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## Blocking Nature's Vulnerable Calls for Help: The Tenth Circuit Dials into the Telecommunications Act's Federal Environmental Preemption Clause in *Santa Fe Alliance v. City of Santa Fe*

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BLOCKING NATURE'S VULNERABLE  
CALLS FOR HELP: THE TENTH CIRCUIT DIALS  
INTO THE TELECOMMUNICATIONS ACT'S FEDERAL  
ENVIRONMENTAL PREEMPTION CLAUSE IN  
*SANTA FE ALLIANCE V. CITY OF SANTA FE*

I. THE MOBILIZATION OF CELL PHONE SERVICE AND ITS GROWING  
EFFECT ON THE ENVIRONMENT: INTRODUCTION

Today, nearly one hundred percent of the United States population has a cell phone.<sup>1</sup> Yet, it was not until 1983 that Americans communicated wirelessly with each other for the first time.<sup>2</sup> Although revolutionary, the premier cell phone service brought about by 1G limited users to voice-only connections, static noise, background crackling, and frequent disconnections.<sup>3</sup> Following 1G's insurgent lead, 2G graced the country in 1991, paving the way for 3G in 2002 and 4G in 2008.<sup>4</sup> Remaining on the forefront for over one decade, 4G technology presents individuals with the ability to stream music and videos anywhere.<sup>5</sup> Although allowing individuals extensive perks, 4G is gradually making way for the greater opportunities 5G presents.<sup>6</sup> Technology has come a long way from what it once was, as users can now enjoy high-speed mobile web

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1. *Mobile Fact Sheet*, PEW RSCH. CTR. (Apr. 7, 2021), <https://www.pewresearch.org/Internet/fact-sheet/mobile/> (detailing population's cell phone use). Ninety-seven percent of Americans have a cell phone and eighty-five percent of Americans use a smart phone. *Id.* (providing results of survey conducted on American adults in 2021).

2. Richard Galazzo, *Timeline from 1G to 5G: A Brief History on Cell Phones*, CENGN, <https://www.cengn.ca/timeline-from-1g-to-5g-a-brief-history-on-cell-phones/> (Jan. 24, 2022) (detailing early history of wireless phone service).

3. Adam Fendelman, *1G, 2G, 3G, 4G, & 5G Explained*, LIFEWIRE (Sept. 3, 2021), <https://www.lifewire.com/1g-vs-2g-vs-3g-vs-4g-578681> (delving into discrepancies 1G presents).

4. *Id.* (providing timeline of cell phone service).

5. *5G vs 4G*, ERICSSON, <https://www.ericsson.com/en/5g/5g-vs-4g> (last visited Sept. 15, 2021) (explaining differences between 5G and 4G wireless technology); see also Rajat Kochhar, *Opinion: 4G LTE and Its Benefits to Enterprise Networks*, TELECOMS (Mar. 15, 2016), <https://telecomstechnews.com/news/2016/mar/15/opinion-4g-lte-and-its-benefits-enterprise-networks/> (detailing user benefits of 4G). In comparison to 3G, 4G offers a higher bandwidth, which improves data speeds. *Id.* (expanding on 4G benefits). 4G also offers a low latency and lower idle-to-active times, which ultimately improves network responsiveness. *Id.* (stating 4G also provides more suitable connectivity for businesses).

6. Galazzo, *supra* note 2 (explaining wireless generational abilities). 5G promises significantly faster data rates, higher connection density, lower latency, greater energy savings, and many other improvements. See *id.* (detailing 5G technology).

access, mobile TV, video conferencing, and other features at the tips of their fingers.<sup>7</sup> Nevertheless, these pocket-sized lifelines impose considerable environmental concerns.<sup>8</sup>

In an effort to afford more individuals with the revolutionary connection 5G affords, cell phone tower installation is making its way to all corners of the country.<sup>9</sup> To date, Verizon Wireless supplies 5G to over 2,700 cities across the U.S.<sup>10</sup> Joining Verizon, AT&T's 5G network presently expands to more than fourteen thousand cities throughout the country.<sup>11</sup> Along with AT&T and Verizon, T-Mobile leverages its variation of 5G network to over 9,100 cities and towns.<sup>12</sup> Although these colossal metal structures allow for an increase in crystal-clear conversations, the nation is exper-

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7. *Id.* (comparing cell phone advancement throughout past thirty years); see also Renee Cho, *The Coming 5G Revolution: How Will It Affect the Environment?*, COLUM. CLIMATE SCH. (Aug. 13, 2020), <https://news.climate.columbia.edu/2020/08/13/coming-5g-revolution-will-affect-environment/> (analyzing 5G's abilities). 5G not only allows internet access from cell phones, but also from smart cars to the Internet of Things (IoT). *Id.* (explaining 5G benefits beyond cell phones). The IoT allows connection to numerous devices and sensors through the internet, providing the ability to communicate without human involvement. *Id.* (delving into details of IoT).

8. Jacinta Bowler, *What's 5G, and Why Are People So Scared of It? Here's What You Need to Know*, SCI. ALERT (June 6, 2020), <https://www.sciencealert.com/whats-5g-and-why-are-people-so-scared-of-it-here-s-what-you-need-to-know> (detailing fears imposed by 5G).

9. See *City of Portland v. United States*, 969 F.3d 1020, 1031 (9th Cir. 2020) (explaining implications of 5G tower installation); see also Cho, *supra* note 7 (outlining environmental effects of 5G).

10. *5G Nationwide and Ultra Wideband Mobile Networks FAQs*, VERIZON WIRELESS, <https://www.verizon.com/support/5g-mobile-faqs/#/coverage-map/> (last visited Nov. 26, 2021) (providing nationwide 5G coverage details). Verizon currently has two types of 5G network: 5G Ultra Wideband network and 5G Nationwide network. *Id.* (distinguishing networks). 5G Ultra Wideband network sets out to use a greater level of high-band, ultra-wide millimeter wave spectrum to provide a better 5G experience. *Id.* (expanding on capabilities posed by 5G Ultrawideband network). 5G Nationwide network uses a low-band spectrum that enables 5G to run at the same time as 4G LTE on numerous spectrum bands. *Id.* (explaining difference between 5G Nationwide network and 5G Ultra Wideband network); see also *Explore 4G LTE and 5G Network Coverage in Your Area*, VERIZON WIRELESS, <https://www.verizon.com/coverage-map/> (last visited Nov. 26, 2021) (presenting 5G coverage map).

Harrisburg, Scranton, and Philadelphia are all enabled with 5G Ultrawideband Technology. *Id.* (detailing 5G coverage in Pennsylvania). Additionally, over one third of Pennsylvania is equipped with 5G Nationwide network. *Id.* (specifying type of 5G available in Pennsylvania).

11. *Nationwide 5G*, AT&T, <https://www.att.com/5g/coverage-map/> (last visited Nov. 26, 2021) (providing 5G coverage map).

12. *Experience America's Leader in 5G*, T-MOBILE, <https://www.t-mobile.com/business/coverage> (last visited Nov. 26, 2021) (stating T-Mobile provides largest and fastest 5G network). T-Mobile aims to provide 5G network to over ninety-nine percent of Americans in the coming years. *Id.* (detailing plans for 5G growth).

encing an uptick in radio-frequency emissions.<sup>13</sup> These emissions bring about various environmental harms.<sup>14</sup>

More than five hundred studies have found harmful biologic or health effects from exposure to radio-frequency emissions.<sup>15</sup> These studies have shown that radio-frequency emissions cause atoms to vibrate, which could result in damage.<sup>16</sup> The studies have

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13. *Non-Ionizing Radiation from Wireless Technology*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/radtown/non-ionizing-radiation-wireless-technology> (Dec. 23, 2021) (describing implications of non-ionizing radiation); *see also* Kristen Nunez, *Is 5G Harmful to People?*, HEALTHLINE, <https://www.healthline.com/health/emf#research> (July 8, 2021) (exploring health effects of 5G).

14. Cornelia Waldmann-Selsam, Alfonso Balmori-de la Punte, Helmut Breunig & Alfonso Balmori, *Radiofrequency Radiation Injures Trees Around Mobile Phone Base Stations*, 572 SCI. TOTAL ENV'T 554, 555 (2016), [http://media.withtbank.com/592b5448ab/waldmann-selsam\\_2016\\_scitotenv572p554-569\\_rf\\_trees.pdf](http://media.withtbank.com/592b5448ab/waldmann-selsam_2016_scitotenv572p554-569_rf_trees.pdf) (detailing unilateral tree damage caused by cell phone tower radiation); *see also* Vittoria Traverso, *The Best Trees to Reduce Air Pollution*, BBC (May 4, 2020), <https://www.bbc.com/future/article/20200504-which-trees-reduce-air-pollution-best> (proposing trees are necessary for ecosystem viability); Evangelia D. Chavdoula, Dimitris J. Panagopoulos & Lukas H. Margaritis, *Comparison of Biological Effects Between Continuous and Intermittent Exposure to GSM-900-Mhz Mobile Phone Radiation*, 700 MUTATION RES./GENETIC TOXICOLOGY & ENV'T MUTAGENESIS 51, 59 (2009), <https://doi.org/10.1016/j.mrgentox.2010.05.008> (detailing cell phone radiation causes reduced reproductive abilities in insects); Alfonso Balmori, *Electromagnetic Radiation as an Emerging Driver Factor for the Decline of Insects*, 767 SCI. TOTAL ENV'T 1, 2 (2020) [hereinafter *Electromagnetic Radiation*], <https://doi.org/10.1016/j.scitotenv.2020.144913> (noting importance of insects in ecosystem); Alfonso Balmori, *Electromagnetic Pollution from Phone Masts. Effects on Wildlife*, 16 PATHOPHYSIOLOGY 191, 194 (2009) [hereinafter *Electromagnetic Pollution*], <https://doi.org/10.1016/j.pathophys.2009.01.007> (noting increase in domestic mammal death due to radiation); Kate E. Jones & Kamran Safi, *Ecology and Evolution of Mammalian Biodiversity*, US NAT'L LIB. OF MED. NAT'L INST. OF HEALTH (Sept. 12, 2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3138616/> (explaining mammals play essential role in ecosystem).

15. Joel M. Moskowitz, *We Have No Reason to Believe 5G Is Safe*, SCI. AM. (Oct. 17, 2019), <https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/> (summarizing negative health and environmental effects associated with 5G).

16. *Non-Ionizing Radiation from Wireless Technology*, *supra* note 13 (noting atomic effects of non-ionizing radiation); *see also* B. Blake Levitt & Henry Lai, *Biological Effects from Exposure to Electromagnetic Radiation Emitted by Cell Tower Base Stations and Other Antenna Arrays*, 18 ENV'T REV. 369, 383 (2010), <https://cdns.cipub.com/doi/10.1139/A10-018> (analyzing biological effects of cell phone towers). The International Agency for Research on Cancer has classified radio-frequency radiation as "possibly carcinogenic to humans." *Cell Phone Towers*, AM. CANCER SOC'Y (June 1, 2021), <https://www.cancer.org/cancer/cancer-causes/radiation-exposure/cellular-phone-towers.html> (correlating cancer risk to cell phone towers); *see also* *Cell Phone Radio Frequency Radiation*, U.S. Dep't of Health and Hum. Servs., <https://ntp.niehs.nih.gov/whatwestudy/topics/cellphones/index.html> (last visited Dec. 27, 2021) (providing study of radio-frequency emissions' effect on mice). In 2018, the U.S. National Toxicology Program found "clear evidence" that two years of exposure to radio-frequency emissions from cell phones increased cancer in male rats and damaged DNA in both male and female rats. *Id.* (detailing effect of radio-frequency emissions on mice); *see also* Moskowitz, *supra* note 15 (detailing health

also demonstrated that radio-frequency emissions adversely affect the environment by causing developmental abnormalities and mortality in animals.<sup>17</sup> Startlingly, research has additionally established impacts on wildlife “orientation and migration, food finding, reproduction, mating, nest and den building, territorial maintenance and defense, and longevity and survivorship.”<sup>18</sup> The widespread publication of this information has pushed litigation surrounding cell phone towers to the forefront of court dockets over the past few years.<sup>19</sup>

In *Santa Fe Alliance for Public Health & Safety v. City of Santa Fe*,<sup>20</sup> the United States Court of Appeals for the Tenth Circuit explored whether the federal preemption on radio-frequency regulations precludes individuals from receiving remedies.<sup>21</sup> This Note exam-

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risks associated with 5G exposure). Health care providers are “seeing increases in head and neck tumors in registries, which may . . . be attributable to . . . cell phone radiation.” *Id.* (stating greater findings of tumors after 5G technology insurgence). Notably, “the increases in . . . tumors are consistent with results from . . . studies of tumor risk in heavy cell phone users.” *Id.* (proposing 5G cell phone use might increase risk of tumors).

17. *7 Major Harmful Effects of Cell Phone Towers: Radiation Pollution*, ENV’T POLLUTION, <https://www.environmentalpollution.in/radiation-pollution/7-major-harmful-effects-of-cell-phone-towers-radiation-pollution/1478> (last visited Sept. 1, 2021) (delving into effects of radiation on insects, plants, biosystem, and ecosystem); *Siting Cell Towers Needs Careful Planning*, SCI. DAILY (Dec. 3, 2019), <https://www.sciencedaily.com/releases/2019/12/191203162553.htm> (offering insight into precautions for siting cell phone tower installation). Exposure to non-ionizing radiation has elicited adverse behavioral responses, developmental abnormalities, and mortality in bees, amphibians, mammals, and birds. GOV’T OF INDIA: MINISTRY OF ENV’T AND FOREST, REPORT OF POSSIBLE IMPACTS OF COMMUNICATION TOWERS ON WILDLIFE INCLUDING BIRDS AND BEES 6 (2011), <https://ecfsapi.fcc.gov/file/7520958381.pdf> [[https://web.archive.org/web/20190204010644/http://www.indiaenvironmentportal.org.in/files/file/final\\_mobile\\_towers\\_report.pdf](https://web.archive.org/web/20190204010644/http://www.indiaenvironmentportal.org.in/files/file/final_mobile_towers_report.pdf)] (analyzing cell phone towers’ environmental effects).

18. *5G and Small Cell Environmental Effects: Birds, Bees Trees and Climate*, ENV’T HEALTH TRUST, <https://ehtrust.org/5g-and-small-cell-environmental-effects-birds-bees-trees-and-climate/> (last visited Sept. 30, 2021) (examining environmental effects of non-ionizing radiation); see also *Electromagnetic Radiation*, *supra* note 14 (detailing impact on wildlife). Scientists observed that young birds living within one hundred meters of cell phone towers died of unknown causes. *Electromagnetic Pollution*, *supra* note 14, at 192 (providing radiation’s effects on birds). Additionally, the scientists found that birds living in areas with a high number of cell phone antennas experienced “plumage deterioration, locomotive problems (limps and deformations in the paws), partial albinism and melanism.” *Id.* at 193 (summarizing issues caused by cell phone radiation in urban birds).

19. *Cellular Phone Taskforce v. FCC*, 205 F.3d 82, 82 (2d Cir. 2000) (challenging Federal Communications Commission and National Environmental Policy Act); see also *City of Portland v. United States*, 969 F.3d 1020, 1031 (9th Cir. 2020) (analyzing small cell tower claim against Federal Communications Commission).

20. 993 F.3d 802, 802 (10th Cir. 2021) (considering whether residents of Santa Fe established standing).

21. *Id.* at 807 (outlining issue in amended complaint).

ines the significance of the Tenth Circuit's findings in *Santa Fe*.<sup>22</sup> Part II provides the facts of the case.<sup>23</sup> Part III discusses the legal background of the issues *Santa Fe* discussed.<sup>24</sup> Parts IV and V analyze the Tenth Circuit's reasoning and explain why the court erred in its reasoning.<sup>25</sup> Part VI concludes with a discussion of the case's impact on future cell phone tower claims involving the emission of radiation and how this decision will impact the environment.<sup>26</sup>

## II. COLLECTING THE DIGITS: THE FACTS OF *SANTA FE*

The plaintiffs in *Santa Fe* are a group of Santa Fe residents (the Alliance) "concerned about the health and environmental effects of radio-frequency emissions from telecommunications facilities."<sup>27</sup> The Alliance attributed various new medical conditions to the installation of cell phone towers.<sup>28</sup> Along with medical harms, the Alliance cited "changes in animal behavior, decreases in reproduction, increases in mortality, and negative impacts to the health of both animals and plants."<sup>29</sup> Because of these afflictions, many Alliance members left their homes and businesses to relocate.<sup>30</sup>

The Alliance connected the increasing development of telecommunications facilities to numerous federal, state, and local leg-

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22. For a discussion of the Tenth Circuit's legal analysis in *Santa Fe*, see *infra* notes 91-130 and accompanying text.

23. For a discussion of the factual background of *Santa Fe*, see *infra* notes 27-47 and accompanying text.

24. For a discussion of the legal precedent relevant to the Tenth Circuit's analysis in *Santa Fe*, see *infra* notes 48-90 and accompanying text.

25. For a discussion of the Tenth Circuit's reasoning in *Santa Fe* and its errors, see *infra* notes 91-158 and accompanying text.

26. For a discussion of the impact of *Santa Fe*, see *infra* notes 159-217 and accompanying text.

27. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, 993 F.3d 802, 807 (10th Cir. 2021) (introducing facts of case).

28. *Id.* at 808 (detailing health complications members experienced). The medical conditions include "headaches, nausea, insomnia, tinnitus, seizures, cancer, fatigue, neurological issues, respiratory issues, cardiac issues, laryngospasms, numbness in extremities, high blood pressure, and internal bleeding." *Id.* (listing Alliance members' alleged medical conditions). Additionally, the claimed the radiation caused abnormal "changes in animal behavior, such as decreased reproduction, increases in death, and negative impacts to the health of both animals and plants." *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, No. CV 18-1209 KG/JHR, 2020 WL 2198120, at \*1 (D.N.M. May 6, 2020) (explaining environmental harms).

29. *Santa Fe*, 2020 WL 2198120, at \*1 (exploring conditions cell phone towers allegedly caused).

30. *Santa Fe*, 993 F.3d at 808 (detailing events leading to allegations). Many residents converted their vehicles into homes. *Id.* (explaining misfortunes cell phone towers created).

islation, as well as the Mayor's proclamations.<sup>31</sup> As such, they filed an amended complaint against the government, Santa Fe, and the New Mexico Attorney General.<sup>32</sup> In the amended complaint, the Alliance asserted that the Telecommunications Act of 1996 (TCA), Amendments to Chapter 27 of the Santa Fe City Code, and three proclamations by the Santa Fe mayor violate due process.<sup>33</sup>

Chapter 27 of the Santa Fe City Code regulates telecommunications facilities within Santa Fe.<sup>34</sup> In accordance with this code, Santa Fe adopted an amendment authorizing franchises to use public rights-of-way to provide telecommunications services.<sup>35</sup> The Mayoral proclamations permit "the installation of temporary . . . wireless telecommunications facilities on City of Santa Fe property . . . to allow emergency responders to better communicate with their departments, other agencies, and the public."<sup>36</sup> The Alliance contended that "by giving authority to the Federal Communications Commission (FCC) to regulate radio-frequency emissions," the TCA "preempts state and local regulation of those emissions, as well as the ability of state and local authorities to provide legal remedies for [radiation-related] injuries."<sup>37</sup>

The government and Santa Fe filed a motion to dismiss under Rule 12(b)(6).<sup>38</sup> The district court granted the motion, dismissing all counts against the defendants in the amended complaint.<sup>39</sup> The court then found that, since the TCA restricts the government from considering the health effects of radio-frequency emissions, the state did not infringe on the Alliance's due process rights.<sup>40</sup> The district court further reasoned the Alliance failed to meet the stan-

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31. *Id.* (explaining legislation behind cell phone tower installments). For a discussion of the *Santa Fe* legislation, see *infra* notes 34-36 and accompanying text.

32. *Santa Fe*, 993 F.3d at 808 (referring to Alliance complaint).

33. *Id.* at 807 (discussing allegations). Due to the legislation at issue, the Alliance filed an amended complaint including twenty-two claims. *Id.* (providing Alliance complaints).

34. *Id.* (providing background of Alliance claims).

35. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, Civ. No. 18-1209 KG/JHR, 2020 WL 2198120, \*2 (D.N.M. May 6, 2020) (summarizing New Mexico cell phone tower legislation).

36. *Id.* (detailing mayoral proclamations).

37. *Santa Fe*, 993 F.3d at 807 (explaining federal preemption clause). For a discussion of the preemption clause, see *infra* notes 60-71 and accompanying text.

38. *Santa Fe*, 993 F.3d at 809 (discussing government's argument). A 12(b)(6) motion requires that a complaint contains "enough facts to state a claim to relief that is plausible on its face." *Id.* at 811 (citing *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)) (outlining 12(b)(6) motion).

39. *Id.* at 809 (analyzing district court's judgment).

40. *Id.* (providing reasoning behind holding). For a discussion of the preemption clause, see *infra* notes 60-71 and accompanying text.

dard of review because it did not allege that the facilities authorized by Santa Fe or the Mayor's proclamations exceeded the radio-frequency emissions limits established by the FCC or are otherwise inconsistent with the TCA.<sup>41</sup>

The Alliance appealed and sought review of the district court's dismissal of its constitutional claims.<sup>42</sup> On appeal, the Alliance first alleged that Congress did not have the power to charge the FCC as the sole authority regarding radio-frequency emissions levels.<sup>43</sup> The Alliance further maintained that Congress lacked the ability to prevent states from adopting their own radio-frequency regulations.<sup>44</sup> Lastly, the Alliance alleged that Congress did not have the ability to prevent localities from supplying remedies for radio-frequency emission injuries.<sup>45</sup> The Tenth Circuit ultimately affirmed the district court's dismissal of the Alliance's constitutional claims.<sup>46</sup> Thus, the Tenth Circuit held that the Alliance lacked standing for its claim.<sup>47</sup>

### III. EXAMINING THE CALL LOG SURROUNDING *SANTA FE*: LEGAL BACKGROUND

The facts surrounding *Santa Fe* prompted the Tenth Circuit to analyze whether individuals can seek federal legal remedies for the environmental harms stemming from cell phone towers.<sup>48</sup> This section begins by discussing the National Environmental Policy Act (NEPA).<sup>49</sup> The next section delves into the Telecommunications Act of 1996 (TCA), and the role it plays with NEPA.<sup>50</sup> This section then concludes with an analysis of the laws surrounding judicial standing.<sup>51</sup>

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41. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, Civ. No. 18-1209 KG/JHR, 2020 WL 2198120, at \*2 (D.N.M. May 6, 2020) (explaining Alliance allegations did not meet standard of review).

42. *Santa Fe*, 993 F.3d at 809 (noting Alliance appeal).

43. *Id.* at 808 (stating Alliance's first allegation).

44. *Id.* (providing Alliance's second allegation).

45. *Id.* (recapping Alliance's argument).

46. *Id.* at 807 (affirming dismissal on somewhat "different grounds").

47. *Santa Fe*, 993 F.3d at 807 (holding Alliance failed to meet standing threshold). Although the Alliance did not have standing for either its takings or general due process claims, the Alliance did have standing for its First Amendment and procedural due process claims. *Id.* (articulating Alliance had standing for certain claims).

48. *Id.* at 809 (providing background of case).

49. For a discussion of NEPA, see *infra* notes 52-59 and accompanying text.

50. For a discussion of the TCA, see *infra* notes 60-81 and accompanying text.

51. For a discussion of judicial standing, see *infra* notes 82-90 and accompanying text.



### A. The National Environmental Policy Act

In 1970, Environmental Protection Agency (EPA) enacted NEPA.<sup>52</sup> In doing so, the EPA declared a national environmental protection policy by requiring in-depth legislative impact statements for all significant federal actions affecting the environment.<sup>53</sup> As per NEPA, organizations must file an Environmental Impact Statement (EIS) and an Environmental Assessment (EA).<sup>54</sup> Notably, not every agency action requires the preparation of an EIS.<sup>55</sup> Nevertheless, if it is unclear whether a proposed activity will significantly affect the environment, the EPA allows the responsible agency to create a more limited EA.<sup>56</sup> NEPA also instructs the President of the Council on Environmental Quality (CEQ) to oversee its application.<sup>57</sup> These duties include overseeing federal agency implementation of the EI assessment process and issuing regulations and other guidance to federal agencies regarding NEPA compliance.<sup>58</sup> Ultimately, NEPA maintains that every branch of the government considers the environment before undertaking any actions that significantly affect the environment.<sup>59</sup>

### B. The Telecommunications Act

Following the enactment of NEPA, Congress passed the Telecommunications Act of 1996 (TCA) hoping to “promote competitive market[s]” and further the quality of American telecommunications services.<sup>60</sup> To further Congress’s goals, the TCA attempts to balance preserving “the traditional authority of state . . . governments” and “creating uniform standards governing

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52. CONG. RSCH. SERV., RL33152, THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA): BACKGROUND AND IMPLEMENTATION 1 (2011) [hereinafter NEPA: BACKGROUND AND IMPLEMENTATION], [https://www.everycrsreport.com/files/20110110\\_RL33152\\_69b27c980f2b1121fd078e3982ac47e9c48d7111.pdf](https://www.everycrsreport.com/files/20110110_RL33152_69b27c980f2b1121fd078e3982ac47e9c48d7111.pdf) (detailing NEPA).

53. *Id.* (noting Congress enacted NEPA due to increasing public concern about human activity’s impact).

54. *Id.* (stating that federal agencies exemplified a range of reactions to new requirements). Some agencies had difficulty complying with the law’s requirements; thus, litigation to enforce compliance began immediately. *Id.* (detailing EIS and EA).

55. *Theodore Roosevelt Conservation P’ship v. Salazar*, 616 F.3d 497, 503 (D.C. Cir. 2010) (delving into intricacies surrounding EIS requirements).

56. 40 C.F.R. § 1501.5(c)(1) (2020) (providing agency may prepare more limited statement).

57. NEPA: BACKGROUND AND IMPLEMENTATION, *supra* note 52 (outlining responsibilities under NEPA).

58. *Id.* (delineating duties to CEQ).

59. *Id.* (explaining FCC evaluation).

60. 47 U.S.C. § 332 (detailing TCA).

new telecommunications facilities.”<sup>61</sup> To do this, the TCA maintains authority over “decisions regarding the placement, construction, and modification of personal wireless services facilities.”<sup>62</sup> Notwithstanding this broad grant of authority, the TCA includes a limiting provision providing “[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio-frequency emissions . . . .”<sup>63</sup> The category of “‘environmental effects’ includes effects on human health.”<sup>64</sup>

*Cellular Phone Taskforce v. FCC*<sup>65</sup> affirmed the constitutionality of the TCA’s environmental preemption provision.<sup>66</sup> In *Cellular Phone Taskforce*, the Second Circuit analyzed challenges to FCC guidelines under NEPA.<sup>67</sup> In addressing whether the TCA’s preemption provision violated the Tenth Amendment, the court held the FCC acted reasonably in relying on the American National Standards Institute and National Council on Radiation Protection and Measurements.<sup>68</sup> The court then concluded the TCA’s preemption provision was constitutional.<sup>69</sup> To clarify the constitutionality of its decision, the court stated it “ha[s] recognized Congress’ power to offer [s]tates the choice of regulating that activity according to federal standards or having state law pre-empted by federal regulation.”<sup>70</sup> Ultimately, the TCA lawfully preempts all municipal regulations of radio-frequency emissions so long as the regulations comply with the recommended federal emissions standards.<sup>71</sup>

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61. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, 993 F.3d 802, 818 (10th Cir. 2021) (expressing TCA’s goals).

62. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, Civ. No. 18-1209 KG/JHR, 2020 WL 2198120, at \*2 (D.N.M. May 6, 2020) (stating TCA controls multiple aspects of cell phone tower installation).

63. *Id.* (detailing TCA’s environmental provision).

64. *Id.* (explaining preemption clause).

65. 205 F.3d 82, 82 (2d Cir. 2000) (introducing landmark case).

66. *Id.* at 96 (stating holding).

67. *Id.* (holding FCC standards are reasonable).

68. *Id.* (expanding on constitutional argument). The Tenth Amendment states that the government only has the powers listed in the Constitution. Lawson and Schapiro, *The Tenth Amendment*, CONST. CTR., <https://constitutioncenter.org/interactive-constitution/interpretation/amendment-x/interps/129> (last visited Mar. 17, 2022) (detailing function of Tenth Amendment).

69. *Cellular Phone Taskforce*, 205 F.3d at 96-97 (holding FCC preemption did not violate Tenth Amendment).

70. *Id.* at 96 (detailing reasons behind validity under Tenth Amendment).

71. *Id.* (affirming environmental limitations are constitutional).

The FCC presently has the sole authority to craft the federal emissions standards.<sup>72</sup> Per NEPA and the EPA, the FCC must consider the potential impacts of human exposure to radio-frequency emissions from cell phone towers.<sup>73</sup> To fulfill this requirement, in 1996, the FCC set forth limits for the maximum permissible level of radio-frequency emissions stemming from cell phone towers.<sup>74</sup> These limits incorporated recommendations from the EPA, the U.S. Food and Drug Administration, and other federal health and safety agencies.<sup>75</sup> They also included suggestions from the Institute of Electrical and Electronics Engineers, Inc. and the National Council on Radiation Protection and Measurements.<sup>76</sup> Notably, NEPA did not require the FCC to prepare an EIS or an EA.<sup>77</sup> This is because the FCC's rulemaking process was "functionally compliant" with NEPA.<sup>78</sup>

In light of the FCC's efforts, members of Congress articulated the FCC should initiate a reassessment because the current regulations were enacted in 1996 and are unsuitable for 5G technology.<sup>79</sup> Not long after, the D.C. Court of Appeals instructed the FCC to "address the impacts of [radio-frequency] radiation on children, the health implications of long-term exposure to [radio-frequency]

72. *Id.* at 94 (explaining process of crafting radio-frequency standards).

73. *FCC Policy on Human Exposure to Radiofrequency Electromagnetic Fields*, FED. COMM'N COMM'N (Nov. 24, 2015) [hereinafter *FCC Policy*], <https://www.fcc.gov/general/fcc-policy-human-exposure> (outlining FCC radiation requirements).

74. *Cellular Phone Taskforce*, 205 F.3d at 87 (developing requirements for FCC).

75. Linda Hardesty, *Court Orders FCC to Revisit Its Safety Guidelines for RF Radiation*, FIERCE WIRELESS, (Aug. 16, 2021), <https://www.fiercewireless.com/wireless/court-orders-fcc-to-revisit-its-safety-guidelines-for-rf-radiation> (explaining currency of FCC guidelines).

76. *FCC Policy*, see *supra* note 73 (stating FCC's radio-frequency emission limits included recommendations from outside sources).

77. *Cellular Phone Taskforce*, 205 F.3d at 94 (explaining FCC requirement under NEPA).

78. *Id.* (providing groundwork for FCC's compliance with NEPA). When an agency's "substantive and procedural standards ensure full and adequate consideration of environmental issues, formal compliance with NEPA is not necessary; functional compliance is sufficient." *Id.* (delving into formal compliance standard). As the FCC consulted with the Council on Environmental Quality, an agency with expertise on the environmental impact of radio-frequency emissions, it meets the functionally compliant threshold. *Id.* (reasoning that FCC meets compliance requirement).

79. Kendra Chamberlain, *FCC Responds to 5G Health Concerns as Politicians Push for More Information*, FIERCE WIRELESS (May 24, 2019, 10:18 AM), <https://www.fiercewireless.com/5g/fcc-responds-to-5g-health-concerns-as-politicians-push-for-more-information> (detailing members of Congress's findings). A group of Congress members sent letters to the FCC regarding the negative health impacts of radio-frequency exposure due to 5G small cells. *Id.* (summarizing actions taken by Congress members).

radiation, . . . [and] the impacts of [radio-frequency] radiation on the environment.”<sup>80</sup> The FCC must now confront scientific and medical information that shows the guidelines do not adequately protect human health and the environment.<sup>81</sup>

### C. Standing

To establish judicial standing, *Spokeo, Inc. v. Robins*<sup>82</sup> (*Spokeo*) determined that a plaintiff must allege: “(1) an injury in fact; (2) fairly traceable to the challenged conduct of the defendant; and (3) [the injury is] likely to be redressed by a favorable judicial decision.”<sup>83</sup> As to the first prong, a plaintiff must show they suffered “an invasion of a legally protected interest which is concrete and particularized . . . and ‘actual or imminent, not ‘conjectural’ or ‘hypothetical’ . . .”<sup>84</sup> An injury is “concrete” if it “actually exists” and is “real,” rather than “‘abstract.”<sup>85</sup> Furthermore, an injury is “imminent” if it is “certainly impending.”<sup>86</sup>

Departing from the first prong, a plaintiff must prove that there is “a substantial likelihood that the defendant’s conduct caused . . . the injury in fact.”<sup>87</sup> Specifically, a plaintiff must establish that their injury was “not the result of the independent action of some third party not before the court.”<sup>88</sup> This showing does not require a plaintiff to prove that the defendant was the proximate cause of its injury.<sup>89</sup> Ultimately, a plaintiff can satisfy the “fairly traceable” requirement by showing that the challenged conduct is a “but for” cause of injury.<sup>90</sup>

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80. *Env’t Health Tr. v. FCC*, No. 20-1025, 2021 WL 4768112, at \*904 (D.C. Cir. Sept. 14, 2021) (holding FCC is required to re-evaluate standards).

81. *Id.* (detailing process FCC must undergo to assure standards are accurate as 5G growth continues).

82. 136 S. Ct. 1540, 1540 (2016) (introducing standing case).

83. *Id.* at 1546-47 (outlining overarching standing rule).

84. *Lujan v. Defs. of Wildlife*, 112 S. Ct. 2130, 2135-37 (1992) (providing injury in fact rule).

85. *Id.* (delving into injury in fact standard).

86. *Id.* (explaining that impending injury can satisfy injury in fact).

87. *Nova Health Sys. v. Gandy*, 416 F.3d 1149, 1156 (10th Cir. 2005) (detailing injury must be adequately traceable).

88. *Id.* at 1158 (stating injury cannot be caused by third party).

89. *Id.* at 1156 (providing limitation to injury standard).

90. *Petrella v. Brownback*, 697 F.3d 1285, 1285 (10th Cir. 2015) (expanding on “fairly traceable” requirement).

IV. NO STANDING FOR SITING CELL PHONE TOWER RADIATION  
CLAIM: NARRATIVE ANALYSIS

On appeal, the Tenth Circuit addressed whether the “Alliance satisfied the threshold for standing at the motion to dismiss stage.”<sup>91</sup> Only after determining standing would the court then turn to whether the claims that survive state a claim upon which relief may be granted.<sup>92</sup> Overall, the Alliance asserted twenty-two counts in its amended complaint.<sup>93</sup> Most contentious in the *Santa Fe* analysis, however, was the Alliance’s Fifth Amendment due process claim.<sup>94</sup> Ultimately, the majority held that the Alliance lacked standing to advance this claim.<sup>95</sup> The concurrence, nevertheless, reasoned the Alliance did have standing.<sup>96</sup>

A. Majority Opinion

In analyzing the claim against the TCA, the court concentrated on the Alliance’s allegation that the TCA preempts state and local regulation of radiation emissions.<sup>97</sup> The court also focused on the Alliance’s expanded argument that the TCA preempts the ability of state and local authorities to provide legal remedies for injuries attributable to radio-frequency emissions.<sup>98</sup> Ultimately, the Court of Appeals affirmed the district court’s motion to dismiss.<sup>99</sup>

The Tenth Circuit stated that the Alliance’s claim is contingent on New Mexico regulating radio-frequency emissions to a greater degree than the FCC does, in the absence of the TCA.<sup>100</sup> The court noted that the Alliance did not make any allegations to “make such an inference plausible.”<sup>101</sup> Instead, the court found that although New Mexico has known that radio-frequency emissions are dangerous for forty years, “New Mexico did not enact measures to protect

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91. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, 993 F.3d 802, 810 (10th Cir. 2021) (outlining discussion of claims).

92. *Id.* (stating standard of review).

93. *Id.* (listing claims asserted).

94. For a discussion of the Tenth Circuit’s findings regarding the Fifth Amendment claim, see *infra* notes 97-105 and accompanying text.

95. *Santa Fe*, 993 F.3d at 823 (providing case holding).

96. For a discussion of the *Santa Fe* concurrence, see *infra* notes 106-130 and accompanying text.

97. *Santa Fe*, 993 F.3d at 816 (explaining Alliance’s allegation).

98. *Id.* (expanding on Alliance’s argument).

99. *Id.* at 802 (affirming motion to dismiss).

100. *Id.* at 816 (providing analysis of Alliance claim).

101. *Id.* (finding Alliance’s statement does not suggest credibility).

its citizens from radiation emanating from telecommunications facilities.”<sup>102</sup>

The court then determined that the Alliance’s complaint “does not support the inference that but for the TCA, Alliance members could successfully bring suit for injuries it attributes to radio-frequency emissions.”<sup>103</sup> Due to the lack of support, the majority stated that they are left to theorize whether the harms outweigh the benefits.<sup>104</sup> Specifically, whether any local board would find that the negative health effects such as headaches and migraines outweigh a community’s needs for the benefits provided by upgraded telecommunications facilities.<sup>105</sup>

## B. Judge Lucero’s Concurrence

Judge Lucero agreed with a large portion of the majority’s analysis.<sup>106</sup> He departed, however, from the majority’s holding “concerning the Alliance’s standing to raise claims against the TCA.”<sup>107</sup> In doing so, Judge Lucero stated that he “would hold that the Alliance has the standing to challenge the statute.”<sup>108</sup> He further stated that the majority created a loophole that allowed the federal government to elude accountability.<sup>109</sup> Nonetheless, Judge Lucero noted that while the claim withstands the standing analysis, it fails based on sovereign immunity.<sup>110</sup>

### 1. *Standing*

Judge Lucero departed from the majority’s holding by stating that the Alliance’s claim unquestionably established standing.<sup>111</sup> To reach this finding, Judge Lucero reiterated that the TCA prohibits state and local governments from regulating telecommunica-

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102. *Santa Fe*, 993 F.3d at 816 (stating amended complaint alleges New Mexico failed to protect citizens).

103. *Id.* (finding complaint does not lend credence to injuries from TCA).

104. *Id.* (stating allegation leaves court to speculate inferences that TCA prohibits local governments from acting differently).

105. *Id.* (detailing speculation regarding Alliance claim).

106. *Id.* at 820 (Lucero, J., concurring) (providing outline of concurrence’s analysis).

107. *Santa Fe*, 993 F.3d at 820 (noting concurrence’s divergence from majority holding).

108. *Id.* (contending Alliance established standing).

109. *Id.* (discussing effect of majority’s holding).

110. *Id.* (stating claim nevertheless fails on other grounds).

111. *Id.* (establishing divergence from majority holding).

tions facilities based on environmental effects.<sup>112</sup> The Alliance had standing because, without the TCA, “state and local decision-makers would [have] regulate[d] telecommunications facilities differently.”<sup>113</sup> As such, it was “substantially likely” that the Alliance would not have had the injuries alleged in its complaint had it not been for the TCA.<sup>114</sup>

In light of this showing, Judge Lucero took issue with majority’s finding that there are “no allegations in the amended complaint that make such an inference [of the injuries caused by the TCA] plausible.”<sup>115</sup> This statement suggested that the majority did not trust the state and local government to focus on the environmental effects of telecommunications facilities without the existence of the TCA.<sup>116</sup> But the majority’s reasoning in effect required the Alliance to show New Mexico or Santa Fe would have “hypothetically” regulated radio-frequency emissions without the TCA.<sup>117</sup> This burden “is too high a barrier for most plaintiffs to ever satisfy.”<sup>118</sup>

## 2. Policy Implications

Judge Lucero explained the majority’s reasoning has longstanding effects.<sup>119</sup> It allows “the federal government to evade review by restricting the discretion of state and local officials and then claiming that the ultimate decision was the officials’ alone.”<sup>120</sup> This creates a loophole for the federal government.<sup>121</sup>

The loophole, Judge Lucero explained, may encourage the federal government to constrain local government decision-making authority, while avoiding review of those constraints.<sup>122</sup> Specifically, the federal government will aptly “escape judicial review . . . by arguing the [local government’s] decision . . . may have been the

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112. For a discussion of the TCA, see *supra* notes 60-81 and accompanying text; see also *Santa Fe*, 993 F.3d at 820 (Lucero, J., concurring) (stating TCA’s environmental prohibition).

113. *Santa Fe*, 993 F.3d at 820 (finding Alliance had standing).

114. *Id.* (drawing connection between harms Alliance alleged and harms listed in TCA).

115. See *id.* at 821 (citing majority’s statement).

116. *Id.* (stating majority chose not to believe Alliance).

117. *Id.* (criticizing majority).

118. *Santa Fe*, 993 F.3d at 821 (stating reliance on lack of affirmative statements is unfair for Alliance).

119. *Id.* (asserting majority’s holding conflicts with public policy).

120. *Id.* at 820 (detailing longstanding effects of majority holding).

121. *Id.* at 821 (stating majority provides avenue for ambiguity).

122. *Id.* (expanding on loophole exemplified in majority’s analysis).

same even without the constraints.”<sup>123</sup> Ultimately, Judge Lucero urged the judicial system “should not insulate the federal government’s efforts to materially shape the decisions of local governments from harms that those efforts plausibly bring about.”<sup>124</sup>

### 3. *Sovereign Immunity*

Although the Alliance had standing, Judge Lucero concluded its claim failed under sovereign immunity.<sup>125</sup> Sovereign immunity acts as a “shield for suits brought against the United States, its agencies, and its officers.”<sup>126</sup> No one can “pursue a suit against the Federal Government absent a congressional waiver of immunity.”<sup>127</sup>

Congress provides an exception to sovereign immunity for an action involving an “agency, or an officer, or employee [who] acted or failed to act.”<sup>128</sup> Notably, after reviewing the Alliance’s claims, Lucero found that none of the allegations suggested that “any agency or officer acted or failed to act” because “there is no allegation that the FCC played any role in the events that led to this suit.”<sup>129</sup> Thus, “the Alliance’s claims do not fit within that waiver of sovereign immunity.”<sup>130</sup>

## V. THE TENTH CIRCUIT DISCONNECTS WITH THE LAW AND FAILS TO REACH THE CORRECT DECISION: CRITICAL ANALYSIS

The Tenth Circuit usurped the legality of the Alliance’s claim and improperly prevented the resolution of crucial environmental issues.<sup>131</sup> The court in *Santa Fe* should have found that the Alliance established standing as to its Fifth Amendment claim.<sup>132</sup> Further, the Tenth Circuit should have found that the Alliance’s claim survived sovereign immunity.<sup>133</sup>

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123. *Santa Fe*, 993 F.3d at 821 (providing example of federal government evading review).

124. *Id.* (noting government should not effectively allow for escape clause).

125. *Id.* (finding claims failed under sovereign immunity).

126. *Id.* (touching upon purpose of sovereign immunity clause).

127. *Id.* (expanding on sovereign immunity’s purpose).

128. *Santa Fe*, 993 F.3d at 821 (detailing exception to sovereign immunity clause).

129. *Id.* (stating Alliance did not prove an agency acted or failed to act).

130. *Id.* (finding Alliance’s claim failed under sovereign immunity).

131. *Id.* at 816 (holding Alliance did not have standing).

132. *Id.* at 815 (determining Alliance failed to establish standing).

133. *Santa Fe*, 993 F.3d at 821 (Lucero, J., concurring) (finding sovereign immunity defeats Alliance’s claim).



To withstand sovereign immunity, the Alliance must have shown that the FCC acted or failed to act.<sup>134</sup> Judge Lucero's concurrence incorrectly reasoned that because there is no allegation that the FCC played "any role" in the events leading to the suit, the exception does not apply.<sup>135</sup> In its amended complaint, however, the Alliance connected residents' injuries to radio-frequency emissions.<sup>136</sup> This revelation is sufficient to show that the FCC caused the injuries that led to the suit.<sup>137</sup> Considering these factors, *Santa Fe* should have prevailed.<sup>138</sup>

#### A. Standing

The Tenth Circuit's majority reached an improper conclusion by glossing over the standing analysis.<sup>139</sup> The court allocated only half of a paragraph to the Alliance's Fifth Amendment claim, and failed to refer to *Spokeo* in reaching its conclusion.<sup>140</sup> In addition to the lack of case law analysis, the majority's holding also rested on the fact that "no allegations in the amended complaint make the inference [that but for the TCA, the Alliance would not have been injured] plausible."<sup>141</sup> Yet the Alliance provided an exhaustive list of various injuries caused by the radio-frequency emissions, demonstrating it was "substantially likely" that the FCC caused the residents' injuries.<sup>142</sup> In contrast to the majority, the concurrence carefully examined the "substantially likely" prong of the analysis, correctly drawing the connection that the Alliance could not have received their injuries without the TCA.<sup>143</sup> Accordingly, the Alliance's claim satisfied the standing threshold, and like the concurrence, the majority should have found the Alliance established standing.<sup>144</sup>

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134. *Id.* (discussing requirements for sovereign immunity exception).

135. *Id.* (holding Alliance did not allege FCC played a role in injuries).

136. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, Civ. No. 18-1209 KG/JHR, 2020 WL 2198120, at \*1 (D.N.M. May 6, 2020) (linking radio-frequency emissions to injuries).

137. *Santa Fe*, 993 F.3d at 821 (Lucero, J., concurring) (stating sovereign immunity requires Alliance to show FCC actions caused harms).

138. For a discussion of the majority's analysis, see *supra* notes 97-105 and accompanying text.

139. See *Santa Fe*, 993 F.3d at 816 (concluding Alliance did not establish standing).

140. *Id.* (holding Alliance's claim does not support standing).

141. *Id.* at 813 (finding no plausible inferences).

142. *Id.* at 808 (providing Alliance injuries range from cancer to seizures).

143. *Id.* at 821 (Lucero, J., concurring) (citing prior precedent supporting claim).

144. *Santa Fe*, 993 F.3d at 821 (stating majority should have found standing).

## B. Sovereign Immunity

The Tenth Circuit's majority did not make it to the sovereign immunity analysis because the court did not find standing.<sup>145</sup> Had the court found there was standing, the government's primary defense would have been sovereign immunity.<sup>146</sup> The concurrence incorrectly concluded that the claim failed under sovereign immunity because there were no allegations that the FCC caused the Alliance's environmental injuries.<sup>147</sup> But the Alliance's claim should have prevailed because it did allege that the FCC caused the residents' health problems.<sup>148</sup>

The Alliance's amended complaint connects the residents' injuries to radio-frequency emissions by noting "the radio-frequency emissions contain dangerous levels of radiation."<sup>149</sup> The Alliance further explained that exposure to radio-frequency emissions resulted in several health problems, including "headaches, nausea, insomnia, tinnitus, seizures, cancer, fatigue, neurological issues, respiratory issues, cardiac issues, laryngospasms, numbness in extremities, high blood pressure, and internal bleeding."<sup>150</sup> The Alliance also adequately linked the radio-frequency emissions levels to the FCC.<sup>151</sup> As the Alliance noted, "a series of federal and state legislative enactments," caused the rapid growth in telecommunications facilities.<sup>152</sup> The "federal legislative" enactment the Alliance referred to was the TCA.<sup>153</sup> Specifically, the Alliance claimed that the TCA "precludes localities from regulating the placement and construction of telecommunications facilities based on the 'environmental effects' of radio-frequency emissions."<sup>154</sup> As noted previously, the FCC governs the TCA, and the agency is responsible for setting the radio-frequency emissions standards for telecommunications facilities.<sup>155</sup>

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145. *Id.* at 816 (holding Alliance did not establish standing).

146. *Id.* at 821 (Lucero, J., concurring) (proposing sovereign immunity is primary governmental defense).

147. *Id.* (asserting Alliance did not allege FCC played role in events).

148. *Id.* at 808 (listing injuries Alliance contributed to FCC).

149. *Santa Fe*, 993 F.3d at 807 (alleging dangerous radiation levels).

150. *Id.* at 808 (listing health problems).

151. *Id.* (stating Alliance left town due to installation and exposure to radiation).

152. *Id.* (alleging dangerous radiation levels).

153. *Id.* at 802 (delving into TCA).

154. *Santa Fe*, 993 F.3d at 808 (detailing TCA environmental preclusion).

155. For a discussion of the TCA, see *supra* notes 60-81 and accompanying text; see also NEPA: BACKGROUND AND IMPLEMENTATION, *supra* note 52 (explaining FCC's responsibilities under TCA).

The Alliance fulfilled the requirements for the sovereign immunity waiver set forth by Congress.<sup>156</sup> It connected the residents' injuries to the radio-frequency emissions and then attached those emissions to the FCC.<sup>157</sup> Ultimately, by alleging that the towers contain dangerous levels of radiation brought about by the FCC, the Alliance's suit against the federal government should have prevailed.<sup>158</sup>

#### VI. UNDERSTANDING THE MEANING OF THE MESSAGE LEFT BY *SANTA FE*: IMPACT STATEMENT

The Tenth Circuit's decision in *Santa Fe* generates a startling "loophole" by allowing the federal government to dodge responsibility for its oppressive actions lawfully.<sup>159</sup> This avoidance is unacceptable, as the court's opinion ultimately encourages the federal government to continue harming the environment without any repercussions.<sup>160</sup> The court's holding additionally disincentivizes residents from suing the government for the harm it attributes to the cell phone towers.<sup>161</sup> *Santa Fe* suggests these harms are not going away any time soon, as the government exudes preferential treatment toward technological advances rather than protecting public health and the environment.<sup>162</sup>

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156. *Santa Fe*, 993 F.3d at 821 (Lucero, J., concurring) (detailing requirements for sovereign immunity exemption).

157. *Id.* at 807-08 (contending Alliance's exposure to radio-frequency emissions resulted in health problems).

158. *Id.* at 821 (Lucero, J., concurring) (providing requirements for sovereign immunity exception).

159. *Id.* (emphasizing *Santa Fe* creates "loophole").

160. NEPA: BACKGROUND AND IMPLEMENTATION, *supra* note 52 (explaining government cannot regulate radio-frequency levels based on environmental harms).

161. George Guido & Teghan Simonton, *Allegheny Township Residents Concerned About Planned Cell Tower*, TRIB LIVE (Jan. 14, 2020), <https://triblive.com/local/valley-news-dispatch/allegheny-township-residents-concerned-about-planned-cell-tower/> (describing Pennsylvania residents' fear concerning inability to bring suit). Allegheny Township residents describe their concerns over the hurdles they face to stop cell phone tower installations. *Id.* (detailing TCA and difficulties surrounding federal preemption). Numerous residents stated they were concerned about potential health issues. *Id.* (detailing causes for concern).

162. *Santa Fe*, 993 F.3d at 816 (questioning whether negative health effects outweigh benefits from cell phone tower installations); Annie Brice, *Moskowitz: Cellphone Radiation Is Harmful, but Few Want to Believe it*, BERKELEY NEWS (July 1, 2021), <https://news.berkeley.edu/2021/07/01/health-risks-of-cell-phone-radiation/> (stating government financially benefits from involvement in 5G cell phone tower installation). The telecommunications industry spends roughly one hundred million dollars per year lobbying members of Congress, and an additional eighteen million dollars per year assisting in the government's political advances. *Id.* (detailing telecommunications industry's role in shaping FCC decisions).

*Santa Fe* also sheds light on the growing number of 5G tower installations in Pennsylvania cities including Conshohocken, Philadelphia, and Harrisburg.<sup>163</sup> This past year, residents of Conshohocken received abrupt notice of a proposed 5G tower installation in a densely populated neighborhood.<sup>164</sup> In the notice, residents learned that “AT&T request[ed] variances to install a microwave antenna on top of an existing utility pole [sitting] directly in front of” numerous homes.<sup>165</sup> The proposed variance, or a request for an “exception to a zoning [requirement]” detailed that AT&T planned for the tower to be a mere twenty-six feet from one house.<sup>166</sup> Unsurprisingly, Conshohocken homeowners were dissatisfied with this possibility and produced a petition to fight the proposed variance.<sup>167</sup> The residents also created a Facebook page and attended every board meeting regarding AT&T’s presence.<sup>168</sup> Conshohocken ultimately denied AT&T’s request because the Alliance’s suit revealed the environmental effects that 5G towers impose, and how proposed variances could open the door for additional tower installations.<sup>169</sup> The Conshohocken residents celebrated this victorious outcome, but natives of several other Pennsylvania cities have not been as fortunate.<sup>170</sup>

In Philadelphia, telecommunications companies have already equipped about 1,800 towers with 5G technology.<sup>171</sup> Residents expect to see over one thousand more installations in the city, includ-

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163. *No Cell Towers in Residential Neighborhoods in Conshohocken*, CHANGE.ORG, <https://www.change.org/p/conshohocken-residents-no-cell-towers-in-residential-neighborhoods> [hereinafter *No Cell Towers*] (last visited Oct. 5, 2021) (discussing growth of cell phone tower installations in Pennsylvania cities).

164. *Id.* (providing petition to stop cell phone tower installation).

165. *Id.* (detailing proposed variances in neighborhood).

166. *Id.* (explaining variance location); *Variance*, CORNELL L. SCH., <https://www.law.cornell.edu/wex/variance> (last visited Mar. 26, 2022) (defining variance).

167. *No Cell Towers*, *supra* note 163 (stating reasons underlying petition to stop variance).

168. *Id.* (providing residents’ actions in effort to halt installation).

169. Kathleen Maley, *Speak Up, Conshy! Residents Against 4G/5G Cell Sites in Our Neighborhood*, FACEBOOK (June 28, 2021), <https://www.facebook.com/groups/449201552829505/> (stating denial of proposed variance); BOROUGH OF CONSHOHOCKEN, ZONING HEARING BD. (June 28, 2021), [https://www.conshohockenpa.gov/media/2621/zoning\\_june-28\\_packet.pdf](https://www.conshohockenpa.gov/media/2621/zoning_june-28_packet.pdf) (providing hearing board agenda and AT&T’s application for variance).

170. Donna Ann, *Speak Up, Conshy! Residents Against 4G/5G Cell Sites in Our Neighborhood*, FACEBOOK (June 28, 2021), <https://www.facebook.com/groups/449201552829505/> (expressing excitement over denial of proposed variance).

171. Bob Fernandez, *Pennsylvania 5G Bill That Failed Twice Springs Back to Life in Harrisburg*, PHILA. INQUIRER (June 12, 2019), <https://www.inquirer.com/business/technology/5g-small-cell-antennas-pennsylvania-att-verizon-wireless-20190612.html> (describing number of 5G equipped towers in Philadelphia).

ing in Main Line suburbs such as Radnor and Lower Merion.<sup>172</sup> Similarly, in Harrisburg, Verizon has already started the process of replacing existing streetlights with poles that incorporate the 5G antennas.<sup>173</sup>

Newly equipped towers are not going away any time soon, as lawmakers recently made it easier for tower installations.<sup>174</sup> In June of 2021, “Pennsylvania lawmakers passed legislation . . . that standardizes the process for installing the infrastructure needed [for] 5G networks.”<sup>175</sup> The bill details the maximum amount of time a municipality can reply to an application from an infrastructure company.<sup>176</sup> If a district “does not take action in the set time frame, the application is automatically approved.”<sup>177</sup>

The legislation further delves into the fees the town in question is allowed to charge and limits the size of the equipment.<sup>178</sup> Ultimately, advocates of the bill say that its purpose is to make it easier for companies to install equipment that will assist Pennsylvanians in receiving 5G networks.<sup>179</sup> Those who supported the legislation cited the economic benefits brought in by telecommunications advances.<sup>180</sup> In expounding the financial gains, however, advocates failed to mention the environmental implications.<sup>181</sup>

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172. Bob Fernandez, *‘I Felt Nauseous,’ Bucks County Woman Says of Plan for 48-Foot 5G Cell Tower in Her Front Yard*, PHILA. INQUIRER (Sept. 4, 2019), <https://www.inquirer.com/business/5g-wireless-verizon-fios-bucks-county-doylestown-pole-20190904.html> (detailing tower installation discussion in Philadelphia suburbs).

173. Grace Griffaton, *Installation of 5G Towers in Harrisburg Raises Concerns, Though, Not Much Can Be Done to Prevent It*, FOX 43 (June 24, 2021), <https://www.fox43.com/article/news/local/neighbors-annoyed-over-installation-of-5g-poles-in-harrisburg/521-be4e6693-1272-431c-afed-7f200d456626> (outlining concerns over 5G installation in Harrisburg neighborhoods).

174. Lauren Rosenblatt, *The Table Has Been Set: Pa. Lawmakers Pass Bill That Could Speed up 5G Network Deployment*, PITTSBURGH POST-GAZETTE (July 2, 2021), <https://www.post-gazette.com/business/tech-news/2021/07/02/5G-networks-Verizon-ATT-Mobile-Crowne-Castle-Pennsylvania-House-Bill-1621-small-wireless-facilities-infrastructure/stories/202107020073> (explaining Pennsylvania law promoting installation of cell phone towers).

175. *Id.* (introducing newly enacted Pennsylvania legislation).

176. *Id.* (stating municipality has ninety days to respond to an application).

177. *Id.* (reporting application approval process).

178. *Id.* (providing in-depth analysis of legislation fees).

179. Rosenblatt, *supra* note 174 (describing bill’s purpose).

180. *See id.* (supporting legislation by providing economic benefits). Advocates predict 5G installation could contribute \$1.4 trillion to the national economy. *Id.* (detailing profits stemming from future tower installations).

181. *Id.* (explaining financial benefits of cell phone towers).

*Santa Fe* demonstrates the events materializing in Pennsylvania are just a fraction of this nationwide change.<sup>182</sup> Federal decision-makers must remedy the lack of conversation surrounding the repercussions 5G will continue to impose on the environment.<sup>183</sup> But to do so, the law must first hold lawmakers accountable for encouraging the damages 5G tower installations cause.<sup>184</sup> *Santa Fe* not only prevents accountability in the legal realm, but also exhibits a complete disregard for environmental justice.<sup>185</sup> At its core, the Tenth Circuit's decision encourages the usurpation of the countless scientific studies detailing the negative environmental effects of cell phone tower radiation.<sup>186</sup>

Among many research findings, scientists have correlated radio-frequency exposure from cell phone towers to unilateral tree damage.<sup>187</sup> Numerous factors such as “[a]ir and soil pollutants, heat, frost, . . . [and] diseases and pests” can affect a tree's health, but these factors usually affect the *entire* tree.<sup>188</sup> Because the trees in the study were damaged on only one side, the scientists deduced that radio-frequency emissions were the culprit.<sup>189</sup>

This conclusion is startling because trees play a significant role in directly removing pollutants from the air.<sup>190</sup> Publicly regarded as the “lungs of an ecosystem,” trees absorb carbon dioxide and

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182. *5G Nationwide and Ultra Wideband Mobile Networks FAQs*, *supra* note 10 (providing Verizon 5G coverage map); *see also* *Nationwide 5G*, *supra* note 11 (providing AT&T 5G coverage map).

183. Rosenblatt, *supra* note 174 (highlighting monetary influence of 5G cell phone towers rather than environmental impact).

184. *Id.* (promoting Pennsylvania 5G cell phone tower installation).

185. Sharon Buccino, *FCC's Legal Duties to Inform and Protect the Public*, NAT. RES. DEF. COUNCIL 3, <https://www.nrdc.org/sites/default/files/summary-fcc-legal-duties-inform-protect-20211027.pdf> (last visited Apr. 4, 2022) (explaining FCC's lack of recognizing 5G environmental issues).

186. *Santa Fe All. for Pub. Health & Safety v. City of Santa Fe*, 993 F.3d 802, 816 (10th Cir. 2021) (holding Alliance did not establish standing); Waldmann-Selsam, *supra* note 14, at 563 (providing cell phone tower radiation causes unilateral tree damage); *Electromagnetic Pollution*, *supra* note 14, at 192 (detailing negative effects of radiation on birds).

187. Waldmann-Selsam et al., *supra* note 14, at 555 (highlighting purpose of study). In this study, scientists measured the dilapidation of sixty trees located near phone towers over seven months. *Id.* at 563 (providing method of study). After seven months, the scientists observed the most damaged trees were closest to the cell phone towers. *Id.* (stating most harm occurred near cell phone towers). Of those injured trees, the most extensive damage was on the side of the tree closest to the cell phone tower. *Id.* (providing additional results of study).

188. *Id.* at 564 (explaining alternative sources of tree harm).

189. *Id.* at 563 (determining radio frequency caused unilateral tree damage).

190. Vittoria Traverso, *The Best Trees to Reduce Air Pollution*, BBC (May 4, 2020), <https://www.bbc.com/future/article/20200504-which-trees-reduce-air-pollution-best> (explaining benefits of trees).

emit oxygen.<sup>191</sup> Trees also act as an ecosystem's "liver" by filtering atmospheric pollutants such as sulphur dioxide and nitrogen dioxide through their leaves.<sup>192</sup> Due to the role trees play in maintaining the earth's viability, the continued installment of cell phone towers creates global concern.<sup>193</sup>

Along with trees, scientists have also found that radiation exposure from cell phone towers adversely affects insects.<sup>194</sup> Research has proven that non-ionizing radiation causes "DNA fragmentation in [insect] ovarian cells[.]" which reduces their ability to reproduce.<sup>195</sup> Scientists have further proposed that cell phone radiation can produce cell death inside insect egg chambers.<sup>196</sup> Additionally, "reports indicate that flies and spiders, among other invertebrates, disappear from areas that receive radiation . . . from mobile telephone antennas."<sup>197</sup> Unfortunately, these observations join an abundance of laboratory studies that demonstrate the adverse effects of electromagnetic radiation on insect development and navigation.<sup>198</sup> These results are alarming because insects serve as critical species in ecosystems.<sup>199</sup> Notably, their environmental role spans from "climate regulation" to "crop pollination, pest control, and decomposition."<sup>200</sup> Insects also serve as food sources for "birds, lizards, frogs, and bats."<sup>201</sup> As such, "a loss in insect diversity and abundance [will] provoke cascading effects on food webs and [the] ecosystem."<sup>202</sup>

In addition to insects and trees, cell phone tower radiation causes health issues in other animals as well.<sup>203</sup> Specifically, there are increasing mortality rates in "domestic animals[.]" such as ham-

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191. *Id.* (providing additional benefits of trees).

192. *Id.* (stating filtering ability of trees).

193. Waldmann-Selsam et al., *supra* note 14, at 568 (proposing cell phone tower installation must stop).

194. Chavdoula et al., *supra* note 14, at 51 (mentioning negative effects on insects).

195. *Id.* at 59 (stating radiation reduces insect reproductivity).

196. *Id.* (detailing adverse effects of radiation on insects).

197. *Electromagnetic Radiation*, *supra* note 14 (reporting on insects vanishing due to radiation).

198. *Id.* (identifying further studies on insects and radiation).

199. *Id.* (demonstrating key role insects play in ecosystem).

200. *Id.* (noting importance of insects on environment).

201. *Id.* (informing on how insects serve as food source).

202. *Electromagnetic Radiation*, *supra* note 14 (analyzing damaging effect of loss of insects).

203. *Id.* (concluding cell phone tower radiation causes health issues in mammals).

sters and guinea pigs[,]” living close to cell phone towers.<sup>204</sup> Cell phone radiation also affects the behavior of birds, impeding their ability to build nests.<sup>205</sup> It negatively impacts the navigational capabilities of birds, as well as their “reproductive success, growth and development, physiology and endocrinology, and oxidative stress.”<sup>206</sup> Additionally, studies indicate a decrease in the fertility of birds.<sup>207</sup> Overall, scientists have concluded that cell phone towers located near bird nests suggest long-term effects such as “reduction of their natural defenses” and “deterioration of their health.”<sup>208</sup> These studies anticipate an impending decrease in the bird population due to cell phone tower radiation.<sup>209</sup> These conclusions are alarming because birds play an integral role in plant reproduction, parasite hosting, and food absorption.<sup>210</sup> Like that of insects, a loss of avian viability would cause a catastrophic disruption of the ecosystem.<sup>211</sup>

The pairing of these scientific findings with the TCA’s preemption clause is of pressing concern.<sup>212</sup> The TCA ignores all such current evidence of these documented harms and instead favors technological growth.<sup>213</sup> In doing so, the TCA encourages decision-makers to do the same.<sup>214</sup> Unfortunately, *Santa Fe*’s outcome is an example of this perpetual disregard for the damage cell phone towers cause.<sup>215</sup> Individuals, animals, and nature as a whole are

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204. *Id.* (detailing decreased mortality rates in mammals).

205. *Id.* at 192 (proposing behavioral effect of radiation on birds).

206. *Id.* at 193 (outlining further effect of radiation on birds).

207. *Electromagnetic Radiation*, *supra* note 14, at 193 (hypothesizing radiation causes bird infertility).

208. *Id.* at 191 (determining radiation causes lack of defensive ability).

209. *Id.* (predicting decline in bird population is near).

210. *Ecological Roles of Birds*, ENDANGERED SPECIES INT’L, <https://www.endangeredspeciesinternational.org/birds4.html> (last visited Dec. 27, 2021) (examining birds’ important role).

211. *Electromagnetic Pollution*, *supra* note 14, at 191 (summarizing environmental impact of bird loss).

212. For a discussion of the TCA and its history, see *supra* notes 60-81 and accompanying text.

213. NEPA: BACKGROUND AND IMPLEMENTATION, *supra* note 52 (stating radio-frequency levels cannot be regulated on basis of environmental harms).

214. For a discussion of the TCA, see *supra* notes 60-81 and accompanying text.

215. For a discussion of the Tenth Circuit’s decision in *Santa Fe*, see *supra* notes 91-130 and accompanying text.



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continuously calling for help.<sup>216</sup> The Tenth Circuit's decision in *Santa Fe* makes it so that the government never has to answer.<sup>217</sup>

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216. For a discussion of the environmental effects linked to 5G tower installation, see *supra* notes 13-18 and accompanying text.

217. For a discussion of the escape clause *Santa Fe* created, see *supra* notes 119-24 and accompanying text.

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