_Market_Report_101317.pdf) (reporting that China produced nearly 15,000 more megawatts than the United States in 2016).

<sup>16</sup> *Id.* at vii-viii (stating that costs have decreased despite increases in the size of turbines).

<sup>17</sup> *REVOLUTION . . . NOW*, *supra* note 8, at 3.

<sup>18</sup> 2016 WIND TECHNOLOGIES MARKET REPORT, *supra* note 15, at v (noting that Vesta controlled 43% of U.S. turbine installations in 2016, while GE captured 42% of the market).

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

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

<sup>21</sup> U.S. Wind Indus. 2016 Annual Market Update: Economic Benefits of U.S. Wind Energy, AM. WIND ENERGY ASS'N, [hereinafter *U.S. Wind Indus. 2016 Annual Market Update*] <http://awea.files.cms-plus.com/FileDownloads/pdfs/Economic%20Benefits.pdf> (last visited Mar. 12, 2018).

<sup>22</sup> *Id.*; see also U.S. DEP'T OF ENERGY, EFFICIENCY & RENEWABLE ENERGY ADVANTAGES AND CHALLENGES OF WIND ENERGY, <https://energy.gov/eere/wind/advantages-and-challenges-wind-energy> (last visited Mar. 12, 2018) (reporting wind power can support "more than 600,000 jobs in manufacturing, installation, maintenance, and supporting services.")

<sup>23</sup> Rosenberg, *supra* note 4, at 663.

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

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

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

<sup>27</sup> U.S. Wind Indus. 2016 Annual Market Update, *supra* note 21.

<sup>28</sup> Rosenberg, *supra* note 4, at 663.

<sup>29</sup> U.S. Wind Indus. 2016 Annual Market Update, *supra* note 21 (using wind energy reduces the need for fossil-fuel in power plants resulting in diminished water consumption).

<sup>30</sup> Rosenberg, *supra* note 4, at 659; ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22 (citing wind power as a constant low-priced energy source of electricity).

<sup>31</sup> Rosenberg, *supra* note 4, at 659; see Celeste Waner, *Top Trends from the Fourth Quarter of 2017*, AM. WIND ENERGY ASS'N, <http://www.aweablog.org/top-trends-fourth-quarter-2017/> (last visited Feb. 1, 2018); see also ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22; U.S. Wind Indus. Fourth Quarter 2017 Market Report, AM. WIND ENERGY ASS'N <http://awea.files.cms-plus.com/FileDownloads/pdfs/4Q%202017%20AWEA%20Market%20Report%20Public%20Version.pdf> (last visited Mar. 12, 2018) (reporting twenty-nine additional wind projects commissioned in the U.S. during the last quarter of 2017).

<sup>32</sup> Rosenberg, *supra* note 4, at 659; Jocelyn Durkay, *State Renewable Portfolio Standards and Goals*, NAT'L CONF. OF STATE LEGISLATURES (Aug. 1, 2017), <http://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx> (reporting thirty states in the United States have renewable portfolio standards).

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# POLICY ANALYSIS OF THE WATER CRISIS IN CAPE TOWN, SOUTH AFRICA

*Alycia Kokos\**

Following a three-year drought, the city of Cape Town, South Africa faces an unprecedented municipal crisis.<sup>1</sup> Residents are being asked to curb their daily municipal water use to thirteen gallons from their already restricted daily allowance of twenty-three gallons in order to avoid the impending “Day Zero” in which residential and commercial taps will be turned off for nearly four million residents.<sup>2</sup> Though water consumption has decreased since January 2018, most residents have not complied with the restriction.<sup>3</sup> This creates a point of tension in the diverse city that contains both luxury homes and shanty towns.<sup>4</sup>

While the crisis appears to stem from one of the worst droughts in over a century that could be related to climate change,<sup>5</sup> others blame the government’s lack of oversight in effectively foreseeing that such an event could occur and proactively implementing safeguards.<sup>6</sup> By examining the roles that the National Government plays in the current Cape Town water crisis, options become apparent for the South African government going forward.

Section 24 of the Republic of South Africa’s 1996 Constitution sets forth the right of its citizens to a livable environment and requires that the government take legislative or other government actions to allow public access to natural resources, such as water, and promote conservation of such resources through an ecologically sustainable development.<sup>7</sup> To this end, the National Environmental Management Act (NEMA or “Act”) was enacted to meet these public needs and provide “co-operative, environmental governance” through the establishment of institutes to promote the principles of the Act.<sup>8</sup> The National Water Act of 1998 also empowers the national government to maintain and provide public access to the country’s water resources.<sup>9</sup>

South Africa’s Department of Water and Sanitation (DWS) has been criticized for misallocating water, including their failure to curtail the allocation of water for agricultural use, especially when the prospects of the drought became more apparent.<sup>10</sup> As set forth in their Water Management Policy regarding groundwater, the Department states that their protection of the country’s groundwater will be based on a “precautionary approach,” meaning that all groundwater will be “assumed to be vulnerable to damage unless it can be shown otherwise.”<sup>11</sup> To accomplish this, the DWS will take “source-directed, resource-directed, and remedial management measures,” such as the determination of a “reserve” consistent of water used for basic human needs such as drinking, food preparation, and personal hygiene.<sup>12</sup> Therefore, it can be argued that it was the Department’s responsibility to act with “precaution” and avoid a low water level by actively

maintaining a reserve of water and looking to alternative sources or improvements far earlier.

In turn, DWS Minister Nomvula Mokonyane has accused government officials of dragging their feet on capital funding for infrastructure and maintenance, as well as withholding emergency disaster relief funds,<sup>13</sup> and has thus blamed overconsumption of water as an underlying issue.<sup>14</sup> Under the National Water Act of 1998, South Africa’s national government is considered the “trustee” of the country’s water resources, and therefore it retains the power to “regulate the flow and use of all water in the country.” Meanwhile, daily management of a city’s water falls within the immediate responsibility of the municipality.<sup>15</sup> Section 27 of South Africa’s Constitution addresses health care, food, water, and social security and mandates that every citizen has the right to have access to sufficient food and water.<sup>16</sup> The country’s large division of wealth puts a strain on this right to water access by allowing those with a larger income to install groundwater purification systems while those with smaller incomes must obtain water through public collection points that may be overcrowded or long distances away.<sup>17</sup> The national government has a responsibility to provide funding to ensure that citizens have access to sufficient water through the use of appropriate infrastructure and maintenance, regardless of economic status.<sup>18</sup>

To ensure that the appropriate government entities take “reasonable legislative and other measures” to avoid infringing citizens’ rights to sufficient water access, the term “sufficient” should be more specific and quantitatively define at what time or resource level the national government should be held accountable, and thus compelled to take action.<sup>19</sup> The Minister possesses the authority under the § 4(26) of the country’s National Water Act to promulgate regulations that limit water use, require water use be monitored, measured, and recorded by appropriate entities, and oversee water infrastructure systems from construction to operation and maintenance.<sup>20</sup> Therefore, it is imperative that the Minister exercise his or her authority by mandating and enforcing such regulations to avoid infringing citizens’ rights.

However, it is fair to assert that under the current language of the Constitution that the sustainability of water resources are expected to be prioritized in governmental actions, especially as lower than expected rainfall and water scarcity become common occurrences in parts of the country.<sup>21</sup> To accomplish this, government officials should direct DWS to frequently review the country’s preparedness for water scarcity events and create

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a stricter framework for sustainable groundwater management in an effort to increase dam capacity and extend, upgrade, and maintain current water infrastructure in South Africa.<sup>22</sup> Funding for such projects can be provided through municipal grants or other emergency funding.<sup>23</sup>

Any increased investments in infrastructure need to be complemented by a change in water usage by citizens.<sup>24</sup> To reduce demand for water, there must be an improvement in water efficiency and water-using behaviors.<sup>25</sup> This can be done by installing efficient irrigation technology, replacing inefficient

appliances, taking shorter showers, or flushing toilets less often.<sup>26</sup> Alternatively, the national government can implement strategies to generate new water supplies, such as the restoration of watersheds, artificial enhancement of groundwater replenishment systems, and the implementation of wastewater treatment and reuse programs.<sup>27</sup>

While Cape Town attempts to prevent this crisis, other countries can learn from their mistakes by actively updating and maintaining government-run water infrastructure systems in response to potential impacts of climate change.



## ENDNOTES

<sup>1</sup> William Saunderson-Meyer, *Commentary: In drought-hit South Africa, the politics of water*, REUTERS (Feb. 5, 2018, 11:09 AM), <https://www.reuters.com/article/us-saundersonmeyer-drought-commentary/commentary-in-drought-hit-south-africa-the-politics-of-water-idUSKBN1FP226>; Norimitsu Onishi & Somini Sengupta, *Dangerously Low on Water, Cape Town Now Faces 'Day Zero'*, N.Y. TIMES (Jan. 30, 2018), <https://www.nytimes.com/2018/01/30/world/africa/cape-town-day-zero.html>.

<sup>2</sup> Onishi & Sengupta, *supra* note 1; see also Helen Zille, *From the Inside: The Countdown to Day Zero*, DAILY MAVERICK (Jan. 22, 2018), <https://www.dailymaverick.co.za/opinionista/2018-01-22-from-the-inside-the-countdown-to-day-zero/#.WnRwM66nHcv> (stating that “Day Zero” is currently projected for July 19, 2018 and the current plan is that “one week before the six dams providing water to the Western Cape Water Supply System (WCWSS) are collectively projected to drop to 13.5 percent, the City will announce the date on which almost all the taps in Cape Town’s residential suburbs will be cut off.”); Lauren Said-Moorhouse & Gianluca Mezzofiore, *Cape Town cuts limit on water use by nearly half as 'Day Zero' looms*, CNN, <https://www.cnn.com/2018/02/01/africa/cape-town-water-crisis-intl/index.html> (last updated Feb. 1, 2018) (noting that the threat of fines and installation of water management meters attempt to keep residents compliant with the cut backs).

<sup>3</sup> Richard Perez-Pena, *Cape Town Pushes Back 'Day Zero' as Resident Conserve Water*, N.Y. TIMES (Feb. 20, 2018), <https://www.nytimes.com/2018/02/20/world/africa/cape-town-water-day-zero.html>.

<sup>4</sup> *Id.*; see also Said-Moorhouse & Mezzofiore, *supra* note 2 (stating that the city is now working to upgrade its water systems by building desalination, aquifer, and water-recycling projects, to help lengthen what water remains).

<sup>5</sup> Onishi & Sengupta, *supra* note 1.

<sup>6</sup> Zille, *supra* note 2.

<sup>7</sup> See S. AFR. CONST. 1996, § 24; see also Warren Beech & Nicholas Veltman, *Environmental law and practice in South Africa: an overview*, WESTLAW PRACTICAL LAW, [https://uk.practicallaw.thomsonreuters.com/4-502-7865?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&bhcp=1](https://uk.practicallaw.thomsonreuters.com/4-502-7865?transitionType=Default&contextData=(sc.Default)&firstPage=true&bhcp=1) (last updated Feb. 1, 2017).

<sup>8</sup> See NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998 (S. Afr.); see also Beech & Veltman, *supra* note 7; NATIONAL WATER ACT (No. 36 OF 1998) §1 (S. Afr.) (stating that three key regulating authorities, Department of Environmental Affairs (DEA), Department of Mineral Resources (DMR), and Department of Water and Sanitation (DWS) were created under this Act).

<sup>9</sup> NATIONAL WATER ACT (No. 36 OF 1998) §1 (S. Afr.) (indicating that it is under the authority of the national government to “fulfil obligations set out in the Act relating to the use, allocation and production of, and access to, water resources”).

<sup>10</sup> Saunderson-Meyer, *supra* note 1.

<sup>11</sup> *Policy and Strategy for Groundwater Quality Management in South Africa*, DEP’T OF WATER AFFAIRS & FORESTRY ix (2000), <https://www.westerncape.gov.za/text/2003/groundwaterpol.pdf>.

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

<sup>13</sup> Saunderson-Meyer, *supra* note 1.

<sup>14</sup> Richard Poplak, *What’s Actually Behind Cape Town’s Water Crisis*, THE ATLANTIC (Feb. 15, 2018), <https://www.theatlantic.com/international/archive/2018/02/cape-town-water-crisis/553076/>.

<sup>15</sup> NATIONAL WATER ACT (No. 36 OF 1998) § 4(26); see also Amil Umraw, *Cape Town Water Crisis: DA Will be Judged Harshly Say Analysts*, HUFFINGTON POST (Feb. 19, 2018), [http://www.huffingtonpost.co.za/2018/01/19/watercrisis-drought-or-national-government-failure\\_a\\_23337782/?utm\\_hp\\_ref=za-news](http://www.huffingtonpost.co.za/2018/01/19/watercrisis-drought-or-national-government-failure_a_23337782/?utm_hp_ref=za-news).

<sup>16</sup> S. AFR. CONST., 1996, § 27(1)(B).

<sup>17</sup> Onishi & Sengupta, *supra* note 1.

<sup>18</sup> See S. AFR. CONST., 1996, § 27(1)(B) (stating that “the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of [the rights listed under section 27]”); Saunderson-Meyer, *supra* note 1.

<sup>19</sup> See S. AFR. CONST., 1996, § 27(1)(B).

<sup>20</sup> NATIONAL WATER ACT (No. 36 OF 1998) §4(26)(a)-(b), (d).

<sup>21</sup> See Tamaryn Africa, *#Budget2018: R6 billion allocated for drought relief*, BUS. REPORT (Feb. 21, 2018 4:15 PM), <https://www.iol.co.za/business-report/budget/budget2018-r6-billion-allocated-for-drought-relief-13404218>; see also Onishi & Sengupta, *supra* note 1 (stating that for several years Cape Town had been warned by the Department of Water Affairs about the necessity of diversifying its water supply because its reliance on six rainfall dependent dams was hazardous with current climate change trends).

<sup>22</sup> Africa, *supra* note 21.

<sup>23</sup> *Id.* (stating that “91.6 billion [rands] would be spent on extending, upgrading and maintain[ing] water infrastructure [in the 2018-2019 fiscal year]. Over the same period 34 billion [rands] would be invested in water services, largely through municipal grants”).

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

<sup>25</sup> Peter Gleick, *Commentary: Cape Town is Running Out of Water. Could More Cities Be Next?*, FORTUNE (Feb. 20, 2018), <http://fortune.com/2018/02/07/water-shortage-cape-town-south-africa/> (noting that saltwater desalination can also provide a short-term solution).

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

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

# REGULATORY DEFICIENCIES IN WASTEWATER INFRASTRUCTURE IN RURAL APPALACHIA

Amanda Stoner\*

Many communities in rural Appalachia have insufficient access to basic wastewater disposal facilities.<sup>1</sup> When alternative forms of wastewater disposal are financially or physically inaccessible, homeowners are forced to live with failing septic systems where raw sewage is discharged and sometimes resort to straight piping raw sewage directly into receiving waterways without any treatment.<sup>2</sup> This practice is highly problematic in mountainous, rural communities because groundwater flows near the surface of the earth and homeowners frequently rely on private, on-site groundwater wells as their primary source of drinking water.<sup>3</sup> Therefore, failing septic systems and straight pipes can create chronic water contamination and serious risk of disease.<sup>4</sup> Despite the well documented water quality threats that stem from industrial and mining pollution in Appalachia states, the director of the West Virginia Water Research Institute maintains that “the biggest threat in water supplies in southern West Virginia . . . is raw sewage”.<sup>5</sup>

Current state and federal regulatory regimes make the practice of emitting sewage directly into surface waters illegal, but these regimes frequently fail to effectively regulate raw sewage contamination in rural areas.<sup>6</sup> The Clean Water Act created the National Pollution Discharge Elimination System (NPDES) permitting program to regulate “point source pollutants” such as straight pipes.<sup>7</sup> Under NPDES, “[a]ny person who discharges or proposes to discharge pollutants. . . and who does not have an effective permit . . . must submit a complete application to the Director” or face fines and perhaps criminal charges.<sup>8</sup> The NPDES permitting process requires “operators” to submit an application for coverage under an individual permit to the relevant state issuing authority, typically a state’s designated regulatory agency.<sup>9</sup>

This permitting process is better suited to regulate large dischargers such as “industrial, commercial, and municipal point sources” rather than individual septic systems in remote communities.<sup>10</sup> First, there is no incentive for people living in economically depressed areas to go through the onerous practice of applying for permits, paying an application fee, and volunteering to be monitored by government authorities.<sup>11</sup> Second, the state and local agencies that bear the burden of managing septic tank and NPDES permitting systems often lack the capacity to effectively address private sewage systems in sparsely populated areas.<sup>12</sup> Third, the legislative authority to develop waste-water management rules and regulations is often split between state and local governments and the implementation and enforcement authority is almost always split between two or more state or local agencies.<sup>13</sup> This decentralized regulatory system creates confusion between competing authorities,

decreasing overall accountability.<sup>14</sup> Finally, even where state and local management efforts successfully regulate individual wastewater septic systems, there is little monitoring after the initial construction periods.<sup>15</sup>

High levels of poverty in these communities further complicate the problem. Even when state agencies are successful in locating non-permitted sources and notify owners that they are not in compliance with state and federal environmental law, the homeowner might not be in a financial position to take on the costly task of repairing, replacing, or installing a new septic system.<sup>16</sup> It is politically unpalatable to impose fines and burdens on indigent individuals who are both the perpetrators of water quality violations and the victims of the sewage contamination that results from those violations.<sup>17</sup> Therefore, when command and control regulation is used as the sole method of addressing the wastewater infrastructure deficiencies in rural areas, it has not been proven to be effective.<sup>18</sup>

Policy makers must use regulation in tandem with other policy solutions if they are to ameliorate this rural public health crisis. It is critical that state and local leaders secure funding for investment in wastewater projects, make wastewater infrastructure grants available to homeowners, and work with community members on the ground to develop and implement solution strategies.<sup>19</sup> According to the EPA’s 2000 Community Water System Survey, private capital markets serve as “the largest source of infrastructure capital funds.”<sup>20</sup> However, few Appalachian communities or rural homeowners have sufficient credit to access this private market.<sup>21</sup> Therefore, it is important that policymakers designate more capital to public entities through wastewater infrastructure grant programs such as the Clean Water State Revolving Fund (SFR), Water Pollution Control Grants, and ARC Community Infrastructure Grants.<sup>22</sup> Additionally, policy makers should strive to make funding available to private entities, such as non-profits.<sup>23</sup> After giving homeowners the opportunity to come into compliance with the NPDES permits, policy makers should enact legislation that provides state regulators with the resources and funding they need to effectively monitor wastewater pollution.<sup>24</sup> Bolstering state agency resources will play a crucial role in the long-term success of a sewage-pollution mitigation regimes because state environmental regulatory agencies will need additional funding to monitor newly installed septic systems as they age so that these systems do not once again fall into disrepair.<sup>25</sup>

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In summary, raw sewage contamination in Appalachia is an environmental injustice that creates unacceptable public health risks and barriers to community and economic development.<sup>26</sup> Policymakers must invest in basic wastewater infrastructure

projects and delegate more funding and resources to the agencies charged with monitoring water quality if they are to revitalize the most marginalized and impoverished Appalachian communities.



## ENDNOTES

<sup>1</sup> *Examples of Community Infrastructure Projects*, APPALACHIAN REG'L COMM'N, [https://www.arc.gov/program\\_areas/ExamplesofCommunityInfrastructureProjects.asp](https://www.arc.gov/program_areas/ExamplesofCommunityInfrastructureProjects.asp) (last visited Mar. 30, 2018); Nicholas Cook et al., *Putting Corporate Social Responsibility to Work in Mining Communities: Exploring Community Needs for Central Appalachian Wastewater Treatment*, RESOURCES 190-91 (2015), <http://www.mdpi.com/2079-9276/4/2/185/htm> (explaining that homes located in remote, mountainous areas are unable to connect to municipal wastewater systems and that thin soils make it excessively difficult to install adequate septic tank systems); see also U.S. ENVTL. PROTECTION AGENCY, RESPONSE TO CONGRESS ON USE OF DECENTRALIZED WASTEWATER TREATMENT SYSTEMS, i (1997) [hereinafter RESPONSE TO CONGRESS] (noting that when wastewater systems in rural areas where first built people utilized "the least costly solution", not the "most appropriate solution for the conditions").

<sup>2</sup> Jessica Lilly et al., *Inside Appalachia: Water in the Coalfields*, W. VA. PUB. BROAD. (Jan. 16, 2015), <http://wvpublic.org/post/inside-appalachia-water-coalfields#stream/0> (defining straight pipes as "small diameter pipes that intentionally bypass the sanitary connection or septic drain fields, producing a direct discharge into open channels or streams"); Cook et al., *supra* note 1, at 191.

<sup>3</sup> Cook et al., *supra* note 1, at 191; Jeff Hughes et al., *Drinking Water and Wastewater Infrastructure in Appalachia: An Analysis of Capital Funding and Funding Gaps*, UNC ENV'T. FIN. CTR. 4 (2005), [https://www.arc.gov/assets/research\\_reports/DrinkingWaterandWastewaterInfrastructure.pdf](https://www.arc.gov/assets/research_reports/DrinkingWaterandWastewaterInfrastructure.pdf) (finding that wells serve as the primary source of drinking water in "more than 75% of households in portions of the Highlands."); see also Arcipowski, *Clean Water, Clean Life: Promoting Healthier Accessible Water in Rural Appalachia* 161 J. OF CONTEMP. WATER RES. & EDUC. 1, 2 (2017) (noting that the EPA does not regulate residential groundwater wells).

<sup>4</sup> Cook et al., *supra* note 1, at 191; see also Arcipowski, *supra* note 3, at 2 (explaining that the fecal coliforms and *Escherichia coli* (E. Coli) found in raw sewage can cause "abdominal cramping, diarrhea, dehydration, and even death, if not treated").

<sup>5</sup> Lilly et al., *supra* note 2; see Hughes et al., *supra* note 3, at 51 (noting that a 2004 EPA report found that there were 878 impaired streams in West Virginia "that are too polluted to attain their designated use" and that the most common sources of pollution were "mine drainage, bacterial contamination, and acid rain").

<sup>6</sup> John Herald, *Straight Pipe Septic Systems*, HOUSE RESEARCH 2 (Jan. 2004), <http://www.house.leg.state.mn.us/hrd/pubs/ss/sspipe.pdf>; Arcipowski, *supra* note 3, at 2 (finding that from 2012-2014, 64% of water quality testing sites in the Red Bird River Watershed in Kentucky "exceeded the EPA threshold for *Escherichia coli*").

<sup>7</sup> 40 C.F.R. §122.2 (2017) ("Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged").

<sup>8</sup> *Id.* §122.21-41.

<sup>9</sup> NPDES Permit Basics, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/npdes/npdes-permit-basics> (last visited Mar. 11, 2018).

<sup>10</sup> Cook et al., *supra* note 1, at 191.

<sup>11</sup> West Virginia Department of Environmental Protection, *National Pollution Discharge Elimination System* (Mar. 2 2018, 4:08 PM) <http://dep.wv.gov/www/>

<permit/individual/pages/default.aspx> (noting that in West Virginia, the NPDES permitting process can take up to six months and require application fees ranging from \$50 to \$15,000 depending on the scope of the discharge operation).

<sup>12</sup> Herald, *supra* note 6, at 2 (explaining that it is difficult for states to address straight pipes on private property because regulators don't know where they are located).

<sup>13</sup> RESPONSE TO CONGRESS, *supra* note 1, at iii.

<sup>14</sup> *Id.*

<sup>15</sup> U.S. Environmental Protection Agency, *Septic System Overview* (Mar. 7, 2018), <https://www.epa.gov/septic/septic-systems-overview> (noting that "very few permitting agencies conduct regular inspections of septic systems after they are installed").

<sup>16</sup> Herald, *supra* note 6, at 2. (explaining that the average septic system can cost between \$4,000 and \$12,000 dollars).

<sup>17</sup> See *id.* (noting fairness concerns about holding low income homeowners accountable for straight pipes); see also Fahe, *Appalachian Poverty*, (Mar. 7, 2018), <https://fahe.org/appalachian-poverty/> (noting that the poverty rate in the combined Appalachia regions of Alabama, Kentucky, Tennessee, Virginia, and West Virginia was 19.7% between 2010-2014).

<sup>18</sup> Herald, *supra* note 6, at 2 (explaining that part of the reason Minnesota failed to address their estimated 60,000 straight pipes discharging an estimated 6.75 million gallons of raw sewage into Minnesota waters every day was because officials were reluctant to take action against homeowners who lacked the financial resources to install new septic systems).

<sup>19</sup> See Gary O'Dell, *Community Self-Help Activism in Water/Sewer Development: Case Studies from McDowell County, West Virginia, and Letcher County, Kentucky*, 33.1 *Appalachian J.* 54, 72 (2005), <http://www.jstor.org/stable/pdf/40934772.pdf?refreqid=excelsior%3Af715819092788f63958e7f303e39a541> (finding that "the greatest obstacle to providing water and sewer services is financial" and emphasizing the need for citizen involvement in wastewater management); see also EPA, *Initial Results of a Review of the National Pollutant Discharge Elimination System Program in the State of Minnesota*, 19 (2013), [https://www.epa.gov/sites/production/files/2017-04/documents/mn\\_petition\\_report\\_may-03-2013updated.pdf](https://www.epa.gov/sites/production/files/2017-04/documents/mn_petition_report_may-03-2013updated.pdf) (conceding that "[w]ithout upgrades to achieve proper treatment, it is highly doubtful that a straight pipe system that is a ITPHS [Imminent Threat to Public Health or Safety] could comply with the terms and conditions of an NPDES permit").

<sup>20</sup> Hughes et al., *supra* note 3, at 95.

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

<sup>22</sup> *Id.* at 97-98; *Examples of Community Infrastructure Projects*, *supra* note 1.

<sup>23</sup> RESPONSE TO CONGRESS, *supra* note 1, at 8 (explaining that the EPA's construction grants program and the Clean Water SRF are "generally available only to public entities", and that it is difficult for "privately-owned systems" to obtain public funds).

<sup>24</sup> See *id.* (calling for states to "consolidate[e] legal authority for centralized and decentralized wastewater systems under a single state agency").

<sup>25</sup> *Septic System Overview*, *supra* note 15.

<sup>26</sup> Arcipowski, *supra* note 3, at 2 (noting a positive correlation "between lack of access clean water and low socio-economic status"); see also Cook et al., *supra* note 1, at 191 (noting that the medical costs associated with waterborne illnesses in the United States exceed \$800,000,000 each year, "not including lost work time and productivity").

# RAISED ON PROMISES: HOW THE SUSTAINABILITY GOALS OF THE URBAN HOUSING AND DEVELOPMENT ACT OF THE PHILIPPINES FALL SHORT

Alexandra Nolan\*

Forty percent of Manila's population is impoverished and living in communities of scrap material, makeshift housing.<sup>1</sup> Meanwhile, business tycoons from China, Japan, and Korea dominate the city's economy.<sup>2</sup> In order to compete with other modern Asian cities, the Filipino government passed the Urban Housing and Development Act of 1992 (UDHA) to pursue a path of sustainable urban development focused on creating business centers in Manila.<sup>3</sup> After its enactment, Manila transformed into a city that attracts foreign trade and global investment.<sup>4</sup> But despite the UDHA's sustainable urban development plan, informal settlers, whom are the people living in makeshift housing communities, are losing their homes to foreign corporations so that Manila can compete in the Asian economy.<sup>5</sup> As a result, citizens have challenged the constitutionality of the UDHA's mass evictions of informal settlers from their communities.<sup>6</sup>

The UDHA's goal to create an attractive Manila for foreign investors is masked by its stated purpose of providing safe housing and employment for its informal settlers.<sup>7</sup> The UDHA provides terms to evict and relocate the settlers: "Eviction or demolition . . . may be allowed under the following circumstances: (a) When persons or entities occupy danger areas . . . (b) When government infrastructure projects with available funding are about to be implemented, or (c) When there is a court order . . ."<sup>8</sup> After eviction of the settlers, settlements are demolished so that a company may build a business center.<sup>9</sup> The business centers epitomize the government's idea of sustainable urban infrastructure development.<sup>10</sup> Yet the government's failure to keep its promises to the displaced settlers negates its overall sustainable urban infrastructure development goals.<sup>11</sup>

The UDHA requires that evicted settlers are provided new housing, livelihoods, and adequate transportation access to Manila.<sup>12</sup> While the settlers are often provided new housing, their new communities are without the promised livelihoods because the new communities are built in remote areas without commercial opportunity or access to Manila.<sup>13</sup> For example, a community was built three hours north of Manila to house 1,200 residents.<sup>14</sup> Additionally, the residents were promised employment in a grocery store so they could pay their monthly rents.<sup>15</sup> Only five of the 1,200 residents were to be employed in the grocery store.<sup>16</sup> As a result, only those five could earn an income to pay their new monthly rent.<sup>17</sup>

Without the promised livelihood component, settlers abandon their new communities and return to Manila to seek employment, thus building a new informal settlement community in

the process.<sup>18</sup> The cycle of construction, eviction, and demolition repeats itself, costing the government significant capital that could be allocated into a more successful program.<sup>19</sup> Other groups of informal settlers are not afforded relocation under the UDHA and also create new makeshift communities following eviction.<sup>20</sup> The settlers of Manila have little means of combating the UDHA's program compared to the arsenal of resources the large international corporations have.<sup>21</sup> Despite their lack of wealth, citizens have challenged the UDHA in the Filipino court system.<sup>22</sup>

Before the UDHA's enactment, the Supreme Court of the Philippines ("Supreme Court") held in *Martires v. Court of Appeals* that a "squatter," which is a derogatory term for an informal settler, was not entitled to a land parcel despite his basic need of shelter.<sup>23</sup> Following this case decision, the UDHA defined "professional squatters" as "individuals or groups who occupy lands without the express consent of the landowner and have sufficient income for legitimate housing."<sup>24</sup> An "underprivileged or homeless citizen" is defined as "individuals or families living in urban and urbanizable areas whose income or combined income falls within the poverty threshold . . . . This shall include those who live in makeshift dwelling units."<sup>25</sup> As both of these terms are applicable to informal settlers, the government applies the former to justify the eviction of all informal settlers without notice and without warning as squatters under Sections 27 and 28.<sup>26</sup> Section 27 justifies the immediate eviction of squatters, without warning or warrant.<sup>27</sup> Whereas, under Section 28, underprivileged or homeless citizens are afforded a thirty day notice before they are evicted.<sup>28</sup>

The biased squatter-homeless distinction extends beyond the definitions to further diminish the possibility of successful infrastructure development. Under Section 16, squatters are explicitly precluded from receiving the benefits of the UDHA.<sup>29</sup> Under Section 27, the act of being a squatter is criminalized and punishable by fines or imprisonment.<sup>30</sup> Thus, some citizen challenges to the UDHA pertain specifically to the constitutionality of the squatter-homeless distinction, having standing rooted in their classification as squatters and not underprivileged and homeless citizens.

For example, the petitioners in *Galay v. Court of Appeals* were evicted under the classification of squatters, without warning or a warrant as permitted under Sections 27 and 28.<sup>31</sup>


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Citing the *Martires* decision, the Supreme Court in this case rejected the petitioners' challenge to the squatter-homeless citizen distinction: "While we sympathize with the millions of our people who are unable to afford the basic necessity of shelter . . . this sympathy cannot extend to squatting, which is a criminal offense. Social justice cannot condone the violation of law nor does it consider that very wrong to be a justification for priority in the enjoyment of a right."<sup>32</sup> In *The Republic of the Philippines v. Mijares* the petitioners challenged the constitutionality of the squatter-homeless distinction under Section 27.<sup>33</sup> The Supreme Court reinforced that the UDHA's benefits and protections were not applicable to squatters, ruling the petitioners were squatters despite their impoverished state.<sup>34</sup>

Other citizen challenges to the UDHA are continuously dismissed due to procedural shortcomings. The Supreme Court dismissed the petitioner's challenge to the constitutionality of Section 28 in *Macasiano v. National Housing Authority* for lack

of standing.<sup>35</sup> In *Kalipunan Ng Damayang Mahihirap, Inc. v. Robredo*, the Supreme Court again failed to reach the question of Section 28's constitutionality because the case was dismissed.<sup>36</sup> The Supreme Court in *Kalipunan* held that the petitioners failed to meet the necessary standard of "unequivocal breach" of the constitution, and thus failed to establish the abuse of discretionary power by the government in evictions.<sup>37</sup>

The Filipino courts have faced claims against the UDHA, but they have been unable to reach the substantive question of its constitutionality. The eviction of non-favorable groups in pursuit of the government's vision of a globalized Manila that attracts foreign business investment is marginalizing, discriminating, costly, and unsuccessful. Therefore, it is the responsibility of the Filipino legislative bodies to replace the UDHA with new legislation that includes all members of society for the Philippines to have a truly sustainable urban infrastructure. 

## ENDNOTES

<sup>1</sup> See Agence France-Presse, *Gov't to Move 100,000 Squatters in Metro Manila*, INQUIRER.NET, (Jan. 12, 2013 5:23 PM), <http://newsinfo.inquirer.net/339527/govt-to-move-100000-squatters-in-metro-manila>; see also Gino Antonio P. Trinidad, *Rethinking the Urban Housing and Development Act of 1992*, BUSINESSWORLD, (Jan. 25, 2018 at 12:03 AM), <http://bworldonline.com/rethinking-urban-development-housing-act-1992/>.

<sup>2</sup> See e.g., *SM, Robinsons, Megaworld Take Top Awards for Retailing*, THE PHILIPPINE STAR (June 20, 2016 12:00 AM), <https://www.philstar.com/business/2016/06/20/1594524/sm-robinsons-megaworld-take-top-awards-retailing> [hereinafter *Megaworld*].

<sup>3</sup> See France-Presse, *supra* note 1; Trinidad, *supra* note 1.

<sup>4</sup> See France-Presse, *supra* note 1; Trinidad, *supra* note 1.

<sup>5</sup> See Urban Housing and Development Act, Rep. Act 7279 (Phil.) (1992), available at: [http://www.nha.gov.ph/about\\_us/2015-pdf/RA7279.pdf](http://www.nha.gov.ph/about_us/2015-pdf/RA7279.pdf); see also Nancy Kwak, *Manila's "Danger Areas,"* PLACES JOURNAL (Feb. 2015), <https://placesjournal.org/article/manilas-danger-areas/>.

<sup>6</sup> See generally *Kalipunan Ng Damayang Mahihirap, Inc. v. Robredo*, 730 S.C.R.A. 322 (2014); *The Republic of the Philippines v. Mijares*, G.R. No. 170615-16 (2009); *Galay v. Court of Appeals*, G.R. No. 120132 (S.C. December 4, 1995); *Macasiano v. National Housing Authority*, G.R. No. 107921 (S.C. 1993); *Martires v. Court of Appeals*, G.R. No. 78036-37 (S.C. 1990).

<sup>7</sup> See Urban Housing and Development Act, Rep. Act 7279 § 2(a)-(b) (1992); Kwak, *supra* note 5.

<sup>8</sup> See Urban Housing and Development Act, Rep. Act 7279 § 28(a)-(c)(8).

<sup>9</sup> Kwak, *supra* note 5; Grace C. Ramos, *The Urban Development and Housing Act (UDHA) of 1992; A Philippine Housing Framework*, INQUIRER 12-1, 12-2 (Oct. 25, 1999), <http://www.lth.se/fileadmin/hdm/alumni/papers/ad2000/ad2000-12.pdf>.

<sup>10</sup> See Ramos, *supra* note 9, at 12-6.

<sup>11</sup> See Kwak, *supra* note 5; see also Ramos, *supra* note 9, at 12-4.

<sup>12</sup> See Urban Housing and Development Act, Rep. Act 7279 at §§ 22, 27-28, 30, 35.

<sup>13</sup> See *id.*; Trinidad, *supra* note 1.

<sup>14</sup> See e.g., Alexandra Nolan & Alexandra Green, *Feasibility Study Grameen Australia Philippines Housing Co-op Santa Ana 2-4* (Aug. 1, 2016) (on file with Author).

<sup>15</sup> *Id.* at 3.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.* at 3-4.

<sup>18</sup> See Urban Housing and Development Act, Rep. Act 7279 at §§ 22, 28(8), 29; see also Ramos *supra* note 9.

<sup>19</sup> See e.g., Trinidad, *supra* note 1 (providing 2017 budget percentages for the program); see e.g., Nolan & Green, *supra* note 14 (providing 2016 budget amounts).

<sup>20</sup> See Urban Housing and Development Act, Rep. Act 7279 § 27; see e.g., Nolan & Green, *supra* note 14, at 3.

<sup>21</sup> See *Megaworld*, *supra* note 2.

<sup>22</sup> See generally *Kalipunan Ng Damayang Mahihirap, Inc. v. Robredo*, 730 S.C.R.A. 322 (2014); *The Republic of the Philippines v. Mijares*, G.R. No. 170615-16 (2009); *Galay v. Court of Appeals*, G.R. No. 120132 (S.C. Dec. 4, 1995); *Macasiano v. National Housing Authority*, G.R. No. 107921 (S.C. 1993); *Martires v. Court of Appeals*, G.R. No. 78036-37 (S.C. Aug. 3, 1990).

<sup>23</sup> *Martires*, G.R. No. 78036-37 at \*2, \*4.

<sup>24</sup> Urban Development and Housing Act, Rep. Act 7279 § 3(m).

<sup>25</sup> *Id.* § 3(t).

<sup>26</sup> See Kwak, *supra* note 5.

<sup>27</sup> Urban Development and Housing Act, Rep. Act 7279 a§ 27.

<sup>28</sup> *Id.* § 28.

<sup>29</sup> *Id.* § 16.

<sup>30</sup> *Id.* § 27.

<sup>31</sup> *Galay v. Court of Appeals*, G.R. No. 120132 \*3 (S.C. Dec. 4, 1995).

<sup>32</sup> *Id.* at \*8.

<sup>33</sup> *The Republic of the Philippines v. Mijares*, G.R. No. 170615-16 \*3 (2009).

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

<sup>35</sup> *Macasiano v. National Housing Authority*, G.R. No. 107921 \*2, \*5 (S.C. 1993).

<sup>36</sup> See *Kalipunan Ng Damayang Mahihirap, Inc. v. Robredo*, 730 S.C.R.A. 322, 322-23, 325 (2014).

<sup>37</sup> *Id.* at 325.

# INFRASTRUCTURE AND DEVELOPMENT IN AN ERA OF EXTREME WEATHER EVENTS: WE NEED THE NATIONAL ENVIRONMENTAL POLICY ACT!

Elena Franco\*

Extreme weather events and climate-induced natural disasters are becoming more frequent and costly; the U.S. National Oceanic and Atmospheric Administration (NOAA) estimated that, in 2017 alone, damages and economic loss from extreme weather events reached \$306 billion<sup>1</sup> and left behind destroyed infrastructure and toxic flood waters.<sup>2</sup> As of 2017, the United States' infrastructure is rated a D+ by the American Society of Civil Engineers.<sup>3</sup>

Infrastructure represents a legacy for the future and keeps our economy moving. However, review of new infrastructure projects should take into account the relationship between the built environment, climate change, and natural disasters because this interconnectedness poses additional vulnerability to our infrastructure and our populations.<sup>4</sup> Fortunately, codified environmental law provides a vehicle for this kind of analysis and decision-making. The National Environmental Policy Act (NEPA),<sup>5</sup> which was enacted in 1970, builds from the ecological model,<sup>6</sup> and emphasizes the interdependence of humans and the environment. The Supreme Court has affirmed that NEPA's dual purposes are to ensure: 1) informed decision-making by federal agencies, and 2) public participation in that process.<sup>7</sup> Section 102(2)(C) of the NEPA statute and the Council on Environmental Quality's (CEQ) regulations require agencies to prepare an Environmental Impact Statement (EIS)<sup>8</sup> for "major federal actions"<sup>9</sup> that have a "significant impact"<sup>10</sup> on the "quality of the human environment."<sup>11</sup> Federal agencies must study the environmental, economic, social, cultural, public health, and safety impacts, and reasonable alternatives to these actions.<sup>12</sup> CEQ regulations also ensure a voice for the public by requiring agencies to provide public notice and environmental documents to those who may be interested in or affected by a federal action.<sup>13</sup>

As part of its fiscal year 2019 budget, the Trump administration released its Infrastructure Plan which seeks to remove delays and reduce costs it attributes to NEPA.<sup>14</sup> Yet NEPA has shown its value as a way to mitigate future problems and save money in the long run.<sup>15</sup> NEPA is fundamentally forward-thinking,<sup>16</sup> and the "rule of reason" guides courts' review of NEPA environmental analysis.<sup>17</sup> Courts have consistently held that NEPA requires agencies to take a "hard look" at the environmental impact of their plans.<sup>18</sup>

NEPA procedures hold agencies responsible for assessing risks that are "likely" and "foreseeable."<sup>19</sup> CEQ regulations state that "reasonably foreseeable" impacts can include those with a low probability of occurrence but catastrophic consequences, so

long as there is credible scientific evidence and analysis which is "within the rule of reason."<sup>20</sup> Courts have held that terrorism and nuclear accidents are considered within the rule of reason when the causal chain to the federal action is strong and falls within the limits of the agency's authority.<sup>21</sup>

Increased vulnerability to climate-induced natural disasters is now falling squarely in the realm of "reasonably foreseeable."<sup>22</sup> Although the Trump administration rescinded the Obama administration's 2016 CEQ guidance on climate change considerations,<sup>23</sup> judicial precedent for consideration of the implications of climate change continues to build.<sup>24</sup> In 2017, the U.S. Court of Appeals for the Tenth Circuit found that the Bureau for Land Management (BLM) acted arbitrarily and capriciously when it concluded that issuance of four coal leases in Wyoming's Powder River Basin would not result in higher national greenhouse gas emissions than if the Bureau had declined the leases.<sup>25</sup> When FERC approved natural gas pipeline expansion projects, the D.C. Circuit Court held that the Federal Energy Regulatory Commission (FERC) violated NEPA procedures because FERC failed to adequately consider the downstream, indirect project effects on greenhouse gas emissions.<sup>26</sup>

Hurricanes and other natural disasters can have significant impacts on the built and natural environments, and mounting scientific evidence links the increasing frequency of hurricanes and natural disasters to climate change.<sup>27</sup> Two cases following Hurricane Katrina in 2005 demonstrate the courts' willingness to find agency actions "arbitrary and capricious" when agencies have not included known hurricane-related risks in their EIS.<sup>28</sup> In *Holy Cross v. U.S. Army Corps of Engineers*, the court found shortcomings in the Army Corps' treatment of risks in the EIS related to flooding and hurricanes in general, stating that Hurricane Katrina had exposed these inadequacies.<sup>29</sup> In *Blanco v. Burton*, the court recognized that government agencies need to consider updated information available on hurricane-related devastation to Louisiana's coastline and destruction to refineries and other infrastructure.<sup>30</sup> With legal precedent for considering terrorism risk as reasonably foreseeable,<sup>31</sup> evolving judicial doctrine indicates that agencies should adequately account for the potential consequences of natural disasters, especially as the causal chain is less attenuated than for terrorism.<sup>32</sup>

The Trump administration's Infrastructure Plan calls for ways to reduce delays and costs they ascribe to NEPA by

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dramatically reforming the judicial review standard, streamlining CEQ regulations, expanding categorical exclusions, and narrowing alternatives to be considered.<sup>33</sup> However, there is no strong evidence that NEPA is the cause of these delays and costs: FAST41 legislation in 2015 already streamlined NEPA procedures,<sup>34</sup> the Government Accountability Office (GAO) reports very inadequate data to assess NEPA costs,<sup>35</sup> and the Congressional Research Service (CRS) highlights NEPA's potential to save money and the lack of evidence that NEPA is the source of delay.<sup>36</sup> According to the Supreme Court, the "rule of reason" inherent in NEPA "ensures that agencies determine whether and to what extent to prepare an EIS based on the usefulness of any new potential information to the decision-making process."<sup>37</sup>

Although the future of the Trump administration's Infrastructure Plan is unknown at the moment, it would be

shortsighted to focus only on economic growth objectives. The 2017 extreme weather events have been a dramatic reminder of the interconnectedness between the built environment and the vulnerabilities it creates.<sup>38</sup> NEPA provides the critical vehicle needed to ensure the government uses the best information available to make infrastructure decisions, while simultaneously giving a voice to those most impacted by these projects and natural disasters.<sup>39</sup> Citizens should participate by providing comments during the EIS process and by bringing law suits when the government does not adequately consider the risks and vulnerabilities in their communities. The judiciary should continue to build on the extensive existing case law. Both citizens and the judiciary have vital roles to play to ensure the strengthening our nation's infrastructure in an effort to shield against extreme weather events.



## ENDNOTES

<sup>1</sup> United States Nat'l Oceanic & Atmospheric Admin., *Billion-Dollar Weather and Climate Disasters: Table of Events*, <https://www.ncdc.noaa.gov/billions/events/US/1980-2017> (last visited Mar. 11, 2018).

<sup>2</sup> UNITED STATES GOV'T ACCOUNTABILITY OFFICE, GAO-17-720, CLIMATE CHANGE: INFORMATION ON POTENTIAL ECONOMIC EFFECTS COULD HELP GUIDE FEDERAL EFFORTS TO REDUCE FISCAL EXPOSURE, 1, 24 (Sept. 2017) [hereinafter CLIMATE CHANGE: INFORMATION]; U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, 1, 240-42 (2017) [hereinafter CLIMATE SCIENCE SPECIAL REPORT].

<sup>3</sup> 2017 *Infrastructure Report Card*, AM. SOC'Y OF CIVIL ENG'G (2017), <https://www.infrastructurereportcard.org> (last visited Mar. 30, 2018).

<sup>4</sup> David Schaper, *3 Reasons Houston Was A 'Sitting Duck' for Harvey Flooding*, NPR (Aug. 31, 2018, 6:35 AM), <https://www.npr.org/2017/08/31/547575113/three-reasons-houston-was-a-sitting-duck-for-harvey-flooding> ("Urban planners and civil engineers say a combination of natural and man-made factors has created a chronic drainage problem that left the city especially vulnerable to Harvey's torrential rains.").

<sup>5</sup> 42 U.S.C. § 4332 (2012).

<sup>6</sup> Sam Kalen, *Ecology Comes of Age: NEPA's Lost Mandate*, 21 DUKE ENV'T'L. LAW & POL'Y 113, 114 (2010).

<sup>7</sup> Dep't of Transp., v. Public Citizen, 541 U.S. 752, 768 (2004); Robertson v. Method Valley Citizen Council, 490 U.S. 322, 349 (1989).

<sup>8</sup> See 42 U.S.C. § 4332(2)(C) (2012); see also 40 C.F.R. §§1502.1-1502.16 (2018).

<sup>9</sup> 40 C.F.R. §1508.18 ("Major Federal action includes actions with effects that may be major and which are potentially subject to Federal control and responsibility.").

<sup>10</sup> 40 C.F.R. § 1508.27 ("significant" impact can be direct, indirect, or cumulative); *id.* at §1508.8 (defining effects as "direct" when caused by the action and occurring at the same time and location, and "indirect" when impact occur later, but are reasonably foreseeable).

<sup>11</sup> *Id.* at §1508.14 ("Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of "effects" (§ 1508.8)) . . . [I]f economic or social and natural or physical environmental effects are interrelated, then the [EIS] will discuss all of these effects on the human environment.").

<sup>12</sup> See 42 U.S.C. § 4332(C) (2012).

<sup>13</sup> See 40 C.F.R. § 1506.6(b); *id.* at §§ 1500.2(d), 1500.1.

<sup>14</sup> OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, LEGISLATIVE OUTLINE FOR REBUILDING INFRASTRUCTURE IN AMERICA, 1, 35 (2018), <https://www.whitehouse.gov/wp-content/uploads/2018/02/INFRASTRUCTURE-211.pdf> [hereinafter TRUMP'S INFRASTRUCTURE PLAN].

<sup>15</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-14-369, NATIONAL ENVIRONMENTAL POLICY ACT: LITTLE INFORMATION EXISTS ON NEPA ANALYSES, 1, 15 (2014)

[hereinafter LITTLE INFORMATION] ("One benefit of the environmental review process, . . . is that it ultimately saves time and reduces overall project costs by identifying and avoiding problems that may occur in later stages of project development.").

<sup>16</sup> *Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973) (section 102(2)(C) requires agency to describe anticipated environmental effect of proposed action, subject to a rule of reason).

<sup>17</sup> *Dep't of Transp. v. Public Citizen*, 541 U.S. 752, 754 (2004).

<sup>18</sup> *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1971); see *Sierra Club v. Army Corp of Eng'r*, 295 F.3d 1209, 1216 (11th Cir. 2002) (stating that the "hard look" doctrine applies to review of agency NEPA decisions).

<sup>19</sup> *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992); see 40 C.F.R. §1508.18; 40 C.F.R. § 1508.27; 40 C.F.R. §1508.8; 40 C.F.R. §1508.14.

<sup>20</sup> See 40 C.F.R. §1502.22(b)(4); see also *Robertson v. Method Valley Citizen Council*, 490 U.S. 322, 354 (1989).

<sup>21</sup> See *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm'n*, 449 F.3d 1016, 1028-30 (9th Cir. 2006) (holding the appropriate inquiry is whether terrorist attacks or other changes to the physical environment are so "remote and highly speculative" that NEPA's mandate does not include consideration of their potential environmental effects). But see *N.J. Dep't of Envtl. Prot., v. U.S. Nuclear Regulatory Comm'n*, 561 F.3d 132, 143-44 (3d Cir. 2009) (holding that impact statement was not required because there is not a reasonably close causal relationship between relicensing of nuclear power plant and the environmental effects of a potential terrorist aircraft attack without intervening events, and NRC had no authority over airspace above its facilities).

<sup>22</sup> CLIMATE CHANGE: INFORMATION, *supra* note 2, at 34-35; CLIMATE SCIENCE SPECIAL REPORT, *supra* note 2, at 240-41.

<sup>23</sup> *CEQ Withdraws Guidance on NEPA and Climate Change*, COLUM. L. SCH. SABIN CTR. ON CLIMATE CHANGE (Apr. 5, 2017), <http://columbiaclimatelaw.com/climate-deregulation-tracker/ceq-withdraws-guidance-on-nepa-and-climate-change>.

<sup>24</sup> *Western Org. of Res. Council v. Bureau of Land Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 1475470, slip op. at 18-19 (D. Mont. Mar. 26, 2018).

<sup>25</sup> *WildEarth Guardians v. Bureau of Land Mgmt.*, 870 F.3d 1222, 1228-29 (10th Cir. 2017).

<sup>26</sup> *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1371-73 (D.C. Cir. 2017).

<sup>27</sup> Geert Jan van Oldenborgh et al., *Attribution of Extreme Rainfall from Hurricane Harvey*, ENVTL. RESEARCH LETTERS, 12 (2017), <http://iopscience.iop.org/article/10.1088/1748-9326/aa9ef2/pdf>.

<sup>28</sup> *Holy Cross v. Army Corps of Eng'r*, 455 F. Supp. 2d 532, 536-37 (E.D. La. 2006); *Blanco v. Burton*, No. 06-3813, 2006 WL 2366046, at \*9-10 (E.D. La. Aug. 14, 2006).

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# THE UBER DRIVE: SELF-DRIVING CARS COULD CREATE MORE UNCERTAINTY WITH GIG ECONOMY'S "INDEPENDENT CONTRACTORS"

Mark Yurich\*

The growth of internet enabled devices and web applications has outsourced much of the work that humans use to do every day.<sup>1</sup> A few taps on a smart phone can quickly summon services from a personal driver, a grocery shopper, a masseuse, and even a dog walker.<sup>2</sup> While tech companies set up the infrastructure for these services, real people carry out and complete these tasks.<sup>3</sup> But as these companies advertise that workers can "make great money,"<sup>4</sup> their workers are left without basic employment rights and benefits (e.g., minimum wage) because they are hired as independent contractors.<sup>5</sup> Self-driving cars will allow companies like Uber to move away from human workers and avoid the claims that their workers are employees.<sup>6</sup> As claims against these big ride-hailing companies pushed for a more concrete determination of worker status in the gig economy, the shift to self-driving cars will ease this push and leave uncertainty that will still need to be addressed as more companies adopt this independent contractor model.<sup>7</sup>

To increase efficiency and profit, many of these tech companies like Uber are moving toward an autonomous future where there is no worker and where machines such as self-driving cars complete the services.<sup>8</sup> Despite the rapid implementation of this technology, for the time being, these companies must continue to work and grow with human workers.<sup>9</sup> However, these gig economy workers are bringing their companies to court for higher pay, increased rights, and fairer company policies.<sup>10</sup> In these cases, the workers are seeking reclassification from independent contractors to employees under the Fair Labor Standards Act and other state law in order to receive employment benefits, including minimum wage and overtime protection.<sup>11</sup> In considering whether the worker is an independent contractor or an employee, courts apply a "control test."<sup>12</sup> Under this balancing test, workers are independent contractors when they supply their own equipment; set their own hours; and receive pay per project, not per hour.<sup>13</sup> Conversely, workers are employees when the employers control how the work is done, determine the hours involved, and provide the worker with direction.<sup>14</sup> Economic realities can also aid the determination by seeing if the worker is "exhibiting entrepreneurial activity," or is financially dependent on the employer.<sup>15</sup> There is no obvious determination for gig economy workers because the control test factors can be weighed differently according to the specific business model.<sup>16</sup> If the courts do not make a concrete determination for a company's workers, the Internal Revenue Service or the National Labor Relations Board could also step in and make their own separate, but appealable, decisions.<sup>17</sup>

While some courts have initially ruled that the workers are employees and not independent contractors, these cases settled with prejudice, and thus left no final determination on the status of their workers.<sup>18</sup> Uber has not had this luck in the United Kingdom, where courts not only ruled that Uber workers were employees, but also removed Uber's license to operate.<sup>19</sup> Additionally, the United Kingdom has also publicly announced plans to "bolster" gig economy workers' rights.<sup>20</sup> This court determination together with the United Kingdom's proposed regulations may cause the gig economy in the United Kingdom to shrink because these companies rely on low labor costs to maintain their businesses.<sup>21</sup> As Uber appeals the United Kingdom's 2017 determination, it has begun subsidizing sickness and accident coverage for its workers in an effort to reobtain approval to legally operate in the United Kingdom.<sup>22</sup> Although there is no firm decision on the employee or independent contractor issue in the United States, companies like Uber are taking similar steps to appease their employees and local governments through settlement agreements, policy changes, and lobbying.<sup>23</sup>

One proposed solution for this employment dilemma includes creating a new hybrid classification for these workers that affords them some benefits (i.e., the right to organize, collective bargaining, and Title VII protections) while excluding other ones (i.e., minimum wage or overtime).<sup>24</sup> This new classification could also discourage specific companies from going beyond these minimum rights that have otherwise resulted from litigation and settlement proceedings.<sup>25</sup> The work from these companies is inherently risky because the supply and the ultimate pay for work is dependent on the demand of the area; therefore, the work is fundamentally unstable and the pay is variable.<sup>26</sup> There is a precarious line that courts and regulators need to balance regarding the specific rights they would grant these workers, if any. If rights like minimum wage were mandated for the gig economy, there could be opportunities for workers to take advantage of the companies under their current business models.<sup>27</sup> With this risk in mind, companies may then need to change how independent these workers can be. These companies also may not be able to sustain their attractive prices to cover the cost of these new rights to their workers.<sup>28</sup>

Granting gig economy workers employment status would likely cause companies to assert more control over the work and grant less freedom to the workers. For example, Uber could

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mandate stricter ride acceptance rates to avoid drivers having the app open and earning minimum wage while not accepting rides.<sup>29</sup> Uber could also enforce stricter driver ratings to ensure a high quality of service.<sup>30</sup> If a new designation of workers between independent contractors and employees is created, then some rights would be granted to the workers, but companies may then have less incentive to offer more or different benefits.<sup>31</sup> In the ultimate determination, there should also be some consideration to the nature and independence this type of work brings, especially when some workers want to stay independent contractors to maintain their job flexibility.<sup>32</sup>

The threat that gig economy business models will be overturned by requiring companies, like Uber, to give their workers more rights could push these companies to accelerate their move towards a more autonomous future (e.g., self-driving cars), and thus leaving their human workers behind.<sup>33</sup> Although the technology for self-driving cars still needs improvement, its implementation is currently ahead of its regulation, and Congress and

state legislatures are working toward the adoption of self-driving cars.<sup>34</sup> Regardless of the motivations behind their adoption, these employment law considerations will not disappear with the introduction of self-driving cars.

Once people can take rides from self-driving cars, it is likely that there will still be human drivers in these companies for many years.<sup>35</sup> Even if the drivers get phased or priced out, other smaller and less newsworthy companies that offer services through other app-based business platforms, like Instacart or Postmates, will still require human workers for some time after self-driving cars are prolific.<sup>36</sup> While there is some hope for huge companies like Uber and Lyft to avoid this worker classification issue,<sup>37</sup> other businesses in the gig economy will develop under this business model because it is attractive.<sup>38</sup> Therefore, this employment issue should be definitively addressed by either courts or legislation because it will not go away when cars can replace human drivers.<sup>39</sup>



## ENDNOTES

<sup>1</sup> Jeff Schwartz et al., *The gig economy: Distraction or Disruption*, DELOITTE INSIGHTS (Feb. 29, 2016), <https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2016/gig-economy-freelance-workforce.html>.

<sup>2</sup> UBER, <https://www.uber.com/ride/> (last visited Apr. 2, 2018); INSTACART, <https://www.instacart.com/> (last visited Apr. 2, 2018); SOOTHE, <https://www.soothe.com/> (last visited Apr. 2, 2018); ROVER, <https://www.rover.com/> (last visited Apr. 2, 2018).

<sup>3</sup> Jeremias Prassl, *Are Uber, Mechanical Turk, and other 'Crowdwork' Platforms Employers?*, U. OXFORD FAC. L. (Feb. 27, 2017), <https://www.law.ox.ac.uk/research-and-subject-groups/research-collection-law-and-technology/blog/2017/02/are-uber-mechanical> (stating that these platforms link the workers to customers for each "gig," or job to be performed and the workers are managed through customer rating).

<sup>4</sup> *Drive with Uber*, UBER, [https://www.uber.com/a/us/?var=org2&exp=70622\\_t2](https://www.uber.com/a/us/?var=org2&exp=70622_t2) (last visited Apr. 2, 2018); *How Much Does an Uber Driver Make in 2018 [The Inside Scoop]*, RIDESTER, <https://www.ridester.com/how-much-do-uber-drivers-make/> (last updated Mar. 5, 2018) (detailing the incentives that Uber uses to entice more people to become drivers).

<sup>5</sup> Miriam A. Cherry, *Beyond Misclassification: The Digital Transformation of Work*, 37 COMP. LAB. L. & POL'Y J. 577, 578 (2016) [hereinafter *Beyond Misclassification*].

<sup>6</sup> See Miriam A. Cherry, *Are Uber and Transportation Network Companies the Future of Transportation (Law) and Employment (Law)*, 4 TEX. A&M L. REV. 173, 177 (2017) [hereinafter *Uber Future*].

<sup>7</sup> Nicole Fallon, *The Growth of the Gig Economy: A Look at American Freelancers*, BUS. NEWS DAILY (Nov. 10, 2017), <https://www.businessnewsdaily.com/10359-gig-economy-trends.html> (stating that jobs in the gig economy are increasing due to innovation, because companies want "flexible talent" and because workers desire more flexible work schedules).

<sup>8</sup> Peter Holley, *Uber signs deal to buy up to 24,000 autonomous vehicles from Volvo*, WASH. POST (Nov. 20, 2017), [https://www.washingtonpost.com/business/economy/uber-signs-deal-to-buy-24000-autonomous-vehicles-from-volvo/2017/11/20/d6038f28-ce2a-11e7-81bc-c55a220c8cbe\\_story.html?utm\\_term=.157f75c8f06b](https://www.washingtonpost.com/business/economy/uber-signs-deal-to-buy-24000-autonomous-vehicles-from-volvo/2017/11/20/d6038f28-ce2a-11e7-81bc-c55a220c8cbe_story.html?utm_term=.157f75c8f06b); Andrew J. Hawkins, *Ford and Lyft will work together to deploy autonomous cars*, VERGE (Sept. 27, 2017, 11:14 AM), <https://www.theverge.com/2017/9/27/16373574/ford-lyft-self-driving-car-partnership-gm>.

<sup>9</sup> Timothy B. Lee, *Driverless cars became a reality in 2017 and hardly anyone noticed*, ARS TECHNICA (Dec. 26, 2017, 10:02 AM), <https://arstechnica.com/cars/2017/12/driverless-cars-became-a-reality-in-2017-and-hardly-anyone-noticed/>; Andrew J. Hawkins, *Lyft is now offering self-driving car trips in Boston*, VERGE (Dec. 6, 2017, 4:46 PM), <https://www.theverge.com/2017/12/6/16742924/lyft-nutonomy-boston-self-driving-car>.

<sup>10</sup> O'Connor v. Uber Techs., 82 F. Supp. 3d 1133 (N.D. Cal 2015); *Beyond Misclassification*, *supra* note 5, at 584-85 (listing past litigation in the "On-Demand Economy").

<sup>11</sup> Miriam A. Cherry & Antonio Aloisi, "Dependent Contractors" In *The Gig Economy: A Comparative Approach*, 66 AM. U. L. REV. 635, 644 (2017) [hereinafter *Dependent Contractors*].

<sup>12</sup> *Uber Future*, *supra* note 6, at 185.

<sup>13</sup> *Beyond Misclassification*, *supra* note 5, at 581-82 (describing factors that weigh for and against a determination as an independent contractor).

<sup>14</sup> *Id.* at 185-86.

<sup>15</sup> *Id.* at 186.

<sup>16</sup> *Id.*; *Dependent Contractors*, *supra* note 11, at 645 (stating that the Northern District of California, which hosted several of these cases, made a weak test with an uncertain outcome).

<sup>17</sup> See FedEx Home Delivery v. NLRB, 849 F.3d 1123, 1128 (D.C. Cir. 2017) (reversing the NLRB's determination that FedEx delivery drivers are employees).

<sup>18</sup> Marisa Kendall, *Lyft off the hook in driver case, 3 years and \$27 million later*, MERCURY NEWS (Mar. 16, 2017), <https://www.mercurynews.com/2017/03/16/lyft-off-the-hook-in-driver-case-3-years-and-27-million-later/> (stating that the settlement of the case Cotter v. Lyft prevents a determination on the classification of their drivers).

<sup>19</sup> Rob Davies, *Uber loses appeal in UK employment rights case*, THE GUARDIAN (Nov. 10, 2017), <https://www.theguardian.com/technology/2017/nov/10/uber-loses-appeal-employment-rights-workers>.

<sup>20</sup> Natasha Lomas, *UK outs plan to bolster gig economy workers rights*, TECH CRUNCH (Feb. 7, 2018), <https://techcrunch.com/2018/02/07/uk-outs-plan-to-bolster-gig-economy-workers-rights/> (stating that even "casual and zero-hour" workers would receive immediate benefits including holiday and sick pay).

<sup>21</sup> Sarah Kessler, *The Gig Economy Won't Last Because It's Being Sued to Death*, FAST COMPANY (Feb. 17, 2015), <https://www.fastcompany.com/3042248/the-gig-economy-wont-last-because-its-being-sued-to-death>.

<sup>22</sup> Jane Croft & Sarah O'Connor, *Uber set for landmark UK employment case fightback*, FIN. TIMES (Sept. 24, 2017), <https://www.ft.com/content/c690eba2-9f96-11e7-8cd4-932067fb946>; Enrique Dans, *The evolution of the taxi: Didi Chuxing puts its pedal to the metal*, MEDIUM (Apr. 29, 2017), <https://medium.com/enrique-dans/the-evolution-of-the-taxi-didi-chuxing-puts-its-pedal-to-the-metal-f57901408304>; Robert Booth, *Uber to offer UK drivers sickness cover in return for a £2-a-week fee*, THE GUARDIAN (Apr. 27 2017), <https://www.theguardian.com/technology/2017/apr/27/uber-to-offer-uk-drivers-sickness-cover-in-return-for-2-a-week-fee>.

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## ENDNOTES: A NEW NUCLEAR THREAT: THE TENTH CIRCUIT'S SHOCKING MISINTERPRETATION OF PREEMPTION DEMANDING AN AMENDMENT TO THE PRICE-ANDERSON ACT

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<sup>42</sup> 42 U.S.C. § 2210-14; see *Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59 (1978).

<sup>43</sup> See *Duke Power Co.*, 438 U.S. at 65, 67; Diane Cardwell, *The Murky Future of Nuclear Power in the United States*, N.Y. TIMES (Feb. 18, 2017), <https://www.nytimes.com/2017/02/18/business/energy-environment/nuclear-power-westinghouse-toshiba.html>.

<sup>44</sup> AM. NUCLEAR SOC'Y, THE PRICE-ANDERSON ACT, (Nov. 2005), <http://www.ans.org/pi/ps/docs/ps54-bi.pdf>.

<sup>45</sup> Taylor Meehan, Note, *Lessons From the Price-Anderson Nuclear Industry Indemnity Act for Future Clean Energy Compensatory Models*, 18.1 CONN. INS. L. J. 339, 353 (2011); see U.S. DEP'T OF ENERGY REPORT, *supra* note 11 (breaking down liability coverage in greater detail); see also *Appropriations Watch: FY 2018*, COMM. FOR A RESPONSIBLE FED. BUDGET (Mar. 23, 2018), <http://www.crfb.org/blogs/appropriations-watch-fy-2018> (placing federal energy funds in the top half of largest pools); Matthew Wald, *Tax on Oil May Help Pay for Cleanup*, N.Y. TIMES (May 1, 2010), <http://www.nytimes.com/2010/05/02/us/02liability.html> (explaining that United States law requires payment of eight cents per barrel of oil to the Oil Spill Liability Trust Fund for all oil imported or produced; and in exchange for the payment, operators of offshore oil platforms, among others, are limited in liability to \$75 million for damages, which can be paid by the fund, but are not indemnified from the cost of cleanup).

<sup>46</sup> 42 U.S.C. § 2210 (2012); see generally Wald, *supra* note 44.

<sup>47</sup> See 42 U.S.C. § 2210.

<sup>48</sup> U.S. NUCLEAR REG. COMM'N, BACKGROUNDER ON THREE MILE ISLAND Accident (Feb. 2013), <https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.pdf> (describing how the most serious accident in United States commercial nuclear power plant operating history had little radioactive release and no detectable health effects on plant workers or the public).

<sup>49</sup> *Nuclear Liability Insurance (Price-Anderson Act)*, NAT'L ASS'N OF INS. COMM'RSM (Nov. 15, 2017), [http://www.naic.org/cipr\\_topics/topic\\_nuclear\\_liability\\_insurance.htm](http://www.naic.org/cipr_topics/topic_nuclear_liability_insurance.htm) (outlining how the Three Mile Island ("TMI") accident in 1979 demonstrated the ability of the PAA to effectively compensate the public).

<sup>50</sup> Reitze, Jr. & Rowe, *supra* note 34 at 10,19090.

<sup>51</sup> 42 U.S.C. § 2210 (2012) (highlighting the insurance regime that provides the industry a safety net but lacking in actual safety net language protecting exposed victims and communities).

<sup>52</sup> NUCLEAR INDEMNITIES 21st ed., 900 (1965), CQ ALMANAC cqual65-1258131, <http://library.cqpress.com.proxy.wcl.american.edu/cqualmanac/document.php?id=cqual65-1258131&type=hitlist&num=2>.

<sup>53</sup> H.R. Rep. No. 100-04, pt. 3, at 13-16 (1987). *Contra* *Roberts v. Fla. Power & Light Co.*, 146 F.3d 1305, 1306 (11th Cir. 1998) (explaining that Congress passed the extension of Price-Anderson Amendments Act in 1988 to create an exclusive federal cause of action for radiation injury).

<sup>54</sup> See *In re TMI Litigation Cases Consolidated II*, 940 F.2d 832, 852 (3d Cir. 1991).

<sup>55</sup> S. Rep. No. 85-296, at 9 (1957) (emphasis added) ("[T]here is no interference with the state law until there is a likelihood that the damages exceed the amount of financial responsibility required together with the amount of the indemnity.").

<sup>56</sup> H.R. Rep. No. 100-04, pt. 2, at 4 (1987).

<sup>57</sup> 42 U.S.C. § 2210(a) (2012).

<sup>58</sup> *Id.* § 2014(q).

<sup>59</sup> An ENO is "any event causing a discharge or dispersal of source . . . material from its intended place of confinement . . . [and] the Nuclear Regulatory Commission or the Secretary of Energy determines [the event] has resulted or will probably result in substantial damages to persons offsite or property offsite." *Id.* § 2014(j).

<sup>60</sup> 464 U.S. 238 (1984).

<sup>61</sup> *Id.* at 251 (noting that the plaintiff's claims did not meet the criteria defining an ENO that were established by the Nuclear Regulatory Commission, as plutonium processing plants were not required to register for indemnification under Price-Anderson until 1977).

<sup>62</sup> *Id.* at 240.

<sup>63</sup> *Id.* at 248, 250-52.

<sup>64</sup> § 2210(o).

<sup>65</sup> *Id.*

<sup>66</sup> *Id.* § 2210(n)(2).

<sup>67</sup> See generally *Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59, 88 (1978) (affirming a strong and continuing national policy in favor of widespread nuclear power development).

<sup>68</sup> See, e.g., *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 252 (holding that the Atomic Energy Act did not preempt a ten million dollar punitive award in favor of the plaintiff); *But see Northern States Power Co. v. Minnesota*, 405 U.S. 1035, 1037-39 (1972) (arguing that state regulations setting strict limits on the release of radioactive waste from nuclear power plants were preempted by the Atomic Energy Act).

<sup>69</sup> § 2210(m) (permitting insurers of nuclear facilities to give immediate financial assistance to injured parties after an incident). See Jose, *infra* notes 93, 119, 179, 233 and accompanying text.

<sup>70</sup> § 2210(n)(1), 42 U.S.C. § 2014(j); see *In re TMI Litigation Cases Consolidated II*, 940 F.2d 832, 852 (3d Cir. 1991) (interpreting the Act to define an "extraordinary nuclear occurrence" as "any event causing a discharge or dispersal of source, special nuclear, or byproduct material from its intended place of confinement in amounts offsite, or causing radiation levels offsite, which the Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, determines to be substantial, and . . . determines has resulted or will probably result in substantial damages to persons offsite or property offsite").

<sup>71</sup> S. Rep. No. 899-1605, at 3209 (1966).

<sup>72</sup> *Id.*

<sup>73</sup> *Id.* at 3212.

<sup>74</sup> § 2210(n)(2).

<sup>75</sup> *El Paso Nat. Gas Co. v. Neztosie*, 526 U.S. 473, 477 (1999) (citing S. Rep. No., 100-218, at 488 (1988)).

<sup>76</sup> § 2014(w).

<sup>77</sup> International Atomic Energy Agency, Convention on Supplementary Compensation for Nuclear Damage, July 22, 1998, I.A.E.A. INFCIRC/567. The CSC was implemented at a Conference at International Atomic Energy Agency (IAEA) Headquarters in Vienna. The CSC strives to increase compensation assigned for nuclear accidents by contracting funding partners on the basis of their nuclear capacity. This international liability scheme strengthens relations between signatories to other various nuclear energy safety conventions facilitated by the United Nations.

<sup>78</sup> *Id.*; 42 U.S.C. § 17373 (outlining the purpose and cost allocations for the Convention on Supplementary Compensation for Nuclear Damage).

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

<sup>80</sup> *Liability for Nuclear Damage*, WORLD NUCLEAR ASS'N (June 2017), <http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/liability-for-nuclear-damage.aspx>.

<sup>81</sup> International Atomic Energy Agency, Convention on Supplementary Compensation for Nuclear Damage, July 22, 1998, I.A.E.A. INFCIRC/567.

<sup>82</sup> Compare Definition of Nuclear Damage in CSC to 42 U.S.C. § 2014(q) (2012).

<sup>83</sup> See generally *Colorado-Ute Electric Ass'n v. Pub. Utilities Comm'n of Colo.*, 760 P.2d 627 (Colo. 1988); *W. Colo. Cong. v. Umetco Minerals Corp.*, 919 P.2d 887, 890 (Colo. App. 1996) (challenging issuance of an amended radioactive materials license); see also Reitze, Jr. & Rowe, *supra* note 35 at 10,186.

<sup>84</sup> *Cook v. Rockwell Int'l Corp.*, 273 F. Supp. 2d 1175, 1178 (D. Colo. 2003).

<sup>85</sup> *Cook v. Rockwell Int'l Corp.*, 618 F.3d 1127, 1133 (10th Cir. 2010).

<sup>86</sup> See Patricia Buffer, *Rocky Flats History*, DEP'T OF ENERGY (July 2003), <https://www.lm.doe.gov/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=3026> ("[T]he sudden shutdown in 1989 by the FBI/EPA raid had left large quantities of plutonium and other hazardous substances in various stages of processing and storage. In addition, some past practices of waste disposal and material storage posed potential environmental and health risks").

<sup>87</sup> *Cook v. Rockwell Int'l Corp.*, 580 F. Supp. 2d 1071, 1079, 1112 (D. Colo. 2006).

<sup>88</sup> *Id.* at 1145-47.

<sup>89</sup> *Id.* at 1080; see Petition for Writ of Certiorari at 5, *Dow v. Cook*, 790 F.3d 1088, 1100 (10th Cir. 2015), (No. 15-791).

<sup>90</sup> *Cook*, 580 F. Supp. 2d at 1078 (noting that although the site was owned by the Department of Energy, independent contractors, Dow Chemical and Rockwell International, actually operated it).

<sup>91</sup> *Cook v. Rockwell Int'l Corp.*, 618 F.3d 1127, 1132-33 (10th Cir. 2010).



<sup>92</sup> Cook v. Rockwell Int'l Corp., 790 F.3d 1088, 1090 (10th Cir. 2015).

<sup>93</sup> *Id.*

<sup>94</sup> See *id.*; Donald Jose, Comment, *The Complete Federal Preemption of Nuclear Safety Should Prevent Scientifically Irrational Jury Verdicts in Radiation Litigation*, 26 TEMP. J. SCI. TECH. & ENVTL. L. 1 (2007).

<sup>95</sup> See Cook, 790 F.3d at 1090 (holding that the trial court had erred in its instructions to the jury regarding the plaintiffs' burden of proof under the PAA with respect to a "nuclear incident" and the Tenth Circuit vacated the district court's judgment and remanded the case for further proceedings).

<sup>96</sup> See 42 U.S.C. § 2014(q) (2012) (outlining that plaintiff who cannot demonstrate bodily injury or property damage as defined by the PAA cannot meet the prerequisites for a public liability action, and 11 thus cannot maintain any action for a radiation-related claim).

<sup>97</sup> Cook, 790 F.3d at 1096.

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

<sup>99</sup> *Id.* at 1090-91.

<sup>100</sup> *Id.* at 1099 (arguing that because the defendants did not use preemption as an affirmative defense, the defense could not be raised on appeal).

<sup>101</sup> See § 2014(w) (showing that the PAA is concerned with "public liability"—i.e., harm to the offsite public from a release of radiation in excess of federal limits. Federal or state workers' compensation laws cover injuries to onsite employees of licensees, and damage to onsite property is covered by other insurance).

<sup>102</sup> U.S. CONST. art. VI, § 2.

<sup>103</sup> Gibbons v. Ogden, 22 U.S. 1, 210, 212 (1824).

<sup>104</sup> See U.S. CONST. art. VI, § 2.

<sup>105</sup> See William M. Bratton, Note, *The Preemption Doctrine: Shifting Perspectives on Federalism and the Burger Court*, 75 COLUM. L. REV. 623, 623-24 (1975) (analyzing the complications of implied preemption interpretations).

<sup>106</sup> See King, *supra* note 25, at 991 (analyzing how preemption can raise significant philosophical questions related to federalism and the balance between state and federal power. Additionally, preemption can be express or implied).

<sup>107</sup> *Preemption Under the Atomic Energy Act: Federal Courts Void California and New York City Nuclear Power Laws*, ENVTL. L. REPORTER, <https://elr.info/sites/default/files/articles/9.10045.htm> (last visited Mar. 19, 2018) (citing Lawrence H. Tribe, AM. CONST. L. § 6-23, 377 (3d ed. 2000)).

<sup>108</sup> See Pennsylvania v. Nelson, 350 U.S. 497, 499 (1956).

<sup>109</sup> See Gibbons v. Ogden, 22 U.S. 1, 210, 212 (1824).

<sup>110</sup> See Bratton, *supra* note 104, at 627 (referring to this process as implied preemption: when the Court "ascertain[s] the purposes 'necessarily implied' in a federal statutory scheme, and strike[s] down any state law that inhibit[s] their accomplishment") (known as implied preemption). Known as implied preemption.

<sup>111</sup> See Nelson, 350 U.S. at 498-99, 504 (striking down the state law because the enforcement of the state law diluted the effectiveness of the federal regulation).

<sup>112</sup> See, e.g., Fla. Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 147-50 (1963) (holding that the factor which strongly suggests that Congress did not mandate uniformity for each marketing order arises from the legislative history); Campbell v. Hussey, 368 U.S. 297, 301-02 (1961) (arguing that legislative history was replete with references to a need for "uniform" or "official" standards, which could harmonize the grading and inspection of tobacco at all markets throughout the country).

<sup>113</sup> See, e.g., San Diego Building Trades Council v. Garmon, 359 U.S. 236, 241-44 (1959) (listing economic instruments like the strike and the picket line, and claims between employers and labor unions as an area requiring uniformity and noting that Congress considered centralized administration of the instruments necessary to obtain uniform application of its substantive rules and to avoid conflicts likely to result from local procedures and attitudes towards labor controversies); see also Pennsylvania v. Nelson, 350 U.S. 497, 502-04 (1956).

<sup>114</sup> See Bratton, *supra* note 104, at 623 (analyzing the Supreme Court's evolving application of federal preemption).

<sup>115</sup> 312 U.S. 52 (1941).

<sup>116</sup> 331 U.S. 218 (1947).

<sup>117</sup> See Bratton, *supra* note 104, at 623-25.

<sup>118</sup> Hines v. Davidowitz, 312 U.S. 52, 67 (1941).

<sup>119</sup> Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947).

<sup>120</sup> See generally Jose, *supra* note 93; Jason Steed, SUPREME COURT TRENDS IN FEDERAL PREEMPTION (2013), originally published on Law360, Nov. 4, 2013 (since 2007, the U.S. Supreme Court held claims were preempted in eight out

of thirteen cases—and would have decided in favor of a ninth, but with Chief Justice Roberts abstaining, the court was split 4-4).

<sup>121</sup> See Cook v. Rockwell Int'l Corp., 790 F.3d 1088, 1098 (10th Cir. 2015) (holding that because the defendants forfeited a defense of preemption that it did not apply). But see Silkwood v. Kerr-McGee Corp., 464 U.S. 238, 249 (1984) (finding the punitive damages award against a nuclear power plant for negligent contamination not impliedly preempted by federal law).

<sup>122</sup> See *Preemption Under the Atomic Energy Act: Federal Courts Void California and New York City Nuclear Power Laws*, 9 ELR 10,045, 10,045 (1979).

<sup>123</sup> See *id.*

<sup>124</sup> *Id.* (recognizing a jurisdictional concern when raising a claim of injury from a power plant).

<sup>125</sup> 447 F.2d 1143, 1154 (8th Cir. 1971), *aff'd mem.* 405 U.S. 1035 (1972).

<sup>126</sup> *Id.* (holding the state regulation could have been invalidated under § 274(k) alone as an implicitly impermissible attempt to protect against radiation hazards. The court concluded that the measure infringed upon § 274(k). Reading the provision as reserving exclusive authority to regulate construction and operation of nuclear plants for the federal government, the court held the federal sphere encompasses the setting of radiation standards for such plants. Thus, finding the state measure was implicitly preempted under both §§ 274(c) and 274(k)).

<sup>127</sup> 659 F.2d 903 (9th Cir. 1981).

<sup>128</sup> *Id.* at 907; see also Cal. Pub. Res. §§ 25000-25968 (West 1977) (showing the law does more than implement safety by covering the prohibition of siting new nuclear plants until the technology for reprocessing is certified by the federal government and requiring the state to perform a study on the consequences of underground construction).

<sup>129</sup> 659 F.2d 903 at 926 (concluding that the state's nuclear certification requirements were preempted by the Atomic Energy Act because state laws aimed primarily at reducing radiation hazards associated with reactor operation, and were thus, preempted by § 274(k)).

<sup>130</sup> See Comment, *Preemption Under the Atomic Energy Act: Federal Courts Void California and New York City Nuclear Power Laws*, 9 ELR 10045, (1979).

<sup>131</sup> 42 U.S.C. § 2021 (1982).

<sup>132</sup> *Id.* (showing the amendment specifically allowed the AEC to transfer to the states its regulatory authority over byproduct, source and special nuclear materials in amounts not sufficient to form a critical mass); see also; 42 U.S.C. § 2014(e)(2)(aa) (1982) (defining these three types of radioactive hazards).

<sup>133</sup> § 2021(b)1984.

<sup>134</sup> *Id.* § 2021(k).

<sup>135</sup> Hearings on H.R. 1414 Before the Joint Comm. on Atomic Energy on Federal-State Relationships in the Atomic Energy Field, 86th Cong. 307-08 (1959) (testimony of Robert Lowenstein, Office of the General Counsel, AEC).

<sup>136</sup> See Rainer v. Union Carbide Corp., 402 F.3d 608, 616-17 (6th Cir. 2005) (noting that by amending the Price-Anderson Act in 1988, Congress created a cause of action arising from nuclear incidents called "public liability actions" ("PLAs")); Roberts v. Fla. Power & Light Co., 146 F.3d 1305, 1306 (11th Cir. 1998) ("Congress passed the Price-Anderson Amendments Act of 1988 . . . creating an exclusive federal cause of action for radiation injury"), *cert. denied*, 525 U.S. 1139 (1999); O'Connor v. Commonwealth Edison Co., 13 F.3d 1090, 1113 (7th Cir. 1994) (stating that any "tension" between federal standards and state liability standards must be resolved to avoid inconsistency with the Price Anderson Act); *In re TMI Litig. Cases Consol. II*, 940 F.2d 832, 857 (3d Cir. 1991) (discussing the effect of the Price-Anderson Act on the law landscape, especially the consistency in law with regard to a single nuclear incident).

<sup>137</sup> See King, *supra* note 25, at 995.

<sup>138</sup> See Nat. Res. Def. Council, Inc. v. U.S. Nuclear Reg. Comm'n, 685 F.2d 459, 481-84 (D.C. Cir. 1982) (highlighting the advantages of nuclear power through a cost-benefit analysis); Mike Conley & Tim Maloney, *Nuclear Energy vs. Wind and Solar*, THE ENERGY REALITY PROJECT (Apr. 15, 2015), <https://framasphe.org/posts/689421> (acknowledging that disadvantages to nuclear power exist, but reliability is not one of these disadvantages).

<sup>139</sup> See Pac. Legal Found. v. State Energy Res. Conservation & Dev. Comm'n., 659 F.2d 903, 907 (9th Cir. 1981).

<sup>140</sup> See *In re TMI Litigation*, 557 F. Supp. at 108, 117.

<sup>141</sup> See, e.g., William J. Broad, *Experts Call Reactor Design "Immune" to Disaster*, N.Y. TIMES (Nov. 15, 1988), <http://www.nytimes.com/1988/11/15/science/experts-call-reactor-design-immune-to-disaster.html?pagewanted=all> (detailing small modifications to the new reactor and how the physical characteristics make the machine immune to meltdown, which is the most

feared reactor accident. Designs rely on laws of nature rather than complicated machinery and error-prone caretakers to prevent major accidents).

<sup>142</sup> See *In re TMI Litigation Cases* Consol. II, 940 F.2d 832, 852 (3d Cir. 1991) (explaining how the PAA provisions effectively provide care for the public following the Three Mile Island disaster).

<sup>143</sup> See *Bohrmann v. Me. Yankee Atomic Power Co.*, 926 F. Supp. 211, 216 (D. Me. 1996) (holding that prior to the PAA, persons claiming injury from radiation emitted from source, special nuclear or byproduct material could file state law causes of action in state or federal courts and recover under any theory of liability available in any of the fifty states).

<sup>144</sup> See generally *The Price-Anderson Act – The Third Decade: A Report to Congress*, NUCLEAR REG. COMM’N (Oct. 1983), <https://www.nrc.gov/docs/ML0727/ML072760026.pdf>.

<sup>145</sup> See Petition for Writ of Certiorari at 5, *Dow v. Cook*, 790 F.3d 1088 (10th Cir. 2015), (No. 15-791).

<sup>146</sup> See *id.*

<sup>147</sup> See *Cook v. Rockwell Int’l Corp.*, 273 F. Supp. 2d 1175, 1180 (D. Colo. 2003) (holding that Congress did not intend for federal regulatory standards to preempt state law standards of care in PAA actions).

<sup>148</sup> See U.S. NUCLEAR REG. COMM’N, *supra* note 47; T.L. Fahring, Note, *Nuclear Uncertainty: A Look at the Uncertainties of a U.S. Nuclear Renaissance*, 41 TEX. ENVTL. L.J. 279, 284–86 (2011).

<sup>149</sup> See *Cook v. Rockwell Int’l Corp.*, 790 F.3d 1088, 1098–99 (10th Cir. 2015). *Contra* *Cotroneo v. Shaw Env’t & Infrastructure, Inc.*, 639 F.3d 186, 197 (5th Cir. 2011) (indicating “[r]ecovery on a state law cause of action without a showing that a nuclear incident has occurred would circumvent the entire scheme governing public liability actions.”).

<sup>150</sup> *Id.* (quoting “Had Congress intended to limit recovery to these categories of personal injury claims, it easily could have and probably would have plainly and expressly said so.”).

<sup>151</sup> See, e.g., *Nieman v. NLO, Inc.*, 108 F.3d 1546, 1553 (6th Cir. 1997) (arguing that an injured party seeking compensation for a PAA injury can file a claim under the statute or not at all); see also *Cotroneo*, 639 F.3d 186, 193–200 (5th Cir. 2011); *Dumontier v. Schlumberger Tech. Corp.*, 543 F.3d 567, 569–571 (9th Cir. 2008); *In re Hanford Nuclear Reservation Litig.*, 534 F.3d 986, 1009–10 (9th Cir. 2008); *Golden v. CH2M Hill Hanford Grp., Inc.*, 528 F.3d 681, 682–684 (9th Cir. 2008); *TMI II*, 940 F.2d at 855; *O’Conner v. Commonwealth Edison Co.*, 13 F.3d 1090, 1099 (7th Cir. 1994); *Roberts v. Florida Power & Light Co.*, 146 F.3d 1305, 1306 (11th Cir. 1998).

<sup>152</sup> See *Cotroneo*, 639 F.3d at 186, 191–97 (relying on statutory textualism and holding that a plaintiff who asserts any claim arising out of a “nuclear incident” as defined in the PAA, 42 U.S.C. § 2014(q), can sue under the PAA or not at all,” and to allow parties to recover under state law for lesser occurrences would “circumvent the entire scheme governing public liability actions.”); see also *Roberts v. Fla. Power & Light Co.*, 146 F.3d 1305, 1306 (11th Cir. 1998) (“Congress passed the Price-Anderson Amendments Act of 1988 . . . creating an exclusive federal cause of action for radiation injury.”); *O’Conner v. Commonwealth Edison Co.*, 13 F.3d 1090, 1100, 1105 (7th Cir. 1994) (“[A] new federal cause of action supplants the prior state cause of action . . . [S]tate regulation of nuclear safety, through either legislation or negligence actions, is preempted by federal law.”).

<sup>153</sup> See generally *In re Hanford Nuclear Reservation Litigation*, 534 F.3d 986 (9th Cir. 2008).

<sup>154</sup> See *Cook* 790 F.3d, at 1098; see also *In re Hanford Nuclear Reservation Litigation*, at 1009 (including the rationale that “[t]he issue before us isn’t what happens in the event of a nuclear incident, but (again) what happens in the face of a lesser occurrence”).

<sup>155</sup> T.L. Fahring, Note, *Nuclear Uncertainty: A Look at the Uncertainties of a U.S. Nuclear Renaissance*, 41 TEX. ENVTL. L.J. 279, 280–83 (2011).

<sup>156</sup> *Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59, 83 (1978).

<sup>157</sup> William D. O’Connell, Note, *Causation’s Nuclear Future: Applying Proportional Liability to the Price-Anderson Act*, 64 DUKE L.J. 333, 335–38 (2014).

<sup>158</sup> 42 U.S.C. § 2210(s) (2012); see also § 2210(n)(2) (creating federal jurisdiction and allowing removal to federal court for cases “resulting from a nuclear incident”); § 2014(q) (defining “nuclear incident” as an injury “resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special, nuclear, or byproduct material”).

<sup>159</sup> See *Golden v. CH2M Hill Hanford Grp.*, 528 F.3d 681, 683–84 (9th Cir. 2008) (ruling that the operator was not liable under PAA for emotional injuries and highlighting a difference between the PAA and state law coverage aims).

<sup>160</sup> *Metro. Life Ins. Co. v. Taylor*, 481 U.S. 58, 64–65 (1987) (finding the employee’s common-law contract and tort claims were preempted by ERISA and fell within provision establishing exclusive federal cause of action).

<sup>161</sup> *Cook v. Rockwell Int’l Corp.*, 790 F.3d 1088, 1099 (10th Cir. 2015).

<sup>162</sup> *Id.*; H.R. Rep. No. 1414, at 2 (1988).

<sup>163</sup> § 2014(j); § 2210(n)(2) (1992). *But see* *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 251 (1984) (explaining that “Congress’ decision to prohibit the states from regulating the safety aspects of nuclear development” did nothing to undermine the “ample evidence that Congress had no intention of forbidding the states from [providing traditional tort] remedies”).

<sup>164</sup> *Cook*, 790 F.3d at 1095 (walking the Court through the different types of preemption, discussing how they are not met by the facts of this case as a means to highlight Congressional intent).

<sup>165</sup> *El Paso Nat. Gas Co. v. Neztosie*, 526 U.S. 473, 484 n.6 (1999) (quoting *Caterpillar, Inc. v. Williams*, 482 U.S. 386, 393 (1987)) (noting that the Complete Preemption doctrine, under which “the preemptive force of a statute is so extraordinary that normal state law claims are converted into federal claims to ensure the efficient and equitable resolution of claims”).

<sup>166</sup> *Cook*, 790 F.3d at 1095.

<sup>167</sup> *Id.* (clarifying that an LNO is not an ENO).

<sup>168</sup> *Id.* at 1090.

<sup>169</sup> *Id.* (identifying alleged but unproven “nuclear incidents” as “lesser nuclear occurrences”).

<sup>170</sup> *Id.* at 1095–96.

<sup>171</sup> *Id.* (showing how the Tenth Circuit looked to intent and legislative history to discern meanings).

<sup>172</sup> See *supra* notes 119–20 and accompanying text.

<sup>173</sup> See *King*, *supra* note 25, at 989, 995 and accompanying text.

<sup>174</sup> *Cook*, 790 F.3d at 1096.

<sup>175</sup> See *id.* at 1093–94 (regarding the procedural mistake, the court clarified that arguments that were not asserted on appeal may not be asserted on remand) (citing *Dow Chemical Corp. v. Weevil-Cide Co.*, 897 F.2d 481, 486 n.4 (10th Cir. 1990)).

<sup>176</sup> 42 U.S.C. § 2014(q) (2012) (defining a “nuclear incident” as “any occurrence, including an extraordinary nuclear occurrence, within the United States causing . . . bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of source, special nuclear, or byproduct material . . .”).

<sup>177</sup> See *Cook v. Rockwell Int’l Corp.*, 618 F.3d 1127, 1133–34 (10th Cir. 2010) (detailing the fifteen-year litigation process that preceded a month long jury trial).

<sup>178</sup> See *id.* at 1133 (discussing the \$926 million-dollar award by a jury verdict for the plaintiff, which included compensatory and punitive damages, and prejudgment interest).

<sup>179</sup> § 2014(q).

<sup>180</sup> See *Jose*, *supra* note 93, at 20 (referencing the intervention by the United States Supreme Court should courts split on the issue of federal statutory interpretation).

<sup>181</sup> See *El Paso Nat. Gas Co. v. Neztosie*, 526 U.S. 473, 485 n.6 (1999) (citing *Caterpillar Inc. v. Williams*, 482 U.S. 386, 393 (1987)).

<sup>182</sup> 29 U.S.C. § 1001; 29 U.S.C. §§ 151–169; see generally *Neztosie*, 526 U.S. at 485.

<sup>183</sup> See *id.* at 477 (observing that the creation of an exclusive federal cause of action can provide benefits, such as avoiding a proliferation of suits and conserving limited compensatory funds).

<sup>184</sup> *Id.*

<sup>185</sup> *Cook v. Rockwell Int’l Corp.*, 790 F.3d 1088, 1094 (10th Cir. 2015).

<sup>186</sup> Daniel Kolomitz, Note, *A Nuclear Threat: Why the Price-Anderson Act Must Be Amended Following Cook v. Rockwell*, 48 ARIZ. ST. L.J. 853, 858 (2016).

<sup>187</sup> *Nieman v. NLO, Inc.*, 108 F.3d 1546, 1553 (6th Cir. 1997); *O’Conner v. Commonwealth Edison Co.*, 13 F.3d 1090, 1104–05 (7th Cir. 1994).

<sup>188</sup> 42 U.S.C. § 2014(hh) (2012); see also *In re TMI Cases Consolidated II*, 940 F.2d 832, 850–58 (3d Cir. 1991) *cert. denied*, 503 U.S. 906, 112, S. Ct. 1262, 117 L.Ed.2d 491 (1992) (holding that federal law trumps state law and that the Act was constitutional); *O’Conner*, 13 F.3d at 1105 (finding that federal law pre-empts state law, whether created by legislation or common law); *Nieman*, 108 F.3d at 1553 (finding that Price-Anderson act specifically dictates that that state law only applies to the extent that it coincides with federal law); *Roberts v. Fla. Power & Light*, 1997 WL 382035, at \*4 (S.D. Fla. June 9, 1997)

(finding that federal law provides the sole measure of a defendant's liability), *aff'd*, 146 F.3d 1305 (11th Cir. 1998), *cert. denied*, 525 U.S. 1139, 1140 (1999); *McLandrich v. S. Cal. Edison Co.*, 942 F. Supp. 457, 467 (S.D. Cal. 1996) (stating that the state law only applies if it is not inconsistent with federal law); *Smith v. Gen. Elec. Co.*, 938 F. Supp. 70, 76 (D. Mass. 1996) (holding that the 1988 Amendments preserve state law as long as it is not "inconsistent with federal law"); *Coley v. Commonwealth Edison Co.*, 768 F. Supp. 625, 629 (N.D. Ill. 1991) (holding that state law is invalid if it contradicts federal law); *Hennessy v. Commonwealth Edison Co.*, 764 F. Supp. 495, 503 (N.D. Ill. 1991) (finding that the standard of care is predicated on federal law); *see generally Neztosie*, 526 U.S. at 477; *TNS, Inc. v. NLRB*, 296 F.3d 384, 398 (6th Cir. 2002) ("[T]he Sixth Circuit has joined with almost every other circuit in holding that the Nuclear Regulatory Commission safety regulations conclusively establish the duty of care owed by defendants in radiation safety personal injury cases governed by the 1998 amendments to the Price-Anderson Act.").

<sup>189</sup> 464 U.S. 238, 249 (1984).

<sup>190</sup> *Cook v. Rockwell Int'l Corp.*, 580 F. Supp. 2d 1071, 1150 (D. Colo. 2006).

<sup>191</sup> *Silkwood*, 464 U.S. at 256 (contending that the award is pre-empted because it frustrates Congress' express desire "to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes").

<sup>192</sup> *See King*, *supra* note 25, at 996 and accompany text.

<sup>193</sup> *Compare Silkwood*, 464 U.S. at 256 (saying that the state law governing punitive damages for nuclear liability was not preempted by the federal law) with Price-Anderson Amendments Act of 1998, 42 U.S.C. §§ 2014, 2210 (1988) (establishing liability for punitive injury and thus prospectively preempting *Silkwood*).

<sup>194</sup> *In re TMI Cases Consolidated II*, 940 F.2d 832, 850–58 (3d Cir. 1991) *cert. denied*, 503 U.S. 906, 112, S. Ct. 1262, 117 L.Ed.2d 491 (1992) ("[I]t is clear that federal law governs the standard of care for tort claims arising from nuclear accidents"), *cert. denied*, 516 U.S. 1154 (1996). For a detailed discussion of the background and legislative history of Price-Anderson, *see generally* *Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59, 64–69 (1978); *O'Conner v. Commonwealth Edison Co.*, 13 F.3d 1090, 1095, 1105 (7th Cir. 1994) (stating that any "tension" between federal standards and state liability standards must be resolved to avoid inconsistency with the Price Anderson Act).

<sup>195</sup> *Silkwood*, 464 U.S. at 239.

<sup>196</sup> *Id.*

<sup>197</sup> *Id.* at 258 (acknowledging that there is "tension between the conclusion that safety regulation is the exclusive concern of the federal law and the conclusion that a state may nevertheless award damages based on its own law of liability," but finding that "Congress intended to stand by both concepts and to tolerate whatever tension there was between them"); *King*, *supra* note 25, at 995.

<sup>198</sup> *Cook v. Rockwell Int'l Corp.*, 790 F.3d 1088, 1092 (10th Cir. 2015).

<sup>199</sup> *Id.*; *see, e.g., Mauldin v. Worldcom, Inc.*, 263 F.3d 1205, 1211 (10th Cir. 2001).

<sup>200</sup> *See Cook v. Rockwell Int'l Corp.*, 618 F.3d 1127 (10th Cir. 2010) (holding that the jury was properly instructed on the elements of a nuisance claim and no one had ever challenged the sufficiency of the evidence in the record). *Contra* *Dow Chem. Corp. v. Weevil-Cide Co.*, 897 F.2d 481, 486 n.4 (10th Cir. 1990).

<sup>201</sup> *Cook*, 618 F.3d at 1143.

<sup>202</sup> *Id.* at 1136.

<sup>203</sup> *Cook*, 790 F.3d at 1091-95 (acknowledging the defendants mentioning of *Cotroneo v. Shaw Environment & Infrastructure, Inc.* as the only helpful argument in which the court reasoned more generally that to allow parties to recover under state law for lesser occurrences would "circumvent the entire scheme governing public liability actions," refuting this rationale as implied preemption rather than complete express preemption).

<sup>204</sup> 123 S. Ct. 2374, 2376 (2003).

<sup>205</sup> *Id.* at 2388.

<sup>206</sup> *See In re TMI*, 67 F.3d 1119, 1125 (3rd Cir. 1995) ("Congress clearly intended to preempt state regulation of nuclear safety standards when it enacted Price-Anderson . . ."). *But cf. American Ins. Ass'n*, 123 S. Ct. at 2393, 2401 (Ginsberg, J., dissenting) (arguing Courts step out of their proper role when they rely on no legislative or even executive text, but only on inference and implication, to preempt state laws on foreign affairs grounds).

<sup>207</sup> 42 U.S.C. § 2014(q) (2012).

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

<sup>209</sup> *Id.*

<sup>210</sup> *Cook v. Rockwell Int'l Corp.*, 790 F.3d 1088, 1090-95 (10th Cir. 2015) (failing to meet the PAA standards eliminated the PAA as an option, and therefore, eliminated preemption considerations).

<sup>211</sup> *See id.*; *Meehan*, *supra* note 44.

<sup>212</sup> § 2014(hh); *see also* *El Paso Nat. Gas Co. v. Neztosie*, 526 U.S. 473, 484 (1999) ("Congress thus expressed an unmistakable preference for a federal forum . . ."); *Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59, 89, 98 (1978) ("The legislative history of the liability-limitation provisions and the accompanying compensation mechanism reflects Congress's determination that reliance on state tort law remedies and state-court procedures was an unsatisfactory approach to assuring public compensation for nuclear accidents, while at the same time providing the necessary incentives for private development of nuclear-produced energy.").

<sup>213</sup> *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 249 (1984) (Blackmun, J., dissenting).

<sup>214</sup> Justin Gundlach, Note, *What's the Cost of a New Nuclear Power Plant? The Answer's Gonna Cost You: A Risk-Based Approach to Estimating the Cost of New Nuclear Power Plants*, 18 N.Y.U. ENVTL. L.J. 600, 630 (2011); *see also* Ayesha Rascoe, *U.S. Approves First New Nuclear Plant in a Generation*, REUTERS (Feb. 9, 2012, 5:55 PM), <https://www.reuters.com/article/us-usa-nuclear-nrc/u-s-approves-first-new-nuclear-plant-in-a-generation-idUS-TRE8182J720120209> (noting that on February 9, 2012, the Nuclear Regulatory Commission voted to permit construction of two nuclear reactors at the Vogtle nuclear-power plant in Georgia, the first new reactors in more than thirty years).

<sup>215</sup> *See* U.S. NUCLEAR REG. COMM'N, *supra* note 47 (discussing the risks associated with plant construction, engineering, fuel costs, staffing, security, safety, and decommissioning, licensing, and waste management). Another reason the preemptive nature is essential is because radiation exposure and improper handling of materials or waste has the same consequence despite what state the harm occurs in..U.S. Nuclear Regulatory Comm'n, *Backgrounder on the Three Mile Island Accident* (Apr. 25, 2014), <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html>.U.S. Nuclear Regulatory Comm'n, *Backgrounder on the Three Mile Island Accident* (Apr. 25, 2014), <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html>.

<sup>216</sup> *The Price-Anderson Act—Crossing the Bridge to the Next Century: A Report to Congress*, U.S. NUCLEAR REG. COMM'N (Oct. 1983), <https://www.nrc.gov/docs/ML0727/ML072760026.pdf> (noting innovation with reliance on the PAA also because radiation exposure and improper handling of nuclear waste has the same consequence in Colorado as in Florida or New York).

<sup>217</sup> *See, e.g., Fact Sheet: Obama Administration Announces Actions to Ensure that Nuclear Energy Remains a Vibrant Component of the United States' Clean Energy Strategy*, THE WHITE HOUSE, *available at* <https://www.whitehouse.gov/the-press-office/2015/11/06/fact-sheet-obama-administration-announces-actions-ensure-nuclear-energy>.

<sup>218</sup> *See* *Petition for Writ of Certiorari at 5, Dow v. Cook*, 790 F.3d 1088 (10th Cir. 2015), No. 15-791; Nuclear Energy Agency-OECD, *Paris Convention on Nuclear Third Party Liability* (2014), <https://www.oecd-nea.org/law/paris-convention.html>.

<sup>219</sup> Laura Rimsaite, *Nuclear Insurance Pools: Does the Horizontal Cooperation Lead to the Market Foreclosure?*, AM. RESEARCH INST. FOR POLICY DEV., (Dec. 2013), [http://jblenet.com/journals/jble/Vol\\_1\\_No\\_1\\_December\\_2013/2.pdf](http://jblenet.com/journals/jble/Vol_1_No_1_December_2013/2.pdf).

<sup>220</sup> A. Vinod Kumar, *Resolving India's Nuclear Liability Impasse*, INST. FOR DEF. STUD. & ANALYSES (Dec. 6, 2014), [https://idsa.in/issuebrief/ResolvingIndiasNuclearLiabilityImpasse\\_kumarpatil\\_061214](https://idsa.in/issuebrief/ResolvingIndiasNuclearLiabilityImpasse_kumarpatil_061214).

<sup>221</sup> *See Nuclear Power in India*, WORLD NUCLEAR ASS'N (Mar. 2018), *available at* <http://www.world-nuclear.org/information-library/country-profiles/countries-g-n/india.aspx>.

<sup>222</sup> *See Duke Power Co. v. Carolina Envtl. Study Grp.*, 438 U.S. 59, 64 (1978) (finding that the risk of potentially vast liability discouraged the growth of a private nuclear power industry).

<sup>223</sup> *See* *Cardwell*, *supra* note 42.

<sup>224</sup> *Cook v. Rockwell Int'l Corp.*, 618 F.3d 1127 (10th Cir. 2010).

<sup>225</sup> *In re TMI Litigation Cases Consol.*, 940 F.2d 832, 854 (3d Cir. 1991) ("After the Amendments Act, no state cause of action based upon public liability exists. A claim growing out of any nuclear incident is compensable under the terms of the Amendments Act or it is not compensable at all."); *Cotroneo v. Shaw Env't & Infrastructure, Inc.*, 639 F.3d 186, 192, 197 (5th Cir. 2011) ("[A] plaintiff who asserts any claim arising out of a 'nuclear incident' as defined in the PAA, 42 U.S.C. § 2014(q), can sue under the PAA or not at all," and to allow parties to recover under state law for lesser occurrences would



“circumvent the entire scheme governing public liability actions.”); *Nieman v. NLO*, 108 F.3d 1546, 1553 (6th Cir. 1997) (“the state law causes of action cannot stand as separate causes of action, . . .”); *O’Conner v. Commonwealth Edison Co.*, 13 F.3d 1090, 1105 (7th Cir. 1994) (“a new federal cause of action supplants the prior state cause of action. . . . [S]tate regulation of nuclear safety, through either legislation or negligence actions, is preempted by federal law.”); *In re Hanford Nuclear Reservation Litig.*, 534 F.3d 986, 1009 (9th Cir. 2008) (“[t]he PAA is the exclusive means of compensating victims for any and all claims arising out of nuclear incidents.”); *Roberts v. Fla. Power & Light Co.*, 146 F.3d 1305, 1306 (11th Cir. 1998) (“Congress passed the Price–Anderson Amendments Act of 1988 . . . creating an exclusive federal cause of action for radiation injury”).

<sup>226</sup> *In re TMI Litig. Cases Consol. II*, 940 F.2d at 852–53 (noting that approximately every ten years since enacting Price–Anderson Act, Congress has amended it, continually building a comprehensive federal structure that has governed and regulated the nuclear industry).

## ENDNOTES: RECYCLING AS A NATION

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policies-helped-south-koreas-capital-decrease-food-waste (explaining how the polluter-pay system for food waste has actually decreased the amount of food waste being produced and helped pay for the food recycling factories).

<sup>33</sup> Rothman, *supra* note 32.

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

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

<sup>36</sup> LC PAPER, *supra* note 7, at 5.

<sup>37</sup> The 2<sup>nd</sup> 3R Int’l Scientific Conference on Material Cycles & Waste Management, Jang-Soo Lee et al., *Estimation of Green House Gas Emission Associated with Statistics of Waste Management in Korea*, (May, 2015), [https://www.researchgate.net/publication/280644261\\_Estimation\\_of\\_Green\\_House\\_Gas\\_Emission\\_Associated\\_with\\_Statistics\\_of\\_Waste\\_Management\\_in\\_Korea?enrichId=rgreq-04fd5551ba4c67f6ca478a271a7c7295-XXX&enrichSource=Y292ZXJQY-WldlOzI4MDY0NDI2MTtBUzoyNzI0ODQxMTcyNTAwNTIAMTQ0MT-k3NjY4NDM4MA%3D%3D&el=1\\_x\\_2&\\_esc=publicationCoverPdf](https://www.researchgate.net/publication/280644261_Estimation_of_Green_House_Gas_Emission_Associated_with_Statistics_of_Waste_Management_in_Korea?enrichId=rgreq-04fd5551ba4c67f6ca478a271a7c7295-XXX&enrichSource=Y292ZXJQY-WldlOzI4MDY0NDI2MTtBUzoyNzI0ODQxMTcyNTAwNTIAMTQ0MT-k3NjY4NDM4MA%3D%3D&el=1_x_2&_esc=publicationCoverPdf).

<sup>227</sup> *O’Conner*, 13 F.3d at 1100, 1105 (“Congress recognized that state law would operate in the context of a complex federal scheme which would mold and shape any cause of action grounded in state law and that Price–Anderson operates within “a stringent regulatory background.”).

<sup>228</sup> *Id.* at 1105 *aff’d*, 13 F.3d 1090 (7th Cir. 1994).

<sup>229</sup> International Atomic Energy Agency, Convention on Supplementary Compensation for Nuclear Damage, July 22, 1998, I.A.E.A. INFCIRC/567 (reflecting key principles that nuclear liability law should contain, in the U.S. and around the world for uniformity).

<sup>230</sup> Kolomitz, *supra* note 185.

<sup>231</sup> See Jose, *supra* note 93, at 9 and accompanying text.

ated\_with\_Statistics\_of\_Waste\_Management\_in\_Korea?enrichId=rgreq-04fd5551ba4c67f6ca478a271a7c7295-XXX&enrichSource=Y292ZXJQY-WldlOzI4MDY0NDI2MTtBUzoyNzI0ODQxMTcyNTAwNTIAMTQ0MT-k3NjY4NDM4MA%3D%3D&el=1\_x\_2&\_esc=publicationCoverPdf.

<sup>38</sup> Howard Fischer, *Forced recycling, plastic bag bans now illegal*, AZ. DAILY SUN (Apr. 14, 2015), [http://azdailysun.com/news/local/forced-recycling-plastic-bag-bans-now-illegal/article\\_cc2abbc8-5de4-513d-bf1d-b3c4a1f2adb1.html](http://azdailysun.com/news/local/forced-recycling-plastic-bag-bans-now-illegal/article_cc2abbc8-5de4-513d-bf1d-b3c4a1f2adb1.html).

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

<sup>40</sup> Erin Schumaker, *The Psychology Behind Why People Don’t Recycle*, WASH. POST (Aug. 3, 2016, 8:14 AM ET), [https://www.huffingtonpost.com/entry/psychology-of-why-people-dont-recycle\\_us\\_57697a7be4b087b70be605b3](https://www.huffingtonpost.com/entry/psychology-of-why-people-dont-recycle_us_57697a7be4b087b70be605b3).

## ENDNOTES: WIND POWER AND THE LEGAL CHALLENGES WITH NEPA AND THE ESA

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<sup>33</sup> Rosenberg, *supra* note 4, at 660; see ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22 (citing wind power as “the largest renewable generation capacity of all renewables in the United States”); see also Juan Ramos, *Wind Energy Pros and Cons: The True Advantage of Wind Power*, SCIENCE TRENDS (Dec. 20, 2017), <https://sciencetrends.com/wind-energy-pros-cons-true-advantage-wind-power/>; U.S. Wind Industry Fourth Quarter 2017 Market Report, *supra* note 31, at 3 (reporting that the wind capacity within the United States at the end of 2017 includes 13,332 Megawatts under construction and 15,336 Megawatts in more complex stages of implementation).

<sup>34</sup> Rosenberg, *supra* note 4, at 660; see ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22 (citing wind power as a clean renewable energy source that does not create any “atmospheric emissions that cause acid rain, smog, or greenhouse gases”).

<sup>35</sup> Rosenberg, *supra* note 4, at 662; see ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22 (stating wind does not emit any “particulate matter, nitrogen oxides, and sulfur dioxide” that have shown to produce economic disadvantages and problems related to human health).

<sup>36</sup> Rosenberg, *supra* note 4, at 662.

<sup>37</sup> Rosenberg, *supra* note 4, at 666; see ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22 (describing need for construction of transmission lines to bring electricity from the farms to the cities); see also Merrill Matthews, *Challenges for Wind Energy’s Future*, THE INST. FOR POLICY INNOVATION (July 2014), [http://www.ipi.org/docLib/20140728\\_ChallengesforWindEnergyFuture3.pdf](http://www.ipi.org/docLib/20140728_ChallengesforWindEnergyFuture3.pdf) (explaining that wind energy may require generating plants to have back up energy sources in case the wind energy is not constant and readily available); see, e.g. Kayla Matthews, *The Advancements and Challenges Affecting Wind Turbine Implementation*, PLANETIZEN (Sept. 25, 2017, 5:00 AM), <https://www.planetizen.com/node/94961/advancements-and-challenges-affecting-wind-turbine-implementation> (discussing the geographical challenges related to wind farms).

<sup>38</sup> Rosenberg, *supra* note 4, at 665; see Jess White, *Disadvantages of Wind Energy*, RENEWABLE ENERGY SPOT, <http://www.renewableenergyspot.com/disadvantages-of-wind-energy/> (discussing the varying efficiency and uniformity of wind energy).

<sup>39</sup> Rosenberg, *supra* note 4, at 666–67. The startup expenses for wind farms are expensive and sometimes not easily competitive with other electricity sources. Matthews, *supra* note 37; see White, *supra* note 38 (discussing the cost of wind turbines and the large amounts of land required to space out the wind turbines to avoid damage or collisions among them).

<sup>40</sup> Rosenberg, *supra* note 4, at 667; see footnote 37 for details on the geographical limitations of wind farms.

<sup>41</sup> Adam M. Dinnel & Adam M. Russ, *The Legal Hurdles to Developing Wind Power as an Alt. Energy Source in the United States: Creative and Comparative Solutions*, 27 NW. J. INT’L. L. & BUS. 535, 537 (2007); see also Rosenberg, *supra* note 4, at 667–69; White, *supra* note 38 (discussing the effects of deforestation, noise from the turbines affecting bats and humans, and disruption to ecosystems originating from wind turbines).

<sup>42</sup> Rosenberg, *supra* note 4, at 668; see *Environmental Impacts of Wind Power*, UNION OF CONCERNED SCIENTISTS (Mar. 5, 2013), <https://www.ucsusa.org/clean-energy/renewable-energy/environmental-impacts-wind-power/#.WnczW5M-dsM>.

<sup>43</sup> Rosenberg, *supra* note 4, at 668–69; see also ADVANTAGES AND CHALLENGES OF WIND ENERGY, *supra* note 22; Marc Kavinsky, *Wind Farm Interference Shows Up on Doppler Radar*, NAT’L WEATHER SERV., <https://www.weather.gov/mkx/windfarm> (last visited Feb. 26, 2018) (addressing wind farms interference with the radar line of sight of the Doppler radar at the Wisconsin National Weather Service office); see generally U.S. DEP’T OF ENERGY, EFFICIENCY & RENEWABLE ENERGY, FED. INTERAGENCY WIND TURBINE RADAR INTERFERENCE MITIGATION STRATEGY (Jan. 2016), <https://energy.gov/sites/prod/files/2016/06/f32/Federal-Interagency-Wind-Turbine-Radar-Interference-Mitigation-Strategy-02092016rev.pdf>.

- <sup>44</sup> Rosenberg, *supra* note 4, at 669; see Purdue University, *Wind Turbines Killing More Than Just Local Birds*, SCIENCE DAILY (Sept. 29, 2016), <https://www.sciencedaily.com/releases/2016/09/160929143808.htm> (discussing the effects of wind farms on golden eagles).
- <sup>45</sup> *Wildlife and Wind Energy*, OHIO DEP'T OF NAT. RES. DIV. OF WILDLIFE, <http://wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/wildlife-and-wind-energy> (last visited Feb. 26, 2018). This is known as Senate bill 221. *Id.*; see OHIO REV. CODE § 4298.64 (2018).
- <sup>46</sup> See OHIO REV. CODE § 4298.64.
- <sup>47</sup> Brandon Baker, *Ohio Gov. John Kasich Signs Nation's First Renewable Energy Freeze*, ECOWATCH (June 13, 2014, 3:25 PM), <http://www.ecowatch.com/ohio-gov-john-kasich-signs-nations-first-renewable-energy-freeze-1881923801.html>. Ohio Governor John Kasich's signature put the renewable portfolio standard on hold until 2017 as a committee will address at that time whether the bill's passage will be permanently frozen. *Id.* This freeze effectively "halted the requirements for the renewable energy at 2014 levels." Lauren Miller, *Ohio's Renewable Portfolio Standard: It's Time for a Thaw*, SOLSYSTEM (Oct. 19, 2016), <http://www.solsystems.com/blog/tag/freeze/>. Instead of an increase in its renewable energy initiatives, Ohio has mandated only 2.5% of energy from renewable energy sources. *Id.* As of January 1, 2017, the freeze will stop. *Id.* Governor John Kasich vetoed against continuing the freeze allowing renewable energy to grow. Jim Provance, *Kasich Vetoes Bill Delaying Renewable Energy Mandates*, THE BLADE, (Dec. 27, 2016, 4:18 PM) <http://www.toledoblade.com/Energy/2016/12/27/Ohio-governor-vetoes-bill-making-renewable-mandates-optional.html>. Ohio Revised Code 4928.64 was amended in September 2017 extending the mandate to 2027 to meet the 12.5% mandate. *Id.*; see also § 4298.64 (2017) (focusing on House Bill 49).
- <sup>48</sup> U.S. Wind Indus. 2016 Annual Market Update, *supra* note 21.
- <sup>49</sup> *Id.*
- <sup>50</sup> *About the OPSB*, OHIO POWER SITING BD., <http://www.opsb.ohio.gov/opsb/index.cfm/About/> (last visited Feb. 26, 2018).
- <sup>51</sup> *Id.*
- <sup>52</sup> *Id.*
- <sup>53</sup> OHIO REV. CODE §§ 4906.03, 4906.04 (2018).
- <sup>54</sup> *Id.* § 4906.02.
- <sup>55</sup> *Id.*; see *About the OPSB*, *supra* note 50.
- <sup>56</sup> OHIO REV. CODE § 4906.02 (2018); see *About the OPSB*, *supra* note 50.
- <sup>57</sup> OHIO REV. CODE § 4906.02 (2018); see *About the OPSB*, *supra* note 50.
- <sup>58</sup> OHIO REV. CODE § 4906.01 (2018); see *About the OPSB*, *supra* note 50.
- <sup>59</sup> *About the OPSB*, *supra* note 50; see §§ 4906.13, 4906.20, 4906.98.
- <sup>60</sup> OHIO ADMIN. CODE 4906-3-03(A) (2018); see also *Standard Application Process Flowchart*, OHIO POWER SITING BD. (June 7, 2017), <https://www.opsb.ohio.gov/information/process-flowchart/>.
- <sup>61</sup> OHIO ADMIN. CODE 4906-3-03(B)(1) (2018); *About: How Can I Participate in the Process?* OHIO POWER SITING BD., [hereinafter *How Can I Participate in the Process?*] <http://www.opsb.ohio.gov/opsb/index.cfm/About/> (last visited Feb. 8, 2018).
- <sup>62</sup> *How Can I participate in the Process?*, *supra* note 61.
- <sup>63</sup> OHIO REV. CODE § 4906.06 (2018); OHIO ADMIN. CODE 4906-2-02 (2018); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>64</sup> *How Can I Participate in the Process?*, *supra* note 61.
- <sup>65</sup> OHIO ADMIN. CODE 4906-3-06 (2015); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>66</sup> OHIO ADMIN. CODE 4906-3-06 (2015); see *Standard Application Process Flowchart*, *supra* note 60.
- <sup>67</sup> See OHIO ADMIN. CODE 4906-3-07 (2015) (describing the requirements an applicant must follow once the applicant receives notification from the chairman that the standard certificate application is complete).
- <sup>68</sup> See *Application Fees and Billing*, OHIO POWER SITING BD., <http://www.opsb.ohio.gov/opsb/index.cfm/application-fees-and-billing/> (last visited Mar. 22, 2018) (delineating the power siting application fees for Ohio).
- <sup>69</sup> *Standard Application Process Flowchart*, *supra* note 60. For filing fees and other costs associated with the application process, see *Application Fees and Billing*, *supra* note 69; see also OHIO ADMIN. CODE 4906-1-04, 4906-3-12 (2015).
- <sup>70</sup> *How Can I Participate in the Process?*, *supra* note 61; see OHIO ADMIN. CODE 4906-2-09 (2018) (describing the protocol for hearings); OHIO REV. CODE § 4906.07(A) (2018) (discussing scheduling for hearings).
- <sup>71</sup> *How Can I Participate in the Process?*, *supra* note 61.
- <sup>72</sup> *Id.*
- <sup>73</sup> *Id.* (limiting the amount of cases a participant can be involved).
- <sup>74</sup> *Who is Involved in the Siting Process?* OHIO POWER SITING BD., <http://www.opsb.ohio.gov/opsb/index.cfm/about/> (last visited Mar. 23, 2018) (defining who can be an intervener).
- <sup>75</sup> *How Can I Participate in the Process?*, *supra* note 61.
- <sup>76</sup> OHIO ADMIN. CODE 4906-3-09(A)(1) (2015); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>77</sup> See *Standard Application Process Flowchart*, *supra* note 60.
- <sup>78</sup> OHIO REV. CODE § 4906.07(C) (2018); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>79</sup> OHIO ADMIN. CODE 4906-3-09(A)(2) (2018); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>80</sup> OHIO REV. CODE § 4906.07(A) (2018); OHIO ADMIN. CODE 4906-2-09(A) (2018); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>81</sup> *Ohio Power Siting Bd. Wind Summary*, OHIO POWER SITING BD., <http://www.opsb.ohio.gov/opsb/index.cfm/About/> (last visited Feb. 27, 2018).
- <sup>82</sup> *How Can I Participate in the Process?*, *supra* note 61.
- <sup>83</sup> *Id.*
- <sup>84</sup> *Id.*
- <sup>85</sup> OHIO REV. CODE § 4906.10(A); OHIO ADMIN. CODE 4906-2-30 (2018); see also *Standard Application Process Flowchart*, *supra* note 60.
- <sup>86</sup> OHIO REV. CODE § 4903.10 (2018); OHIO ADMIN. CODE 4906-2-32 (2018); *How Can I Participate in the Process?*, *supra* note 61.
- <sup>87</sup> OHIO REV. CODE § 4903.10 (2018); OHIO ADMIN. CODE 4906-2-32 (2018); *How Can I Participate in the Process?*, *supra* note 61.
- <sup>88</sup> OHIO REV. CODE § 4903.13 (2018); OHIO ADMIN. CODE 4906-2-33 (2018); *How Can I Participate in the Process?*, *supra* note 61.
- <sup>89</sup> *Ohio Power Siting Bd. Wind Summary*, OHIO POWER SITING BD., <http://www.opsb.ohio.gov/opsb/?LinkServID=895FE98C-C363-FCF9-6BFD7D-F3A3F7AA2> (last updated Feb. 5, 2018).
- <sup>90</sup> *Id.* Timber Road IV and Seneca are both in the pre-application stages.
- <sup>91</sup> Provance, *supra* note 47.
- <sup>92</sup> Dinnel & Russ, *supra* note 41, at 562; see also 42 U.S.C. §§ 4321-47 (2016).
- <sup>93</sup> *Council on Environmental Quality*, OFFICE OF NEPA POLICY AND COMPLIANCE, <http://energy.gov/nepa/council-environmental-quality-ceq> (last visited Feb. 27, 2018); see 42 U.S.C. §§ 4341-47 (2016). The Center on Environmental Quality ("CEQ") provides guidance and interprets regulations that seek to apply NEPA. *Council on Environmental Quality*, THE WHITE HOUSE, <https://www.whitehouse.gov/ceq/> (last visited Feb. 27, 2018). Also, the CEQ reviews federal agencies' compliance with NEPA, reviews emergent situations to allow substitute NEPA compliance, and supervises federal agencies' application of the environmental impact statements process. *Id.*
- <sup>94</sup> 42 U.S.C. § 4321 (2016).
- <sup>95</sup> *Shearwater v. Ashe*, No. 14-CV-026830-LHK, 2015 U.S. Dist. LEXIS 106277, at \*3 (N.D. Cal. Aug. 11, 2015) (quoting *High Sierra Hikers Ass'n v. Blackwell*, 390 F.3d 630, 639 (9th Cir. 2004)).
- <sup>96</sup> 42 U.S.C. § 4332(2)(C) (2018); see *Dine Citizens Against Ruining Our Env't v. Klein*, 747 F. Supp. 2d 1234, 1264 (D. Colo. 2010) (holding that the surface coal mining's permit revision application, a federal action, did not comply with NEPA, vacated the permit approval, and laid out the requirements to comply with NEPA).
- <sup>97</sup> 5 U.S.C. § 702 (2018); see COUNCIL ON ENVTL. QUALITY, EXEC. OFFICE OF THE PRESIDENT, A CITIZEN'S GUIDE TO THE NEPA: HAVING YOUR VOICE HEARD 30 (2007), [hereinafter A CITIZEN'S GUIDE TO THE NEPA] [https://energy.gov/sites/prod/files/nepapub/nepa\\_documents/RedDont/G-CEQ-CitizensGuide.pdf](https://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-CitizensGuide.pdf).
- <sup>98</sup> 42 U.S.C. § 4332(2)(C)(i)-(v) (2018); see *National Environmental Policy Act Review Process*, U.S. ENVTL. PROTECTION AGENCY (Jan 24, 2017), <https://www.epa.gov/nepa/national-environmental-policy-act-review-process> (explaining that federal agencies must perform an EIS "if a proposed federal action is determined to significantly affect the quality of the human environment"). The U.S. Department of Energy has provided a comprehensive summary of the NEPA process; see U.S. DEP'T OF ENERGY, DOE, NEPA, AND YOU: A GUIDE TO PUBLIC PARTICIPATION 1-2 (2010), [http://energy.gov/sites/prod/files/nepapub/nepa\\_documents/RedDont/G-DOE-NEPA\\_Brochure.pdf](http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-NEPA_Brochure.pdf); see also 40 C.F.R. § 1506.9 (2018) (providing an overview of the EIS filing requirements); 40 C.F.R. § 1506.10 (2018) (explaining the requirements of time regarding a federal agency's action).
- <sup>99</sup> *National Environmental Policy Act Review Process*, *supra* note 98. 42 U.S.C. § 4332 (2018). The draft EIS that the federal agency creates includes a variety of items: (1) purpose and need of the document (see 40 C.F.R. § 1502.13 (2016)); (2) identification and examination of alternative methods

to satisfy the potential action's purpose and need (see 40 C.F.R. § 1502.14 (2018)), including preferred alternatives (see 40 C.F.R. § 1502.14(c)) (2018)); and the "full range of direct, indirect and cumulative effects of the preferred alternative, if any, and of the reasonable alternatives identified in the draft EIS." A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 17 (citing 40 C.F.R. §§ 1508.7, 1508.8 (2018)). The draft EIS should also address the human impact on the environment. See 40 C.F.R. § 1508.14 (2018); see also A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 16–18 (for a more in-depth discussion).

<sup>100</sup> 40 C.F.R. § 1508.18(a) (2018).

<sup>101</sup> 40 C.F.R. § 1508.22 (2018); see *National Environmental Policy Act Review Process*, *supra* note 98.

<sup>102</sup> See *National Environmental Policy Act Review Process*, *supra* note 98.

<sup>103</sup> 40 C.F.R. § 1506.10 (2018); see A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 16; see generally, *How Citizens Can Comment and Participate in the National Environmental Policy Act Process?*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/nepa/how-citizens-can-comment-and-participate-national-environmental-policy-act-process> (last visited Feb. 6, 2018) (noting that agencies must provide at minimum of forty-five days for public comment).

<sup>104</sup> 40 C.F.R. § 1506.10(c) (2018); see A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 16.

<sup>105</sup> 40 C.F.R. §§ 1506.10(a), (b)(2), 1503.4 (2018).

<sup>106</sup> *Id.* § 1506.10. When the termination of the thirty days is less than ninety days after the Federal Register published the Notice of Availability of the Draft EIS, the agency's decision is required to wait for the ninety-day period to finish. See A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 18. Sometimes, a federal agency may conclude a potential action as "environmentally unacceptable" and refer the problem to the CEQ during the following twenty-five days subsequent to the issued Notice of Availability for the final EIS. *Id.* at 18–19. Further discussion of this is beyond the scope of this author's paper.

<sup>107</sup> 40 C.F.R. § 1505.2 (2018).

<sup>108</sup> 40 C.F.R. § 1502.9(c) (2018); *National Environmental Policy Act Review Process*, *supra* note 98; see A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 20.

<sup>109</sup> 40 C.F.R. § 1502.9(c)(4) (2018); see *National Environmental Policy Act Review Process*, *supra* note 99; *Impact Statements (EIS): When is a Supplement to the EIS required*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/nepa/national-environmental-policy-act-review-process> (last visited Feb. 4, 2018).

<sup>110</sup> 40 C.F.R. §§ 1501.3, 1501.4, 1508.9 (2018).

<sup>111</sup> *Id.* § 1508.9.

<sup>112</sup> *Id.*; see *Environmental Assessment/ Finding of No Significant Impact*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/nepa/national-environmental-policy-act-review-process> (last visited Mar. 17, 2018) (recognizing the purpose of an environmental assessment).

<sup>113</sup> *Id.* For the including text, see also, A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 11 (summarizing the contents of an environmental assessment).

<sup>114</sup> 40 C.F.R. § 1508.13 (2018) (circumstances that necessitate a FONSI).

<sup>115</sup> *Id.*; see *Environmental Assessment/ Finding of No Significant Impact*, *supra* note 112 (explaining why a FONSI would be issued).

<sup>116</sup> *Id.* (explaining what happens when a federal action is found to have significant environmental impact).

<sup>117</sup> 40 C.F.R. § 1508.4 (2018) (stating what kinds of actions are categorically excluded from requiring an EA or an EIS).

<sup>118</sup> *Id.*; see also A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 10–11 (laying out what situations require an agency to prepare an EA or an EIS).

<sup>119</sup> 40 C.F.R. § 1508.4 (2018); see also A CITIZEN'S GUIDE TO THE NEPA, *supra* note 97, at 10–11 (recognizing that actions that are classified as categorical exclusions may still impact the environment).

<sup>120</sup> Ezekiel J. Williams & Kathy L. Schaeffer, *What Every Land Professional Should Know about NEPA*, LA. ST. U. MIN. LAW INST. 8 (2007) (citing to *Ka Makani O'Kohala Inc., v. Dep't of Water Supply*, 295 F.3d 955, 960 (9th Cir. 2002), and laying out what actions are subject to NEPA oversight).

<sup>121</sup> *Id.* (triggering NEPA regulation because of the required federal authorization, permission, or finances).

<sup>122</sup> *Id.* (highlighting a particular federal action that triggers NEPA regulation).

<sup>123</sup> Sarah Matsumoto et al., *Citizens' Guide to the Endangered Species Act*, EARTH JUSTICE 11 (2003), [http://earthjustice.org/sites/default/files/library/reports/Citizens\\_Guide\\_ESA.pdf](http://earthjustice.org/sites/default/files/library/reports/Citizens_Guide_ESA.pdf) (explaining why Congress enacted and President Nixon signed the Endangered Species Act).

<sup>124</sup> 16 U.S.C. § 1531(c)(1) (2018); Dinnel & Russ, *supra* note 41, at 559. The Act also safeguards subspecies and distinct population segments of species as

well. Matsumoto et al., *supra* note 123, at 12 (addressing how the ESA works to maintain genetic diversity).

<sup>125</sup> *Summary of the Endangered Species Act*, U.S. ENVIRONMENTAL PROTECTION AGENCY (Aug. 8, 2017), <https://www.epa.gov/laws-regulations/summary-endangered-species-act>; see also Matsumoto et al., *supra* note 123, at 12 (naming two, among several, federal agencies that operate under the ESA).

<sup>126</sup> *Shearwater v. Ashe*, No. 14-CV-026830-LHK, 2015 U.S. Dist. LEXIS 106277, at \*7 (N.D. Cal. Aug. 11, 2015) (requiring that federal actions do not jeopardize the continued existence of any endangered species).

<sup>127</sup> 16 U.S.C. § 1538(a)(1)(B) (2018); see also *Endangered Species Act: Section 9*, U.S. FISH & WILDLIFE SERV. (July 15, 2013), <https://www.fws.gov/endangered/laws-policies/section-9.html>.

<sup>128</sup> 16 U.S.C. § 1533 (2018); see Matsumoto et al., *supra* note 123, at 15 (detailing the listing process).

<sup>129</sup> *Endangered Species Act*, NAT'L WILDLIFE FED'N, <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Understanding-Conservation/Endangered-Species> (last visited Mar. 17, 2018) (defining the mandate of the ESA and defining endangered species).

<sup>130</sup> *Id.*

<sup>131</sup> Matsumoto, *supra* note 123, at 15 (addressing the listing process).

<sup>132</sup> 16 U.S.C. § 1533(b)(5)(A) (2018); see also, Matsumoto et al., *supra* note 123, at 15.

<sup>133</sup> 16 U.S.C. § 1533(a)(6)(A) (2018); see also, Matsumoto et al., *supra* note 123, at 15.

<sup>134</sup> Matsumoto et al., *supra* note 123, at 15, 17 (addressing the listing process). The species as a potential candidate for listing remains pending until the FWS or the NOAA Fisheries re-evaluate it, a process that occurs at least once a year where the FWS or the NOAA Fisheries finally determine whether the species should be listed. *Id.* Sometimes, the result for the listing of the species may be "warranted but precluded" when the Secretary of Interior or Commerce has to decide on different species first. See 16 U.S.C. § 1533(b)(3)(B)(iii) (2018).

<sup>135</sup> § 1533(b)(3)(A) (2018); see also, Matsumoto et al., *supra* note 125, at 18 (addressing citizens' petitions).

<sup>136</sup> Matsumoto et al., *supra* note 123, at 18.

<sup>137</sup> 16 U.S.C. § 1533(b)(3)(A) (2018); see also Matsumoto, *supra* note 123, at 18.

<sup>138</sup> 16 U.S.C. § 1540(g)(1) (2018); see *infra* note 168.

<sup>139</sup> 16 U.S.C. § 1533(a)(3)(A) (2018); see Dinnel, *supra* note 41, at 559.

<sup>140</sup> Matsumoto et al., *supra* note 123, at 20 (discussing critical habitats); see 16 U.S.C. § 1532(5) (2018). The United States Court of Appeals for the Ninth Circuit concluded that a finding of "harm" did not mandate a particular member of the species to die, but even habitat destruction that could result in the species' elimination could be categorized as "harm" and is not permitted under Section 9 of the ESA. *Palila v. Hawaii Dep't of Land and Nat. Res.*, 852 F.2d 1106, 1108, 1110 (9th Cir. 1981) (defining "take" using the broadest definition where sheep and goats fed on mamane seeds that eliminated trees for the Palila birds). Moreover, the United States' Supreme Court held that the "ordinary meaning of 'harm' naturally encompasses habitat modification that results in actual injury or death to members of an endangered or threatened species." *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 699, 701-04 (1995) (concluding that indirect and direct actions may be considered as a take, given the Act provides broad protection).

<sup>141</sup> 16 U.S.C. § 1533 (a)(3)(A) (2018); see also Dinnel & Russ, *supra* note 41, at 559.

<sup>142</sup> 16 U.S.C. § 1533 (b)(2) (2018); see Matsumoto et al., *supra* note 123, at 20 (discussing critical habitats). A critical habitat evaluates "physical and biological habitat features: [s]pace for individual and population growth and for normal behavior; [c]over and shelter; [f]ood, water, air, light, minerals, or other nutritional or physiological requirements; [s]ites for breeding and rearing offspring; [and] [h]abitats that are already protected from disturbances or are representative of the historical, geographical, and ecological distribution of a species." *Id.* An economic analysis may be included as well. *Id.*

<sup>143</sup> 50 C.F.R. § 424.12(a)(1) (2018); see Dinnel & Russ, *supra* note 41, at 559-60.

<sup>144</sup> 16 U.S.C. § 1533(b)(2) (2018).

<sup>145</sup> Matsumoto et al., *supra* note 123, at 21.

<sup>146</sup> 16 U.S.C. § 1533(b)(8) (2018).

<sup>147</sup> Matsumoto et al., *supra* note 123, at 21. Similar to listing, the critical habitat's designation is the rulemaking process. *Listing and Critical Habitat*, U.S. FISH & WILDLIFE SERV. (Jan. 12, 2015), <https://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html>. A private individual may have his or her



land become designated as a section of a critical habitat, but this only occurs when the private individual receives federal funding, a federal permit, or a federal action. *Id.* The FWS may additionally create recovery plans for species as well. Matsumoto et al., *supra* note 123, at 22 (focusing on critical habitats). A recovery plan focuses on the reversal of an endangered or threatened species' diminution and the deletion of threats, such that the listed species will thrive. *Id.* (citing to *Endangered Species Recovery Program*, U.S. FISH AND WILDLIFE SERVICE ENDANGERED SPECIES PROGRAM (June 2011), <https://www.fws.gov/endangered/esa-library/pdf/recovery.pdf>). 16. U.S.C. § 1533(f) (2018) mandates the government to create and apply recovery plans, except where the plan would not preserve the listed species. *Id.* A recovery plan involves: "a description of site-specific management plans that may be necessary to achieve conservation and survival of the species; a recovery objective (i.e. a target population number) and a list of criteria for indicating when the objective has been achieved; an implementation schedule with task priorities and cost estimates; [and] a recovery plan may also call for species reintroduction, habitat acquisition, captive propagation, habitat restoration and protection, population assessments, research and technical assistance for landowners, and public education." *Id.* Many different actors come into play, and the FWS develops a guide for the recovery plan's design, including peer review and public commentary. *Id.* at 24 (discussing critical habitats). Once an endangered species has recovered, the species is considered to be "delisted" from the endangered species' list under the ESA. *Id.* A species may also be "downlisted" from its consideration as endangered to threatened. *Id.*

<sup>148</sup> 16 U.S.C. § 1536(a)(1) (2018).

<sup>149</sup> *Id.*; see also Matsumoto et al., *supra* note 123, at 29 (examining Section 7 of the ESA).

<sup>150</sup> 50 C.F.R. § 402.14(a) (2018) (listing the consultation requirement).

<sup>151</sup> 50 C.F.R. § 402.14(e), (g)(4) (2018) (clarifying the FWS' mandates and suggestions regarding the mitigation of the harmful effects on activities involving "fish, wildlife, [and] plants" as well as their relative habitats); Stephanie Clark & Sue Meyer, *U.S. Fish and Wildlife Service Announces Changes to Mitigation Policy*, JDSUPRA (Dec. 12, 2016), <http://www.jdsupra.com/legalnews/u-s-fish-and-wildlife-service-announces-17013/>. The FWS implemented its modifications after the *Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment* was issued. *Id.* The *Presidential Memorandum* instructed the FWS to "finalize a mitigation policy to establish principles to guide the [FWS] in its planning and permitting practices and other activities." *Id.* The aforementioned policy establishes a guideline regarding the implementation of "a landscape-scale approach to mitigation to achieve a net gain in conservation outcomes, or at a minimum, no net loss of resources and their values, services, and functions resulting from proposed actions." *Id.* When an activity requires a "Section 7 biological opinion and incidental take statements [or] Section 10 incidental take permits," the activity will deal with the FWS' "statutory and regulatory" mandates pursuant to the ESA and the policy's published modifications. *Id.* The FWS could potentially implement the policy when the FWS maintains "a statutory or regulatory mandate" that obligates mitigation like with ESA or when the FWS gives suggestions for conservation as an agency complying with the National Environmental Policy Act. *Id.* For more information on the implemented modifications, see 81 Fed. Reg. 83440-83492 (2016).

<sup>152</sup> 50 C.F.R. § 402.14 (g)(4) (2018) (outlining the purpose for formulating a biological opinion).

<sup>153</sup> See 50 C.F.R. § 402.13 (2018) (noting that, during informal consultation, if the Federal agency and Service agree that the action will not adversely affect the listed species or critical habitat, there is no need for further consultation).

<sup>154</sup> See Matsumoto et al., *supra* note 123, at 31 (focusing on biological opinions, which are scientific documents used to both assess a project's potential impact to a protected species as well as recommends measures if the project is "likely to jeopardize the continued existence" or harm the critical habitat).

<sup>155</sup> *Id.* (including alternative such as moving a planned road to avoid an eagle nest and delaying construction of a structure until after mating season is done).

<sup>156</sup> *Shearwater v. Ashe*, No. 14-CV-026830-LHK, 2015 U.S. Dist. LEXIS 106277, at \*7 (N.D. Cal. Aug. 11, 2015) (quoting to 50 C.F.R. § 402.13(a) (2018)).

<sup>157</sup> *Id.* at \*9 (quoting to 50 C.F.R. § 402.13(a), 402.14(a)-(b) (2018)).

<sup>158</sup> 16 U.S.C. § 1538 (a)(1)(B) (2018) (prohibiting the taking of endangered species of fish or wildlife).

<sup>159</sup> *Id.*; *Id.* § 1532(19) (defining the term "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct").

<sup>160</sup> Matsumoto et al., *supra* note 123, at 32 (examining the ESA's prevention on takings); See *supra* note 142 and accompanying text discussing what constitutes a take under the ESA.

<sup>161</sup> Dinnel & Russ, *supra* note 41, at 560 (citing to Christopher Carter, *A Dual Track for Incidental Takings: Reexamining Sections 7 and 10 of the Endangered Species Act*, 19 B.C. ENVTL. AFF. L. REV. 135, 155 (1991), which refers to H.R. Rep. No. 304, 97th Cong. 2d. Sess. 31 (1982), reprinted in 1982 U.S.C.C.A.N. 2807, 2831, and Richard Webster, Note, *Habitat Conservation Plans Under the Endangered Species Act*, 24 SAN DIEGO L. REV. 243, 247 (1987); see also Matsumoto, *supra* note 123, at 35 (evaluating the exceptions to the prohibition on takings Congress included in its 1982 amendments to the ESA).

<sup>162</sup> 16 U.S.C. § 1539(a)(1)(B) (2018) (permitting incidental taking of endangered species).

<sup>163</sup> 16 U.S.C. § 1539(a)(2)(A) (2018) (stating that participants, whose use constitutes a taking, need to obtain a permit from the Secretary).

<sup>164</sup> *Id.* § 1539(a)(2)(B) (stating that the secretary opens the application up for public comment).

<sup>165</sup> *Id.* (highlighting the minimization process).

<sup>166</sup> Matsumoto et al., *supra* note 123, at 35 (covering habitat conservation plants).

<sup>167</sup> Dinnel & Russ, *supra* note 41, at 561. (incentivizing the private individual through section 10 (a)(1)(B), the ESA assures the private individual that the government would expect more in the future for the listed species once an HCP is approved); Matsumoto et al., *supra* note 123, at 35, 37 (evaluating the no surprises exception within the ESA); see *What are No Surprise Assurances?*, U.S. FISH & WILDLIFE SERV. (July 15, 2013), <https://www.fws.gov/endangered/what-we-do/hcp-faq.html> (eliminating any unforeseen circumstances and permits minor changes, not affecting additional land nor expenses). An HCP also permits the private individual to enter into voluntary agreements with the federal government to safeguard endangered species. Matsumoto et al., *supra* note 123, at 37 (discussing safe harbors). These agreements permit the private individual to enhance his or her land for the protected species' benefit on a voluntary basis for a time duration, and consequently, may have the ability to return his or her land to the land's baseline without any ESA violation. *Id.* The FWS provides an "enhancement for survival" permit pursuant to section 10(a) (1)(A) that presents the individual the opportunity to return the property to its baseline when the time duration with the voluntary understanding finishes. *Id.*

<sup>168</sup> 16 U.S.C. § 1540 (2018) (outlining the civil and criminal penalties).

<sup>169</sup> *Id.* § 1540(g).

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

<sup>171</sup> 16 U.S.C. § 1540(e) (2018).

<sup>172</sup> Matsumoto et al., *supra* note 123, at 14 (examining versions of states' ESAs).

<sup>173</sup> See generally OHIO REV. CODE §§ 1531.25, 1531.99 (2018).

<sup>174</sup> *Id.* § 1531.25.

<sup>175</sup> *Id.*

<sup>176</sup> *Id.*

<sup>177</sup> *Id.*

<sup>178</sup> *Id.*

<sup>179</sup> *Id.* § 1531.99 (indicating that a wind developer should be aware that this Ohio law exists. However, this law has been addressed rarely in litigation if a violation should occur within Ohio); see *State v. Althiser*, No. 97CA14, 1997 Ohio App. LEXIS 6054, at \*15 (Ohio Ct. App. Dec. 30, 1997) (affirming the lower court's decision that officers' search into a storage bay to combat mussel poaching had probable cause with exigent circumstances); see also *Wilkins v. Daniels*, 744 F.3d 409 (6th Cir. 2014) (holding that microchipping animals was not an unconstitutional taking), *aff'd*, 913 F. Supp. 2d 517 (S.D. Ohio 2012).

<sup>180</sup> OHIO ADMIN. CODE § 1501:31-23-01 (2018).

<sup>181</sup> *Id.* §§ 1501:31-23-01 (B), (C), (F).

<sup>182</sup> *Id.* § 1501:31-23-01 (D).

<sup>183</sup> *Id.* § 1501:31-23-02.

<sup>184</sup> *Id.* § 1531.25.

<sup>185</sup> See *State v. Althiser*, No. 97CA14, 1997 Ohio App. LEXIS 6054, at \*15 (Ct. App. Dec. 30, 1997) (upholding petitioners' convictions under OHIO REV. CODE §§ 1531.25, 1531.02 for illegal possession of endangered mussels); see also *Wilkins v. Daniels*, 744 F.3d 409, 419 (6th Cir. 2014) (holding that provisions under OHIO REV. CODE §§ 935.01-935.99 relating to microchipping requirements for permitted owners of certain endangered species did not violate the Fifth Amendment). These cases illustrate that Ohio's version of the ESA is rarely used in litigation.

<sup>186</sup> See *Union Neighbors United, Inc., v. Jewell*, 831 F.3d 564, 570-71 (D.C. Cir. 2016) (concerning a wind developer who planned to construct and manage a commercial wind energy farm located on land that overlapped with the territory and migration patterns of the endangered Indiana bat).

<sup>187</sup> *Id.* at 57.

<sup>188</sup> *Id.* (noting that several months later, the FWS initiated a second round of public comments regarding plans to develop an EIS and HCP addressing impacts of Buckeye's proposed development).

<sup>189</sup> *Id.*

<sup>190</sup> *Id.* (specifying that the HCP included measures to minimize the effects on the Indiana bat and its habitat in addition to other non-listed birds and bats, and the HCP suggested the issuance of the ITP based on the HCP).

<sup>191</sup> *Id.* at 573.

<sup>192</sup> *Union Neighbors United, Inc., v. Jewell*, 831 F.3d 564, 573 (D.C. Cir. 2016).

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

<sup>194</sup> *Id.* at 574 (noting that plaintiffs brought their lawsuit against the "Secretary of the Department of the Interior, the Director of the Service, and the Regional Director for Midwest region of the Service" seeking declaratory and injunctive relief).

<sup>195</sup> *Id.*

<sup>196</sup> *Id.*

<sup>197</sup> *Id.* at 574; see *Union Neighbors, Inc., v. Jewell*, 83 F.Supp.3d 280, 287-88 (D.D.C. 2015) (while providing a level of deference, the court decided FWS utilized the best evidence available at that time and properly concluded that the wind project's proposal's mitigation efforts would completely counterbalance the Indiana bats' taking).

<sup>198</sup> 831 F.3d, at 574.

<sup>199</sup> *Id.* at 575.

<sup>200</sup> *Id.* at 576.

<sup>201</sup> *Id.* (stating that the other alternative evaluated was the "Max Alternative" that would require the wind turbines be turned off at night between the months of April through October).

<sup>202</sup> *Id.*

<sup>203</sup> *Id.*

<sup>204</sup> *Id.* at 577 (stating that, "because the [FWS] in these circumstances did not consider any other reasonable alternative that would have taken fewer Indiana bats than Buckeye's plan, it failed to consider a reasonable range of alternatives and violated its obligations under NEPA").

<sup>205</sup> *Id.* at 568.

<sup>206</sup> *Id.* at 580 (applying *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944)).

<sup>207</sup> *Id.* (discussing that the statutory definition of "impacts" refers to more than the discrete number of individual members of a listed species").

<sup>208</sup> *Id.* at 581. (examining the Habitat Conservation Planning and Incidental Take Permit Processing Handbook ("Handbook") to conclude that relevant legislative history, though partially probative, is inconclusive).

<sup>209</sup> *Id.* at 582.

<sup>210</sup> *Id.* at 583.

<sup>211</sup> *Id.* at 582.

<sup>212</sup> *Id.*

<sup>213</sup> *Id.* at 582 (noting that the ESA uses the conjunctive "and" between "minimize" and "mitigate," rather than "then," suggesting that the terms should be read together, not as a sequence).

<sup>214</sup> *Id.* at 583 (evaluating the FWS's answers to the Handbook's commentary, which included a conclusion that "Buckeye 'ha[d] minimized the quantity of take'").

<sup>215</sup> *Id.* at 583.

<sup>216</sup> *Id.*

<sup>217</sup> *Id.* at 577.

<sup>218</sup> *Id.* at 578.

<sup>219</sup> *Id.* at 568-69.

<sup>220</sup> *Id.* at 568, 577.

<sup>221</sup> See generally *id.* at 568, 569-70.

<sup>222</sup> *Sierra Club v. Kenna*, No. 1:12-cv-1193 AWI JLT, 2013 LEXIS 4743, at \*3, 4 (E.D. Cal. Jan. 11, 2013) (anticipating 102 turbines that would produce up to 300 megawatts of electricity, NSRE sought to build a wind farm on private land in the Sierra Nevada mountain range).

<sup>223</sup> *Id.* at \*4.

<sup>224</sup> *Id.*

<sup>225</sup> *Id.*

<sup>226</sup> *Id.*

<sup>227</sup> *Id.* at \*4-5.

<sup>228</sup> *Id.* at \*2.

<sup>229</sup> *Id.* at \*2, 5 (parties had agreed that the private road would be longer than the service road over the federal land and that the service road would involve more construction with affected acreage than the private road).

<sup>230</sup> *Id.* at \*5-6 (contesting BLM's conclusion that the service road "would have value independent of its use as to an access road" for the development project).

<sup>231</sup> *Id.* at \*7.

<sup>232</sup> *Id.* at \*25.

<sup>233</sup> *Id.*

<sup>234</sup> *Id.*

<sup>235</sup> *Id.* at \*25-26.

<sup>236</sup> *Id.* (concluding that the administrative record supported BLM's determination that NSRE could have finished the project without the right-of-way).

<sup>237</sup> *Id.*

<sup>238</sup> *Id.*

<sup>239</sup> *Id.* at \*26.

<sup>240</sup> *Id.* at \*29-30.

<sup>241</sup> *Id.* at \*30.

<sup>242</sup> *Id.* at \*32-33.

<sup>243</sup> *Id.* at \*33-36 (declining to substitute its judgment for BLM, as it was not "permissible" pursuant to the standard of review; BLM maintained "wide deference" to its decisions and was the "primary intermediary . . . between private activity and public resource ownership").

<sup>244</sup> *Id.* at \*36 (deciding the court was "in no position to impose a contrary conclusion simply because an opposing party is of the opinion that more proof should have been required").

<sup>245</sup> *Id.* at \*34.

<sup>246</sup> *Id.* at \*38.

<sup>247</sup> *Id.* at \*40-41 (E.D. Cal. Jan. 11, 2013).

<sup>248</sup> *Sierra Club v. BLM*, 786 F.3d 1219, 1222 (9th Cir. 2015) (affirming *Sierra Club v. Kenna*, No. 1:12cv1193 AWI JLT, 2013 LEXIS 4743 (E.D. Cal. Jan. 11, 2013)).

<sup>249</sup> *Id.* at 1224 (holding that a federal agency's duty to consult on these direct effects occurs when the action is "affirmatively authorized, funded, or carried out [by a federal agency]" and "in which there is discretionary Federal involvement for control" (citing *Karuk Tribe of Cal. v. Forest Serv.*, 681 F.3d 1006, 1020-21 (9th Cir. 2012)).

<sup>250</sup> *Id.*

<sup>251</sup> *Id.*

<sup>252</sup> *Id.* at 1224-25 (explaining the plaintiff must illustrate that an indirect effect is "caused by the action" (citing *San Luis & Delta-Mendota Water Auth. v. Locke*, 776 F.3d 971, 1009 (9th Cir. 2014)).

<sup>253</sup> *Id.* at 1225 (examining whether the action was an interrelated or interdependent action).

<sup>254</sup> *Id.* at 1225-26.

<sup>255</sup> *Id.* at 1226.

<sup>256</sup> *Id.* at 1226-27.

<sup>257</sup> *Sierra Club v. Kenna*, No. 1:12-cv-1193 AWI JLT, 2013 LEXIS 4743, at \*26, 40-41 (E.D. Cal. Jan. 11, 2013); *BLM*, 786 F.3d at 1224, 1225-26.

<sup>258</sup> *BLM*, 786 F.3d at 1227; *Kenna*, 2013 U.S. Dist. LEXIS 4743 at \*25, 26.

<sup>259</sup> See generally *BLM*, 786 F.3d 1219 (affirming *Kenna*, 2013 LEXIS 4743 at \*16).

<sup>260</sup> *Animal Welfare Inst. v. Beech Ridge Energy LLC*, 675 F. Supp. 2d 540, 542 (D. Md. 2009).

<sup>261</sup> *Id.*

<sup>262</sup> *Id.* at 549-50.

<sup>263</sup> *Id.* at 550.

<sup>264</sup> *Id.*

<sup>265</sup> *Id.* (indicating that the project would result in 6,746 bat deaths yearly and noting that Indiana bats could be present at the site during the summer; however, none were found).

<sup>266</sup> *Id.* at 551.

<sup>267</sup> *Id.*

<sup>268</sup> *Id.* at 552.

<sup>269</sup> *Id.* at 551-53.

<sup>270</sup> *Id.* at 553.

<sup>271</sup> *Id.* at 554.

<sup>272</sup> *Id.* at 554-55 (describing that the Department additionally disregarded the FWS' recommendations and employed certain provisions within the order,

including site conditions before and after construction, specifically for endangered species).

<sup>273</sup> *Id.* at 555.

<sup>274</sup> *Id.* at 556.

<sup>275</sup> *Id.* at 556-57.

<sup>276</sup> *Id.* at 557 (stating that, at the time of trial, “foundations for [sixty-seven] turbines had been powered, turbine deliveries had commenced, and transmission lines were being strung in agreed upon areas”).

<sup>277</sup> *Id.* at 542.

<sup>278</sup> *Id.*

<sup>279</sup> *Id.* at 557 (noting that a BHE employee claimed that he had utilized AnaBat detectors during the first summer of mist netting, in areas that were not ideal for capturing bats, and that BHE did not evaluate nor provide the data to the Department or FWS).

<sup>280</sup> *Id.* at 561, 563-64 (holding that under section 9 of the ESA, a plaintiff’s suit had to demonstrate by a preponderance of evidence that “the challenged activity is reasonably certain to imminently harm, kill, or wound the listed species” and must address issues such as: “whether Plaintiffs have proven by a preponderance of evidence that (i) Indiana bats are present at the Beech Ridge Project site and (ii) the project is reasonably certain to imminently harm, kill, or wound Indiana bats, in violation of [section 9] of the ESA”).

<sup>281</sup> *Id.* at 564-68.

<sup>282</sup> *Id.* at 568-69 (finding that although no conclusion can be made about the existence of maternity colonies at the site, the project constructed new habitat that could have attracted Indiana bats and that clearing the forest to build new transmission lines could develop lanes for Indiana bats’ travel, thus expanding the possibility that the Indiana bats were at the project’s location). *Id.* (giving “significant weight” to one expert’s testimony that determined that the Indiana bats were present at the site).

<sup>283</sup> *Id.* at 575.

<sup>284</sup> *Id.*

<sup>285</sup> *Id.* at 575-76.

<sup>286</sup> *Id.* (stating that even though the higher elevation of the project’s location makes it less possible, yet not improbable, that the maternity colonies are located there in the summer months, the Indiana bats could still exist at the location “during migration, fall swarming, and spring staging”).

<sup>287</sup> *Id.* (concluding that although four hours of acoustic data was gathered and investigated during two consecutive nights, more acoustic surveillance over all four seasons and at various sites “would almost certainly yield a greater number of Indiana bat calls”).

<sup>288</sup> *Id.*

<sup>289</sup> *Id.* at 577-78.

<sup>290</sup> *Id.* at 578.

<sup>291</sup> *Id.* at 578-79 (noting that all three of plaintiff’s experts testified that the project would likely harm the Indiana bats and that the court was “not surprised” that the Indiana bats have not been found killed at any wind project since “few post-mortality studies have been conducted, mortality searches [were] generally insufficient, and Indiana bats [were] rare”).

<sup>292</sup> *Id.* at 579.

<sup>293</sup> *Id.* at 579-80 (determined awarding injunctive relief because the defendants would not apply adaptive management after the project was completed, and the defendants disregarded the FWS’ correspondence advising preconstruction surveys and methods).

<sup>294</sup> *Id.* at 580-81 (using this mandate as a form of injunctive relief).

<sup>295</sup> See *id.* at 581-83 (concluding “that the only avenue available to Defendants to resolve the self-imposed plight in which they now find themselves is to do belatedly that which they should have done long ago: apply for an ITP”); see e.g. *Protect Our Cmty. Found. v. Ashe*, No. 12-cv-2212-GPC(PCL), 2013 LEXIS 165987, at \*2, 12, 32, 36 (S.D. Cal. Nov. 20, 2013) (finding that where a wind power plant complied with an issued incidental take permit and with the ESA, the challenged biological opinion regarding the endangered species was not arbitrary or capricious). See also *Protect Our Lakes v. U.S. Army Corps of Eng’r*, No. 1:13-CV-402-JDL, 2015 WL 732655, at \*1, 5 (D. Me. Feb. 20, 2015) (addressing whether the issuance of the section 404 permit for a wind power development project violated the ESA and the Bald and Gold Eagle Protection Act).

<sup>296</sup> See generally *Ashe*, 2013 LEXIS 165987, at \*10-11 (S.D. Cal. Nov. 20, 2013) (quoting 50 C.F.R. § 402.14(g)(1)-(4); (h)(3)) (stating “the consulting agency must ‘review all relevant information, evaluate the current status of the listed species or critical habitat, evaluate the effects of the action and cumulative effects on the listed species or critical habitat,’ and issue a Biological

Opinion assessing whether the proposed action is ‘likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat’”).

<sup>297</sup> *Union Neighbors United, Inc., v. Jewell*, 831 F.3d 564, 568-69 (D.C. Cir. 2016).

<sup>298</sup> See *Animal Welfare Inst.*, at 583 (concluding that construction of Defendant’s wind project would have violated the ESA and Defendants should have applied for an incidental take permit); *Sierra Club v. BLM*, 786 F.3d 1219 (9th Cir. 2015) (holding that although the Bureau of Land Management’s federal road project was subject to NEPA, its wind project, which granted “a right-of-way over federal land for a wind energy project developed on private land,” was not because the wind project was not a federal action or connected to the road project.); *aff’g Sierra Club v. Kenna*, No. 1:12-cv-1193 AWI JLT, 2013 LEIXIS 4743 (E.D. Cal. Jan. 11, 2013); *Union Neighbors United*, 831 F.3d at 568-69 (finding that NEPA applied where the United States Fish and Wildlife service granted an incidental take permit to Defendant for construction of a wind farm).

<sup>299</sup> *Protect Our Cmty. Found. v. Salazar*, No. 12cv2211-GPC(PCL), 2013 LEXIS 159281, at \*2 (S.D. Cal. Nov. 6, 2013).

<sup>300</sup> *Id.*

<sup>301</sup> *Id.* at \*4.

<sup>302</sup> *Id.* at \*7.

<sup>303</sup> *Id.* at \*7-9, 10-13 (evaluating the NEPA, what the EIS should include, and the standard of reasonableness that the EIS should include. Based upon BLM’s statement for purpose and need, the court determined that the BLM’s “Purpose and Need” detailed how the wind project would promote BLM to execute the executive and Department of Interior’s orders and a separate section addressed the project’s goals).

<sup>304</sup> *Protect Our Cmty. Found. v. Salazar*, No. 12cv2211-GPC(PCL), 2013 LEXIS 159281, at \*13-14 (S.D. Cal. Nov. 6, 2013).

<sup>305</sup> *Id.* at \*14-15 (reasoning that the Final EIS showed BLM’s rationale for the elimination of the renewable energy alternatives besides wind power and BLM determined six alternatives were reasonable and included a No Project/Action Alternative as well. Therefore, the court determined that BLM reasonably examined the alternatives).

<sup>306</sup> *Id.* at \*3-4, 16 (finding that the project’s location was the “only area with high wind density.” (citing to OWEF 908; 914 (the filed Administrative Record). Other locations are in use or proposed for different wind energy plans (citing OWEF 908). *Id.* Other private properties did not have wind energy possibilities (citing OWEF 907). *Id.* Also, locating the project outside of the county would defeat BLM’s purpose and need. *Id.*

<sup>307</sup> *Id.* at \*16-17.

<sup>308</sup> *Id.* at \*17-24 (acknowledging that BLM had deference with its expertise and knowledge. The court also compared the studies that the Plaintiffs and BLM supported their respective positions with. The court finally examined that BLM conducted its only studies of inaudible noise and concluded that the impacts from inaudible sounds were “minimal.” The court recognized that “it [was] not the Court’s role to determine which scientific studies that BLM should adopt” and should provide deference to BLM’s conclusion).

<sup>309</sup> *Id.* at \*23-24.

<sup>310</sup> *Id.* at \*24.

<sup>311</sup> *Id.* at \*24-28 (noting that a disagreement with the agency’s use of certain methods was not considered a NEPA violation the court reasoned (citing *Native Ecosystems Council v. Weldon*, 697 F.3d 1043, 1053 (9th Cir. 2012)). BLM used the County’s General Plan Noise Element as its method. Plaintiffs contend that “normalization increases the reported values by 15dBA to nearly 65dBA in some cases,” but the court determined they failed to discuss why BLM’s chosen method was insufficient. Although BLM’s examination did not include nighttime noise, the court found that BLM considered both the ambient noise during the daytime and the nighttime in its analysis. *Id.*

<sup>312</sup> *Id.* at \*28-33 (showing the Plaintiffs relied upon experts to support their position that a setback of 1.25 miles is required for residential properties from a wind project, and many people lived within that range for this project. The court, however, deferred to BLM’s determination. The court emphasized that BLM’s scientific research setbacks were not needed, the Plaintiffs’ experts did not address the particular project, and no mitigation was available).

<sup>313</sup> *Id.* at \*33-36 (determining that wind turbines would alter the scenic environment. However, the court noted that BLM conducted a full examination of the project’s visual materials, including the “non-turbine facilities, roads, observations tower,” and the court concluded that the wind turbines were the most impactful. The court concluded BLM’s analysis as “appropriate”).



<sup>314</sup> *Id.* at \*36-41 (evaluating the Final EIS, which found no Peninsular Bighorn Sheep were located on the land for the project). The Final EIS also recognized the potential direct impacts of the project, including death to the Peninsular Bighorn Sheep, ““elimination of access to foraging areas, disruption of reproduction or lambing activities, prevention of dispersal or intermountain movements.”” (citing to OWEF 1588). *Id.* The FWS performed a Section 7 ESA consultation on the Peninsular Bighorn Sheep as well, resulting in certain mitigation plans to be implemented if Peninsular Bighorn Sheep were found. *Id.* The court recognized that, while the impact of the Peninsular Bighorn Sheep is not known, BLM acted reasonably to develop mitigation plans. *Id.*

<sup>315</sup> *Id.* at \*41.

<sup>316</sup> *Id.* at \*44-46 (indicating that the U.S. Court of Appeals for the Ninth Circuit found such impacts are not cognizable under NEPA).

<sup>317</sup> *Id.* at \*46-49.

<sup>318</sup> *Id.* at \*49.

<sup>319</sup> *Vermonters for a Clean Env’t, Inc. v. Madrid*, 73 F. Supp. 3d 417, 435 (D. Vt. 2014) (holding that the Plaintiffs’ challenge to U.S. Department of Agriculture Forest Service’s issuance for a special use permit for a wind power project was denied since no violations of NEPA nor the Wilderness Act had occurred).

<sup>320</sup> *Protect Our Comtys. Found. v. Jewell*, 825 F.3d 571, 588 (9th Cir. 2016) (dismissing Plaintiffs’ objection to the Bureau of Land Management’s approval for a right-of-way for a wind power development project because the court found no violations of NEPA, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, or the APA).

<sup>321</sup> *Or. Nat. Desert Ass’n v. Jewell*, 823 F.3d 1258, 1260 (9th Cir. 2016) (finding that the Bureau of Land Management’s environmental review for a right-of-way for the wind power development project did not properly examine the effects on the greater sage grouse was affirmed).

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## ENDNOTES: INFRASTRUCTURE AND DEVELOPMENT IN AN ERA OF EXTREME WEATHER EVENTS: WE NEED THE NATIONAL ENVIRONMENTAL POLICY ACT!

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<sup>29</sup> Holy Cross, 455 F. Supp. 2d at 536-37.

<sup>30</sup> Blanco, 2006 WL 2366046, at \*9-10.

<sup>31</sup> See *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm’n*, 449 F.3d 1016, 1028-30 (9th Cir. 2006); N.J. Dep’t of Envtl. Prot., v. U.S. Nuclear Regulatory Comm’n, 561 F.3d 132, 143-44 (3d Cir. 2009).

<sup>32</sup> *Mothers for Peace*, 449 F.3d at 1028-30; New Jersey, 561 F.3d at 143-44.

<sup>33</sup> TRUMP’S INFRASTRUCTURE PLAN, *supra* note 14, at 36-37, 49-50.

<sup>34</sup> See *Fixing America’s Surface Transportation Act (FAST Act)*, 42 U.S.C. § 4370m et seq. (2015); see also *Permitting Dashboard: About the Federal Infrastructure Permitting Dashboard*, Federal Infrastructure Projects (2017), <https://www.permits.performance.gov/about> (last updated Aug. 31, 2017).

<sup>35</sup> LITTLE INFORMATION, *supra* note 15, at 10-11.

<sup>36</sup> CONGRESSIONAL RESEARCH SERVICE, R-42479, THE ROLE OF THE ENVIRONMENTAL REVIEW PROCESS IN FEDERALLY FUNDED HIGHWAY PROJECTS: BACKGROUND

AND ISSUES FOR CONGRESS, 1, 36-37 (2012) (citing Thomas, H.R. and Ellis, R.D., *Avoiding Delays During the Construction Phase of Highway Projects*, NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM TRANSPORTATION, TRANSPORTATION RESEARCH Bd., (2001) (“More time spent in design identifying problems will reduce construction time and result in a shorter overall project time. A widely recognized principle is that spending more monies during planning and design will reduce the time and cost required for construction by avoiding unforeseen conditions, reducing to a minimum design errors and omissions, and developing schemes that will support the most efficient approach to construction.”)

<sup>37</sup> Dep’t of Transp., v. Public Citizen, 541 U.S. 752, 767 (2004).

<sup>38</sup> See Schaper, *supra* note 4.

<sup>39</sup> See 40 C.F.R. §§ 1506.6(b), 1500.2(d), 1500.1; *supra* note 13 and accompanying text.

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## ENDNOTES: THE UBER DRIVE: SELF-DRIVING CARS COULD CREATE MORE UNCERTAINTY WITH GIG ECONOMY’S “INDEPENDENT CONTRACTORS”

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<sup>23</sup> *Beyond Misclassification*, *supra* note 5, at 593 (stating that Uber has lobbied heavily and even given state legislators “model codes” to pass); see Michael Hiltzik, *How Uber’s big settlement may make things worse for its drivers*, L.A. TIMES (Apr. 22, 2016), <http://www.latimes.com/business/hiltzik/la-fi-hiltzik-uber-settlement-20160422-snap.htmlstory.html> (stating that Uber’s policy to no longer deactivate riders for low ride acceptance rates was created because of settlement discussions).

<sup>24</sup> *Dependent Contractors*, *supra* note 11, at 648-49; Seth D. Harris & Alan B. Krueger, *A proposal for Modernizing Labor Laws for Twenty-First-Century Work: The “Independent Worker”*, 17-18 (Hamilton Project, Discussion Paper No. 2015-10, 2015), [http://www.hamiltonproject.org/assets/files/modernizing\\_labor\\_laws\\_for\\_twenty\\_first\\_century\\_work\\_krueger\\_harris.pdf](http://www.hamiltonproject.org/assets/files/modernizing_labor_laws_for_twenty_first_century_work_krueger_harris.pdf) (furthering that another classification for workers called “independent workers” that would address the issue) [hereinafter *Independent Worker*].

<sup>25</sup> See *Beyond Misclassification*, *supra* note 5, at 597 (explaining that Lyft’s firing methods were revised to allow the right to arbitration before booted from the app because of the settlement discussions arising from *Cotter v. Lyft*, 60 F. Supp. 3d 1067 (N.D. Cal 2015)).

<sup>26</sup> See *id.* at 600 (describing these jobs as “precarious” as the work shifts from “projects” to “task,” and requires a lower level of skill to complete them).

<sup>27</sup> *Independent Worker*, *supra* note 24, at 9 (providing an example of the problem with paying a driver when they are “waiting” for a ride with the app open as they do personal tasks). But see Ross Eisenbrey & Lawrence Mishel, *Uber business model does not justify a new ‘independent worker’ category*, ECON. POL’Y INST. (Mar. 17, 2016), <https://www.epi.org/publication/uber-business-model-does-not-justify-a-new-independent-worker-category/> (arguing against the example from Harris and Krueger [Independent Worker]).

<sup>28</sup> See Stephen Gandel, *Uber-nomics: Here’s what it would cost Uber to pay its drivers as employees*, FORTUNE (Sept. 17, 2015), <http://fortune.com/2015/09/17/ubernomics/> (estimating that it would cost Uber \$4.1 billion a year to cover employee benefits); see also Caroline O’Donovan, *Some Uber Customers Will Pay More So Drivers Can Buy Injury Insurance*, BUZZFEED NEWS (May 9, 2017), [https://www.buzzfeed.com/carolineodonovan/uber-customers-will-pay-more-so-drivers-can-buy-insurance?utm\\_term=.pqPGLj3Vo#.doGVJ9gWZ](https://www.buzzfeed.com/carolineodonovan/uber-customers-will-pay-more-so-drivers-can-buy-insurance?utm_term=.pqPGLj3Vo#.doGVJ9gWZ) (stating that Uber raised ride costs by five cents a mile in certain states to cover its pilot personal injury insurance program for drivers).

<sup>29</sup> See Press Release, Econ. Pol’y Inst., Uber drivers should be paid for time spent waiting for fares (Mar. 17, 2016), <https://www.epi.org/press/uber-drivers-should-be-paid-for-time-spent-waiting-for-fares-facts-of-being-an-uber-driver-reveal-no-need-to-create-a-third-category-of-worker/> (stating that apps that prevent multitasking and ignoring the app when it is on could prevent workers from earning minimum wage without accepting tasks).

<sup>30</sup> See *Star ratings*, UBER, <https://www.uber.com/drive/resources/how-ratings-work/> (last visited Apr. 2, 2018) (explaining that a driver gets deactivated if the driver’s rating goes below and maintains a certain level).

<sup>31</sup> See Hiltzik, *supra* note 23 and accompanying text; see also *Uber Community Guidelines*, UBER, <https://www.uber.com/legal/community-guidelines/us-en/> (last visited Apr. 2, 2018) (detailing the current policy about low ride acceptance rates).

<sup>32</sup> See Kessler, *supra* note 21.

<sup>33</sup> See Greg Bensinger, *Uber’s Driver Dilemma: Fare Hikes and Cuts Don’t Change Pay*, WALL ST. J. (Nov. 12, 2017, 5:45PM), <https://www.wsj.com/articles/ubers-driver-dilemma-fare-hikes-and-cuts-dont-change-pay-1510491602> (mentioning that Uber’s large investment into self-driving vehicles could allow Uber to avoid having any drivers); Gandel, *supra* note 28 and accompanying text.

<sup>34</sup> *Autonomous Vehicles; Self-Driving Vehicles Enacted Legislation*, NAT’L CONFERENCE OF STATE LEGISLATURES, <http://www.ncsl.org/research/>

transportation/autonomous-vehicles-self-driving-vehicles-enacted-legislation.aspx (last visited Apr. 2, 2018); Aarian Marshall, *Congress Unites (Gasp) to Spread Self-Driving Cars Across America*, WIRED (Sept. 6, 2017, 4:33 PM), <https://www.wired.com/story/congress-self-driving-car-law-bill/>; see Stan Horacek, *The role of humans in self-driving cars is even more complicated after Uber's fatal crash*, POPULAR SCI. (Mar. 23, 2018), <https://www.popsci.com/human-drivers-and-self-driving-cars> (stating that most self-driving cars still need drivers to be present and aware to be able to take over driving).

<sup>35</sup> Jack Barkenbus, *People Aren't Ready for Self-Driving Cars*, CITYLAB (Jan. 4, 2018), <https://www.citylab.com/transportation/2018/01/autonomous-vehicles-consumer-backlash/549650/>; Kirsten Korosec, *A Majority of U.S. Drivers Still Don't Trust Self-Driving Cars*, FORTUNE (Jan. 24, 2018), <http://fortune.com/2018/01/24/aaa-drivers-fear-self-driving-cars/> (stating that a majority of U.S. drivers are wary about riding in a fully self-driving car).

<sup>36</sup> INSTACART, <https://instacart.com/> (last visited Apr. 2, 2018) (grocery delivery service); POSTMATES, <https://about.postmates.com/> (last visited Apr. 2, 2018) (delivery service); Cf. Davey Alba, *Instacart Shoppers Can Now Choose To Be Real Employees*, WIRED (Jun. 6, 2015, 5:46 PM), <https://www.wired.com/2015/06/instacart-shoppers-can-now-choose-real-employees/> (reporting that Instacart began allowing employees in select cities choose to be employees).

<sup>37</sup> Enrique Dans, *The evolution of the taxi: Didi Chuxing puts its pedal to the metal*, MEDIUM (Apr. 29, 2017), <https://medium.com/enrique-dans/the-evolution-of-the-taxi-didi-chuxing-puts-its-pedal-to-the-metal-f57901408304> (stating that self-driving vehicles are developing fast, and that Waymo's self-driving taxis that already operating in Arizona).

<sup>38</sup> *How Employers Can Benefit From the Gig Economy: 31 Business Owners, Founder & Experts Reveal the Biggest Ways the Gig Economy Benefits Employers*, WONOLO, <https://www.wonolo.com/blog/how-employers-benefit-from-the-gig-economy/> (last updated Jan 13, 2018); Samantha Raphelson, *As the Gig Economy Grows, Advocates Raise Concerns About Workers' Safety*, NPR (Dec. 4, 2017), <https://www.npr.org/2017/12/04/568377471/as-the-gig-economy-grows-advocates-raise-concerns-about-workers-safety> (discussing liabilities that companies avoid with independent contractors); Kessler, *supra* note 21 (stating that a company was able to operate with up to thirty percent less in labor costs with independent contractors).

<sup>39</sup> See Maya Kosoff, *Why the "sharing economy" keeps getting sued*, HIVE (Nov. 9, 2017, 11:52 AM), <https://www.vanityfair.com/news/2017/11/post-mates-worker-classification-lawsuit> (discussing cases against non-ride-hailing gig economy companies like Postmates and Grubhub).

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