

# *Fordham Environmental Law Review*

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*Volume 22, Number 1*

2010

*Article 3*

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## Keep Hope Alive: Updating the Prudent Investment Standard for Allocating Nuclear Plant Cancellation Costs

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## **KEEP HOPE ALIVE: UPDATING THE PRUDENT INVESTMENT STANDARD FOR ALLOCATING NUCLEAR PLANT CANCELLATION COSTS**

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### **INTRODUCTION: NUCLEAR RENAISSANCE?**

After decades of inertia, the United States nuclear energy industry is poised for a renaissance. President Eisenhower's desire to find a peaceful counterpart to the terrible destructive power unleashed by the atomic bomb<sup>1</sup> and by assurances that nuclear power would provide energy that was "too cheap to meter" propelled the original drive toward building nuclear reactors in the 1950s and 60s.<sup>2</sup> The first boom of nuclear reactor construction began in the 1960s and peaked following the OPEC-induced oil price shocks of the early and mid-1970s.<sup>3</sup> The bottom fell out of the nuclear energy market rapidly following a retreat due to high oil prices, lower than projected growth in energy demands, and the 1979 nuclear accident at the Three Mile Island reactor in Pennsylvania.<sup>4</sup> Since then, the nuclear energy

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1. See Dwight Eisenhower, President of the United States, Atoms for Peace, Speech before the General Assembly of the United Nations on Peaceful Uses of Atomic Energy (Dec. 8, 1953), available at <http://web.archive.org/web/20070524054513/http://www.eisenhower.archives.gov/atoms.htm>.

2. See *How Nuclear Power Works*, UNION OF CONCERNED SCIENTISTS [http://www.ucsusa.org/nuclear\\_power/nuclear\\_power\\_technology/how-nuclear-power-works.html](http://www.ucsusa.org/nuclear_power/nuclear_power_technology/how-nuclear-power-works.html) (last revised Feb. 11, 2003).

3. See *id.*

4. See *id.*

industry has been moribund, with no new reactor construction since the 1970s.<sup>5</sup>

Today, a new configuration of forces and actors are revitalizing the prospects for nuclear power generation. For at least a decade, some have called for increased nuclear power investment as a means to meet our energy needs and reduce dependence on foreign oil.<sup>6</sup> More recently, however, new arguments have been added from the environmental front, which may engender a new round of nuclear power plant construction.

In his first State of the Union Address, President Obama called for “building a new generation of safe, clean nuclear power plants in this country.”<sup>7</sup> One month later, he announced \$8.3 billion in loan guarantees to help fund the construction of two new nuclear reactors in Georgia, which, if licensed and built, would be the first new nuclear reactors in the U.S. in nearly thirty years.<sup>8</sup> The Department of Energy (“DOE”) currently has eighteen billion dollars to offer as loan guarantees to help support a revival of nuclear power plant construction,<sup>9</sup> and in his 2011 budget, President Obama has asked this amount be tripled to fifty-four billion dollars.<sup>10</sup> In addition, Steven Chu, Secretary of Energy, expressed his support for new nuclear reactor construction during his confirmation hearings, stating that “the nuclear industry has to be part of our energy mix . . . It’s 20 percent of our (total) electricity production today, but it’s 70 percent of the carbon-free electricity we produce today.”<sup>11</sup>

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5. *See id.*

6. *See* Linda Sikkema & Melissa Savage, *Nuclear Renaissance?*, NAT’L CONF. OF ST. LEGISLATURES (March 2007), <http://www.ncsl.org/IssuesResearch/Energy/StateLegislaturesMagazineNuclearRenaissance/tabid/12954/Default.aspx>.

7. Barack Obama, President of the United States, Remarks by the President in State of the Union Address (Jan. 27, 2010), <http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address>.

8. *See* Julie Schmit, *\$8.3B in Loans Guaranteed For Nuclear Reactors*, USA TODAY (Feb. 17, 2010, 2:24 AM), [http://www.usatoday.com/tech/news/2010-02-16-obama-nuclear-power-plant\\_N.htm?csp=obnetwork](http://www.usatoday.com/tech/news/2010-02-16-obama-nuclear-power-plant_N.htm?csp=obnetwork).

9. *See id.*

10. *See id.*

11. Rosalie Westenskow, *Energy Secretary Nominee Supports Clean Coal, nuclear power*, UPI (Jan. 13, 2009, 6:30 PM), [http://www.upi.com/Science\\_News/Resource-Wars/2009/01/13/Energy-secretary-nominee-supports-clean-coal-nuclear-power/UPI-79421231889436/](http://www.upi.com/Science_News/Resource-Wars/2009/01/13/Energy-secretary-nominee-supports-clean-coal-nuclear-power/UPI-79421231889436/).

It is evident from Chu's statement that concerns about global climate change and the impact of high carbon emission energy generation, such as coal-fired power plants, have been a major impetus for this renewed support for nuclear energy. As the title of one recent article in the *Christian Science Monitor* put it, "Global warming heats up a nuclear energy renaissance."<sup>12</sup> The article declared, "Nuclear energy is on the rise in part because of concerns of fossil-fuel stoked global warming."<sup>13</sup> This article noted that the disastrous BP oil spill in the Gulf of Mexico also contributed to "rehabilitate nuclear energy in the eyes of the public – and some environmentalists."<sup>14</sup> Ironically, just as environmentalism played a key role in derailing the nuclear ambitions of the 1970s,<sup>15</sup> environmentalism is now being invoked by nuclear proponents as a basis for embracing a new generation of nuclear reactors.<sup>16</sup> It is thus no surprise that a 2009 Gallup Environment Poll found new high levels of support for nuclear energy, with fifty-nine percent favoring its use, including twenty-seven percent who strongly favor it.<sup>17</sup>

As we are poised to enter a new era of nuclear power plant construction, it behooves us to revisit the controversies of the past and consider how best to deal with some of the major problems that arose once before and may confront us once again. This article will focus on one particular issue that has not necessarily been in the spotlight, but nonetheless merits thorough examination and reconsideration at this critical juncture: how to best allocate the costs of cancelled nuclear power plant construction projects. These costs can be substantial, often reaching into the billions of dollars.<sup>18</sup> Following the initial boom of the early 1970s, over 100 nuclear power plant construction projects were cancelled.<sup>19</sup> The plant

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12. Chuck McCutcheon, *Global warming heats up a nuclear energy renaissance*, CHRISTIAN SCI. MONITOR (Aug. 9, 2010), <http://www.csmonitor.com/Environment/2010/0809/Global-warming-heats-up-a-nuclear-energy-renaissance>.

13. *Id.*

14. *Id.*

15. See, e.g., *How Nuclear Power Works*, *supra* note 2.

16. See, e.g., *id.*

17. See Jeffrey M. Jones, *Support for Nuclear Energy Inches Up to New High*, GALLUP (Mar. 20, 2009), <http://www.gallup.com/poll/117025/Support-Nuclear-Energy-Inches-New-High.aspx>.

18. See Richard J. Pierce, Jr., *Regulatory Treatment of Mistakes in Retrospect: Cancelled Plants and Excess Capacity*, 132 U. PA. L. REV. 497, 498 (1984).

19. See *How Nuclear Power Works*, *supra*, note 2.

cancellation cases from the 1970s and 1980s are problematic because of their diverse and sometimes inconsistent results.<sup>20</sup> Developing a more harmonized approach to the allocation of plant cancellation costs may help guide us through potential disputes when and if we proceed down the nuclear road.

Part II of this article will examine the experience of the 1970s and 1980s, when a rash of nuclear power plant cancellations gave rise to numerous disputes concerning the proper allocation of plant cancellation costs.<sup>21</sup> At the heart of these controversies were arguments over which were the most appropriate parties to bear the burden of the cost: utilities, investors, ratepayers, or taxpayers. It largely fell to state Public Utilities Commissions (“PUCs”) to resolve these disputes.<sup>22</sup> Broadly speaking, these decisions fell into one of two categories depending on which standard the PUC applied: 1) allocation of the bulk of cancellation costs to the utility and/or investors based on application of the “used and useful” standard,<sup>23</sup> or 2) allocation of the bulk of cancellation costs to the ratepayers/taxpayers based on application of the “prudent investment” standard.<sup>24</sup> Part II reviews and critiques the logic of these decisions and considers the lack of consistency across jurisdictions.

Part III considers the recent initiatives to revitalize the nuclear power industry and proposes a means to harmonize the “used and useful” and “prudent investment” standards by pursuing a foundational analogy to tort concepts of negligence and products liability. By providing a new and more coherent standard for approaching the problem of allocating nuclear plant cancellation costs, Part III lays the groundwork for a more efficient, consistent, and equitable resolution of controversies involving any future cancellations of nuclear power plants that may follow upon the possible coming renaissance in nuclear energy.

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20. See, e.g., Pierce, *supra* note 18, at 497-99; Paul Rodgers & Charles D. Gray, *State Commission Treatment of Nuclear Plant Cancellation Costs*, 13 HOFSTRA L. REV. 443, 443-50 (1985).

21. See *infra* p. 9.

22. See, e.g., Pierce, *supra* note 18, at 508-09; Rodgers & Gray, *supra* note 20, at 448-50.

23. See *infra* text accompanying notes 27-31.

24. See *infra* text accompanying notes 27-31.

## II. THE FIRST COLLAPSE

In 1951, a small Experimental Breeder reactor (EBR-1) in Idaho became the first nuclear reactor to produce electricity.<sup>25</sup> Soon thereafter, President Eisenhower proposed his “Atoms for Peace” program, which was aimed at recasting the devastating power of nuclear energy, as demonstrated at Hiroshima and Nagasaki, in less threatening terms of civilian electricity production.<sup>26</sup> In 1960, Yankee Rowe, the first fully commercial nuclear power plant opened.<sup>27</sup> By the end of the 1960s, orders were being placed for major nuclear power plants throughout the country.<sup>28</sup> In the early 1970s, forecasts of steeply increasing demand for electricity, combined with the first oil price shocks of 1973-74, propelled a major drive toward expanding commercial nuclear power in the United States.<sup>29</sup>

This expansion proved to be ill-considered and ultimately led to widespread plant cancellations.<sup>30</sup> Between 1972 and 1990, 120 nuclear power plants were cancelled.<sup>31</sup> As early as 1985, the spate of cancellations had prompted *Forbes* magazine to call the nuclear power industry “the largest managerial disaster in business history.”<sup>32</sup> Unanticipated cost overruns precipitated many cancellations, but behind the overruns lay an array of factors that conspired to doom the grand ambitions for nuclear power expansion in the 1970s and 80s.<sup>33</sup> Prominent among these were an increase in energy efficiency, reduced demand for electricity, and the emergence of strong grassroots political opposition to nuclear power.<sup>34</sup> Most significant, perhaps, was the 1979 accident at the Three Mile Island nuclear plant that captured the imagination of the nation and led to renewed and increasingly aggressive regulatory oversight, while deeply eroding whatever popular support for nuclear energy expansion remained.<sup>35</sup>

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25. See *Outline History of Nuclear Energy*, WORLD NUCLEAR ASS'N, <http://www.world-nuclear.org/info/inf54.html> (last updated June 2010).

26. See *id.*

27. *Id.*

28. *Id.*

29. Pierce, *supra* note 18, at 500-02.

30. See *How Nuclear Power Works*, *supra* note 2.

31. See *id.*

32. James Cook, *Nuclear Follies*, FORBES, Feb. 11, 1985, at cover.

33. See *How Nuclear Power Works*, *supra* note 2.

34. See *id.*

35. See *id.*

The resulting nuclear plant cancellations led utilities to flood regulatory agencies throughout the country with requests for rate increases to cover the ensuing losses.<sup>36</sup> Consequently, the regulatory treatment of plant cancellation costs became a source of controversy.<sup>37</sup> With billions of dollars at stake, who would specifically bear the burden of plant cancellation costs was highly contested.<sup>38</sup>

As Paul Rodgers and Charles Gray, (counsels to the National Association of Regulatory Utility Commissioners) noted in a 1985 article, there are typically three options for allocating the costs of cancelled plants:

First, the commission can allow all the cancellation costs to be recouped from ratepayers through future rate increases. Thus, investors are allowed to earn a return on the entire unamortized balance of the cancellation costs. Taxpayers also benefit from this cost allocation option since taxes must be paid on the earned return.

Second, the commission can completely disallow the costs of the abandoned plant for ratemaking purposes. This option forces utility investors and taxpayers to absorb the entire cost. No recovery is allowed from ratepayers. Under this option, the utility will write off the costs of the abandoned plant as an extraordinary loss in the year of cancellation. The share of the costs borne by investors is

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The accident at the Three Mile Island Unit 2 (TMI-2) nuclear power plant near Middletown, Pa., on March 28, 1979, was the most serious in U.S. commercial nuclear power plant operating history, even though it led to no deaths or injuries to plant workers or members of the nearby community. But it brought about sweeping changes involving emergency response planning, reactor operator training, human factors engineering, radiation protection, and many other areas of nuclear power plant operations. It also caused the U.S. Nuclear Regulatory Commission to tighten and heighten its regulatory oversight. Resultant changes in the nuclear power industry and at the NRC had the effect of enhancing safety.

OFF. OF PUB. AFF., UNITED STATES NUCLEAR REG. COMM'N,  
BACKGROUND: THREE MILE ISLAND ACCIDENT 2-3 (2009), <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.pdf>.

36. See, e.g., Pierce, *supra* note 18, at 505.

37. See, e.g., *id.* at 497-98.

38. See, e.g., *id.*

reduced by the amount of tax savings generated by the write-off. Thus, under this option, the cancellation costs are actually shared between investors and taxpayers.

Third, cancellation costs can be shared among all three groups—ratepayers, investors, and taxpayers. This option allows only a partial recovery of cancellation costs from ratepayers. This is the most complex of the cost allocation methods and has many variations.<sup>39</sup>

The most basic principle guiding the allocation of costs derives from *Federal Power Commission v. Hope Natural Gas Co.*, in which the Supreme Court stated that “the fixing of ‘just and reasonable’ rates, involves a balancing of the investor and the consumer interests.”<sup>40</sup> This case addressed the validity of a commission’s ratemaking decision under the Natural Gas Act of 1938.<sup>41</sup> In his opinion for the Court, Justice Douglas effectively dealt a death blow to the rule announced in *Smyth v. Ames*, an 1898 decision most closely associated with the doctrine that unfavorable ratemaking can effectively (and unconstitutionally) confiscate utility property.<sup>42</sup> At the heart of Douglas’ opinion, which upheld the stricter regulation of utility rates, was his finding that, “It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unreasonable, judicial inquiry . . . is at an end.”<sup>43</sup>

The two standards most commonly used to apply the “justness and reasonableness” principle of *Federal Power Commission v. Hope Natural Gas Co.*, are the “prudent investment” and the “used and useful” tests. The “prudent investment” test is “the regulatory analogue to the common law negligence doctrine.”<sup>44</sup> Under this standard, if a decision relating to the construction or operation of a

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39. Rodgers & Gray, *supra* note 20, at 450-51.

40. 320 U.S. 591, 603 (1944). See *Wash. Gas Light Co. v. Baker*, 188 F.2d 11, 19 (1950) (holding that the “inclusion in the rate base must meet the test of justness and reasonableness to the consumer as well as to the investor”).

41. See *Fed. Power Comm’n*, 320 U.S. at 593; see also *Wash. Gas Light Co.*, 188 F.2d at 18 (discussing conditions under which rate setting by regulatory agencies might become “confiscatory” and amount to an unconstitutional “taking” of utility assets without just compensation).

42. See *Fed. Power Comm’n*, 320 U.S. at 627.

43. *Id.* at 602.

44. Pierce, *supra* note 18, at 511.



plant is imprudent based on information reasonably available to the management at the time, any investment or expense related to that decision may not be recovered from the ratepayers.<sup>45</sup> The “used and useful” test is based on the principle that ratepayers should provide investors with a return only on the portion of the utility’s investment that is actually in use generating electricity needed to meet energy demands.<sup>46</sup>

These two standards led to very different results in the plant cancellation cases of the 1970s and 1980s. Generally speaking, the “prudent investment” test allocated the bulk of plant cancellation costs to ratepayers by allowing the utility to include most or all of the costs in its rate base.<sup>47</sup> In contrast, PUCs applying the “used and useful” test generally disallowed such costs from being included in the rate base, effectively forcing the utility and investors to bear the burden of most cancellation costs.<sup>48</sup> Unfortunately, as Richard Pierce noted in his 1984 study of the allocation of nuclear plant cancellation costs, “the relationship between the prudent investment standard and the used and useful test has always been vague.”<sup>49</sup> One reason for this is that the prudent investment standard is anachronistic and needs to be brought up to date.

The “prudent investment” concept emanates from Justice Brandeis’ concurring opinion in the 1923 case, *Missouri ex rel. Southwestern Bell Telephone Co. v. Missouri Public Service Commission*, stating:

The term ‘prudent investment’ is not used in a critical sense. There should not be excluded from the finding of the base, investments which, under ordinary circumstances, would be deemed reasonable. The term is applied for the purpose of excluding what might be found to be dishonest or obviously wasteful or imprudent expenditures. Every investment may be assumed to have been made in the

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45. *See id.*

46. *Re Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR 4th) 339, 368 (Iowa State Commerce Comm’n 1982).

47. *See Rodgers & Gray, supra* note 20, at 449.

48. *See Pierce, supra* note 18, at 517-23; *see also, Rodgers & Gray, supra* note 20, at 450.

49. *Pierce, supra* note 18, at 513.

exercise of reasonable judgment, unless the contrary is shown.<sup>50</sup>

Justice Brandeis articulated what amounts to a version of the “business judgment rule,” which calls for a high level of deference to be given to corporate decision making by directors.

Specifically, the “business judgment rule” states that “directors are charged with an unyielding fiduciary duty to protect the interests of the corporation and to act in the best interests of its shareholders.”<sup>51</sup> These duties include the duties of good faith, loyalty, and due care.<sup>52</sup> The rule imposes a powerful presumption in favor of actions taken by the directors;<sup>53</sup> a loyal and informed board of director’s decisions will not be overturned by the courts unless those decisions cannot be “attributed to any rational business purpose.”<sup>54</sup> Therefore, those challenging the business judgment of corporate directors (typically shareholders), have the burden to meet in rebutting this presumption.<sup>55</sup> The difficulty of overcoming this presumption is evident in one of the few cases finding a possible breach of business judgment, *In re The Walt Disney Co. Derivative Litigation*,<sup>56</sup> where the Delaware Chancery Court found allegations sufficient to support a cause of action for breach of fiduciary duty only upon a showing of facts that the corporate directors failed to exercise *any judgment at all* in conducting certain disputed transactions.<sup>57</sup>

As a regulatory analogue to the “business judgment rule,” the “prudent investment” standard places a substantial burden on those challenging the “prudence” of a particular investment – including investment in a power plant that was subsequently cancelled.<sup>58</sup> Over the years this concept has been refined and expanded. Most PUCs using the “prudent investment” standard applied the test to review both the initial decision to build a plant, and the on-going decisions

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50. 262 U.S. 276, 289 n.1 (1924).

51. See *Cede & Co. v. Technicolor, Inc.*, 634 A.2d 345, 360 (Del. 1993).

52. See *id.* at 361.

53. See *id.*

54. See *id.*

55. See *id.*

56. See 825 A.2d 275, 278 (Del. Ch. 2003).

57. See *id.* at 291.

58. See *Rodgers & Gray*, *supra* note 20, at 449-50.

regarding the actual operation of the plant.<sup>59</sup> However, the “prudent investment” test calculus is not the same when applied to these two types of decisions.

First, consider how the “prudential investment” test is applied to the initial decision to build a power plant. The initial decision to build is a matter of financial judgment and expert forecasting of future electrical demands.<sup>60</sup> Applying the “prudent investment” test to this type of decision requires a *substantive* analysis of the decision’s reasonableness at the time it was made.<sup>61</sup> Commissions are extremely reluctant to substitute their judgment for that of the utilities in these situations.<sup>62</sup>

Next, consider how the “prudential investment” test is applied to the ongoing decisions regarding plant operation. Subsequent decisions regarding the ongoing plant management and cancellation timing are more procedural in nature in that “prudence” becomes a measure of on-going administrative performance and efficiency.<sup>63</sup> Here commissions are far more willing to step in and disallow recovery of costs due to “imprudence.”<sup>64</sup>

Both substantive and procedural prudence involve the same common law negligence standard of reasonableness, but the burden of proof placed on opponents of rate increases under substantive prudence is far greater. Generally, utility investments and expenditures are presumed to be prudent.<sup>65</sup> Therefore, “in order to succeed, any attempt to establish the imprudence of a utility’s decision to construct a new plant would require extraordinarily large expenditures for the services of lawyers, economists and engineers.”<sup>66</sup>

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59. See, e.g., *Phila. Elec. Co. v. Pa. P.U.C.*, 433 A.2d 620, 623 (Pa. Commw. Ct. 1981).

60. See *Pierce*, *supra* note 18, at 502, 511-12, 517.

61. See, e.g., *id.* at 511 (describing the ways a utility’s investment decision may be found imprudent).

62. See, e.g., *id.* at 517 (discussing why a commission may be reluctant to disallow inclusion of a plant’s investment in the rate base).

63. See, e.g., *id.* at 511; see also, *Re Consumers Power Co.*, 14 Pub. Util. Rep. (PUR 4th) 1, 18 (Mich. P.U.C. 1976); *Re Kan. Power & Light Co.*, 38 Pub. Util. Rep. (PUR 4th) 1, 13-14 (Mo. Pub. Serv. Comm’n 1980).

64. See *Pierce*, *supra* note 18, at 511, 512.

65. See *id.*, at 511; see also *Fed. Power Comm’n v. Hope Nat. Gas Co.*, 320 U.S. 591, 602 (1944).

66. *Pierce*, *supra* note 18, at 512.

A finding of procedural imprudence is easier. It involves relatively simple comparisons to on-going industry-wide standards, whereas substantive review involves an examination of the specific facts underlying a particular decision to build.<sup>67</sup> Thus, in *Re Boston Edison Co.*, the Massachusetts Department of Public Utilities, while finding the initial decision to build a subsequently cancelled plant to be prudent, nonetheless also found that the management's decision to delay the cancellation was imprudent and therefore denied recovery of costs incurred by reason of the delay.<sup>68</sup>

The "used and useful" test is more straightforward than the "prudent investment" test. Commissions prefer the "prudent investment" standard because it comports with common sense and requires less expert knowledge.<sup>69</sup> PUCs find it helpful in how to deal with excess electricity generating capacity in operating plants.<sup>70</sup> For example, in *Philadelphia Electric Co. v. Pennsylvania Public Utilities Commission*, the state court upheld a PUC's disallowance of \$25,040,000 from a utilities claimed rate base where the Commission found that the utility had 775 megawatts of excess capacity which was not used and useful.<sup>71</sup> Here the "used and useful" test allowed the PUC to go beyond considering single plants (each of which was individually used and useful) to consider the utility's "generating properties" as a whole.<sup>72</sup> This led to a finding of overall excess generating capacity.<sup>73</sup> The PUC then removed from the rate base the least economical generating units as *representative* of that excess.<sup>74</sup> Thus, the "used and useful" test provided a means to penalize inefficient business practices while still allowing a return on investment for efficient practices.

The use of the "used and useful" test, however, is far more problematic in the case of cancelled plants. Here the PUCs are very reluctant to carry the test to its logical conclusion and exclude *all*

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67. See, e.g., *Re Bos. Edison Co.*, 46 Pub. Util. Rep. (PUR 4th) 431, 470 (Mass. Dep't of Pub. Util. 1982).

68. See *id.*

69. Pierce, *supra* note 18, at 511-12.

70. See, e.g., *Phila. Elec. Co. v. Pa. P.U.C.*, 433 A.2d 620, 622-23 (Pa. Commw. Ct. 1981).

71. See *id.*

72. See *id.* at 623.

73. See *id.* at 622-24.

74. See *id.* at 622.

costs associated with cancelled plants which clearly are not used and useful. Rather, most commissions will divide the costs between the utility and the consumers, allowing the recovery *of* but no return *on* investment.<sup>75</sup> The “prudent investment” test acts as a means to rationalize this seemingly inconsistent application of the “used and useful” test.

Thus, in assessing what rate of return is allowed when Virginia Electric & Power Company (VEPCO) cancelled two plants, Surry 3 and Surry 4, the Virginia State Corporation Commission found that:

Surry 3 and 4 were never used and useful to the ratepayers and, after the cancellation of the project, there is no hope or promise that they will ever be used or useful. Under these circumstances equity demands that VEPCO’s investors must accept some of the risk of Surry 3 and 4 be forfeiture of any claim to an expected return on this investment.

The commission finds expenditures associated with Surry 3 and 4 were reasonably and prudently incurred. Accordingly, the commission authorizes [a recovery of, but no return on these expenditures].<sup>76</sup>

Here the “prudent investment” and “used and useful” tests are used to limit the other. All decisions associated with the plant appear to have been prudent, but none of the investment in the plant ever became used and useful. The commission chose to allow a return of investment because the substantive decision to build the plant in the first place was prudent even though the plant never became used and useful.<sup>77</sup> But the commission disallowed a return on the investment because it never became used and useful, even though all ongoing management decisions were apparently procedurally prudent. Alone, the “used and useful” test would disallow any recovery at all. Alone, the “prudent investment” test would allow both recovery of and return on investment. Together, they allow the court to reach what it considers to be an equitable compromise.

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75. See, e.g., Pierce, *supra* note 18, at 518-19; Rodgers & Gray, *supra* note 20, at 443-45, 449-51.

76. Re Va. Elec. & Power Co., 29 Pub. Util. Rep. (PUR 4th) 65, 81 (Va. Corp. Comm’n 1979) (alteration in original).

77. See *id.*

This seems to be a logical outgrowth of the equitable principles of *Hope Natural Gas Co.*<sup>78</sup> The commission weighed the interests of consumers and investors and allocated costs accordingly.<sup>79</sup> This is the most common approach taken by state PUCs in treating cancellation costs.<sup>80</sup> And so, we have the Pennsylvania PUC refer to the used and useful test as a “flexible rate-making tool” to be applied on a case by case basis.<sup>81</sup>

One concern with this approach is not that it necessarily arrives at the “wrong” result, but that it dilutes the substance of each test and fails to justify why this “return of but not on” investment formula is equitable. The result is a tendency among commissions to use the tests merely as tools to rationalize decisions rather than as principle to guide them. What does usefulness have to do with risk? Why should prudence override the used and useful test? What is equitable about the mixed application of these two tests? These and similar questions were never adequately addressed by most PUCs.

A few commissions shared these concerns and have implicitly rejected the Virginia commission’s reasoning in *Virginia Electric & Power Co. In Re Pacific Power & Lighting Co.*, the Montana PUC disallowed recovery from ratepayers of investments in two terminated nuclear plants.<sup>82</sup> This decision, however, was based on a state statute that explicitly disallowed rate base treatment for property not used and useful in providing utility service and which the commission held also barred any inclusion in the cost of service of the amortized investment in the plants.<sup>83</sup> Because of this statute, the commission felt no need to temper its application of the “used and useful” test with regards to the concept of prudence.<sup>84</sup> Indiana had a similar statute which its courts have held to bar recovery of “extraordinary costs” occasioned by the “prudent cancellation” of a

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78. See *Fed. Power Comm’n v. Hope Nat. Gas Co.*, 320 U.S 591, 603 (1944).

79. See *id.*

80. See e.g., *Re Bangor Hydro-Electric Co.*, 46 Pub. Util. Rep. (PUR 4th) 503 (Me. P.U.C. 1982); *Re Va. Elec. & Power Co.*, 29 Pub. Util. Rep. (PUR 4th) at 327; see also *Pierce*, *supra* note 18, at 518-519.

81. See *Pa. P.U.C. v. Metro. Edison Co.*, 37 Pub. Util. Rep. (PUR 4th) 77, 85, 86 (Pa. P.U.C. 1980).

82. See *Re Pac. Power & Light Co.*, 53 Pub. Util. Rep. (PUR) 4th 24, 31 (Mont. P.U.C. 1983).

83. See *id.* at 27.

84. See *id.* at 28.

plant because it provided no “service” to the ratepayers.<sup>85</sup> Again, prudence was disregarded as secondary to usefulness.

These cases remain something of an anomaly because of the presence of a statute explicitly addressing the issue of cost allocation. Their reasoning may be clear and straightforward but it is of little help in resolving disputes in jurisdictions without such statutes. In particular, the statutes settle issues of allocation of risk. The commission need not justify its decision beyond an appeal to statutory law. As a result, the questions raised by decisions such as *Virginia Electric*, remain unaddressed.

Two other cases provide somewhat more satisfactory analyses of cost allocation but also remain anomalous because they also involve unique jurisdictional issues. In *Re Northern States Power Co.*, the Minnesota commission both allowed and disallowed cancellation costs respectively for abandoned in-and out-of-state generating facilities.<sup>86</sup> The commission disallowed recovery of cancellation costs for the out-of-state facility because “the cancellation was of no benefit to Minnesota ratepayers, and [found] that those ratepayers and their needs were not an element of the cancellation decision.”<sup>87</sup> Here “benefit” was the basis for allocation of costs.<sup>88</sup> The commission’s prime concern was to protect Minnesota ratepayers from the effect of out-of-state losses.<sup>89</sup> To this extent, the commission’s reasoning seems to provide a common law analogy to the Indiana and Montana commissions’ extension of the used and useful test to exclude all cancellation costs. The *Northern States* commission, however, did

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85. *Citizens Action Coal of Ind. v. N. Ind. Pub. Serv. Co.*, 485 N.E.2d 610, 613-15 (Ind. 1985) (discussing IND. CODE ANN. §§ 8-1-2-1, 8-1-2-4 (West Supp. 1985)). (providing that, *inter alia*:

The charge made by any public utility for any service rendered or to be rendered either directly or in connection therewith shall be reasonable and just’, and: ‘The commission shall value all property of every public utility actually used and useful for the convenience of the public at its fair value... IND. CODE ANN. § 8-1-2-6(a) (West 1982)).

86. *See Re N. States Power Co.*, 42 Pub. Util. Rep. (PUR 4th) 339, 339 (Minn. P.U.C. 1981).

87. *Id.* at 362.

88. *See id.*

89. *See id.*

allow recovery of costs for in-state cancellations when the plant was “prudently commenced and prudently abandoned.”<sup>90</sup>

Regarding state plants, then, the Minnesota decision seems to echo those of *Virginia Electric*.<sup>91</sup> The only difference between the two cases is that in *Northern States*, the Minnesota commission had a parochial state interest in protecting its ratepayers.<sup>92</sup> But the Minnesota commission did take one very important step beyond those other cases. In justifying its disallowance of out-of-state cancellation costs, the commission stated that the “owners control their companies and assume the risks of ownership by investing. Minnesota ratepayers cannot be asked to insulate to the owners from all financial risks.”<sup>93</sup> This reasoning introduces important considerations regarding risk allocation. Minnesota found it unreasonable for its ratepayers to assume the risk for out-of-state plants.<sup>94</sup> By the same token, it found it reasonable for Minnesota ratepayers to assume the risk for a prudent in-state plant.<sup>95</sup> Prudence and the idea of reasonableness were inextricably bound to the idea of assumption of risk. One might interpret the Minnesota commission as saying that it was reasonable for its ratepayers to assume the risk for a prudently planned plant. But because an out-of-state plant does not consider ratepayers’ needs and are not subject to ratepayers’ influence, an out-of-state plant cannot be prudently planned with respect to their interests. Hence, they assumed no risk for its cancellation.

*Re Arizona Public Service Co.* reflects similar reasoning.<sup>96</sup> Here, utilities in Arizona and California joined to build a nuclear plant.<sup>97</sup> When the California utilities withdrew, the project was cancelled.<sup>98</sup>

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90. *Id.* at 363.

91. *See* *Re Va. Elec. & Power Co.*, 29 Pub. Util. Rep. (PUR 4th) 65, 81 (Va. Corp. Comm’n 1979).

92. *See* *Re N. States Power Co.*, 42 Pub. Util. Rep. at 362.

93. *Id.* at 362.

94. *See id.*

95. *Id.* at 362-63.

96. *See* *Re Ariz. Pub. Serv. Co.*, 38 Pub. Util. Rep. (PUR 4th) 547, 556 (Ariz. Corp. Comm’n 1980).

97. *See id.* at 556 (suggesting that California utilities participated in the Palo Verde project).

98. *See id.* (indicating that the cancellation was a result of adverse regulatory conditions in California that rendered the California’s continued participation uncertain).



The Arizona utility attempted to recover its investment in the plant through a multi-year amortization.<sup>99</sup> The Arizona commission disallowed recovery of any of the expenses because: 1) there was insufficient evidence justifying the expense, 2) the expense was unusual and non-recurring, 3) construction planning decisions were within the control of stockholders and should not be paid for by ratepayers, and 4) the cancellation decision was primarily due to adverse regulatory conditions in California.<sup>100</sup> Thus, the commission concluded that the utility must look to other participating utilities or to its own stockholders to recover any expense associated with the cancellation.<sup>101</sup> The commission further emphasized that “prudent utility management should have negotiated appropriate contractual provisions [with the co-sponsoring California utilities] to guard against and/or recover for such a contingency.”<sup>102</sup> As in *Northern States*, the Arizona commission’s prime concern was to protect its ratepayers from the consequences of actions taken by out-of-state entities.<sup>103</sup>

Prudence and allocation of risk (rather than the “used and useful” test) underlay each of the commissions’ four reasons for denying recovery of costs. First, the Arizona commission denied recovery because of insufficient evidence justifying the expense.<sup>104</sup> This reason is clearly related to the “prudent investment” test, which requires that initial decisions to build plants be based on a reasonable assessment of projected energy needs and costs.<sup>105</sup> What is critical here is that the commissions put the burden on the utility to justify its expense whereas most commissions assumed prudence.<sup>106</sup> This shifted a greater amount of risk to the utility. The Arizona commission’s second justification was that the expense was unusual and non-recurring.<sup>107</sup> This reason relates to the allocation of risk itself; that is, the more extraordinary an event, the less reasonable it

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99. *See id.* at 555.

100. *See id.* at 556.

101. *See Re Ariz. Pub. Serv. Co., Ariz. Pub. Serv. Co.*, 38 Pub. Util. Rep. (PUR 4th) 547, 556 (Ariz. Corp. Comm’n 1980).

102. *See id.*

103. *See id.*

104. *See id.*

105. *See Pierce, supra* note 18, at 509, 511.

106. *See Re Ariz. Pub. Serv. Co.*, 38 Pub. Util. Rep. (PUR 4th) at 556.

107. *See id.*

was to expect someone to assume the risk of its occurrence. The third and fourth reasons mirrored those presented in *Northern States* regarding control and jurisdiction and were resolved in much the same manner.<sup>108</sup> The commission's emphasis on "contractual provisions" further implies that the utility assumed the risk for its imprudent failure to make such provisions.

*Northern States* and *Arizona Public*, however, fall short of a full and independent application of the concepts of prudence and assumption of risk to the allocation of cancellations costs. Both cases depend on the underlying jurisdictional issues to give them force. Both decisions also fail to take the next logical step and apply the same concepts to in-state plants.

At least two commissions confronted this next step and arrived at opposite results. In *Re Potomac Electric Power Co.*, the District of Columbia commission arrived at an allocation of costs similar to that of *Virginia Electric*, allowing a recovery of, but no return on, investment.<sup>109</sup> In the course of its opinion, however, the commission paid greater attention to the implications of the "prudent investment" test. The D.C. circuit distinguished *Arizona Public*, noting that in that case, the commission found "imprudence" in "a plant cancellation which was the result of another jurisdiction's regulatory policies, rather than the action of the utilities at all."<sup>110</sup> The D.C. commission, strongly disapproved and, stated that "this reasoning tends to hold the utility absolutely liable for any plant cancellation," and concluded that, "[w]e cannot find that [the utility] made an imprudent decision with respect to [its abandoned plant]. To disallow amortization of the project loss would be to apply a standard – not of reasonable prudence, but – of absolute stockholder liability for plant cancellations. We decline to accept this standard."<sup>111</sup> The D.C. commission explicitly rejected applying strict liability to utility management as antithetical to the standard of prudence.<sup>112</sup>

But just as the theory of negligence evolved into strict liability, so too, should the theory of prudence evolve into strict stockholder

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108. *See id.*

109. *See Re Potomac Elec. Power Co.* 50 Pub. Util. Rep. (PUR 4th) 500, 533-35 (D.C. Pub. Serv. Comm'n 1982).

110. *See id.* at 535.

111. *Id.*

112. *See id.* at 535-36.

liability.<sup>113</sup> A power plant and the electricity it generates are essentially products provided to ratepayers. If a plant is cancelled it is, in effect, defective. The *substantive* decision to build the plant, and perhaps the subsequent procedural management, must be considered similarly defective. If so, then the burden of disproving defectiveness and/or imprudence would lie with the utility. Investors would remain protected to the extent that egregious mismanagement gives rise to a breach of fiduciary duty claim against the utility managers. It is here, in a fiduciary liability suit, and not in a rate dispute, that the prudence standard associated with the business judgment rule should apply.

In *Re Union Electric Co.*, the Missouri Public Service Commission applied strict liability to plant cancellations.<sup>114</sup> In denying the recovery of cancellation costs, the commission retained the traditional “prudent investment” test as a “threshold” for allowing recovery but went on to assert that,

There are operating expenses which are not allowed even though they may be said to be prudently incurred. The disallowance of the operating expenditures is based upon the finding that they were not made for the benefit of the ratepayer. Thus, even for normal operating expenses prudence is not the only criterion for recovery. Since cancellation costs are not normal operating expenses, they should be even more closely scrutinized to determine if they should be recovered.<sup>115</sup>

The distinction between normal and extraordinary expenses echoes the distinction between substantive and procedural prudence. While the above reference to “benefit” may make the decision appear to be a simple derivation of the “used and useful” test, the commission actually used the concepts of “benefit” and “prudence” to shape a

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113. The literature on the development of negligence is vast. For a classic discussion of the emergence of strict liability of negligence, see William L. Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 Yale L. J. 1099, 1104 (1960).

114. See *Re Union Elec. Co.*, 74 Pub. Util. Rep. (PUR 4th) 80, 93 (Mo. Pub. Serv. Comm'n 1986).

115. *Id.* at 90-91.

theory of allocation of risk which approaches strict liability.<sup>116</sup> Arguing that the reasonable investor examines potential risks and benefits before buying stock in a utility, the commission found that,

Part of the potential risk is that the plant may not be completed and therefore all or a portion of the investment may not be recovered through rates.

It can be seen from this analysis that the initial risk of cancellation is borne by the investor stockholder. If this were not true and a stockholder could be assured a return of his investment whether the plant was cancelled or not, it would make the investment practically risk free.<sup>117</sup>

This reasoning effectively shifts prudence from being a measure of managerial competence to a guide to allocating risk. The prudent stockholder knowingly assumed the risk of cancellation – the ratepayer had no such choice. It would be unreasonable to place the burden of risk on a party who had no control or choice rather than on one who did.

The commission stopped short of an explicit finding of strict liability by retaining a commitment to the equitable balancing of the interests of all parties involved.<sup>118</sup> Nonetheless, by placing the new opinion in the context of recent developments in the theory of negligence in tort law, it is possible to craft an interpretation of the prudent investment standard which would merge into strict liability.

The Missouri commission approached this sort of reasoning but did not enunciate an underlying rationale for its conclusion.<sup>119</sup> If we now look at *Union Electric* in light of the rationales for strict product liability listed above, some compelling insights emerge. The first rationale for strict product liability is fundamentally one of allocation of risk.<sup>120</sup> A utility, just like a manufacturer, is in a far better position to estimate the risks of its operations than a consumer. The primary issue here is one of control. Utilities and their stockholders control

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116. *See id.*

117. *Id.* at 91.

118. *See id.*

119. *See id.*

120. *See Greenman v. Yuba Power Products, Inc.*, 59 Cal. 2d. 57, 63 (Ca. 1963); *see also*, DAVID G. OWEN, PRODUCTS LIABILITY LAW 254, 258 (Thomson/West 2d ed., 2005).

the decision making process.<sup>121</sup> Ratepayers have no input.<sup>122</sup> Lack of ratepayer control was one of the primary reasons that the Arizona and Minnesota commissions denied recovery of cancellation costs for out-of-state plants.<sup>123</sup> Missouri took this one step further and applied the concept to in-state plants and linked control to assumption of risk: the utility and the investors assessed the risks and made the decision to build or invest.<sup>124</sup> The utilities and the investors had control over the situation and the ratepayers had no such control; they had to accept the product as is.<sup>125</sup> It follows that it is unreasonable or "imprudent" to expect ratepayers to insure investments over which they exercised no control; thus, those who had control should assume the risk.<sup>126</sup>

The second rationale also relates to control in the sense that only those with access to vast amounts of information can ever prove substantive imprudence.<sup>127</sup> Therefore, indirectly addressing this problem, the Missouri commission shifted the burden of proof to the utility to justify cancellation costs because they were not associated with used and useful (or non-defective) property.<sup>128</sup> One might say that cancellation is presumptive evidence of imprudence or a "defective product." Note that procedural imprudence is much easier to prove and more clearly related to conduct than to the "marketing" of a "product;" hence, here, as in stockholder fiduciary liability suits, a more traditional standard of prudence would still be relevant.<sup>129</sup>

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121. See Rodgers & Gray, *supra* note 20, at 461-62.

122. See, e.g., *id.* (discussing how the decision in *Re Pac. Power & Light Co.*, 53 Pub. Util. Rep. (PUR 4th) 24 (Mont. P.U.C. 1983) was based the commission's view that ratepayers should not have to pay for bad decisions they had no part in making).

123. See *Re Ariz. Pub. Serv. Co.*, 38 Pub. Util. Rep. (PUR 4th) 547, 556 (Ariz. Corp. Comm'n 1980); *Re N. States Power Co.*, 42 Pub. Util. Rep. (PUR 4th) 339, 362 (Minn. P.U.C. 1981).

124. See *Re Union Elec. Co.*, 74 Pub. Util. Rep. (PUR 4th) 80, 91, 93 (Mo. Pub. Serv. Comm'n 1986).

125. See *id.* (discussing how the investor stockholder bears the initial risk of cancellation).

126. See *Id.* at 93.

127. See Pierce, *supra* note 18, at 512.

128. See *Union Elec. Co.*, 74 Pub. Util. Rep. (PUR 4th) at 89.

129. See, e.g. *Cede & Co. v. Technicolor, Inc.*, 634 A.2d 345, 360-61 (Del. 1993).

Finally, in regard to incentive, allowing utilities to recover their investments effectively forces ratepayers to insure stockholders. Putting this burden on ratepayers will in no way change their behavior because they have no control over the situation in the first place. Putting the burden on the stockholders, however, at least has the potential of encouraging more responsible behavior on the part of utility management.

What is so revealing about the D.C. commission's in *Potomac Electric* is that it explicitly addresses the issue of strict liability and its relation to the standard of prudence.<sup>130</sup> The commission rejected strict liability outright as unreasonable, but implicitly recognized that the cancelled plant was, in effect, a defective "product," whose purchase price the utility was trying to pass off onto ratepayers.<sup>131</sup> *Potomac Electric* assumed that strict liability and prudence are mutually exclusive. Indeed, if one assumes the standard of prudence to be the common law analogue of negligence enunciated by Brandeis in *Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Commission*,<sup>132</sup> one finds it to be incompatible with current notions of strict liability. However, over the past sixty years the theory of negligence in tort has developed by leaps and bounds.<sup>133</sup> The D.C. commission, even as it spoke in terms of modern strict liability, seemed oblivious to this development.<sup>134</sup>

If we consider how tort theories of negligence and products liability have evolved since the 1920s—when Brandeis first enunciated the prudent investment standard—it may be possible to elaborate a new standard for evaluating the allocation of plant cancellation costs that harmonizes the concepts underlying both the "prudent investment" and "used and useful" standards.

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130. *Re Potomac Elec. Power Co.*, 50 Pub. Util. Rep. (PUR 4th) 500, 535 (D.C. Pub. Serv. Comm'n 1982).

131. *See id.*

132. *See Mo. ex rel. Sw. Bell Tel. Co. v. Mo. Pub. Serv. Comm'n*, 262 U.S. 276, 289 n.1 (1924).

133. *See generally* OWEN, *supra* note 120, at 250-80.

134. *See Potomac Elec. Power Co.*, 50 Pub. Util. Rep. (PUR 4th) at 533-35.

### III. HARMONIZING THE STANDARDS: BRINGING “PRUDENCE” UP TO DATE

This section will discuss the analogy of the prudent investment standard to products liability. First, though, it is important to bear in mind that this is an analogy, not an argument for direct correspondence. Rather, the analogy provides guidance on how best to update the prudent investment standard and bring it into harmony with the “used and useful” test. Products liability is a particularly apt source of analogy because, as David Owen has remarked,

Products liability law is full of mixtures. It is a mixture of tort law – negligence, strict liability in tort, and deceit – and of the contract law of sales – mostly warranty. It is a mixture of common law, now mostly on its tort side, and statutory law, generally on the contract side – notably sales law under the Uniform Commercial Code.<sup>135</sup>

As such it is well suited to casting light on the peculiarly hybrid nature of the relation between utilities and ratepayers.

Because utilities are regulated monopolies, electricity, the product they supply, is inescapably connected with its price. Under the regulatory bargain that allows the utility to function as a monopoly, ratepayers are not simply buying electricity; they are buying electricity at a reasonable price.<sup>136</sup> Ratepayers have no direct control over price and no alternative source for the product, so the price, in effect, becomes part of the product they are forced to buy.<sup>137</sup> When a plant is cancelled and the utility seeks to have the costs of cancellation allocated to ratepayers through their inclusion in its rate base, the utility is causing economic hardship to the ratepayer.<sup>138</sup> The source of this hardship is the cancelled plant – a product, if you will. As Richard Pierce notes, “[u]nlike the prudent investment test, the used and useful test does not make the finding of fault a prerequisite for the exclusion of an asset from [the] rate base.”<sup>139</sup> Liability without fault directly calls to mind the concepts underlying strict

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135. OWEN, *supra* note 120, at 4.

136. See Rodgers & Gray, *supra* note 20, at 446.

137. See *id.*

138. See Pierce, *supra* note 18, at 505, 506.

139. Pierce, *supra* note 18, at 513 (alteration in original).

products liability. Prudence, in contrast, derives from early twentieth century understandings of negligence.<sup>140</sup> If we update the concept of prudence to reflect updates in concepts of negligence as applied to products liability, we may be able to bring the prudent investment test into closer alignment with the used and useful test, providing rules of greater clarity and consistency for resolving future plant cancellation disputes.

The “used and useful” test is largely functional and empirical. The test asks whether the costs sought to be included in the rate base are directly related to the active production and supply of a product; in this case, electricity to the ratepayers.<sup>141</sup> In contrast, the prudent investment standard is more evaluative and normative; it examines whether particular business decisions were reasonable under the circumstances and considers the propriety of allocating costs related to actions judged to be reasonable.<sup>142</sup> Given both the practical and conceptual differences underlying these tests, it is not surprising that they tend to lead to very different results. Such variability can cause uncertainty and instability in regulated markets for electricity.<sup>143</sup> Rather than simply arguing for one standard or another to take preeminence, I propose a means to update the prudent investment standard in a manner that retains its doctrinal roots while bringing it into harmony with the used and useful standard.

The no-fault aspect of the “used and useful” test is rooted not only in an empirical evaluation of a plant’s functional capabilities, but also informed by a normative evaluation of the fairness of charging ratepayers for unused utility assets. Thus, for example, in *In re Pacific Power & Light Co.*,<sup>144</sup> the Montana Public Service Commission relied on general concepts of fairness in focusing on the argument that “that ratepayers should not pay for a bad decision when they had no part in making that decision and that a utility’s investment should not be made risk free by allowing them to recover that investment even when it does not produce.”<sup>145</sup> Such evaluative considerations of the equities of allocating cost and risk indicate that

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140. See generally OWEN, *supra* note 120, at 250-58.

141. See *supra* text accompanying notes 69-75.

142. See *supra* text accompanying notes 64-68.

143. See *supra* text accompanying notes 47-49.

144. 53 Pub. Util. Rep. (PUR 4th) 24 (Mont. P.U.C. 1983).

145. *Id.* at 27.



there may be more in common between the used and useful and prudent investment tests than first meets the eye.

As stated above, the prudent investment standard is an analogue of negligence.<sup>146</sup> The traditional common law formula for establishing negligence involves finding a breach of a duty or obligation, recognized by law, requiring the person to conform to a certain standard of conduct, for the protection of others against unreasonable risk.<sup>147</sup> The standard required is generally that of a reasonable person under the same or similar circumstances.<sup>148</sup> This is essentially the standard adopted by Brandeis in *Missouri ex rel Southwestern Bell Telephone Co. v. Public Service Commission of Missouri*,<sup>149</sup> and it remains the standard used today in judging the actions of utility management under the prudent investment standard.<sup>150</sup> However, this standard has merged with the business judgment rule to create a nearly insurmountable barrier to ratepayers who would challenge the inclusion of plant cancellation costs in a utility's rate base.<sup>151</sup>

Each of these rules as applied in the plant cancellation cases is inapt for the following reasons: first, the business judgment rule was developed largely to shield corporate directors from shareholder lawsuits second-guessing business decisions.<sup>152</sup> Ratepayers, however, are not investors. They have no direct interest in the utility and, more specifically, they have no *choice* regarding their involvement with the utility.<sup>153</sup> As Rodgers and Gray note, one PUC,

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146. See *supra* text accompanying note 44.

147. RESTATEMENT (SECOND) OF TORTS § 282 (1965).

148. *Id.* § 283.

149. 262 U.S. 276, 289 & n. 1 (1923).

150. See, e.g., Cal. P.U.C., Div. of Water & Audits [CPUC], *Fulton Water Company Inc. (FWC) Order Authorizing a Ratebase Offset Revenue Increase, Producing an Increase in Gross Annual Revenue of \$61,548 or 9.41% to Current Approved Gross Revenues*, at \*2, Res. W-4846 (Oct. 28, 2010) (finding that increases in rates due to plant additions were authorized because the additions were prudent investments and rates were just and reasonable); *In re N.Y. Water Serv. Co.*, No. 07-W-0463, 2009 WL 3722045, at \*1 (N.Y.P.S.C. Oct. 15, 2009) (“Ratepayers . . . should not be held responsible for making up the shortfall in fund earnings caused by management’s less than prudent investment strategy.”). See also 73B C.J.S. *Public Utilities*, § 44 (2010); Pierce, *supra* note 18, at 511.

151. Pierce, *supra* note 18, at 517.

152. *Cede & Co. v. Technicolor, Inc.*, 634 A.2d 345, 360-61 (Del. 1993).

153. See *infra* text accompanying note 157.

applying the “used and useful” test in 1983, justified its allocation of costs to investors instead of ratepayers because of the:

[G]eneral fairness concept that ratepayers should not be forced to pay for a bad decision when they had no part in making it. Indeed, the Commission openly stated that the risks of investment must be borne by the shareholder because it is he, through the management he selects, who decides which projects will be pursued. The Commission further stated that to expect the ratepayer to compensate the shareholder for company losses is to guarantee recovery of shareholder investments.<sup>154</sup>

Interestingly, in this case, the PUC applied the empirical “used and useful” test but also seems to have informed its application of the test with the more evaluative approach of the prudent investment standard. Here, perhaps is the first opening for harmonizing the two approaches: the evaluative considerations of the prudent investment standard should recognize that the business judgment rule, while appropriate for resolving disputes between investors and utility directors, should not be applied in disputes between ratepayers and utilities concerning the allocation of plant cancellation costs.

A second opening to harmonizing the two approaches may be found by reconsidering the nature of the concept of negligence underlying the prudent investment standard. Once we recognize that the concept of negligence, as related to business judgment, is an improper concept for governing relations between utilities and ratepayers, the argument can be made that a more appropriate standard may be found in the concept of negligence as related to products liability. Utilities, generally speaking, are regulated monopolies.<sup>155</sup> Ratepayers have no real choice concerning the purchase of electricity – their contracts with utilities are essentially contracts of adhesion.<sup>156</sup> When utilities decide to build a new nuclear

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154. Rodgers & Gray, *supra* note 20, at 461-62 (discussing the general fairness concept found in *Re Pac. Power & Light Co.*, 53 Pub. Util. Rep. (PUR 4th) 24 (Mont. P.U.C. 1983)).

155. See Joseph Tomain, *Nuclear Regulation in Transition*, 17 PROGRESS IN NUCLEAR ENERGY 245, 257 (1986).

156. *Id.* at 257-58.

power plant and fold its costs into the rate base, they charge consumers not only for electricity, but also for the plant itself.<sup>157</sup> That is, the utilities are not simply selling electricity as the sole product; they are selling electricity and also the plant that generates it. When a plant is cancelled, allocating its costs to ratepayers causes them economic hardship. Under these circumstances, the plant is, in effect, a defective product with the capacity to cause economic harm. Just as Justice Brandeis in *Missouri ex rel Southwestern Bell Telephone Co. v. Public Service Commission of Missouri* drew on an analogy to common law concepts of negligence to articulate a prudent investment standard,<sup>158</sup> it is now appropriate to analogize to recent developments in negligence law, and specifically to the law of products liability to update the prudent investment standard.

One hurdle may be the “economic loss rule;” under which consumers cannot recover damages in negligence or products liability for purely economic harm.<sup>159</sup> Nonetheless, many courts have carved out exceptions to the economic loss rule, where there is a special relationship between the parties.<sup>160</sup> For example, in the case of *J’aire Corp. v. Gregory*,<sup>161</sup> the court found a “special relationship” between a lessee and a contractor sufficient to support a claim for economic losses due to negligence.<sup>162</sup> In this instance, the basis for the special relationship was the injury’s foreseeability, both in scope and in terms of the potential parties affected.<sup>163</sup> Alternatively, the relationship between a utility and its ratepayers is far more specific than that in *J’aire Corp.* Utilities and ratepayers are in privity of contract because ratepayers buy a product directly from the utility.<sup>164</sup> The foreseeability of economic harm to ratepayers resulting from an ill-conceived and subsequently cancelled nuclear power plant is self-evident. The question then becomes, what makes a design to build and/or cancel a plant ill-conceived? This is where consideration of

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157. See *id.* at 258 (discussing ratepayers as cost-bearers of nuclear plants).

158. 262 U.S. 276, 290-91 (1923).

159. William Powers, Jr. & Margaret Niver, *Negligence, Breach of Contract, and the “Economic Loss” Rule*, 23 TEX. TECH L. REV. 477, 480 (1992); See also Richard W. Wright, *The Principles of Product Liability*, 26 REV. LITIG. 1067, 1072 (2007).

160. *J’aire Corp. v. Gregory*, 598 P.2d 60, 63 (Cal. 1979).

161. *Id.*

162. *Id.* at 62-63.

163. *Id.* at 63.

164. See *infra* text accompanying notes 170-74.

the development of the law of negligence and products liability comes into play.

Negligence theory has evolved since *Missouri ex rel Southwestern Bell Telephone Co. v. Public Service Commission of Missouri*, particularly in the area of products liability.<sup>165</sup> Just seven years before *Southwestern Bell*,<sup>166</sup> Judge Benjamin Cardozo issued his famous opinion in *MacPherson v. Buick Motor Co.*<sup>167</sup> mounting the first assault on the “citadel of privity.”<sup>168</sup> During the nineteenth century, the rule of privity of contract governed most relations between buyers and sellers.<sup>169</sup> Privity meant that a seller was liable for defects in the product sold only to the immediate purchaser with whom he had contracted.<sup>170</sup> The leading authority on privity was *Winterbottom v. Wright*, an English case from 1842 in which the driver of a stagecoach suffered an injury when a coach broke down and turned over.<sup>171</sup> The driver brought suit not against his employer, but against the contractor who had agreed with the employer to supply the coach and keep it in good repair.<sup>172</sup> The court denied any recovery on the ground that there was no “privity of contract” between the parties and hence the contractor owed no duty of care to the driver.<sup>173</sup> Subsequent cases carved exceptions to the rule, allowing recovery in the absence of privity in certain special situations. For instance, in the foundational case *Thomas v. Winchester*, a customer who purchased a mislabeled bottle of poison from a druggist recovered damages from the original seller who supplied the bottle to the druggist.<sup>174</sup>

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165. See 262 U.S. 276 (1923); see generally OWEN, *supra* note 120, at 250-58.

166. 262 U.S. at 276.

167. 111 N.E. 1050 (N.Y. 1916).

168. Prosser, *supra* note 113, at 1099. I previously discussed the development of the rule of privity in product liability cases in an article entitled *Product Liability and the Politics of Corporate Presence: Identity and Accountability in McPherson v. Buick*. See Jonathan Kahn, *Product Liability and the Politics of Corporate Presence: Identity and Accountability in McPherson v. Buick*, 35 LOY. L.A. L. REV. 3 (2001).

169. Prosser, *supra* note 113, at 1104.

170. *Id.*

171. (1842) 152 Eng. Rep. 402 (L.R. Exch.) 404; 10 W & M 109. 109-10.

172. *Id.* at 403-04.

173. *Id.* at 406. For an analysis of *Winterbottom v. Wright* as a classic “no duty” case see John Goldberg and Benjamin Zipursky, *The Moral of MacPherson*, 146 U. PA. L. REV. 1733, 1750-51 (1998).

174. 6 N.Y. 397, 397, 407 (N.Y. 1852).

The court reasoned that inherently dangerous products, such as poisons, demanded greater care in handling and foresight as to future uses on the part of producers and sellers.<sup>175</sup>

Under these limited conditions, liability for defectively manufactured products remained largely confined to the arena of contract law during the nineteenth century.<sup>176</sup> A person harmed by a product generally had legal recourse only against the person from whom they had purchased the item.<sup>177</sup> In a localized economy dominated by face-to-face market transactions this often meant that the purchaser had recourse against the actual producer. Moreover, as William Landes and Richard Posner have observed, most consumer products of this era were “simple,” in the sense that the consumer could determine their quality relatively easily through simple inspection.<sup>178</sup> Landes and Posner contrast such “simple” goods with “experience” and “credence” goods, which came to dominate consumer markets in the twentieth century.<sup>179</sup> “Experience goods require use rather than merely touching or inspection to reveal their qualities.”<sup>180</sup> “Credence goods . . . may not reveal their true attributes even after substantial use.”<sup>181</sup>

Landes and Posner offer automobiles as an example of a typical credence good.<sup>182</sup> By the early twentieth century, automobiles were

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175. *Id.* at 408-10.

176. See OWEN, *supra* note 120, at 250-51. See generally Prosser, *supra* note 113.

177. See Prosser, *supra* note 113, at 1100, 1104. See also OWEN, *supra* note 120, at 250-52.

178. WILLIAM LANDES & RICHARD POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 284 (1987). Landes and Posner give the example of a cantaloupe, whose ripeness can be determined by squeezing, as one such “simple” product. *Id.* Ironically, William Prosser earlier observed that “the extension of strict liability to third persons with whom the seller had made no contract came after the turn of the century . . . [in] the aftermath of a prolonged and violent national agitation over defective food.” Prosser, *supra* note 113, at 1104. Of course, this shift reflects the industrialization of food production by such corporate giants as Armour and other meat packers whose practices notoriously formed the model for Upton Sinclair’s muckraking novel, *THE JUNGLE*. See *id.* at 1105-06. This shows how food, a once seemingly simple and accessible product can be rendered distant, complex, and obscure through processes of industrialization in a national market economy.

179. LANDES & POSNER, *supra* note 178, 284-85

180. *Id.* at 284.

181. *Id.* at 284-85.

182. *Id.* at 284.

being produced by large corporations and distributed nationally through networks of intermediary dealers who were often distant from the point of production.<sup>183</sup> Indeed, the automobile also grew to become perhaps the archetypical representation of modern consumer society.<sup>184</sup>

*MacPherson v. Buick Motor Co.*, involved the collapse of a Buick Model 10 automobile due to a defective wheel.<sup>185</sup> Although Donald MacPherson purchased the car from the Close Brothers dealership, MacPherson instead chose to sue Buick for negligence.<sup>186</sup> In his opinion, Cardozo stated that the basic issue was “whether the defendant owed a duty of care and vigilance to anyone but the immediate purchaser.”<sup>187</sup> Close Brothers was the immediate purchaser and was hence in privity with Buick.<sup>188</sup> MacPherson was a subsequent purchaser not in privity with Buick.<sup>189</sup> There was no doubt that MacPherson could sue Close Brothers, but allowing MacPherson to trace liability back to Buick would have powerful and far reaching consequences—especially in an increasingly national market economy dominated by extended transactions where more and more goods flowed across many miles and through many hands before reaching their ultimate users.<sup>190</sup>

Central to Cardozo’s holding were the ideas of foreseeability and inspection. Cardozo asserted that, “[i]f [the manufacturer] is negligent, where danger is to be foreseen, a liability will follow.”<sup>191</sup> Cardozo was also sensitive to changing social and technological circumstances.<sup>192</sup> Thus, in reviewing a variety of previous cases

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183. See generally STEPHEN COONEY & BRENT D. YACOBUCCI, CONG. RESEARCH SERV., RL 32883, U.S. AUTOMOTIVE INDUSTRY: POLICY OVERVIEW AND RECENT HISTORY (2005), <http://www.ncseonline.org/NLE/CRSreports/05apr/RL32883.pdf>.

184. *Id.* at 1.

185. 111 N.E. 1050, 1051 (N.Y. 1916).

186. *Id.* at 1051.

187. *Id.*

188. See *id.* at 1053.

189. *Id.* at 1051, 1053, 1055.

190. *Id.* at 1053-54.

191. See *id.* at 1053.

192. See *id.* (“Precedents drawn from the days of travel by stagecoach do not fit the conditions of travel to-day. The principle . . . does not change, but the things subject to principle do change. They are whatever the needs of life in a developing civilization require them to be.”)

Cardozo distinguished *Winterbottom v. Wright*<sup>193</sup> with the terse assertion that “precedents drawn from the days of travel by stagecoach do not fit the conditions of travel to-day.”<sup>194</sup> Just as the new complex automobile of the 1910s was a “credence” good, where the complexity of the product conferred on the consumer a reasonable basis for relying upon the manufacturer to establish its soundness,<sup>195</sup> so to an even greater degree must the modern ratepayer rely upon utilities to establish the soundness of the decisions to construct nuclear power plants.

Cardozo’s opinion in *MacPherson* was still relatively new and of limited scope and influence when *Southwestern Bell* was decided. Indeed, the following year, Cardozo noted that the “current” established by *MacPherson* was “not uniform,” and that “recent decisions in Massachusetts have enforced the requirement of privity.”<sup>196</sup> Even the eminent Harvard Professor of Law, Warren Seavey in his effusive assessment of Cardozo’s contribution to tort law published in 1939, conceded that “it would not be true to say that the case has been universally followed.”<sup>197</sup> Seavey concluded, however, that “there is little doubt of the ultimate complete acceptance of Cardozo’s viewpoint.”<sup>198</sup> Time proved Seavey prescient. By 1960, William Prosser arrived at the conclusion that “during the succeeding years, this decision [*MacPherson v. Buick* <sup>199</sup>] swept the country, and with the barely possible but highly unlikely exceptions of Mississippi and Virginia, no American jurisdiction now refuses to accept it.”<sup>200</sup>

Three years after Prosser’s article, the California Supreme Court ushered in the modern era of products liability with Justice Robert Traynor’s opinion in *Greenman v. Yuba Power Products, Inc.*<sup>201</sup> Traynor enunciated the rule that, “a manufacturer is strictly liable in tort when an article he places on the market, knowing that it is to be

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193. (1842) 152 Eng. Rep. 402 (L.R. Exch.) 404; 10 W & M 109. 109-10.

194. 111 N.E. at 1053.

195. See LANDES & POSNER, *supra* note 178, at 284-85.

196. BENJAMIN CARDOZO, *THE GROWTH OF THE LAW* 78 (1924).

197. Warren Seavey, *Mr. Justice Cardozo and the Law of Torts*, 52 HARV. L. REV. 372, 379 (1939).

198. *Id.*

199. 111 N.E. 1050 (N.Y. 1916).

200. Prosser, *supra* note 113, at 1100.

201. 377 P.2d 897 (Cal. 1963).

used without inspection for defects, proves to have a defect that causes injury to a human being.”<sup>202</sup> Traynor went on to assert that “the purpose of such liability is to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves.”<sup>203</sup> The key point here is the “powerlessness” of consumers. Like the consumers in *Greenman*,<sup>204</sup> ratepayers too are powerless with respect to the choice of the product; they must buy electricity from the utility. Ratepayers are also powerless with respect to decisions made to build new plants which, if subsequently cancelled, might cause them significant economic harm.<sup>205</sup>

In his trail blazing concurrence twenty years earlier in *Escola v. Coca Cola Bottling Co.*,<sup>206</sup> Traynor articulated four reasons for strict product liability: “efficient compensation [loss spreading], efficient deterrence, inferred negligence, and consumer expectations.”<sup>207</sup> Building on Cardozo’s approach in *MacPherson*,<sup>208</sup> Traynor emphasized that products liability law must keep pace with changing social and technological developments:

As handicrafts have been replaced by mass production with its great markets and transportation facilities, the close relationship between the producer and consumer of a product has been altered. Manufacturing processes, frequently valuable secrets, are ordinarily either inaccessible to or beyond the ken of the general public. The consumer no longer has means or skill enough to investigate for himself the soundness of a product, even when it is not contained in a sealed package, and his erstwhile vigilance has been lulled by the steady efforts of manufacturers to build up confidence by advertising and marketing devices such as trade-marks. Consumers no longer approach products warily but accept them on faith, relying on the reputation of the manufacturer or the trade mark. Manufacturers have sought to justify that faith by increasingly high standards of inspection and a readiness to make good on defective products by

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202. *Id.* at 900.

203. *Id.* at 901.

204. *Id.*

205. See discussion *supra* Part II and p. 28-29.

206. 150 P.2d 436 (Cal. 1944).

207. Wright, *supra* note 159, at 1067.

208. 111 N.E. 1050 (N.Y. 1916).



way of replacements and refunds. The manufacturer's obligation to the consumer must keep pace with the changing relationship between them; it cannot be escaped because the marketing of a product has become so complicated as to require one or more intermediaries.<sup>209</sup>

Thus, like the consumer of complex modern technological goods, the ratepayer is not in a position to understand or investigate utility decisions that will ultimately affect the product he or she receives. Instead of relying on the reputation of the manufacturer, the ratepayer must rely on the vigilance of the PUC to protect their interests. Therefore, when it comes time to allocate the costs of cancelled nuclear plant projects, the PUC should consider whether, as is done in products liability cases, the party with the control over the product and the decisions made relative to its production and marketing are most appropriately situated to bear to costs of any harms caused by those decisions.

In 1965, the *Restatement (Second) of Torts* largely adopted the strict liability approach of *Greenman v. Yuba Power Products, Inc.*<sup>210</sup> Section 402A indicated that any seller of a product in a "defective condition unreasonably dangerous to the user or consumer" was strictly liable in tort for personal injury or property damage resulting from that defective condition.<sup>211</sup> The question remained, however, as to what constituted a "defective condition" that was "unreasonably dangerous." The concepts were first implemented through a "consumer expectations" test derived from Section 402A's comment g, which stated that a product is defective if it is "in a condition not contemplated by the consumer, which will be unreasonably dangerous to him,"<sup>212</sup> and the assertion in comment i, that a product is unreasonably dangerous if it is "dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchase it, with the ordinary knowledge common to the community as to its characteristics."<sup>213</sup>

The "consumer expectations" test, however, had two basic limitations. First, consumers are presumed to have no expectation of

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209. 150 P.2d at 443 (citations omitted).

210. See 377 P.2d 897 (Cal. 1963); RESTATEMENT (SECOND) OF TORTS §402A cmt. a (1965).

211. *Id.* §402A(1).

212. *Id.* §402A cmt. g.

213. *Id.* §402A cmt. i; see also, Wright, *supra* note 159, at 1078.

recovery when a product has open and obvious dangers.<sup>214</sup> If such a situation exists, the consumer cannot recover damages.<sup>215</sup> Second, the average consumer is assumed to have no reasonable expectation for safety regarding complex “credence” products.<sup>216</sup> Thus, the “consumer expectations” test soon came to be supplemented (and in some instances eclipsed) by a risk/utility test.<sup>217</sup> The substance of this test varies a bit from jurisdiction to jurisdiction but was given an influential articulation in 1973 by John Wade as a seven-factor balancing test.<sup>218</sup> The “risk/utility” test calls for a seven-factor balancing test. These factors include:

1. The usefulness and desirability of the product. [The product’s] utility to the user and to the public as a whole.
2. [The product’s safety]—the likelihood that [the product] will cause injury, and the probable seriousness of the injury.
3. The availability of a substitute product which would meet the same need and not be as unsafe.
4. The manufacturer’s ability to eliminate the [product’s unsafe characteristic] without impairing its usefulness or making it too expensive to maintain its utility;
5. The user’s ability to avoid danger by the exercise of care in the use of the product.
6. The user’s anticipated awareness of the dangers inherent in the product and their avoidability, because of general public knowledge of the obvious condition of the product, or of the existence of suitable warnings or instructions.
7. The feasibility, on the part of the manufacturer, of spreading the loss by setting the price of the product or carrying liability insurance.<sup>219</sup>

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214. Wright, *supra* note 159, at 1079.

215. *Id.*

216. *Id.* See LANDES & POSNER, *supra* note 178, at 284-85 (discussing credence goods).

217. Wright, *supra* note 159, at 1079-80.

218. See John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 *MISS. L.J.* 825, 837-38 (1973).

219. *Id.*

Richard Wright argues that the risk/utility test is not simply an “efficiency oriented” quantitative aggregation and balancing of identified costs and benefits.<sup>220</sup> To the contrary, the “risk/utility” test is a more qualitative and evaluative “consumer-oriented test which conforms to the general test in negligence law for putting others at risk.”<sup>221</sup> Wright notes that:

According to this general test, the creation of significant foreseeable risks to others is unreasonable unless the risks are substantially outweighed by direct or indirect desired benefits to those put at risk, cannot be reduced further without loss of those desired benefits, are not too serious, and are made known to those put at risk through proper warnings.<sup>222</sup>

The *Restatement (Third) of Torts: Products Liability* builds upon Wade’s seven-factor test, and states that a product “is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design . . . and the omission of the alternative design renders the product not reasonably safe.”<sup>223</sup> Wright notes that “the words ‘reasonable’ and ‘reasonably’ in this definition are elaborated through a ‘risk/utility balancing’ test,<sup>224</sup> whose

[Relevant] factors include, among others, the magnitude and probability of the foreseeable risks of harm, the instructions and warnings accompanying the product, and the nature and strength of consumer expectations regarding the product, including expectations arising from product portrayal and marketing. . . . [T]he likely effects of the alternative design on production costs; the effects of the alternative design on product longevity, maintenance, repair, and esthetics; and the range of consumer choice among products are factors that may be taken into

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220. Wright, *supra* note 159, at 1122.

221. *Id.*

222. *Id.* at 1122-23.

223. RESTATEMENT (THIRD) OF TORTS: PROD. LIAB. § 2(b) (1998).

224. Wright, *supra* note 159, at 1084.

account. . . . [E]vidence of the magnitude and probability of foreseeable harm may be offset by evidence that the proposed alternative design would reduce the efficiency and utility of the product. . . . On the other hand, it is not a [relevant] factor . . . that the imposition of liability would have a negative effect on corporate earnings or would reduce employment in a given industry.<sup>225</sup>

These standards can guide future evaluations of the “prudence” of investments of subsequently cancelled nuclear power plants. We can use products liability law to inform and update the original prudent investment standard articulated in *Missouri ex rel Southwestern Bell Telephone Co. v. Public Service Commission of Missouri* and given force by *Federal Power Commission v. Hope Natural Gas Co.*<sup>226</sup>

Foreseeability of risk remains central to both negligence and products liability. The risk at issue is the risk of a nuclear power plant’s cancellation. The foreseeability of this risk should play a major role in evaluating the reasonableness of a utility’s decision to embark on a nuclear power plant construction project.<sup>227</sup> One way to evaluate risk is to retrospectively analyze the outcomes of similar actions in the past. For instance, the cancellation of 120 plants between 1972 and 1990 provides one initial indication of past risk that indicates a high likelihood of future cancellations.<sup>228</sup>

In order to use past cancellations as a guide to generally assessing future risks, however, we must also consider the diverse factors contributing to these cancellations. Among the most prominent of these were: 1) the large cost overruns that plagued many plants;<sup>229</sup> 2) the fact that energy demand failed to keep pace with early forecasts in the aftermath of the oil price shocks of the early to mid-1970s which lead to both an increase in energy efficiency and a decrease in use;<sup>230</sup> 3) an increase in inflation that lead to high lending rates, which in turn constrained the ability of utilities to support capital intensive

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225. *Id.* at 1085 (quoting RESTATEMENT (THIRD) OF TORTS: PROD. LIAB. § 2(b) cmt. f (1998)).

226. *See* 262 U.S. 276, 289 fn. 1 (1924); 320 U.S. 591, 603 (1944).

227. *See supra* text accompanying note 191.

228. Douglas Hearth et al., *Nuclear power plant cancellations: sunk costs and utility stock returns*, 29 Q. J. BUS. & ECON. 102-03 (1990).

229. *How Nuclear Power Works*, *supra* note 2.

230. *Id.*

construction projects;<sup>231</sup> 4) grassroots public opposition to nuclear power grew to significant proportions as an off-shoot of the vigorous environmental movement of the late 1960s and early 1970s;<sup>232</sup> and 5) the major accident at Pennsylvania's Three Miles Island nuclear power plant in 1979 exacerbated all these above factors and led to greater concerns for safety and more aggressive regulatory oversight.<sup>233</sup> A few of these factors, which are specific to the 1970s and 1980s, seem unlikely to recur in that particular fashion. Inflation, for example, has been at historic lows for several years,<sup>234</sup> energy use forecasts are relatively conservative,<sup>235</sup> and public opposition to nuclear power has shifted largely toward support.<sup>236</sup> Ironically, some of same impulses toward environmentalism that led to such strong popular opposition to nuclear power in the 1970s now support nuclear energy as a low carbon alternative to fossil fuels that many view as an essential component of a larger strategy to address the threat of global climate change.<sup>237</sup> Safety and reliability concerns remain, however, as the Union of Concerned Scientists ("UCS") has stated that there have been more than forty-seven instances since

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231. *Id.*

232. *Id.*

233. *Id.*; See also *Barasch v. Pa. P.U.C.*, 532 A.2d 325, 327 (Pa. 1987) ("[G]rowing political and regulatory uncertainties arising from the nuclear accident at Three Mile Island, serious financial constraints of various [ ] members, and a reduced need for additional future capacity."); Testimony of Peter A. Bradford on Behalf of PCS Phosphate-White Springs, In re Nuclear Cost Recovery Clause, No. 090009-EI (Fla. Pub. Serv. Comm'n July 15, 2009), available at <http://www.psc.state.fl.us/library/filings/09/07143-09/07143-09.pdf> (regarding the impact of cost overruns in spurring a consumer revolt against nuclear power plant construction); Pierce, *supra* note 18, at 504-05 (discussing the impact of cost, reliability and safety concerns on plant cancellations); Max Schulz, Three Mile Island's Three-Decade Mark, CITY J. (March 26, 2009), <http://www.city-journal.org/2009/eon0326ms.html> (discussing the impact of the accident at Three Mile Island).

234. See, e.g. Annalyn Censky, *CPI: Inflation rate stays uncomfortably low*, CNNMONEY.COM (Oct. 15, 2010, 9:59 AM), [http://money.cnn.com/2010/10/15/news/economy/cpi\\_inflation/index.htm](http://money.cnn.com/2010/10/15/news/economy/cpi_inflation/index.htm)

235. See U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, ANNUAL ENERGY OUTLOOK 2010 WITH PROJECTIONS TO 2035 ii (2010), [http://www.eia.gov/oiaf/archive/aeo10/pdf/0383\(2010\).pdf](http://www.eia.gov/oiaf/archive/aeo10/pdf/0383(2010).pdf).

236. GALLUP, *supra* note 17.

237. See, e.g., Jeff Jacoby, *The Coming Nuclear Renaissance*, BOSTON GLOBE, Mar. 29, 2009, at A9; McCutcheon, *supra* note 12.

1979 in which nuclear reactors in the United States have been shut down for more than a year for safety reasons.<sup>238</sup>

While some activist groups, such as the UCS, maintain strong reservations about the environmental risk of nuclear power,<sup>239</sup> some of the clearest and strongest statements of significant foreseeable risk concern finance. For example, a 2003 report from the Congressional Budget Office evaluating the prospects for federal loan guarantees to support the construction of new nuclear power plants considered “the risk of default on such a loan guarantee to be very high – well above 50 percent.”<sup>240</sup> The report states that

The key factor accounting for this risk is that we expect that the plant would be uneconomic to operate because of its high construction costs, relative to other electricity generation sources. In addition, this project would have significant technical risk because it would be the first of a new generation of nuclear plants, as well as project delay and interruption risk due to licensing and regulatory proceedings.<sup>241</sup>

Similarly, a 2009 Moody’s Investor Services report noted that “from a credit perspective, the risks of building new nuclear generation are hard to ignore, entailing significantly higher business and operating risk profiles, with construction risk, huge capital costs, and continual shifts in national energy policy.”<sup>242</sup> The report characterized the new nuclear generation as a “‘bet the farm’ endeavor for most companies, due to the size of the investment and length of time needed to build a nuclear power facility.”<sup>243</sup> Financially, the risks of constructing new nuclear power plants are not only clearly foreseeable, but also substantial and significant.

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238. Bob Herbert, *Were Not Ready*, N.Y. TIMES, July 19, 2010, at A23.

239. See generally *How Nuclear Power Works*, *supra* note 2.

240. CONG. BUDGET OFF., CONG. BUDGET OFF. COST ESTIMATE S. 14 ENERGY POLICY ACT OF 2003 10-11 (2003), <http://www.cbo.gov/ftpdocs/42xx/doc4206/s14.pdf>.

241. *Id.* at 11.

242. MOODY’S GLOBAL INFRASTRUCTURE FIN., NEW NUCLEAR GENERATION: RATINGS PRESSURE INCREASING 2 (2009), [http://www.nukefreetexas.org/downloads/Moodys\\_June\\_2009.pdf](http://www.nukefreetexas.org/downloads/Moodys_June_2009.pdf).

243. *Id.* at 4.

Indeed, if a standard manufacturer were to put a product on the market with anywhere near a fifty percent chance of failure, courts would be hard pressed not to find such a product defective.

Foreseeability, however, is only one aspect of product liability.<sup>244</sup> The other critical component, particularly under the *Restatement Third of Torts (Product Liability)*, is the availability of a reasonable alternative design.<sup>245</sup> Such availability is particularly important in relation to the first factor illustrated by Wade: an evaluation of “the usefulness and desirability of the product—its utility to the user and to the public as a whole.”<sup>246</sup> Certainly, electricity is useful and desirable. The issue then becomes whether we are speaking of the value of generating *electricity* or the value of using *nuclear plants* to generate electricity. If we focus on the latter, then the standard of reasonable alternative design might be limited to designs for *nuclear* power generation. In these terms, advocates of building new nuclear power plants point to a new generation of reactors, which, they argue, are cleaner, cheaper and more reliable.<sup>247</sup>

In January, 2010, President Obama called for “building a new generation of safe, clean nuclear power plants in this country.”<sup>248</sup> In a recent report to Congress, the Department of Energy echoed the President’s enthusiasm, framing nuclear energy as a “key component” of on-going efforts to “achieve energy security and greenhouse gas (GHG) emission reduction objectives.”<sup>249</sup> Conveniently omitting the Three Mile Island incident from its calculations, the report asserted that “[t]he U.S. existing nuclear fleet has a remarkable safety and performance record.”<sup>250</sup> As for possible new plant construction, the report noted that:

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244. See OWEN, *supra* note 120, at 486-87, 495, 496 fn. 17. See generally *id.*

245. RESTATEMENT (THIRD) OF TORTS: PROD. LIAB. § 2(b) (1998).

246. Wade, *supra* note 218, at 837.

247. See, e.g., Jacoby, *supra* note 237, at A9; Ray Henry, *Nuclear industry takes new path for new plants*, ASSOCIATED PRESS (Aug. 31, 2010), <http://www.google.com/search?q=Nuclear+industry+takes+new+path+for+new+plants&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a>.

248. Timothy Gardner et al., *Obama Eager to Help Advance Climate Bill*, REUTERS (Jan. 28, 2010, 6:58 AM), <http://www.reuters.com/article/idUSTRE60R0ME20100128>.

249. U.S. DEP’T OF ENERGY, NUCLEAR ENERGY RESEARCH AND DEVELOPMENT ROADMAP v (2010), [http://nuclear.gov/pdfFiles/NuclearEnergy\\_Roadmap\\_Final.pdf](http://nuclear.gov/pdfFiles/NuclearEnergy_Roadmap_Final.pdf).

250. *Id.* at vi.

During the 30-year hiatus from new plant orders in the United States, some nations have continued to grow their nuclear industries. As a result, some other countries have advanced the state-of-the art in manufacturing of nuclear plant components and have made progress in applying more efficient construction techniques. The domestic industry can learn from these international experiences.<sup>251</sup>

Taking this cue, Atlanta-based Southern Power, Co. is looking to adopt a new approach to nuclear power plant construction while following an “off-the-shelf” strategy that looks to a few standardized nuclear power plant designs as a basis for new construction, rather than tailoring each plant to each locale.<sup>252</sup> This strategy promises to reduce costs and improve both reliability and safety.<sup>253</sup> It also makes nuclear power plants look more like the type of product typically covered by products liability law: items manufactured according to a standardized design. With a standardized design, the evaluation of design defects becomes more viable. Southern Power picked the Westinghouse Electric Co.’s AP1000 reactor from a group of competitors that included GE Hitachi Nuclear Energy’s ABWR (Advanced Boiling Water Reactor) and the ESBWR (Economic Simplified Boiling Water reactor), Areva’s EPR (Evolutionary Pressurized Reactor) and the US-APWR (Advanced Pressurized Water Reactor) from Mitsubishi Heavy Industries.<sup>254</sup> Each company claims its reactors are more efficient and economical than prior designs.<sup>255</sup> In particular, Jacques Besnainou, CEO of AREVA North America, asserted that “safety was a selling point for his firm’s EPR, which has a system to catch and cool a molten core in the event of a major accident.”<sup>256</sup>

These new nuclear reactors certainly seem to present reasonable alternative designs to the old generation. Pursuing their construction, therefore, might appear to be a prudent choice – certainly with respect to older designs. Yet, these designs are not without their own

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251. *Id.* at 22.

252. Henry, *supra* note 247 (noting that this is the same construction project that received eight billion dollars in loan guarantees from the Obama administration).

253. *See id.*

254. *Id.*

255. *See id.*

256. *Id.*



problems. The Areva EPR, in particular, “has been plagued by cost overruns” in construction projects in Finland and France.<sup>257</sup> Cost overruns in Finland alone are threatening to double the original projected construction cost of \$3.5 billion.<sup>258</sup> Moreover, most of the other projects for new generation nuclear reactors that have created a recent increase in applications for licenses to the Nuclear Regulatory Commission (NRC) have already been delayed or cancelled.<sup>259</sup> An estimated seventeen of nineteen applications currently submitted to the NRC have run into design problems, cost increases, or a downgrading of utility bond ratings.<sup>260</sup>

More importantly, however, is the consideration of a reasonable alternative to *electricity* generation. After all, electricity is the product that ratepayers are purchasing. Ratepayers have a secondary interest in its source. It is important, however, to add one caveat: it is reasonable to frame the issue not simply in terms of *electricity*, but in terms of the production of electricity in a manner that promotes the goals of *energy security* and *greenhouse gas reduction*.<sup>261</sup> Framed in these terms, it may be argued the reasonable alternatives to nuclear energy are numerous, various, and viable. Prominent among these would be similar investments in energy efficiency and renewable energy projects such as solar, wind and geothermal.<sup>262</sup> The Environment America Research & Policy Center, estimates that:

The up-front capital investment required to build 100 new nuclear reactors could prevent twice as much pollution over the next 20 years if invested in energy efficiency and clean, renewable energy instead. Taking into account the ongoing

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257. Peter Behr, *A Late Scramble to Fund 'Nuclear Renaissance' Kick-Start*, N.Y. TIMES (July 30, 2010), <http://www.nytimes.com/cwire/2010/07/30/30/climatewire-a-late-scramble-to-fund-nuclear-renaissance-83656.html>.

258. *Id.*

259. Diana S. Powers, *Nuclear Energy Loses Cost Advantage*, N.Y. TIMES (July 26, 2010), <http://www.nytimes.com/2010/07/27/business/global/27iht-renuke.html>.

260. *Id.*

261. See U.S. DEP'T OF ENERGY, *supra* note 249, at v, 47. See generally TRAVIS MADSEN ET AL., ENV'T AM. RESEARCH & POL'Y CTR., GENERATING FAILURE: HOW BUILDING NUCLEAR POWER PLANTS WOULD SET AMERICA BACK IN THE RACE AGAINST GLOBAL WARMING 7 (2009), <http://cdn.publicinterestnetwork.org/assets/3962c378b66c4552624d09cbd8ebba02/Generating-Failure---Environment-America---Web.pdf>.

262. See MADSEN ET AL., *supra* note 261, at 3.

costs of running the nuclear plants, a clean energy path would deliver as much as five times more progress for the money.<sup>263</sup>

Lest these be dismissed as partisan assertions by an anti-nuclear environmental group, it is worth noting that a 2009 report from McKinsey & Company concluded,

Energy efficiency offers a vast, low-cost energy resource for the US economy – but only if the nation can craft a comprehensive and innovative approach to unlock it. Significant and persistent barriers will need to be addressed at multiple levels to stimulate demand for energy efficiency and manage its delivery across more than 100 million buildings and literally billions of devices. If executed at scale, a holistic approach would yield gross energy savings worth more than \$1.2 trillion, well above the \$520 billion needed through 2020 for upfront investment in efficiency measures (not including program costs). Such a program is estimated to reduce end-use energy consumption in 2020 by 9.1 quadrillion BTUs, roughly 23 percent of projected demand, potentially abating up to 1.1 gigatons of greenhouse gases annually.<sup>264</sup>

Moreover, while nuclear power plants continue to rise in cost and face persistent cost-overruns, the price of solar energy has been steadily declining.<sup>265</sup> By one estimate, “solar photovoltaic power should be comparable to a new nuclear reactor in terms of its per-dollar ability to prevent global warming pollution” by 2018.<sup>266</sup>

Such claims may certainly be disputed. Surely they should not be taken at face value without further investigation. What they do provide, however, is a clear indication of the sort of questions that

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263. *Id.* at 1.

264. GRANADE ET AL., MCKINSEY & COMPANY, UNLOCKING ENERGY EFFICIENCY IN THE U.S. ECONOMY iii (2009), [http://www.mckinsey.com/client-service/electric-power-natural-gas/downloads/us\\_energy\\_efficiency\\_full\\_report.pdf](http://www.mckinsey.com/client-service/electric-power-natural-gas/downloads/us_energy_efficiency_full_report.pdf)

265. Powers, *supra* note 259.

266. MADSEN ET AL., *supra* note 261, at 3.

must be asked as we go down the road to increasing the quantity of nuclear power plants in America. If we were to confront future disputes about the allocation of costs for the cancellation of plants begun during this current potential nuclear renaissance, these claims would also indicate factors that will need to be considered in evaluating the “prudence” of the decision to commence such projects. In deciding whether ratepayers should bear the burden of these costs, PUCs employing the prudent investment standard should not simply look to industry practice and apply an analogue of the business judgment rule (this approach would remain appropriate for evaluating shareholder suits against directors, because shareholders have a *choice* about where to invest their dollars). Rather, they should consider the analogy to products liability law and updated concepts on negligence to evaluate whether there were reasonable alternatives to generating electricity that presented lower risks. In evaluating the reasonableness of the “design” of the decision to build a nuclear plant, future PUCs might consider applying the Wade’s seven factors as revised and incorporated into the Restatement (Third) of Torts: Products Liability.<sup>267</sup> Let us then take each factor and consider it in relation to the information presented above:

*The Magnitude and Probability of the Foreseeable Risks of Harm*

If we conceive harm in terms of the economic harm of allocating the costs of a cancelled nuclear power plant to ratepayers, then both the magnitude and probability of foreseeable risks of harm are high. Nuclear power plants cost billions of dollars,<sup>268</sup> and the costs incurred by plant cancellations are also likely to cost billions.<sup>269</sup> The probability of harm is also likely and foreseeable. As noted above, Moody’s characterizes nuclear plant construction as a “bet the farm” risk for utilities,<sup>270</sup> and the CBO has estimated the likelihood of default on guaranteed loans at over fifty percent.<sup>271</sup> Projects proposed

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267. See Wright, *supra* note 159, at 1081-82, 1085 (quoting RESTATEMENT (THIRD) OF TORTS: PROD. LIAB. § 2 cmt. f (1998)).

268. See MOODY’S GLOBAL INFRASTRUCTURE FIN., *supra* note 242, at 2, 5. See generally MADSEN ET AL., *supra* note 261.

269. Douglas Hearth et al., *Nuclear Power Plant Cancellations: Sun Costs and Utility Stock Returns*, 29 Q. J. BUS. & ECON. 102 (1990).

270. MOODY’S GLOBAL INFRASTRUCTURE FIN., *supra* note 242, at 2.

271. CBO, *supra* note 240, at 11.

before the NRC are already running into problems,<sup>272</sup> and new construction in Europe has experienced substantial cost overruns.<sup>273</sup> This factor clearly mitigates in favor of a finding of a “defect” in the decision to build a subsequently cancelled nuclear plant, indicating a want of prudence.

*The Instructions and Warnings Accompanying the Product*

The nuclear industry has largely touted the benefits of new plants and downplayed the risks.<sup>274</sup> The U.S. government is complicit here, as evidenced by the DOE report overlooking past safety issues.<sup>275</sup> Nonetheless, by and large, nuclear energy is represented to consumers as safe, efficient, economical and environmentally sound.<sup>276</sup> While warnings exist, they are not coming from the product manufacturer.<sup>277</sup> This factor also mitigates in favor of a finding of a “defect.”

*Consumer Expectations Regarding the Product, Including Expectations Arising From Product Portrayal and Marketing*

As evidenced by the recent Gallup Poll discussed above, public support for nuclear energy is high.<sup>278</sup> Consumers expect nuclear energy to enhance energy security and address problems of global climate change.<sup>279</sup> In this regard, a cancelled plant does not necessarily fail to meet such expectations. But consumers also expect

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272. See Powers, *supra* note 259.

273. See Behr, *supra* note 257.

274. See Dr. Richard A. Meserve, Chairman, U.S. Nuclear Regulatory Comm’n., What the National Energy Strategy Means for the Nuclear Power Industry, Remarks at the Energy Investor Policy and Regulation Conference (Dec. 4, 2001), <http://www.nrc.gov/reading-rm/doc-collections/commission/speeches/2001/s01-031.pdf>

275. See generally U.S. DEP’T OF ENERGY, *supra* note 249; see also *infra* text accompanying note 231.

276. See U.S. DEP’T OF ENERGY, *supra* note 249, at v-vi, 1, 9, 11-12, 34.

277. See, e.g., MADSEN ET AL., *supra* note 261, at 32; Henry, *supra* note 247; Herbert, *supra* note 238; *How Nuclear Power Works*, *supra* note 2; Jacoby, *supra* note 237, at A9.

278. See *supra* text accompanying note 17.

279. See generally JOSEPH A. STANISLAW, DELOITTE, CLIMATE CHANGE AND ENERGY SECURITY: THE FUTURE IS NOW (2007), [http://www.deloitte.com/assets/Dcom-SouthAfrica/Local%20Assets/Documents/wicw\\_ClimateChangeandSecurity\\_103007.pdf](http://www.deloitte.com/assets/Dcom-SouthAfrica/Local%20Assets/Documents/wicw_ClimateChangeandSecurity_103007.pdf).

nuclear power plants to produce electricity at a reasonable price.<sup>280</sup> A cancelled plant certainly fails in this regard.

*The Likely Effects of the Alternative Design on Production Costs; and*

*The Effects of the Alternative Design on Product Longevity,  
Maintenance, Repair, and Esthetics.*<sup>281</sup>

This brings us back to the question of whether we are speaking of alternative nuclear power plant designs or alternative designs for meeting demands for electricity. If we are discussing the former, then the concept of design defect is likely to fail; if the latter, then the issue remains more open to contest. As discussed above, there are very strong arguments that alternative approaches to meeting future energy demands promise to be more efficient, economical, safer, and more environmentally sound than nuclear power.<sup>282</sup> If the alternative “design” is conceived not as another type of nuclear power plant but as alternative modes of meeting future energy demand (such as efficiency, solar, wind, and geothermal) then a strong argument can be made that such alternatives are both preferable and viable alternatives to nuclear power plant construction. If these arguments come to pass, the choice not to pursue and implement such “alternative designs” for meeting future energy needs could be found unreasonable.

*The Range of Consumer Choice among Products are Factors that  
May Be Taken into Account*

The consumer as ratepayer has virtually no choice among products because it is a captive to the regulated monopoly.<sup>283</sup> This consideration weighed heavily in prior PUC decisions that analyzed the equities of allocating plant cancellation costs under the “used and useful” test.<sup>284</sup> Under this revised application of the “prudent investment” test, it

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280. See *supra* note 40 and accompanying text.

281. I will analyze #4 and #5 together because they both deal with issues of alternative design.

282. See *supra* text accompanying notes 262-63.

283. Tomain, *supra* note 155, at 257.

284. See *supra* text accompanying notes 46, 48 and 69-75; see generally Pierce, *supra* note 18, at 512-13.

would similarly weigh heavily in favor of allocating such costs to utilities.

*Evidence of the Magnitude and Probability of Foreseeable Harm  
May Be Offset by Evidence that the Proposed Alternative Design  
Would Reduce the Efficiency and Utility of the Product*

This factor allows the utility to introduce evidence that alternative modes of meeting future energy demands were not as safe, reliable, economical or efficient as nuclear power.<sup>285</sup> Strong arguments could be made by pointing to the experience of other countries, such as France, that have had large nuclear power programs contributing a substantial share of their electricity needs for decades.<sup>286</sup>

#### IV. CONCLUSION

A flurry of costly, protected, and complex disputes concerning the allocation of plant cancellation costs followed the collapse of the first boom in nuclear power plant construction during the 1970s and 1980s.<sup>287</sup> These cases led to divergent results that largely depended upon the jurisdiction and the standards or review specific courts applied. Such variation is almost always problematic and can introduce jurisdictional concerns into utility decisions that should be guided by basic considerations of appropriately meeting energy demand. This article has aimed to take a step toward harmonizing the “used and useful” test with the “prudent investment” test by proposing that the latter can be updated through the pursuit of an analogy to products liability law. By reconfiguring the concept of “prudence” away from its analogy to the business judgment rule toward products liability standards, this approach will provide a means to both respect precedent in those jurisdictions applying the “prudent investment” test and provide a more rational, consistent and equitable basis for allocating the costs of future nuclear plant cancellations.

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285. *Contra* text accompanying note 282.

286. See Julie Schmit., *U.S. Backs Loans for Nuclear Plants; Obama Says They're Key to Cutting Greenhouse Gases*, USA TODAY, Feb. 17, 2010 at 1A.

287. See discussion *supra* Part II.

