

# The Role of Economics in Environmental, Health, and Safety Regulation after *Entergy*

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## ABSTRACT

*The Supreme Court's 2009 decision in Entergy v. Riverkeeper was remarkable in at least two respects. First, it found permissible the use of economics and cost-benefit analysis in deciding whether the benefits achieved under federal Section 316(b) of the Clean Water Act regulation of power plant intake structures were worth the cost. This holding represents a shift in Clean Water Act jurisprudence that previously had deemphasized the role of economics.*

*The second remarkable aspect of Entergy is that Justice Breyer joined a conservative majority on substantive grounds (through his concurrence). While Justice Breyer has joined the conservative group on occasion, it marks the first time that Justice Breyer joined this bloc on the merits for an environmental case. Justice Breyer's concurrence reflects his long-held concern that administrative agencies can develop a myopic focus, or regulatory "tunnel vision." Regulatory tunnel vision occurs when an agency over regulates a particular societal problem at an opportunity cost to other, potentially more pressing, problems. In Entergy, the majority and Justice Breyer found it refreshing that the United States Environmental Protection Agency ("EPA") had acted to avoid tunnel vision by adopting a variance from regulations when the compliance costs would be "significantly greater than" the benefits to be achieved in terms of fish and plankton saved.*

*In this article, we consider the role of economics in environmental, health,*

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*and safety regulation after Entergy. We posit that Entergy, read with Breyer's concurrence, represents an important shift towards a regulatory and judicial acceptance of economics as a commonsense tool to prevent unreasonable regulatory outcomes. We argue that, if an agency is presented with reasonable, competent evidence that its action would have an unreasonable result (i.e., where costs are grossly disproportionate to benefits), then the agency should substantively address the evidence or change its course of action. After Entergy, an agency may stand on shaky legal ground if it entirely ignores competent evidence of gross disparities between costs and benefits.*

*Entergy remains highly relevant because states, such as California, have promulgated new Section 316(b) regulations under their delegated Clean Water Act authority. In this article, we provide a brief overview of how the California State Water Resources Control Board already has adjusted to Entergy by taking more balanced regulatory action when promulgating rules under Section 316(b). Importantly, the EPA also continues to develop revised Section 316(b) rules for existing facilities, having issued a revised rule for public review and comment on March 28, 2011.*

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## I. INTRODUCTION

The Supreme Court's 2009 decision in *Entergy v. Riverkeeper* was remarkable in at least two respects.<sup>1</sup> First, it found permissible the use of economics and cost-benefit analysis in deciding whether the benefits achieved under federal Clean Water Act regulation of power plant intake structures were worth the cost.<sup>2</sup> This holding represents a shift in Clean Water Act jurisprudence that previously had deemphasized the role of economics.<sup>3</sup>

The second remarkable aspect of *Entergy* is that Justice Breyer joined a conservative majority on substantive grounds (through his concurrence). While Justice Breyer has joined the conservative group on occasion,<sup>4</sup> it marks the first time that Justice Breyer joined this bloc on the merits for an environmental case.<sup>5</sup> Justice Breyer's concurrence reflects his long-held concerns that administrative agencies can develop a myopic focus, or "tunnel vision," as he termed it in his 1993 book, *Breaking the Vicious Circle: Toward Effective Risk Regulation*.<sup>6</sup> Regulatory tunnel vision occurs when an agency over regulates a particular societal problem at an opportunity cost to other, potentially more pressing, problems. Tunnel vision is particularly damaging and inefficient when the agency seeks to eliminate the "last ten percent" of a problem, often disregarding potentially exponential increases in costs that can occur at the margins for little commensurate benefit.<sup>7</sup> Tunnel vision can result in a misallocation of limited resources, high transaction costs as extraordinary compliance costs invite legal challenges, and inefficient outcomes as other important health or environmental problems are left underserved, leaving society with relatively little to show for these expensive, narrow pursuits.<sup>8</sup>

In *Entergy*, Justice Breyer found it refreshing that the United States Environmental Protection Agency ("EPA") had acted to avoid tunnel vision by adopting a variance from regulations when the compliance costs would be "significantly greater than" the benefits to be achieved in terms of fish and plankton saved. He and the conservative majority reacted against arguments that the EPA had no authority in any circumstance to determine that dramatic costs relative to limited benefits cannot influence agency decision-making.<sup>9</sup>

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<sup>1</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498 (2009).

<sup>2</sup> *Id.* at 1510.

<sup>3</sup> *See id.* at 1519–20 (Stevens, J., dissenting) (discussing history of congressional intent and legislative history with regards to cost-benefit analysis).

<sup>4</sup> *See infra* Part III.E.

<sup>5</sup> *See infra* note 146.

<sup>6</sup> JUSTICE STEVEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* (1993).

<sup>7</sup> *See id.* at 11–19.

<sup>8</sup> *See id.*

<sup>9</sup> *See* Jonathan Cannon, *The Sounds of Silence: Cost-Benefit Canons in Entergy Corp. v. Riverkeeper, Inc.*, 34 HARV. ENVTL. L. REV. 425, 427 (2010); *see also* *Riverkeeper, Inc. v. EPA*

In this article, we consider the role of economics in environmental, health and safety regulation after *Entergy*. We posit that *Entergy*, read with Breyer's concurrence, represents a significant shift towards regulatory and judicial acceptance of economics as a tool to prevent unreasonable regulatory outcomes. Our analysis is informed by Jonathan Cannon's *The Sounds of Silence: Cost-Benefit Cannons in Entergy Corp. v. Riverkeeper Inc.*, 34 HARV. ENVTL. L. REV. 425 (2010), which posits that *Entergy* creates a presumption for regulatory agencies to perform a "rough balancing of costs and benefits to screen out regulatory options whose costs are wholly disproportionate to their benefits" ("weak" cost-benefit analysis).<sup>10</sup> In other words, the weak cost-benefit analysis guards against unreasonable results.<sup>11</sup> This weak-form cost-benefit analysis stands in contrast to a traditional, formal or strong-form cost-benefit analysis that is "a creature of welfare economics," intended to "describ[e] the effects of regulatory options, both pro and con, on a single monetary scale, and its function is to maximize overall well-being."<sup>12</sup>

Our analysis of *Entergy* and Breyer's concurrence supports a more robust but nuanced presumption for a weak-form cost-benefit analysis. We believe that, if a statute is silent as to the role of costs and benefits, an agency is not automatically required to consider costs and benefits because such a presumption could create an unnecessary procedural burden where there is little risk of an unreasonable or inefficient regulatory outcome. If, however, an agency is presented with reasonable, competent evidence that its action would have an unreasonable result (i.e., where costs are grossly disproportionate to benefits), then the agency should substantively address the evidence or change its course of action. After *Entergy*, an agency may stand on shaky legal ground if it entirely ignores competent evidence of gross disparities between costs and benefits. Instead, the agency should substantively critique the presented evidence by explaining why the evidence is erroneous or inapplicable, or the agency should point to substantial evidence in the record supporting the reasonableness of its action despite the economic evidence. If the agency does not meet this burden, its action may fail as unreasonable under *Chevron*<sup>13</sup> Step Two and/or as arbitrary and capricious under the Administrative Procedures

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(*Riverkeeper II*), 475 F.3d 83, 100 (2d Cir. 2007).

<sup>10</sup> Cannon, *supra* note 9, at 427.

<sup>11</sup> *See id.* at 455.

<sup>12</sup> *Id.* at 428.

<sup>13</sup> *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc. (Chevron)*, 467 U.S. 837, 842-43 (1984). Under *Chevron*, a reviewing court follows a two-part test that governs judicial review of an agency construction of a statute. First, the court examines the regulation against the statute that contains the charge. If the court concludes that Congress has "unambiguously expressed" its meaning, that meaning controls. However, if the statute is silent or ambiguous with respect to the specific issue, the court must uphold the agency's interpretation so long as it is "based on a permissible construction of the statute." If it is not, the court must reject it.

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Act.<sup>14</sup>

In making these arguments, we do not challenge Congress's authority within the bounds of the Constitution to direct agencies to take certain actions without exploring the relationship between costs and benefits. Where Congress clearly has directed a certain approach by the agency, the inquiry ends at *Chevron* Step One.<sup>15</sup>

We believe this approach is both reasonable and practical. It largely places the burden on the regulated community to present competent evidence of gross disparities between cost and benefits. This approach focuses solely on avoiding unreasonable results — a commonly accepted goal.<sup>16</sup> Although the agency would be obligated to substantively respond to the evidence, its response need establish only the reasonableness of its action.<sup>17</sup> After *Entergy*, a majority of Justices appear to support a basic rule that, absent clear legislative intent, an agency does not have the discretion to take an action whose costs unreasonably exceed benefits.

We expect our approach would bring substantial public benefits. It would steer agencies towards more balanced decision-making by encouraging reasonable and more efficient regulatory outcomes without mandating overly formal cost-benefit analyses that could be viewed as too restrictive or time-consuming for certain environmental or safety regulatory regimes.<sup>18</sup> By way of example, we provide a brief overview of how the California State Water Resources Control Board already has adjusted to *Entergy* by taking more balanced regulatory action when promulgating rules under Clean Water Act Section 316(b).

## II. HISTORY OF SECTION 316(b) REGULATION FOR EXISTING POWER PLANTS

### A. *Impingement and Entrainment: Cooling Water Intake Structures*

At issue in *Entergy* is one of the most vexing regulatory issues facing the energy sector today, the regulation of cooling water under Section 316(b) of the federal Clean Water Act ("Section 316(b)").<sup>19</sup> Electricity generators in the United States use trillions of gallons of water per year to dissipate heat from the generation process.<sup>20</sup> Water used for cooling is often drawn from bodies of

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<sup>14</sup> 5 U.S.C. § 706(2)(A) (2000).

<sup>15</sup> See *Chevron*, 467 U.S. at 842-43.

<sup>16</sup> See Cannon, *supra* note 9, at 455 (citing Einer Elhauge, *Preference-Estimating Statutory Default Rules*, 102 COLUM. L. REV. 2053 (2002)).

<sup>17</sup> See *Chevron*, 467 U.S. at 842-43.

<sup>18</sup> See *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct 1498, 1515 (2009) (Breyer, J., concurring and dissenting).

<sup>19</sup> 33 U.S.C. § 1326(b) (2006).

<sup>20</sup> See Karl R. Rábago, *What Comes Out Must Go In: Cooling Water Intakes and the Clean*

water adjacent to power generating plants.<sup>21</sup> The process of withdrawing cooling water can result in fish and other large marine life being trapped on structures intended to prevent debris from entering the power plant's cooling system ("impingement").<sup>22</sup> Larvae and other small organisms in the water can pass through these structures and become entrained into the cooling system ("entrainment").<sup>23</sup>

Three basic classes of cooling water intake systems are available. First, once-through cooling systems draw water into the plant and pass it through the condenser systems before discharging the warmed water back into the environment.<sup>24</sup> Second, closed-cycle cooling systems recycle a single supply of water through the system.<sup>25</sup> Water is passed through the condenser systems to provide cooling, and then the water is cooled with air so that it can be reused.<sup>26</sup> Because this water supply is recycled, closed-cycle systems withdraw only two to four percent of the amount of water used by a comparable once-through system, thus reducing impingement and entrainment.<sup>27</sup> The third type of cooling system, dry cooling, uses air drafts to transfer heat and thus virtually eliminates the need for water for cooling purposes.<sup>28</sup>

*B. Section 316(b) Requires Cooling Water Intake Structures To Reflect The Best Technology Available*

On October 18, 1972, Congress enacted the Clean Water Act<sup>29</sup> to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."<sup>30</sup> The Clean Water Act includes a specific provision, Section 316(b),

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*Water Act*, 16 HARV. ENVTL. L. REV. 429 (1992).

<sup>21</sup> See, e.g. *Entergy*, 129 S. Ct. at 1502.

<sup>22</sup> William A. Anderson, II & Eric P. Gotting, *Taken in Over Intake Structures? Section 316(b) of the Clean Water Act*, 26 COLUM. J. ENVTL. L. 1, 8 (2001).

<sup>23</sup> Anderson & Gotting, *supra* note 22, at 8-9; Sara Gersen, Riverkeeper, Inc. v. United States Environmental Protection Agency: *Applying the Clean Water Act's Best Technology Available to Existing Cooling Systems*, 35 ECOLOGY L.Q. 269 (2008); see EPA, *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule*, A3-18, Table A3-8 (Feb. 2004). Of the 554 power plants identified by EPA as subject to 316(b), approximately 24% use estuary/tidal rivers or the ocean as the source of cooling.

<sup>24</sup> See *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174, 182 n.5 (2d Cir. 2004).

<sup>25</sup> See *id.*

<sup>26</sup> See *id.*

<sup>27</sup> See Rábago, *supra* note 20, at 430.

<sup>28</sup> See *Riverkeeper I*, 358 F.3d at 182 n.5.

<sup>29</sup> Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387 (2006). Prior to the adoption of the Clean Water Act, it appears that Congress first became formally aware of intake effects when considering thermal pollution in the 1960s. See *Thermal Pollution—1968: Hearing Before the Subcomm. On Air and Water Pollution of the Senate Comm. On Public Works*, 90th Cong., 2d Sess. 136-139 (1968).

<sup>30</sup> 33 U.S.C. § 1251(a) (2006).

regulating cooling water intake structures.<sup>31</sup> Section 316(b) is unique among the other Clean Water Act provisions in that it governs the intake of water, as opposed to the discharge of pollutants. Section 316(b) provides:

Any standard established pursuant to section 301 [33 U.S.C. § 1311] or section 306 [33 U.S.C. § 1316] of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts.

Section 301 requires the EPA to develop effluent limitations that govern existing sources.<sup>32</sup> Therefore, Section 316(b) also “applies to existing sources for which there are effluent limitations.”<sup>33</sup> Section 306 “requires EPA to promulgate standards of performance for new sources and specifically requires that such standards be set for steam electric power plants.”<sup>34</sup> The “best technology available for minimizing adverse environmental impacts” standard in Section 316(b) is also known as the “BTA” standard.

The legislative history specific to Section 316(b) is slim.<sup>35</sup> Section 316(b) has been characterized as an “afterthought, having been added by the conference committee without substantive comment.”<sup>36</sup> Indeed, the only specific reference to Section 316(b) in the congressional debates consists of a floor speech by a single representative, Representative Don H. Clausen, who stated that best technology available should be interpreted as the best technology available commercially at an economically practicable cost.<sup>37</sup> Although there is only one

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<sup>31</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d at 185 n.3; 33 U.S.C. § 1326(b) (2006). This is a unique provision among the other Clean Water Act provisions in that it governs the intake of water, as opposed to the discharge of pollutants. *Riverkeeper I* at 186 (“Congress did not, however, choose to include intake structures in those sections of the Act that deal specifically with effluents. Instead, cooling water intake structures are *suorum generum*, regulated pursuant to a separate – and terse – section concerned more generally with the uniqueness of heat as a pollutant.”).

<sup>32</sup> 33 U.S.C. § 1311(b) (2006). Effluent guidelines are national standards that are developed by EPA on an industry-by-industry basis, and are intended to represent the greatest pollutant reductions that are economically achievable for an industry. See EPA, *Effluent Limitation Guidelines*, [http://water.epa.gov/scitech/wastetech/guide/questions\\_index.cfm](http://water.epa.gov/scitech/wastetech/guide/questions_index.cfm) (last visited Oct. 19, 2011).

<sup>33</sup> See James R. May & Maya K. van Rossum, *The Quick and The Dead: Fish Entrainment, Entrapment, and the Implementation and Application of Section 316(b) of the Clean Water Act*, 20 VT. L. REV. 373, 386 (1995).

<sup>34</sup> May & van Rossum, *supra* note 33, at 386; see CWA § 306(1)(A)-(B), 33 U.S.C. § 1316(b)(1)(A)-(B) (2006).

<sup>35</sup> See S. REP. NO. 92-1236, at 137 (1972) (Conf. Rep.), reprinted in 1972 U.S.C.C.A.N. 3776, 3814 (reporting language of Section 316(b) without elaboration).

<sup>36</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper II)*, 475 F.3d 174 at 186 n.12 (2d Cir. 2007); see S. REP. NO. 92-1236, at 137 (1972) (Conf. Rep.), reprinted in 1972 U.S.C.C.A.N. 3776, 3814 (reporting language of statute without elaboration).

<sup>37</sup> See National Pollutant Discharge Elimination System—Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities, 69 Fed. Reg. 41,576, 41,604 (July 9, 2004) (citing 118 Cong. Rec. 33,762 (1972) (reprinted in 1 Legislative

reference to Section 316(b) in the congressional debates, the cross-reference in Section 316(b) to Sections 301 and 306 of the Act was interpreted as “an invitation” to read Section 316(b) in conjunction with “other sections in the bill including section 301 effluent limitations . . . and section 306, new sources.”<sup>38</sup>

*C. For Over 30 Years, EPA Has Found It Unreasonable For BTA Costs To Be Wholly Disproportionate To The Benefits Achieved*

The EPA has “long recognized that there should be some reasonable relationship between the cost of cooling water intake structure control technology and the environmental benefits associated with its use.”<sup>39</sup> In 1977, EPA General Counsel determined that “[a]ny cooling water intake technology may be imposed under Section 316(b) . . . if the cost of the technology is *not* ‘wholly disproportionate’ to the environmental gains to be derived from the application of the technology.”<sup>40</sup>

EPA General Counsel further explained that under Section 316(b), the EPA “has the ultimate burden of persuasion and economic considerations are appropriate.”<sup>41</sup> The General Counsel illustrated this point by noting that:

[It] would be more difficult for the Agency to show, for example, that the imposition of a \$25 million technology under Section 316(b) is not ‘wholly disproportionate’ to the magnitude of the adverse environmental impact if the discharger has shown under Section 316(a) that the overall impact of a less stringent thermal effluent limitation does not interfere with the protection and propagation of the balanced indigenous population.<sup>42</sup>

One early site-specific determination involved a nuclear-fueled, steam electric generating station proposed by the Public Service Company of New Hampshire (“PSCO”) in Seabrook, New Hampshire (“*Seabrook II*”).<sup>43</sup> In *Seabrook II*, the EPA Administrator acknowledged that Section 316(b) does not contemplate a

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History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. at 264 (Comm. Print 1973) (statement of Don H. Clausen)).

<sup>38</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174, 186 (2d Cir. 2004) (quoting 118 Cong. Rec. 33,765 (1972) (statement of Rep. Clark)).

<sup>39</sup> 69 Fed. Reg. at 41,604.

<sup>40</sup> *In re Cent. Hudson Gas and Elec. Corp. (Central Hudson)*, Op. EPA Gen. Counsel 63 (1977) (emphasis added), 1977 WL 28250 (E.P.A.G.C.), 8 (Westlaw).

<sup>41</sup> *Id.*

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

<sup>43</sup> *In re Pub. Serv. Co. of N.H. (Seabrook II)*, 1977 EPA App. LEXIS 16, \*16 (EAB 1977); see May & van Rossum, *supra* note 33, at 402. Historically, Section 316(b) has been implemented through the National Pollution Discharge Elimination System (NPDES) permitting program, which requires an initial permit to be renewed every five years. See Water Permitting 101, Environmental Protection Agency, Office of Wastewater Management, available at <http://www.epa.gov/npdes/pubs/101pape.pdf>.

formal cost-benefit analysis.<sup>44</sup> However, he determined that the legislative history of the Clean Water Act and the preamble to the 1976 Regulations directed BTA to mean “best technology commercially available at an economically practicable cost.”<sup>45</sup> Thus, it was not “reasonable to interpret Section 316(b) as requiring use of technology whose cost is *wholly disproportionate to the environmental benefit to be gained*.”<sup>46</sup> This much-quoted phrase by the Administrator became known as the “wholly disproportionate” test.<sup>47</sup> The *Seabrook II* determination was challenged in court, but the First Circuit ultimately endorsed the EPA’s approach.<sup>48</sup> The court held that “the legislative history clearly makes cost an acceptable consideration in determining whether the intake design ‘reflect[s] the best technology available.’”<sup>49</sup>

*D. In Absence Of Uniform Regulations, EPA Implemented Section 316(b) On Case-By-Case Basis Using Best Professional Judgment*

1. EPA’s 1977 Section 316(b) Regulations Remanded By Fourth Circuit On Procedural Grounds

On April 16, 1976, EPA first published rulemaking governing Section 316(b).<sup>50</sup> Although EPA rejected formal cost-benefit assessment requirements, EPA did note that applying the BTA standards “should not impose an impracticable and unbearable economic burden on the operation of any plant subject to Section 316(b).”<sup>51</sup> The 1976 regulations referenced Representative Clausen’s Congressional floor remarks, which construed the BTA language within Section 316(b) to mean the “best available technology available

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<sup>44</sup> *Seabrook II*, 1977 EPA App. LEXIS 16, at \*17–18.

<sup>45</sup> *Id.* at \*18 (citing CWA Legis. Hist. 93d Cong., 1st Sess. at 264 (1972)).

<sup>46</sup> *Id.* at \*18–19 (emphasis added).

<sup>47</sup> May & van Rossum, *supra* note 33, at 403.

<sup>48</sup> *Seacoast Anti-Pollution League v. Costle*, 597 F.2d 306 (1st Cir. 1979).

<sup>49</sup> *Id.* at 311.

<sup>50</sup> 41 Fed. Reg. 17,387 (April 26, 1976); 40 C.F.R. Pt. 402. On December 13, 1973, EPA issued proposed regulations to implement the requirements of Section 316(b). 38 Fed. Reg. 34,410 (Dec. 13, 1973). The proposal included a new Part 402 of Title 40 of the Code of Federal Regulations, which was “intended to provide a framework for the case-by-case determination of the best technology available” as required by the statute. Cooling Water Intake Structures, 38 Fed. Reg. 34,410 (Dec. 13, 1973) (codified at 40 C.F.R. §§ 401–402). Both the proposed and final versions relied upon “Development Documents” that discussed factors and design alternatives to consider under a Section 316(b) determination. See U.S. Environmental Protection Agency, *Development Document For Best Technology Available For The Location, Design, Construction and Capacity of Cooling Water Intake Structures For Minimizing Adverse Environmental Impact* (1976).

<sup>51</sup> Final-Rule regarding 40 CFR Parts 401 and 402, 41 Fed. Reg. 17,387, 17,388 (April 26, 1976).

commercially at an economically practicable cost.”<sup>52</sup>

In 1977, a coalition of 58 electric utility companies challenged the validity of EPA’s cooling water intake regulations in *Appalachian Power Co. v. Train*.<sup>53</sup> The Fourth Circuit struck down the regulations on procedural grounds without reaching the merits.<sup>54</sup> The court found that EPA had failed to comply with the Administrative Procedure Act by relying on materials that were not published in the Federal Register as part of the regulations or made available during the notice and comment period.<sup>55</sup> The Fourth Circuit Court of Appeals remanded the regulations back to EPA. Following the remand, EPA withdrew the regulations in 1979.<sup>56</sup> Subsequently, EPA continued to impose cooling water intake conditions on a case-by-case, site-specific basis using a “best professional judgment” standard for over the next 30 years.<sup>57</sup> This standard included use of the wholly disproportionate test.<sup>58</sup>

## 2. 1995 Consent Decree Established Schedule For Section 316(b) Regulations

In 1995, eighteen years after the Fourth Circuit struck down EPA’s initial Section 316(b) regulations, a group of environmental organizations brought suit under Section 505 of the Clean Water Act seeking to compel EPA to promulgate regulations.<sup>59</sup>

On October 10, 1995, the U.S. District Court, Southern District of New York, entered a Consent Decree between the parties, directing EPA to regulate cooling water intake structures under Section 316(b).<sup>60</sup> Under the Consent Decree, EPA agreed to issue regulations in three phases.<sup>61</sup> Phase I would govern new facilities, Phase II would cover large, existing power plants, and Phase III would regulate both existing power plants not covered by Phase II and other industrial facilities.<sup>62</sup> Following a series of extensions to the Consent Decree, the court ordered EPA to propose Phase I regulations for new sources by July 20, 2000, and Phase II regulations for existing sources by July 2001.<sup>63</sup>

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<sup>52</sup> 118 Cong. Rec. 33762 (Oct. 4, 1972); see *Riverkeeper I*, 358 F.3d at 187.

<sup>53</sup> *Appalachian Power Co. v. Train*, 566 F.2d 451 (4th Cir. 1977).

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

<sup>55</sup> *Id.* at 456–57; see also Administrative Procedure Act, 5 U.S.C. § 552(a)(1) (2000).

<sup>56</sup> National Pollutant Discharge Elimination System; Revision of Regulations, 44 Fed. Reg. 32,854, 32,956 (June 7, 1979).

<sup>57</sup> See *Entergy*, *supra* note 1, at 1503.

<sup>58</sup> See *id.* at 1509.

<sup>59</sup> *Cronin v. Browner*, 898 F. Supp. 1052, 1055, 1056 (S.D.N.Y. 1995).

<sup>60</sup> *Riverkeeper, Inc. v. Whitman*, No. 93 Civ. 0314 (AGS), 2001 WL 1505497, \*1 (S.D.N.Y. 2001) (noting that consent decree was entered into on October 10, 1995).

<sup>61</sup> See *id.*

<sup>62</sup> *Id.* at \*1, \*1 n.3.

<sup>63</sup> *Cronin*, 90 F. Supp. 2d 364, at 376.

3. *Riverkeeper I* – Court Upholds EPA’s Phase I Section 316(b) Regulations For New Large Power Plants

On December 18, 2001, EPA issued Phase I regulations for facilities built after 2002.<sup>64</sup> Phase I governs power plants and manufacturers that withdraw more than two million gallons per day from U.S. waters and that use at least 25% of their intake water for cooling.<sup>65</sup> Smaller new facilities continued to be regulated on a case-by-case, best-professional-judgment basis.<sup>66</sup>

In *Riverkeeper v. United States Environmental Protection Agency* (“*Riverkeeper I*”), environmental groups challenged the Phase I regulations.<sup>67</sup> The groups argued that dry cooling systems were required to meet the BTA standard.<sup>68</sup> They also argued that the cost considerations relied upon by EPA in selecting closed-cycle cooling systems were impermissible because Section 316(b) does not mention costs.<sup>69</sup> The court sustained the EPA’s finding that closed-cycle cooling, and not dry cooling, was the “best technology available” for minimizing adverse environmental impact from water intake structures.<sup>70</sup> The court found that EPA’s decision to regulate some aspects of cooling water intake structures on a site-specific basis was within its authority.<sup>71</sup> The court also upheld a variance provision that allowed a facility to demonstrate that compliance costs would be wholly disproportionate to the costs used by EPA in establishing the rule (the “cost-cost” variance) or would result in significant adverse impacts on local air quality, water resources or energy markets.<sup>72</sup>

4. *Riverkeeper II* – 2004 Phase II Regulations For Existing Facilities Overturned And Remanded In Part By Second Circuit

On July 9, 2004, following the adoption of EPA’s Phase I regulations for new facilities, EPA promulgated Phase II regulations for large existing power plants with water-intake flows of more than 50 million gallons per day.<sup>73</sup> EPA relied, in part, on its 30-year interpretation of Section 316(b). That interpretation

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<sup>64</sup> See 40 C.F.R. § 125.83 (2011); National Pollutant Discharge Elimination System: Regulations Addressing Cooling Water Intake Structures for New Facilities, 66 Fed. Reg. 65,256 (Dec. 18, 2001).

<sup>65</sup> 40 C.F.R. § 125.81(a) (2011).

<sup>66</sup> 40 C.F.R. § 125.80 (2011).

<sup>67</sup> See *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174 (2d Cir. 2004).

<sup>68</sup> See *id.* at 194.

<sup>69</sup> See *id.* at 188-89 (finding that EPA could use alternative methods for complying with national technology-based performance standards, so long as methods yielded at least 90% of reductions in impingement and entrainment of organisms as that yielded under “fast track” approach to complying with standards).

<sup>70</sup> *Id.* at 196.

<sup>71</sup> *Id.* at 198.

<sup>72</sup> See *id.* at 193-94.

<sup>73</sup> 69 Fed. Reg. 41,576 (July 9, 2004).

allowed for a consideration of costs and benefits as a component of economic practicability in establishing site-specific conditions for cooling water intake structures.<sup>74</sup>

In the Phase II regulations, EPA interpreted the BTA to mean the “best technology available commercially at an economically practicable cost.”<sup>75</sup> EPA determined that “an important component of economic practicability” is “the relationship of costs to environmental benefits.”<sup>76</sup> The Phase II rule rejected closed-cycle cooling as the BTA, setting five compliance alternatives instead.<sup>77</sup> Though closed-cycle cooling systems could produce greater environmental benefits, EPA determined that the technology “[was] not economically practicable for many existing Phase II facilities.”<sup>78</sup> The last compliance alternative allowed EPA to evaluate compliance on a site-specific, case-by-case basis similar to the Agency’s practice under the wholly disproportionate test.<sup>79</sup>

The Phase II regulations permitted site-specific variances from the national performance standards if a facility could demonstrate the impracticability of the cost of compliance.<sup>80</sup> The first way a facility could establish this impracticability was by showing that the costs of compliance were “significantly greater than” the costs considered by EPA in setting the national standards (the “cost-cost” variance).<sup>81</sup> The second way a facility could establish the impracticability of compliance was by showing that the compliance costs “would be significantly greater than the benefits of complying” (the “cost-benefit” test).<sup>82</sup> Thus, instead of adopting the “wholly disproportionate” test,<sup>83</sup> EPA implemented a “significantly greater than” cost-benefit test.<sup>84</sup> Though worded differently, the new test seemed similar in purpose to the “wholly disproportionate” test.

In the preamble to the Phase II rule, EPA stated that a “consideration of the relationship of costs to environmental benefits is an important component of

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<sup>74</sup> See *Entergy Corp. v. Riverkeeper, Inc.* (Entergy), 129 S. Ct. 1498, 1509 (2009).

<sup>75</sup> See National Pollutant Discharge Elimination System—Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities, 69 Fed. Reg. 41,576, 41,604 (July 9, 2004); see also *id.* at 41,591 (authorizing five alternatives for Phase II existing facilities).

<sup>76</sup> 69 Fed. Reg. at 41,604.

<sup>77</sup> See 40 C.F.R. § 125.94(a) (2011); see *Riverkeeper II*, 475 F.3d at 93.

<sup>78</sup> National Pollutant Discharge Elimination System—Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities, 69 Fed. Reg. 41,576, 41,608 (July 9, 2004).

<sup>79</sup> 40 C.F.R. § 125.94(a)(5)(i)-(ii) (2011).

<sup>80</sup> See *Riverkeeper II*, 475 F.3d at 94.

<sup>81</sup> 40 C.F.R. § 125.94(a)(5)(i) (2011).

<sup>82</sup> 40 C.F.R. § 125.94(a)(5)(ii) (2011).

<sup>83</sup> See *Seabrook II*, 1977 EPA App. LEXIS 16, \*18–19 (EAB 1977).

<sup>84</sup> 40 C.F.R. § 125.94(a)(5)(i)(ii) (2011).

economic practicability.”<sup>85</sup> EPA determined it was a “reasonable interpretation of the statute” to allow the environmental benefits of the technology to be considered where the costs of installing the technology would be “significantly greater than the reduction in environmental impacts.”<sup>86</sup> EPA reasoned that it would be “economically impracticable” to force facilities to lower mortality rates pursuant to the national performance standards in some cases.<sup>87</sup> EPA noted that the economic impracticability of compliance costs was most evident in facilities that do not experience large amounts of impingement or entrainment.<sup>88</sup> EPA believed it would not be “cost effective” for these facilities “to achieve percentage reductions when attempting to save a small number of fish.”<sup>89</sup>

In *Riverkeeper v. EPA* (“*Riverkeeper II*”), the Phase II regulations were challenged in the Second Circuit.<sup>90</sup> *Riverkeeper II* held that Section 316(b) did not permit EPA to choose BTA by “compar[ing] the costs and benefits of various ends, and choos[ing] the end with the best net benefits.”<sup>91</sup> In the court’s view, Congress allowed only two limited types of cost considerations. First, EPA could determine whether the costs of a technology could be *reasonably borne* by the industry.<sup>92</sup> Second, EPA could consider the *cost-effectiveness* of competing technologies in determining BTA as long as the performance goal of minimizing adverse environmental impact was essentially equal.<sup>93</sup> Based on this reading of the statute, the Second Circuit rejected the site-specific cost-benefit variance as unlawful and remanded the Phase II Rule.<sup>94</sup> On remand, EPA was to explain whether it had impermissibly used a cost-benefit analysis when determining the performance standards as BTA.<sup>95</sup>

In response to the remand, EPA suspended the Phase II regulations pending further rulemaking.<sup>96</sup> EPA stated that ongoing interim permit requirements

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<sup>85</sup> National Pollutant Discharge Elimination System—Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities, 69 Fed. Reg. 41,576, 41,604 (July 9, 2004).

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

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

<sup>90</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper II)*, 475 F.3d 83 (2d Cir. 2007).

<sup>91</sup> *Id.* at 98-99.

<sup>92</sup> *Id.* at 99.

<sup>93</sup> *Id.* at 99-100. The Second Circuit had previously found that EPA could allow variances despite the absence of explicit statutory authority in Section 316(b). The court reasoned: “Section 316(b)’s silence with respect to variances does not . . . equal an unambiguous prohibition. In the absence of such a statutory bar, we think, consistent with precedent, that it is reasonable for EPA to allow variances from regulations promulgated pursuant to Section 316(b), for a regulatory system which allows flexibility, and a lessening of firm proscriptions in a proper case, can lend strength to the system as a whole.” *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174, 193 (2d Cir. 2004).

<sup>94</sup> *Riverkeeper II*, 475 F.3d at 115.

<sup>95</sup> *Id.* at 104-05 (also remanded on other grounds not at issue here.)

<sup>96</sup> National Pollutant Discharge Elimination System—Suspension of Regulations Establishing

should continue to be determined on a case-by-case basis using agency best professional judgment, as it had done for over 30 years.<sup>97</sup> EPA continues to develop revised Section 316(b) rules for existing facilities.<sup>98</sup>

Environmental and industry groups appealed *Riverkeeper II* to the U.S. Supreme Court. Certiorari was granted to answer the limited question of: “[w]hether [Section 316(b)] . . . authorizes the [EPA] to compare costs with benefits in determining ‘the best technology available for minimizing adverse environmental impact’ at cooling water intake structures.”<sup>99</sup>

### III. THE SUPREME COURT HOLDS THAT EPA’S BALANCING OF COSTS AND BENEFITS WAS A REASONABLE INTERPRETATION OF SECTION 316(B)

#### A. Entergy Finds Section 316(b) Ambiguous

The Supreme Court initiated its review in *Entergy* by asking whether the EPA’s interpretation of Section 316(b) rule “is a reasonable interpretation of the statute.”<sup>100</sup> Under the long-standing *Chevron*<sup>101</sup> standard of review, a court follows a two-part test in evaluating an agency’s construction of a statute. First, the court compares the regulation against the statute that contains the charge.<sup>102</sup> If the court concludes, “after employing standard tools of statutory interpretation, that Congress has ‘unambiguously expressed’ its meaning, that meaning controls.”<sup>103</sup> However, if the court determines that the statute is silent or ambiguous on the specific issue, the court must uphold the agency’s interpretation so long as it is “based on a permissible construction of the statute.”<sup>104</sup> If it is not, the court must reject it.<sup>105</sup>

In a footnote within the dissenting opinion, Justice Stevens stated that it was “puzzling” that the majority did not follow the traditional *Chevron* analysis.<sup>106</sup>

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Requirements for Cooling Water Intake Structures at Phase II Existing Facilities, 72 Fed. Reg. 37,107 (July 9, 2007).

<sup>97</sup> 72 Fed. Reg. 37,107, 37,108 (July 9, 2007); see 44 Fed. Reg. 32854, 32956/1 (June 7, 1979) (withdrawing remanded regulations, but leaving intact a provision that had not been remanded).

<sup>98</sup> EPA issued a revised Phase II rule for existing facilities for public review and comment on April 20, 2011. See <http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/index.cfm> (last visited Oct. 19, 2011).

<sup>99</sup> Entergy Corp. v. Riverkeeper, Inc. (*Entergy*), 129 S. Ct. 1498, 1509 (2009).

<sup>100</sup> *Entergy*, 129 S. Ct. at 1505 (citing *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc. (Chevron)*, 467 U.S. 837, 843 (1984)).

<sup>101</sup> *Chevron*, 467 U.S. at 842-43.

<sup>102</sup> *Id.*

<sup>103</sup> See *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174, 184 (2d Cir. 2004) (citing *Chevron*, 467 U.S. 837, 843 (1984)).

<sup>104</sup> *Id.* (noting that a permissible construction of a statute is “one that is reasonable, not arbitrary, capricious, or manifestly contrary to the statute”) (internal quotations and citations omitted).

<sup>105</sup> See *Chevron*, 467 U.S. at 843.

<sup>106</sup> Entergy Corp. v. Riverkeeper, Inc. (*Entergy*), 129 S. Ct. 1498, 1518 n.5 (Souter, J.,

Justice Stevens' dissent expressed his belief that the majority had failed to consider "whether Congress ha[d] directly spoken to the precise question at issue."<sup>107</sup> However, Justice Scalia rejected the suggestion that the majority opinion did not follow *Chevron*, stating:

What is truly 'puzzling' is the dissent's accompanying charge that the Court's failure to conduct the *Chevron* step-one inquiry at the outset 'reflects [its] reluctance to consider the possibility . . . that Congress' silence may have meant to foreclose cost-benefit analysis' . . . . Our discussion of that issue . . . speaks for itself.<sup>108</sup>

Despite the majority's response, it has been argued that *Entergy* muddles the waters of the *Chevron* doctrine, potentially pointing to a melding of Step One and Step Two of the two-part test.<sup>109</sup> An in-depth review of *Chevron* goes beyond the scope of this article. However, we believe the better reading of *Entergy* is that the Court did not skip *Chevron* Step One but instead moved quickly to *Chevron* Step Two due to the obvious ambiguity of Section 316(b). Although the majority did not explicitly address Step One of the *Chevron* test, it found that several terms within Section 316(b) supported multiple interpretations.<sup>110</sup> Specifically, "best technology" could mean either "the one that produces the most of some good" or "the technology that *most efficiently* produces some good."<sup>111</sup> Additionally, "minimize" is a term that "admits of degree" and has varying usages even within the Clean Water Act.<sup>112</sup> Even

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dissenting).

<sup>107</sup> *Id.*

<sup>108</sup> *Id.* at 1505 n.4.

<sup>109</sup> In *The Supreme Court's Impingement of Chevron's Two-Step*, Marianne Shanor not only makes the observation that *Entergy* "call[s] into question the distinction between Step One and Step Two of the *Chevron* doctrine," but she asserts that *Entergy* "invigorates support for a single-step *Chevron* inquiry." Marianne Kunz Shanor, *The Supreme Court's Impingement of Chevron's Two-Step*, 10 WYO. L. REV. 537, 537 (2010). In fact, Ms. Shanor's main argument is that, as a result of *Entergy*, "the . . . Court should explicitly collapse the two-step *Chevron* doctrine into a single-step inquiry: 'whether the agency's construction is permissible as a matter of statutory interpretation.'" *Id.* at 546. In flushing out this argument, Ms. Shanor takes note of several other legal articles that either advocate for a single-step approach, or discuss how often the Court "muddles" *Chevron* into a single-step approach. See *id.* at 547 nn. 99–101.

<sup>110</sup> See *Entergy*, 129 S. Ct. at 1506.

<sup>111</sup> *Id.* at 1506.

<sup>112</sup> *Id.* A review of the *Entergy* oral arguments provides further evidence of Section 316(b)'s ambiguity. Deputy Solicitor General Daryl Joseffer, for EPA, argued that "best" is "not necessarily the way that most single-mindedly pursues a goal at all costs without regard to all of the consequences." Transcript of Oral Argument at 15, *Entergy Corp. v. Riverkeeper Inc.*, 129 S. Ct. 1498 (2009) (No. 07-588), 2008 WL 5070695. Similarly, "'minimize' has two perfectly common and ordinary meanings. One is to reduce to the greatest extended (sic, likely "extent") possible. The other in ordinary usage is to reduce to some lesser, reasonable level." *Id.* at 15-16 (emphasis added). Mr. Joseffer pointed out that "elsewhere in the [Clean Water Act] . . . Congress clearly did use 'minimize' to mean reduction" because Congress called for a "drastic minimization of paperwork." *Id.* at p. 16.

Justice Stevens' dissent pointed out that:

Respondents concede that the term 'available' is ambiguous, as it could mean either technologically feasible or economically feasible. But any ambiguity in the term 'available' is largely irrelevant. Regardless of the criteria that render a technology 'available,' the EPA would still have to determine which available technology is the 'best' one [and] that determination may well involve consideration of the technology's relative costs and benefits.<sup>113</sup>

Richard Lazarus, on behalf of the environmental respondents, stated that availability meant "both technologically available and economically available."<sup>114</sup> Justice Scalia challenged this usage of "economically available" as ambiguous:

JUSTICE SCALIA: You are using the word in a strange [way] – economically available? Economically feasible maybe. But you wouldn't say economically available. You wouldn't say I can't buy the house because for me it's not economically available . . . . That's weird.<sup>115</sup>

Justice Souter then asked Mr. Lazarus, "if availability includes economic availability, why doesn't 'best' include economically best?"<sup>116</sup> Mr. Lazarus responded that the "best technology available for minimizing . . . is not reducing it to the amount that EPA believes is sensible."<sup>117</sup> The following exchange ensued:

JUSTICE SCALIA: [B]ut that doesn't answer . . . the question. Yes, the best available for that purpose, but what is best for that purpose could include other factors such as how expensive is it and — and how much it harms the industry and all sorts of things.

MR. LAZARUS: No, it certainly — it certainly includes costs. It certainly includes sort of whether it can be reasonably borne by the industry. There's —

JUSTICE SCALIA: Why? Why does it? I don't know how you draw the lines you are drawing. You say yes, 'best' includes whether it would bankrupt the industry. Well, if it includes whether it would bankrupt the industry, why shouldn't it include whether it would bankrupt the individual

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<sup>113</sup> *Entergy*, 129 S. Ct. at 1506 n.5 (emphasis added).

<sup>114</sup> Transcript of Oral Argument at 32, *Entergy Corp. v. Riverkeeper Inc.*, 129 S. Ct. 1498 (2009) (No. 07-588), 2008 WL 5070695.

<sup>115</sup> *Id.* at 32.

<sup>116</sup> *Id.* at 32.

<sup>117</sup> *Id.* at 33.

power company?<sup>118</sup>

In sum, the oral arguments included an extensive focus on the multiple meanings of “minimize,” “available,” and “best.” Thus, in our opinion, the better reading of *Entergy* is that the majority simply moved quickly to *Chevron* Step Two having found ambiguity obvious, as opposed to skipping *Chevron* Step One altogether. As summarized by Justice Alito in the oral arguments, “once you concede that [costs] can be taken into account at all, then I don’t see why you [a]re not in *Chevron* step 2.”<sup>119</sup>

*B. Section 316(b)’s Silence On Costs Does Not Preclude Cost-Benefit Analysis When Read In Context Of Other Technology Standards*

The Court turned next to whether the EPA’s interpretation of Section 316(b) was reasonable.<sup>120</sup> The Court considered whether the statutory context of Section 316(b) in the Clean Water Act precluded consideration of costs as a matter of congressional intent under Section 316(b). The Court noted that there are five applicable statutory standards found in the Clean Water Act: (1) Best Technology Available (“BTA”); (2) Best Practicable Technology (“BPT”); (3) Best Available Technology Economically Achievable (“BATEA”); (4) Best Available Demonstrated Technology (“BADT”); and (5) Best Control Technology (“BCT”).<sup>121</sup> BPT includes “consideration of the total cost . . . in relation to the . . . benefits to be achieved.”<sup>122</sup> BCT includes “consideration of the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived.”<sup>123</sup> BATEA includes taking into account “the cost of achieving . . . effluent reduction.”<sup>124</sup> Finally, BADT includes consideration of “the cost of achieving such effluent reduction, and any non-water quality environmental impact and energy requirements.”<sup>125</sup>

BTA (the standard at issue in *Entergy*), unlike the other four standards, is not accompanied by any statutorily mandated factors for implementation.<sup>126</sup> The *Entergy* dissent argued that, under the statutory construction maxim that silence implies prohibition, this silence prohibits the use of cost-benefit analysis when two of the other standards (BPT and BCT) directly authorize the use of such analysis.<sup>127</sup>

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<sup>118</sup> *Id.* at 33.

<sup>119</sup> *Id.* at 41.

<sup>120</sup> *See Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1505 (2009).

<sup>121</sup> *Id.* at 1506-07.

<sup>122</sup> 33 U.S.C. § 1314(b)(1)(B) (2006).

<sup>123</sup> 33 U.S.C. § 1314(b)(4)(B) (2006).

<sup>124</sup> 33 U.S.C. § 1314(b)(2)(B) (2006).

<sup>125</sup> 33 U.S.C. § 1316(b)(1)(B) (2006).

<sup>126</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1507 (2009).

<sup>127</sup> *Id.* at 1520 (Souter, J., dissenting) (“We should therefore conclude that Congress intended to

The majority rejected this argument as leading to absurd results. “The inference that respondents and the dissent would draw from the silence is, in any event, implausible as [316(b)] is silent not only with respect to cost-benefit analysis but with respect to all potentially relevant factors.”<sup>128</sup> The Court went on to note that “[i]f silence [in 316(b)] implies prohibition, then EPA could not consider *any* factors in implementing [316(b)] — an obvious logical impossibility.”<sup>129</sup> The Court instead interpreted 316(b)’s statutory silence as giving discretion to EPA. “It is eminently reasonable to conclude that [316(b)]’s silence is meant to convey nothing more than a refusal to tie the agency’s hands as to whether cost-benefit analysis should be used, and if so to what degree.”<sup>130</sup>

*C. Entergy Relied On EPA’s Long-Standing Use Of The Wholly Disproportionate Test*

When considering the reasonability of the EPA’s interpretation, the Supreme Court found that “[w]hile not conclusive, it surely tends to show that EPA’s current practice is a reasonable and hence legitimate exercise of its discretion to weigh benefits against costs that the agency has been proceeding in essentially this fashion for over 30 years.”<sup>131</sup> *Entergy* highlighted that as “early as 1977, the agency determined that while [Section 316](b) does not require cost-benefit analysis, it is also not reasonable to interpret Section [316](b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained.”<sup>132</sup> Finally, the Supreme Court tacitly endorsed the EPA’s historical interpretation by recognizing that “the statute’s language is plainly not so constricted as to require the EPA to require industry petitioners to spend billions to save one more fish or plankton.”<sup>133</sup>

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forbid cost-benefit analysis in one provision of the Act in which it was silent on the matter when it expressly authorized its use in another.”).

<sup>128</sup> *Id.* at 1508.

<sup>129</sup> *Id.*

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

<sup>131</sup> *Id.* at 1509 (internal quotations and citations omitted).

<sup>132</sup> *Id.* (citing *In re Public Service Co. of N.H.*, 1 E.A.D. 332, 340 (1977)) (also citing *In re Cent. Hudson Gas and Elec. Corp.*, Op. EPA Gen. Counsel 63 (1977), 1977 WL 28250 (E.P.A.G.C.), 7 (Westlaw) (“EPA ultimately must demonstrate that the present value of the cumulative annual cost of modifications to cooling water intake structures is not wholly out of proportion to the magnitude of the estimated environmental gains”)); *see also* *Seacoast Anti-Pollution League v. Costle*, 597 F.2d 306, 311 (C.A.1 1979) (rejecting challenge to an EPA permit decision that was based in part on the agency’s determination that further restrictions would be “wholly disproportionate to any environmental benefit”).

<sup>133</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1510 (2009) (internal quotations and citations omitted).

*D. Entergy Holds The EPA Reasonably Considered Costs To Avoid Unreasonable Results*

In *Entergy*, a 6-3 majority of the Supreme Court held that “the EPA permissibly relied on cost-benefit analysis in setting the national performance standards, and in providing for cost-benefit variances from those standards as part of the Phase II regulations [of cooling water intake systems under Section 316(b) of the Clean Water Act].”<sup>134</sup> The Court explained that the EPA “sought only to avoid extreme disparities between costs and benefits. The agency limited variances from Phase II ‘national performance standards’ to circumstances where the costs are ‘significantly greater than the benefits’ of compliance.”<sup>135</sup> The Court held that EPA’s weighing of the benefits against the costs was reasonable, and as such, signified a legitimate exercise of its discretion.<sup>136</sup>

The environmental respondents in the case acknowledged that the EPA did not have to require billions be spent to “save one more fish or plankton.”<sup>137</sup> In the Court’s view, this statement “conceded the principle” that at least some cost-benefit analysis was permissible.<sup>138</sup> Where some cost-benefit analysis was permissible, the Court saw “no statutory basis for limiting its use to situations where the benefits are *de minimis* rather than significantly disproportionate.”<sup>139</sup>

The Supreme Court’s acceptance of using economic balancing as a common-sense tool to avoid unreasonable regulatory outcomes is a remarkable shift in Clean Water Act jurisprudence. Historically, lower courts have not been inclined to engage in considerations of economics when evaluating Clean Water Act regulations.<sup>140</sup> After *Entergy*, regulatory agencies and reviewing courts should be less likely to discount economic disparities between the cost and benefit of regulatory outcomes. Instead, they should be more likely to consider the reasonableness of the agency action.

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

<sup>135</sup> *Id.* at 1509.

<sup>136</sup> *Id.* With its decision, the Supreme Court reversed the holding of the Second Circuit Court of Appeals in *Riverkeeper II*: “The Court of Appeals’ reliance in part on the agency’s use of cost-benefit analysis in invalidating the site-specific cost-benefit variance provision, was therefore in error, as was its remand of the national performance standards for clarification of whether cost-benefit analysis was impermissibly used.” *Entergy* at 1510 (citations omitted).

<sup>137</sup> *Id.*

<sup>138</sup> *Id.*

<sup>139</sup> *Id.*

<sup>140</sup> See Section V(C)(1)(a), *infra*; see also *Texas Oil & Gas Ass’n v. U.S. EPA*, 161 F.3d 923, 936 (5th Cir. 1998) (“[T]he EPA is not obligated to evaluate the reasonableness of the relationship between costs and benefits.”); *Am. Petroleum Inst. v. EPA*, 858 F.2d 261, 265 (5th Cir. 1988) (“[A] direct cost/benefit correlation is not required, so even minimal environmental impact can be regulated, so long as the prescribed alternative is ‘technologically and economically achievable.’”).

*E. Breyer's Concurrence Adds Weight to Majority Decision*

The second remarkable aspect of *Entergy* is that Justice Breyer joined a conservative majority on substantive grounds with his concurrence. While Justice Breyer has previously joined the conservative group on occasion,<sup>141</sup> it marks the first time that Justice Breyer joined the conservative bloc that formed the majority on the merits for an environmental case.<sup>142</sup> As we discuss below, his concurrence reflects his long-held concerns that administrative agencies can develop a myopic focus or “tunnel vision.”<sup>143</sup> Breyer’s concurrence adds breadth to *Entergy* because it reflects his well-recognized policy argument that administrative agencies can develop a myopic focus, or regulatory “tunnel vision” leads to inefficient regulatory outcomes.<sup>144</sup> After *Entergy*, if presented with a similar fact pattern, six of the Court’s Justices appear ready to accept a role for economics as a commonsense tool to avoid unreasonable results.<sup>145</sup>

IV. CANNON ARGUES *ENTERGY* CREATES A PRESUMPTION FOR A “WEAK”  
COST-BENEFIT ANALYSIS; DISCRETION LEFT TO AGENCY IF STATUTE IS SILENT

*Entergy* has been the topic of great debate in the legal field.<sup>146</sup> Of particular relevance to this article, Professor Jonathan Cannon published a paper analyzing *Entergy*’s potential effects on the use of cost-benefit analysis in environmental,

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<sup>141</sup> See, e.g., *Polar Tankers, Inc. v. City of Valdez*, 129 S. Ct. 2277 (2009) (involving dispute over a municipal property tax on large vessels and various constitutional implications) (Breyer, J. writing opinion of the Court. Scalia, Kennedy, & Alito, JJ. joining with respect to Parts I, II-A, and II-B-1. Roberts, C.J. and Thomas, J. concurring in part and concurring in the judgment. Scalia, Kennedy, & Ginsberg, JJ. joining Part II-B-2. Stevens & Souter, JJ. dissenting.); *Riegel v. Medtronic, Inc.*, 552 U.S. 312 (2008) (involving dispute over whether a section of the Food, Drug and Cosmetic Act preempted state tort law claims) (Scalia, J. writing opinion of the Court, with Roberts, C.J., and Kennedy, Souter, Thomas, Breyer, Alito, JJ. joining. Stevens, J. concurring except as to Parts III-A and III-B; Ginsberg, J. dissenting.); *Scott v. Harris*, 550 U.S. 372 (2007) (involving questions of unreasonable seizure and the use of deadly force during high speed chases) (Scalia, J. writing the opinion of the Court with Roberts, C.J., and Kennedy, Souter, Thomas, Ginsberg, Breyer, Alito joining. Ginsberg, Breyer, JJ. writing separate concurring opinions. Stevens, J. dissenting.).

<sup>142</sup> To determine whether Justice Breyer had joined this group of Justices before on the merits of an environmental case, we conducted a search on LEXIS for all Supreme Court cases since Justice Breyer has been on the Court. We examined any case in which the *Entergy* majority voted together—either in a majority, concurrence, or by dissent—and then evaluated where Justice Breyer was positioned. We did not identify any cases involving substantive environmental disputes.

<sup>143</sup> See Section V(C), *infra*.

<sup>144</sup> See Section V(C), *infra*.

<sup>145</sup> Justices Kennedy, Scalia, Thomas, Alito, Roberts and Breyer.

<sup>146</sup> See, e.g., Cannon, *supra* note 9, at 427-28 (discussing one implication of Justice Breyer’s concurrence with respect to cost-benefit analysis in the future); Michael C. Dorf, *Why the Supreme Court Decision Upholding Cost-Benefit Analysis Under the Clean Water Act Should Not be Used to Discredit Best-Practice Standards*, FINDLAW (April 6, 2009), <http://writ.news.findlaw.com/dorf/20090406.html> (discussing broader possible implications of *Entergy* on cost-benefit analysis on regulatory actions).

health, and safety regulation.<sup>147</sup> It is useful to discuss aspects of Professor Cannon's paper here because it informs our argument.

A. *“Strong” Cost-Benefit (Welfare Maximizing) vs. “Weak” Cost Benefit (Avoiding Irrational Results)*

Professor Cannon offers two versions of cost-benefit to perform his analysis, the “strong” form and the “weak” form. Strong cost-benefit analysis describes pros and cons of regulatory options “on a single monetary scale, and its function is to maximize overall well-being.”<sup>148</sup> It therefore creates a presumption against any regulatory options whose costs outweigh their benefits.<sup>149</sup> Proponents of strong cost-benefit analysis acknowledge that such a presumption can be overcome where there are other morally relevant considerations, such as “where there are distributional concerns or where rights of those affected may be at issue.”<sup>150</sup> The strong form of cost-benefit analysis has been criticized by opponents as being welfarist, inherently anti-regulatory, functionally worthless, and commensuralist in its commitment to monetization.<sup>151</sup>

By contrast, weak cost-benefit is “simply a weighing of all the desirable effects of a proposed action against all the undesirable effects.”<sup>152</sup> The weak form does not require monetization of pros and cons, as options can instead be evaluated based on their individual nature and units, such as lives saved.<sup>153</sup> It operates not to maximize welfare, but to weed out alternatives that may be irrational (e.g., where the option's costs are grossly disproportionate to its benefits).<sup>154</sup> The distinction between these two forms of cost-benefit is imperative to understanding Professor Cannon's analysis because, in Professor Cannon's view, reasonableness — not welfare maximization — is the focus of the majority and concurring opinions in *Entergy*.

B. *Entergy Creates A Presumption For Weak Cost-Benefit To Avoid Irrational Results*

Professor Cannon points primarily to the analysis found in Justice Breyer's concurrence to demonstrate the emergence of a presumption for a weak cost-benefit analysis.<sup>155</sup> In the concurrence, Justice Breyer determined that the statute neither requires nor expressly forbids a balancing of costs and benefits in

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<sup>147</sup> Cannon, *supra* note 9, at 425.

<sup>148</sup> *Id.* at 428.

<sup>149</sup> *Id.* at 429.

<sup>150</sup> *Id.*

<sup>151</sup> *Id.* at 430.

<sup>152</sup> *Id.* at 429.

<sup>153</sup> *Id.*

<sup>154</sup> *Id.*

<sup>155</sup> *See Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1512 (2009).

determining the “best available technology.”<sup>156</sup> He offers two reasons why Congress might not have intended to prohibit cost-benefit analysis entirely: first, that it would be difficult to enforce because almost all choices require such a comparison; and second, that such a prohibition would bring about irrational results.<sup>157</sup> Justice Breyer focuses his analysis on a written statement by Senator Muskie, principal sponsor of the Act.<sup>158</sup> Although the statement does not specifically address Section 316(b)’s standard for cooling water intake structures, it does address the analogous requirement of the “best available technology economically available” (“BATEA”) for discharge of pollutants.<sup>159</sup> The statement reflects a reasonableness requirement in determining what is economically achievable based on what needs to be done to discharge pollutants, and what is achievable with the available technology.<sup>160</sup> Breyer finds that a modest cost-benefit analysis is an acceptable and necessary part of decision making.<sup>161</sup> Without it, certain decisions might threaten to impose massive costs far in excess of any benefit.<sup>162</sup>

Although Justice Scalia’s opinion for the Court does not offer an express presumption for or against cost-benefit analysis, it nevertheless reaches a similar conclusion.<sup>163</sup> For Scalia and the majority, the EPA’s view of Section 316(b) as permitting cost-benefit analysis governs as long as it is a reasonable interpretation of the statute — and finds that it is.<sup>164</sup> The opinion contains a series of choices about language, structure and precedent to support the use of a weak form of cost-benefit analysis.<sup>165</sup> Therefore, according to Professor Cannon, where a statute is silent or unclear, both Justice Breyer and the majority would allow, but not require, “a rough weighing of costs and benefits in setting technology-based standards.”<sup>166</sup> This modest cost-benefit analysis is designed to avoid irrational results, rather than to achieve an optimal outcome.<sup>167</sup>

*C. Professor Cannon Limits The Presumption By Leaving Discretion To Agency To Apply (Or Ignore) Weak Cost-Benefit*

Professor Cannon states that the presumption created in *Entergy* represents a

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<sup>156</sup> Cannon, *supra* note 9, at 446.

<sup>157</sup> *Id.* at 445.

<sup>158</sup> *Id.* at 446.

<sup>159</sup> *Id.*

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

<sup>161</sup> *Id.* at 447.

<sup>162</sup> *Id.* at 446.

<sup>163</sup> *Id.* at 447.

<sup>164</sup> *Id.* at 449.

<sup>165</sup> *Id.* at 451.

<sup>166</sup> *Id.* at 452.

<sup>167</sup> *Id.* at 446–47.

shift in previous Court orientation toward cost-benefit analysis.<sup>168</sup> However, he explains that the shift is justifiable because, among other reasons, it preserves the agency's choice of whether or not to conduct the analysis.<sup>169</sup> He interprets Justices Scalia and Breyer's opinions as calling for a limited role of cost-benefit in which the agency is left with discretion as to whether it should be applied.<sup>170</sup> He further notes Breyer's observation that there are valid reasons why Congress or an agency might decide not to use the analysis in its decision making process, even where efficiency is the ultimate goal.<sup>171</sup> Thus, an agency decision will not necessarily be irrational, absurd, or less welfare-enhancing simply because it was not shaped by cost-benefit balancing.<sup>172</sup> Professor Cannon recognizes that leaving this discretion with the agency may raise concerns about abuse,<sup>173</sup> but asserts these abuses will be kept in check by mechanisms such as judicial oversight and centralized review by the Office of Management and Budget.<sup>174</sup>

#### V. WEAK COST-BENEFIT LIKELY REQUIRED TO AVOID IRRATIONAL RESULTS

In this section, we examine whether it would be reasonable to implement Section 316(b) without performing the weak cost-benefit analysis described by Professor Cannon. We consider whether such an interpretation of Section 316(b) would “conflict with the test of reasonableness by threatening to impose massive costs far in excess of any benefit.”<sup>175</sup>

We first look at the standard of review that governs any judicial inquiry. The standard of review frames whether an agency action would fail if the agency is presented with evidence of gross disparities between costs and benefits (i.e., unreasonable results) and does not substantively address the evidence or change its action accordingly. Then we highlight the fact that most of the Justices focus on avoiding unreasonable outcomes by analyzing the *Entergy* oral arguments. Next, we review Justice Breyer's emphasis of the legislative history of the Clean Water Act in his concurrence and his seminal policy argument on the topic of inefficient regulatory outcomes as a result of myopic “tunnel vision” in *Vicious Circle*. Notably, Breyer's concurrence emphasizes aspects of the Clean Water Act's legislative history that represent a shift towards greater emphasis on the role of economics in Clean Water Act regulation. Breyer's concurrence and *Vicious Circle*, when read against the backdrop of the majority's opinion, signal that a majority of Justices may look skeptically on an interpretation of Section

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<sup>168</sup> *Id.* at 454.

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

<sup>170</sup> *Id.* at 452.

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

<sup>172</sup> *Id.*

<sup>173</sup> *Id.* at 456–57.

<sup>174</sup> *Id.* at 457.

<sup>175</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1514 (2009).

316(b) that does not include a check against gross disparities between costs and benefits (i.e., unreasonable outcomes). Lastly, we explain that the precatory language of the Clean Water Act goals do not preclude a presumption for a weak cost benefit analysis under Section 316(b) because the aspirational language does not prevent the practical application of the statute's specific regulatory requirements.

#### A. Agency Action Must Survive Judicial Review

An agency interpretation of Section 316(b) can be judicially challenged. The following standards of review are the lens through which the court determines if the agency action can stand.

##### 1. Standard Of Review

###### a. Chevron

Under the long-standing *Chevron* standard of review, a reviewing court follows a two-part test that governs review of a federal agency construction of a statute.<sup>176</sup> First, the court examines the regulation against the statute that contains the charge.<sup>177</sup> If the court concludes, after employing standard tools of statutory interpretation, that Congress has “unambiguously expressed” its meaning, that meaning controls.<sup>178</sup> However, “if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency’s answer is based on a permissible construction of the statute, which is to say, one that is reasonable, not arbitrary, capricious, or manifestly contrary to the statute.”<sup>179</sup> If the court determines that the statute is ambiguous, the court must uphold the agency’s interpretation so long as it is “based on a permissible construction of the statute.”<sup>180</sup> If it is not, the court must reject it.<sup>181</sup>

###### b. Arbitrary And Capricious Test

Under the Administrative Procedure Act (“APA”), a court may invalidate an agency action that is “arbitrary, capricious, an abuse of discretion, or otherwise

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<sup>176</sup> See *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc. (Chevron)*, 467 U.S. 837, 842-43 (1984).

<sup>177</sup> *Id.*

<sup>178</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174, 184 (2d Cir. 2004) (citing *Chevron*, 467 U.S. 837, 843 (1984)).

<sup>179</sup> *Id.* (internal quotations and citations omitted).

<sup>180</sup> *Chevron*, 467 U.S. at 843.

<sup>181</sup> See *id.*

not in accordance with law.”<sup>182</sup> “The scope of review under the ‘arbitrary and capricious’ standard is narrow and a court is not to substitute its judgment for that of the agency.”<sup>183</sup> However, “the agency must examine the relevant data and articulate a satisfactory explanation for its action, including a ‘rational connection between the facts found and the decision made.’”<sup>184</sup> Normally, a court must deem an agency rule “arbitrary and capricious” where:

[T]he agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.<sup>185</sup>

The *Chevron* standard and the arbitrary and capricious standard can be conflated because “the two issues ‘overlap at the margins.’”<sup>186</sup> However, it is clear that there are two distinct questions being asked by courts. The first question is whether “the agency’s construction of [a] statute is permissible”<sup>187</sup> (i.e., *Chevron*). The second question is whether the agency’s decision is “the product of a reasoned decision-making process?”<sup>188</sup> On the one hand, “a reviewing court’s inquiry under *Chevron* is rooted in statutory analysis.”<sup>189</sup> In this regard it is “focused on discerning the boundaries of Congress’ delegation of authority to the agency.”<sup>190</sup> On the other hand, the question is “whether the [agency’s] discharge of that authority was reasonable.”<sup>191</sup> This question “falls within the province of traditional arbitrary and capricious review.”<sup>192</sup>

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<sup>182</sup> 5 U.S.C. § 706(2)(A) (2000).

<sup>183</sup> *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co. (State Farm)*, 463 U.S. 29, 43 (1983).

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

<sup>185</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper II)*, 475 F.3d 83, 95–96 (2d Cir. 2007) (quoting *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 498 (2d Cir. 2005) (internal quotation marks and citations omitted)).

<sup>186</sup> *Animal Legal Def. Fund, Inc. v. Glickman*, 204 F.3d 229, 234–35 (D.C. Cir. 2000) (holding that the “explanation that renders the Secretary’s interpretation of the statute reasonable also serves to establish that the final rule was not arbitrary and capricious”); see also Matthew C. Stephenson & Adrian Vermeule, *Chevron Has Only One Step*, 95 VA. L. REV. 597, 602–04 (2009) (describing the academic debate about the confusion surrounding the two *Chevron* steps and the arbitrary and capricious standard).

<sup>187</sup> Stephenson & Vermeule, *supra* note 186, at 598.

<sup>188</sup> Stephenson & Vermeule, *supra* note 186, at 605.

<sup>189</sup> *Arent v. Shalala*, 70 F.3d 610, 615 (D.C. Cir. 1995).

<sup>190</sup> *Id.*

<sup>191</sup> *Id.* at 616.

<sup>192</sup> *Id.*; see also *Nuclear Energy Inst., Inc. v. EPA*, 373 F.3d 1251, 1289 (D.C. Cir. 2004) (upholding an EPA interpretation as reasonable under the *Chevron* test and stating that the court will affirm an agency’s action unless it is arbitrary or capricious—among other exceptions—in areas other than statutory construction); *Am. Farm Bureau Fed’n v. EPA*, 559 F.3d 512, 519, 538 (D.C. Cir. 2009) (noting that EPA decision would be examined under the *Chevron* test “with regard to the

An agency action is arbitrary and capricious if it takes a regulatory action that is not supported by substantial evidence in the administrative record.<sup>193</sup> In *Burlington Truck Lines, Inc. v. United States*, the Supreme Court rejected the actions of the Interstate Commerce Commission (“ICC”) as arbitrary and capricious.<sup>194</sup> In *Burlington*, the ICC chose one remedy (additional certification) over another (a cease and desist order) in responding to a shipping disruption caused by a labor dispute.<sup>195</sup> In explaining why it rejected the ICC’s actions the Court noted:

There are no findings and no analysis here to justify the choice made, no indication of the basis on which the Commission exercised its expert discretion. We are not prepared to and the Administrative Procedure Act will not permit us to accept such adjudicatory practice.<sup>196</sup>

Furthermore, the *Burlington* Court held that an agency cannot reject the serious arguments of a regulated party without contrary findings of its own, stating that:

[T]here is not substantial evidence of record upon which to base a finding that a cease and desist order would have been ineffective. There was every indication at the time that a cease and desist order would . . . [be] effective.<sup>197</sup>

The Court chastised the ICC for failing to make “findings specifically directed to the choice between two vastly different remedies with vastly different consequences”, for failing to “articulate any rational connection between the facts found and the choice made”, and for not responding to the “serious objections” of the affected party to its chosen remedy.<sup>198</sup> The Court found that these deficiencies resulted in a reversible error.<sup>199</sup>

## 2. Heightened Standard May Apply Before Agency Can Make Sudden Shift In Course From Long-Standing Practice

Given the EPA’s long (and recent) history of applying the wholly disproportionate test, the EPA would likely be required to meet a heightened

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EPA’s interpretation” of a statute, but overturning part of EPA’s decision as “arbitrary and capricious because it . . . was not based on the record.”).

<sup>193</sup> See *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co. (State Farm)*, 463 U.S. 29, 43 (1983).

<sup>194</sup> See *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 165 (1962).

<sup>195</sup> *Id.* at 162-63.

<sup>196</sup> *Id.* at 167.

<sup>197</sup> *Id.* at 169.

<sup>198</sup> *Id.* at 168.

<sup>199</sup> See *id.* at 174.

standard to explain any sudden policy break.<sup>200</sup> Accordingly, the EPA may have to overcome strong judicial skepticism before any significant shift away from the long-standing wholly disproportionate test.

### 3. Agency Likely Cannot Reject Evidence That Costs Grossly Exceed Benefits Without Demonstrating Reasonability Of Action

In summary, under the *Chevron* test, an agency interpretation of an ambiguous statute is permissible if it is a reasonable interpretation of the statute.<sup>201</sup> Under the APA, an agency action is given deference unless it was “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”<sup>202</sup> An agency must have evidence in the administrative record to support its regulatory actions.<sup>203</sup> It must “cogently explain why it has exercised its discretion in a given manner.”<sup>204</sup> The Supreme Court in *Burlington* held that an agency cannot reject the serious arguments of a regulated party without contrary findings of its own.<sup>205</sup>

When determining BTA under Section 316(b), to survive judicial scrutiny, it appears likely that an agency must demonstrate the reasonableness of its action by performing some substantive consideration of costs and benefits if presented with competent evidence that its action will result in costs that grossly exceed the benefits.<sup>206</sup> The agency can do this by substantively critiquing the presented evidence, by explaining why the evidence is erroneous or inapplicable, or by

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<sup>200</sup> See *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1515 (2009) (Breyer, J., concurring and dissenting) (“[W]ords ‘significantly greater’ differ from the words the EPA has traditionally used to describe its standard, namely, ‘wholly disproportionate’ . . . if it means the new words to set forth a new and different test, the EPA must adequately explain why it has changed its standard”); see also *Motor Vehicle Mfrs. Assn. of United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42 (1983) (“[A]n agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance”); *Thomas Jefferson Univ. v. Shalala*, 512 U.S. 504, 524 n.3 (1994) (Thomas, J., dissenting) (“[J]udges are properly suspect of sharp departures from past practice that are as unexplained as the [agency’s] in this case”).

<sup>201</sup> *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc. (Chevron)*, 467 U.S. 837, 843 (1984).

<sup>202</sup> See *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 413–14 (1971).

<sup>203</sup> *State Farm*, 463 U.S. 29 at 48.

<sup>204</sup> *Id.*

<sup>205</sup> *Burlington Truck Lines v. United States*, 371 U.S. 156, 168–69 (1962).

<sup>206</sup> See *Kennecott v. EPA*, 780 F.2d 445, 456 (1986) (stating court will uphold EPA’s economic analysis only if “EPA has established in the record a reasonable basis for its decision”); *National Wildlife Federation v. EPA*, 286 F.3d 554, 563 (2002) (“Thus, when reviewing economic analyses of EPA, a court’s inquiry will be limited to whether the Agency considered the cost of technology, along with the other statutory factors, and whether its conclusion is reasonable.”) (internal quotations and citations omitted); *Hercules, Inc. v. EPA*, 598 F.2d 91, 106–07 (D.C. Cir. 1978) (evaluating EPA effluent regulations limiting the discharge of toxaphene and endrin, court states that “[i]n reviewing a numerical standard, [a court] must ask whether the agency’s numbers are within a ‘zone of reasonableness,’ not whether its numbers are precisely right”).

pointing to substantial evidence in the record supporting the reasonability of its action despite the evidence presented.<sup>207</sup> The agency cannot, however, simply ignore important aspects of the problem or evidence that runs counter to its decision.<sup>208</sup> A court will look skeptically upon an agency's failure to consider counter evidence presented by the industry being regulated—particularly if the regulated industry presents specific evidence that undermines the agency's generic assumptions.<sup>209</sup>

*B. Majority Of Justices Are Focused On Avoiding Unreasonable Results*

*Entergy* did not directly address whether an agency must balance costs and benefits under Section 316(b) to avoid unreasonable results. This question remains significant because the EPA continues to revise the remanded Phase II regulations, and state-specific rules create a regulatory patchwork.<sup>210</sup> *Entergy* suggests that a common-sense implementation of Section 316(b) requires something similar to the EPA's long-standing wholly disproportionate test to ensure that some comparison of costs and benefits occurs to avoid unreasonable results. Professor Cannon summarizes this as a presumption for a weak cost-benefit analysis.<sup>211</sup>

*Entergy* explicitly considered whether the EPA's interpretation was reasonable but also implicitly endorsed the long-standing wholly disproportionate test.<sup>212</sup> *Entergy* noted EPA's determination that "while [Section 316](b) does not require cost-benefit analysis, it is also not reasonable to interpret Section [316(b)] as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained."<sup>213</sup> Similarly, the Phase II requirements challenged "[seek] only to avoid extreme disparities

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<sup>207</sup> See *State Farm*, 463 U.S. at 43.

<sup>208</sup> See *Port of Seattle v. FERC*, 499 F.3d 1016, 1035 (9th Cir. 2007) (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)) ("An agency's ruling will be deemed arbitrary and capricious where the agency 'entirely failed to consider an important aspect of the problem or offered an explanation for its decision that runs counter to the evidence before the agency.'"); *Port of Seattle*, 499 F.3d at 1035 ("Moreover, an agency must account for evidence in the record that may dispute the agency's findings."); see also *Universal Camera Corp. v. Nat'l Labor Relations Bd.*, 340 U.S. 474, 488 (1951) ("The substantiality of evidence must take into account whatever in the record fairly detracts from its weight."); *Burlington*, 371 U.S. at 168-69 (reversing agency action for not responding to the "serious" objections of the affected party).

<sup>209</sup> See, e.g., *Chemical Manufacturers Ass'n*, 28 F.3d at 1266 (rejecting the EPA's continued reliance on the model in the face of specific evidence to the contrary as arbitrary and capricious); see also *Tex Tin Corp. v. EPA*, 992 F.2d 353, 354-55 (D.C. Cir. 1993) (EPA's failure to specifically address conflicting scientific evidence held arbitrary and capricious).

<sup>210</sup> See, e.g., National Pollution Discharge Elimination System – Cooling Water Intake Structures at Existing Facilities and Phase I Facilities, 76 Fed. Reg. 22174 (April 20, 2011).

<sup>211</sup> See Cannon, *supra* note 9, at 452.

<sup>212</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1509 (2009).

<sup>213</sup> *Id.* (internal quotation marks omitted, emphasis removed).

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between costs and benefits.”<sup>214</sup> Finally, the Supreme Court favored the EPA’s historical interpretation by stating, “the statute’s language is plainly not so constricted as to require the EPA to require industry petitioners to spend billions to save one more fish or plankton.”<sup>215</sup>

Statements made by the Justices in *Entergy*’s oral arguments further demonstrate skepticism towards interpreting Section 316(b) without checks against unreasonable results. For example, Mr. Lazarus, on behalf of the environmental petitioners, offered the following restrictive interpretation:

MR. LAZARUS: EPA has no authority in any circumstance to decide that fish aren’t worth a certain amount of cost. So EPA never has the authority, in any context, to weigh costs against benefits.<sup>216</sup>

The Justices had little appetite for this position. Even Justice Souter, who joined the dissent, acknowledged “everybody agrees that there is kind of an ultimate irrationality standard here.”<sup>217</sup> Justice Breyer noted that the consideration of costs must be done “under a reasonableness standard.”<sup>218</sup> “[I]t isn’t meaningful to talk about cost being available for an end . . . unless you take into account what that end is.”<sup>219</sup> Justice Breyer also found it hard to believe that the original authors “would have written a statute that would have foreseen . . . an effect” where the EPA passes a regulation that calls for the construction of “20 electric plants . . . purely to save the fish; and the result is the cost of electricity goes up.”<sup>220</sup> Justice Scalia appeared almost dismissive of the concept of not considering costs:

JUSTICE SCALIA: [I]t seems ridiculous to allow it, and indeed require it in effluent situations where human health is at stake, and yet to forbid it in this intake situation where you were just talking about the snail darter.<sup>221</sup>

Mr. Lazarus nonetheless argued that the EPA could not consider costs and benefits regardless of the irrationality of the results. However, the Justices were not persuaded, as the following exchange with Justice Breyer demonstrates:

MR. LAZARUS: What Congress decided in 1972 was that EPA should be allowed to consider costs in determining whether technology was available, but not — and they did this for a reason Your Honor — but not to weigh

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<sup>214</sup> *Id.* at 1509.

<sup>215</sup> *Id.* at 1510 (internal quotations and citations omitted).

<sup>216</sup> Transcript of Oral Argument at 308, *Entergy Corp. v. Riverkeeper Inc.*, 129 S. Ct. 1498 (2009) (No. 07-588), pp. 30, 35.

<sup>217</sup> *Id.* at 29.

<sup>218</sup> *Id.* at 20.

<sup>219</sup> *Id.* at 37.

<sup>220</sup> *Id.* at 43.

<sup>221</sup> *Id.* at 56.

those costs against those benefits in deciding whether or not those costs were worth it.

JUSTICE BREYER: But how is it—how is it feasible if it has no benefits at all?

MR. LAZARUS: It —it — it’s still feasible for, in terms of the industry, whether they can afford it.

JUSTICE BREYER: Then we are going to reach our insane results.<sup>222</sup>

*Entergy*, read in the context of the oral arguments, strongly suggests that a majority of Justices would look skeptically at an interpretation of Section 316(b) that did not include some comparison of costs and benefits as a check against unreasonable outcomes — or in Justice Breyer’s words, “insane results.”<sup>223</sup>

Indeed, a necessary check against unreasonable regulatory outcomes would be consistent with longstanding precedent that regulatory variance provisions are required to avoid unreasonable burdens on the regulated community to account for site-specific circumstances. In *Riverkeeper I*, environmental petitioners argued that EPA could not authorize variances under Section 316(b).<sup>224</sup> The Second Circuit rejected this argument because it is “a reasonable interpretation of the statute . . . to allow variances from regulations promulgated pursuant to [S]ection 316(b).”<sup>225</sup> The Second Circuit concluded that “a regulatory system which allows flexibility, and a lessening of firm proscriptions in a proper case, can lend strength to the system as a whole.”<sup>226</sup>

The courts have regularly found that a variance provision is necessary to avoid unreasonable regulatory outcomes due to conditions beyond the regulated community’s control. In *Marathon Oil Company v. EPA*, industry petitioners successfully challenged EPA’s effluent limitations under the “best practicable control technology currently available” (“BPCTCA”) pursuant to Section 402 of the Clean Water Act.<sup>227</sup> EPA did not include a variance or “upset” provision even though “a facility that employs BPCTCA can be expected to be in violation of the standards at least a percentage of the time.”<sup>228</sup> The court recognized “[i]t would be impossible and impracticable to set a standard that could be met 100 percent of the time.”<sup>229</sup> Despite the irrationality of an absolute standard that could not be achieved at all times, EPA argued that violations that occurred

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<sup>222</sup> *Id.* at 38–39.

<sup>223</sup> *Id.*

<sup>224</sup> *Riverkeeper, Inc. v. EPA (Riverkeeper I)*, 358 F.3d 174, 192 (2d Cir. 2004).

<sup>225</sup> *Riverkeeper I*, 358 F.3d at 193.

<sup>226</sup> *Id.* (citing *Natural Res. Def. Council, Inc. v. EPA*, 537 F.2d at 647) (internal quotation marks omitted).

<sup>227</sup> See *Marathon Oil Company v. EPA*, 564 F.2d 1253 (9th Cir. 1977).

<sup>228</sup> *Id.* at 1272.

<sup>229</sup> *Id.*

through no fault of a permit holder could “be adequately dealt with informally.”<sup>230</sup> The court rejected EPA’s argument, citing the need for a variance provision to preserve the reasonability of the standard as a whole.<sup>231</sup>

*C. Justice Breyer’s Concurrence and Writings Support Weak Cost-Benefit As A Rule To Avoid Unreasonable Results*

1. Breyer’s Concurrence Emphasized Need For Cost-Benefit Balancing To Avoid Unreasonable Results

Writing in the concurrence for *Entergy*, Justice Breyer emphasized that “it makes no sense to require plants to spend billions of dollars to save one more fish or plankton . . . , even if the industry might somehow afford those billions.”<sup>232</sup> “Any such prohibition [of cost-benefit comparison] would be difficult to enforce [because] every real choice requires a decision maker to weigh advantages against disadvantages . . . . [A]n absolute prohibition would bring about irrational results.”<sup>233</sup> “[T]oo much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other (perhaps more serious) problems.”<sup>234</sup> To not avoid extreme disparities may “put the Agency in conflict with the test of reasonableness by threatening to impose massive costs far in excess of any benefit.”<sup>235</sup>

a. Breyer Emphasized House of Representatives Report that Recognized High Cost Of Achieving Complete Elimination Of Pollution

Justice Breyer’s concurrence highlighted a portion of the Clean Water Act’s legislative history that had been rarely cited in previous cases considering the

<sup>230</sup> *See id.*

<sup>231</sup> *See id.* at 1273 (discussing *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 432-33 (1973) [“[V]ariant provisions appear necessary to preserve the reasonableness of the standards as a whole . . . the record does not support the ‘never to be exceeded’ standard currently in force”]; *Portland Cement Ass’n v. Ruckelshaus*, 486 F.2d 375, 398 n.91 (1973) [informal treatment of upsets is inadequate; “companies must be on notice as to what will constitute a violation”]); *see also* 33 U.S.C.A. § 1311(n) (Clean Water Act Section 301(n)) (allowing for alternative, site-specific requirements for compliance with standards if the facility can demonstrate that it is fundamentally different with respect to the factors considered by EPA in promulgating the national standard). EPA has recognized previously that variances to requirements of Section 316(b) are “similar” to the “fundamentally different factors” provision in Section 301(n). *See* 69 Fed. Reg. at 69472 (favorably comparing a site-specific BTA determination compliance option with Section 301(n)’s “fundamentally different factors” provision).

<sup>232</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1513 (2009) (Breyer, J., Concurring in part and dissenting in part)(internal quotations omitted).

<sup>233</sup> *Id.*

<sup>234</sup> *Id.* at 1513.

<sup>235</sup> *Id.* at 1514.

appropriateness of cost-benefit analyses. This portion of the legislative history included the House of Representatives and Senate bills, the bill's drafting history, and the House-Senate compromise reflected in the final statute.<sup>236</sup> The original House version of the bill directed the EPA "to consider 'the cost and the economic, social, and environmental impact of achieving such effluent reduction' when determining both [the] "*best practicable*" and "*best available*" technologies."<sup>237</sup> Justice Breyer highlighted the explanation in the House report that states:

[T]he '*best available* technology' standard was needed — as opposed to mandating the elimination of discharge of pollutants — because "the difference in the cost of 100 percent elimination of pollutants as compared to the cost of removal of 97-99 percent of the pollutants in an effluent can far exceed any reasonable benefit to be achieved. In most cases, the cost of removal of the last few percentage points increases expo[n]entially."<sup>238</sup>

Justice Breyer noted that the Senate version of the bill did not mention comparing costs and benefits.<sup>239</sup> Justice Breyer concluded that the final statute reflected a compromise between the House bill — which called for cost-benefit analysis — and the Senate bill, which did not.<sup>240</sup> The compromise was that the statute adopted the House's language with respect to "*best practicable*" and the Senate's language on "*best available*."<sup>241</sup> Thus, while the statute "does not *require* the Agency to compare costs to benefits when determining '*best available* technology' . . . neither does it expressly *forbid* such a comparison."<sup>242</sup>

Prior Clean Water Act case law had relied on the Senate history and Senator Muskie's comments in the Senate Report to deemphasize costs to any particular entity.<sup>243</sup> This lack of emphasis on costs to particular entities persisted, even when the results had economic impacts and threatened to put firms out of business.<sup>244</sup> Senator Muskie said that for the "*best available* technology" standard, "cost should be a factor in the Administrator's judgment, [but that] no balancing test will be required."<sup>245</sup> "Senator Muskie's discussion later speaks of the agency 'evaluating what needs to be done' to eliminate pollutant discharge

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<sup>236</sup> See *id.* at 1512–13.

<sup>237</sup> *Id.* at 1512 (quoting H.R. 11896, 92d Cong., 2d Sess., §§ 304(b)(1)(B), (b)(2)(B) (1972) (as reported from committee)) (emphasis in original).

<sup>238</sup> *Id.* (quoting H.R. Rep. No. 92-911, p. 103 (1972).) (emphasis in original).

<sup>239</sup> *Id.*

<sup>240</sup> See *id.* at 1512–13.

<sup>241</sup> See *id.* at 1513 (emphasis in original).

<sup>242</sup> *Id.*

<sup>243</sup> See, e.g., *E.P.A. v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 79-80 (1980).

<sup>244</sup> *Id.*

<sup>245</sup> *Entergy*, 129 S. Ct. 1498, 1513 (quoting 118 Cong. Rec. 33693, 33696 (1972)).

and ‘what is achievable,’ both ‘without regard to cost.’”<sup>246</sup>

This legislative history has led previous courts to conclude that what was the “*best available technology*” was to be determined “without regard to cost.”<sup>247</sup> One court said that the legislative history persuaded it that “Congress foresaw and accepted the economic hardship, including the closing of some plants.”<sup>248</sup> This court, basing its conclusion in part upon statements made by Senator Muskie, found that “in assessing BAT total cost is [not] to be considered in comparison to effluent reduction benefits.”<sup>249</sup> Another court said, “a direct cost/benefit correlation is not required, so even minimal environmental impact can be regulated, so long as the prescribed alternative is ‘technologically and economically achievable.’”<sup>250</sup> Another court went as far as to say that “the EPA is not obligated to evaluate the reasonableness of the relationship between costs and benefits.”<sup>251</sup>

Justice Breyer’s concurrence represents a remarkable shift away from past jurisprudence, which deemphasized the role of economics under the Clean Water Act. Justice Breyer found that a rule that would “require plants to spend billions to save one more fish or plankton” would be irrational, “particularly . . . in an age of limited resources available to deal with grave environmental problems.”<sup>252</sup> This is because “too much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other (perhaps more serious) problems.”<sup>253</sup>

#### b. Breyer Incorporates A Test Of Reasonableness

Senator Muskie submitted material for the congressional record that stated “[w]hile cost should be a factor . . . no balancing test will be *required*,” but clarified, “[*t*]he Administrator will be bound by a test of reasonableness.”<sup>254</sup> For Justice Breyer, this language formed a “test of reasonableness” which should be applied to “reflect[] its ideal objective, moving as closely as is

<sup>246</sup> *Id.* (ellipses and brackets from *Entergy* opinion’s editing omitted)

<sup>247</sup> See *EPA v. Nat’l Crushed Stone Assoc.*, 449 U.S. 64, 71 (1980); *Tex. Oil & Gas Assoc. v. EPA*, 161 F.3d 923, 936 (5th Cir. 1998); *Am. Frozen Foods Inst. v. Train*, 539 F.2d 107, 119–120 (quoting Senator Muskie and discussing the “harshness” of the legislative history).

<sup>248</sup> *Nat’l Crushed Stone*, 449 U.S. at 79.

<sup>249</sup> *Id.* at 71, 71 n.11.

<sup>250</sup> *Am. Petroleum Inst. v. EPA*, 858 F.2d 261, 265 (5th Cir. 1988).

<sup>251</sup> *Tex. Oil*, 161 F.3d at 936.

<sup>252</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1513 (2009) (Breyer, J., concurring and dissenting).

<sup>253</sup> *Id.*

<sup>254</sup> Remarks of Senator Muskie reprinted in *Legislative History of the Water Pollution Control Act Amendments of 1972* (Committee Print compiled for the Senate Committee on Public Works by the Library of Congress) Ser. No. 93-1, p. 170 (1973) (emphasis added).

technologically possible to the elimination of pollution.”<sup>255</sup> It directs the EPA to consider “how much pollution would still remain if the best available technology were to be applied everywhere ‘without regard to cost.’”<sup>256</sup> However, in keeping with the “test of reasonableness,” it “does not say that the Administrator *must* set the standard based solely on the result of that determination.”<sup>257</sup> Thus, under Justice Breyer’s interpretation, the EPA must advance the requirements of the Clean Water Act to achieve pollution reduction in a manner that is reasonable on the basis of costs versus benefits.

Justice Breyer acknowledged that there are alternative ways to read Senator Muskie’s statements. However, he believed that reading Senator Muskie to suggest that the Agency must employ the best available technology “without regard to cost” would be “difficult to reconcile . . . with the Senator’s . . . ‘test of reasonableness.’”<sup>258</sup> According to Justice Breyer, this reading would conflict with the test of reasonableness “by threatening to impose massive costs far in excess of any benefit.”<sup>259</sup> Justice Breyer also believed that eliminating an agency’s ability to consider costs and benefits from the statute “would be difficult to enforce.”<sup>260</sup> This is because Justice Breyer believes “every real choice requires a decisionmaker to weigh advantages against disadvantages, and disadvantages can be seen in terms of (often quantifiable) costs.”<sup>261</sup> Thus, by its very nature, all reasonable decision-making involves some type of cost-benefit analysis.

## 2. Justice Breyer’s Seminal Book, *Vicious Circle*, Provides Policy Support For Avoiding Extreme Disparities When Implementing Section 316(b)

Justice Breyer has been recognized as “better educated in economics than any justice in the Court’s history.”<sup>262</sup> His seminal book, *Breaking the Vicious Circle: Toward Effective Risk Regulation*, provides the policy and economic

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<sup>255</sup> *Entergy*, 129 S. Ct. at 1514 (Breyer, J., concurring in part and dissenting in part) (emphasis removed).

<sup>256</sup> *Id.*

<sup>257</sup> *Id.*

<sup>258</sup> *Id.*

<sup>259</sup> *Id.*

<sup>260</sup> *Id.* at 1513.

<sup>261</sup> *Id.*

<sup>262</sup> Statement by University of Chicago economist and law professor William Landes printed in Peter Passell, *Economists See an Intellectual Alley In Supreme Court Nominee*, N.Y. TIMES, May 26, 1994, at D2. Indeed, long before his U.S. Supreme Court appointment, Breyer established himself as a scholar of the regulatory process. See, e.g., STEPHEN G. BREYER, REGULATION AND ITS REFORM (1982); STEPHEN G. BREYER & RICHARD B. STEWART, ADMINISTRATIVE LAW AND REGULATORY POLICY: PROBLEMS, TEXT AND CASES (3d ed. 1992); Stephen G. Breyer, *Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform*, 92 HARV. L. REV. 547 (1979); Stephen G. Breyer, *Antitrust, Deregulation, and the Newly Liberated Marketplace*, 75 CAL. L. REV. 1005 (1987).

underpinnings for his concurring opinion in *Entergy*.<sup>263</sup> Although *Vicious Circle* dealt primarily with health and safety regulation, the same policy considerations can be applied to environmental problems. This is because for environmental, as well as for health and safety issues, limited agency resources and funding are available to address a myriad of problems. In *Vicious Circle*, Breyer writes that one reason “it matters whether the nation spends too much to buy a little extra safety is that the resources available to combat health risks are not limitless.”<sup>264</sup> Accordingly, Breyer takes issue with “plague[d] efforts to regulate small, but significant, risks to our health.”<sup>265</sup> He identifies this process as an “administrative disease” that calls for the prioritization of regulatory resources.<sup>266</sup>

According to Breyer, the vicious circle is created as “public perceptions, Congressional actions and reactions, and technical regulatory methods reinforce each other.”<sup>267</sup> This circular process results in “diminish[ed] public trust in regulatory institutions and thereby inhibit[s] more rational regulation.”<sup>268</sup> Breyer observes that “most people think dramatically, not quantitatively.”<sup>269</sup> The result is that risks of vastly differing degrees can be treated more similarly than is appropriate.<sup>270</sup> As part of a domino effect, typical statutory goals are taken literally and the goals become norms.<sup>271</sup> The problem lies in the fact that excessive costs can be associated with small risks.<sup>272</sup>

*Vicious Circle* brings to light the serious problem of misallocation of both the regulatory budget and compliance expenditures, caused by regulatory “tunnel vision.”<sup>273</sup> Tunnel vision arises when an administrative agency’s pursuit of a

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<sup>263</sup> Cannon, *supra* note 9, at 444-45.

<sup>264</sup> See HON. STEPHEN G. BREYER, BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION 18 (1993).

<sup>265</sup> See *id.* at 10.

<sup>266</sup> *Id.* at 10-11.

<sup>267</sup> *Id.* at 33.

<sup>268</sup> *Id.*

<sup>269</sup> *Id.* at 37 (internal quotations omitted).

<sup>270</sup> *Id.* at 28.

<sup>271</sup> See *id.* at 40-41.

<sup>272</sup> See *id.* at 28. For example, Breyer distinguishes the installation of guard rails on bridges from coating the Grand Canyon in soft plastic to catch those who might fall over the edge to illustrate that reasonable concerns can have multiple solutions—with some being reasonable and some not. *Id.* at 16. Breyer also uses real examples from his court. See *id.* at 11-12 (describing *United States v. Ottati & Goss*, 630 F. Supp. 1361 (D.N.H. 1985)). Breyer describes how after a ten-year effort to force cleanup of a toxic waste dump, one of the private parties refused to settle and litigated the \$9.3 million cost of cleaning up the “last little bit.” *Id.* at 12. Prior to this litigation the dump had been cleaned enough that children could “eat small amounts of dirty daily for 70 days each year without significant harm,” after burning the soil children could eat “small amounts daily for 245 days per year.” *Id.* However, “there were no children in the area . . . it was a swamp.” *Id.* The extra safety that this hefty cost bought was that the waste dump was clean enough to protect “non-existent dirt-eating children.” *Id.*

<sup>273</sup> *Id.* at 11.

single good goes too far, and the regulation causes more harm than good.<sup>274</sup> Breyer refers to this as “the last ten percent,” or “going the last mile.”<sup>275</sup> This happens when an agency implements standards that are so strict “that the regulatory action ultimately imposes high costs without achieving significant additional safety benefits.”<sup>276</sup> Breyer proposes a solution that includes creating a qualified administrative group whose mission is to “build[] an improved, coherent, risk-regulating system.”<sup>277</sup> Although *Entergy* does not cite *Vicious Circle*, Justice Breyer’s concurrence reflects his long-held concerns espoused in *Vicious Circle* that ignoring costs and benefits altogether could lead to absurd regulatory results.<sup>278</sup>

*D. Weak Cost-Benefit Analysis Is Not Precluded By Precatory Goals Of The Clean Water Act*

The Clean Water Act begins with a list of objectives and goals regarding the “chemical, physical, and biological integrity of the Nation’s waters.”<sup>279</sup> Many of these goals are lofty, to say the least. For example, Section 101(a)(1) provides, “it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.” Given this and other similarly ambitious objectives,<sup>280</sup> it may seem that any engagement in cost-benefit analysis, even weak cost-benefit analysis, would be prohibited for regulatory decisions made under the Clean Water Act.

However, this is not the case. Such Legislative provisions or initial goal statements are aspirational and cannot be read in isolation from the rest of the statute.<sup>281</sup> The Supreme Court has addressed how to deal with the interpretation of such statutes:

Application of ‘broad purposes’ of legislation at the expense of specific provisions ignores the complexity of the problems Congress is called upon

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<sup>274</sup> *Id.*

<sup>275</sup> *Id.* (internal citations omitted).

<sup>276</sup> *See id.* (Breyer, J., referencing a statement by a former EPA administrator who “noted that about 95 percent of the toxic material could be removed from waste sites in a few months, but years are spent trying to remove the last little bit.”).

<sup>277</sup> *Id.* at 60.

<sup>278</sup> *See id.*

<sup>279</sup> 33 U.S.C. §1251(a) (2006).

<sup>280</sup> For example, Section 101(c) provides, “It is further the policy of Congress that the President . . . shall take such action as may be necessary to insure that to the fullest extent possible all foreign countries shall take meaningful action . . . for the achievement of goals regarding the elimination of discharge of pollutants and the improvement of water quality to at least the same extent as the United States does under its laws.” 33 U.S.C. § 1251(c) (2006).

<sup>281</sup> *See Board of Governors v. Dimension Financial Corp.*, 474 U.S. 361, 373-74 (1986) (affirming that the Federal Reserve Board could not interpret the Bank Holding Company Act’s “plain purpose” in contradiction of the Act’s specific terms).

to address and the dynamics of legislative action. Congress may be unanimous in its intent to stamp out some vague social or economic evil; however, because its Members may differ sharply on the means for effectuating that intent, the final language of the legislation may reflect hard-fought compromises. Invocation of the ‘plain purpose’ of legislation at the expense of the terms of the statute itself takes no account of the processes of compromise and, in the end, prevents the effectuation of congressional intent.<sup>282</sup>

Thus, while statements of purpose can assist in general statutory interpretation, they must not be read in isolation but rather as part of a potentially complex statutory structure.<sup>283</sup>

This is equally true for the Clean Water Act, as demonstrated by the Act’s inclusion of methods for allowing the discharge of pollutants in the face of a contrary “goal.”<sup>284</sup> The Clean Water Act has the lofty goal of eliminating “the discharge of pollutants into . . . navigable waters . . . by 1985.”<sup>285</sup> However, it also contains a specific permitting program *allowing* the discharge of pollutants — the “National Pollutant Discharge Elimination System” permits of the Clean Water Act Section 402.<sup>286</sup> Thus, when Congress included a provision *allowing* the discharge of pollutants in the Clean Water Act, it recognized that the “national goal” of eliminating discharges of pollutants by 1985 was a precatory goal, not a requirement.<sup>287</sup>

#### VI. BROADER IMPLICATIONS: AVOIDING UNREASONABLE RESULTS LEADS TO BETTER AGENCY DECISION-MAKING

The California State Water Resources Control Board (“California Water Board”) already has adjusted to *Entergy* by taking an arguably more balanced regulatory action when promulgating rules under Clean Water Act Section 316(b).<sup>288</sup> In California, the California Water Board is the designated state

<sup>282</sup> *Dimension Financial Corp.*, 474 U.S. 361 at 373-74.

<sup>283</sup> *See Dimension Financial Corp.*, 474 U.S. 361 at 373-74.

<sup>284</sup> *Compare* 33 U.S.C. § 1251(a)(1) (2006) *with* 33 U.S.C. § 1342 (2006).

<sup>285</sup> 33 U.S.C. § 1251(a)(1) (2006).

<sup>286</sup> 33 U.S.C. § 1342 (2006) (The “National Pollutant Discharge Elimination System” (“NPDES”) specifically allows the Administrator to issue “permits for discharge of pollutants.”).

<sup>287</sup> *See* statement by Senator James L. Buckley at the time of passage of the CWA in 1972: “While I acknowledge that the bill does not enforce a ‘no-discharge’ standard by 1985, I continue to believe that the bill would be improved by deletion of the date itself. It holds out a promise to the American people that is, I fear, however desirable, unrealistic. And barring some welcome breakthrough in control technology, should the 1985 ‘goal’ operate as an enforceable standard, I reluctantly conclude that the cost of implementing it—in terms of the total resources available to us—is likely to prove unacceptable, if not prohibitive.” S. REP. NO. 92-1236 (1972) (Conf. Rep.), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3765.

<sup>288</sup> *Compare* California Water Board, “CWA Section 316(b) Workshop” 6-12 (Sept. 26, 2005)

water pollution control agency for purposes of the Clean Water Act.<sup>289</sup> It is also responsible for enforcing California's own water quality statute, the Porter-Cologne Water Quality Control Act ("Porter-Cologne").<sup>290</sup> Under both the Clean Water Act and Porter-Cologne, the California Water Board has the authority to regulate once-through cooling systems.<sup>291</sup> In 2005, the California Water Board initiated efforts to regulate once-through cooling systems for existing coastal power plants along the California coastline, including California's two nuclear plants — the San Onofre Nuclear Generating Station ("SONGS"), and the Diablo Canyon Power Plant.<sup>292</sup>

On May 4, 2010, the California Water Board approved a Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, based on Clean Water Act Section 316(b) ("OTC Policy").<sup>293</sup> The OTC Policy establishes two compliance "Tracks."<sup>294</sup> Under Track 1, coastal power plants are required to reduce their intake flow rate to prevent exceeding a maximum through-screen intake velocity.<sup>295</sup> These requirements are intended to be equivalent to a closed-cycle wet cooling system.<sup>296</sup> If a power plant owner can show that compliance with Track 1 is not practical the plant will be regulated under Track 2.<sup>297</sup> Track 2 provides that the power plant "must reduce impingement mortality and entrainment of marine life for the facility, on a unit-by-unit basis, to a comparable level to that which would be achieved under Track 1, using operational or structural controls, or both."<sup>298</sup>

The California Water Board's OTC Policy is noteworthy because of the way it accounts for the potential for unreasonable results at California's two nuclear power plants. Specifically, the OTC Policy calls for the preparation of "special studies" to investigate alternatives for the nuclear-fueled power plants to "meet the requirements of . . . [the OTC] Policy, including the costs for these

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(presentation on file with authors) with California Water Board, Statewide Water Quality Control Policy On the Use of Coastal and Estuarine Waters for Power Plant Cooling, (May 4, 2010).

<sup>289</sup> CAL. WATER CODE § 13160.

<sup>290</sup> CAL. WATER CODE § 13000-14958.

<sup>291</sup> See 33 U.S.C.A. § 1326 (b) (CWA § 316(b)) (2006); CAL. WATER CODE § 13142.5(b).

<sup>292</sup> See California Water Board, "CWA Section 316(b) Workshop" 6-12 (Sept. 26, 2005) (presentation on file with authors). Based on the presentation, it appears that the California Water Board's policymaking was initially based on the regulations subsequently overturned in *Riverkeeper II*.

<sup>293</sup> See California Water Board, Statewide Water Quality Control Policy On the Use of Coastal and Estuarine Waters for Power Plant Cooling (May 4, 2010). The Policy remains under consideration by the State Office of Administrative Law (OAL), and will not take effect until the OAL finishes its review of the rulemaking procedures followed by the California Water Board.

<sup>294</sup> California Water Board, Statewide Water Quality Control Policy On the Use of Coastal and Estuarine Waters for Power Plant Cooling, ¶ 2.A (May 4, 2010).

<sup>295</sup> *Id.* ¶ 2.A.(1).

<sup>296</sup> *Id.*

<sup>297</sup> *Id.* ¶ 2.A.(2).

<sup>298</sup> *Id.*

alternatives.”<sup>299</sup> After these “special studies” are prepared, the OTC Policy requires the California Water Board to “consider the results of the special studies, and . . . [to] evaluate the need to modify this Policy” with respect to the nuclear-fueled power plants.”<sup>300</sup> In the course of conducting this evaluation, the California Water Board must consider:

(a) Costs of compliance in terms of total dollars and dollars per megawatt hour of electrical energy produced over an amortization period of 20 years;

(b) Ability to achieve compliance with Track 1 considering factors including, but not limited to, engineering constraints, space constraints, permitting constraints, and public safety considerations;

(c) Potential environmental impacts of compliance with Track 1, including, but not limited to, air emissions.<sup>301</sup>

Based on the results of the “special studies” the California Water Board can determine whether circumstances justify establishing alternative requirements.<sup>302</sup> The first circumstance that justifies alternative requirements is that the costs of implementing Track 1 of the OTC Policy “are wholly out of proportion to” the cost estimate for the nuclear power plants relied upon by the California Water Board when it established the OTC Policy.<sup>303</sup> The second circumstance justifying alternative requirements is present when the California Water Board finds that factors besides cost makes “compliance . . . wholly unreasonable.”<sup>304</sup> If the California Water Board finds either circumstance present, then the California Water Board “shall establish alternative requirements no less stringent than justified by the wholly out of proportion (i) cost and (ii) factor(s) of paragraph (7).”<sup>305</sup>

These factors create a cost-benefit check for the nuclear plants prior to implementation of the OTC Policy that functions in a manner similar to EPA’s “wholly disproportionate” Clean Water Act test. In fact, it was the California Water Board’s stated objective that the “special studies” function in the same way as EPA’s “wholly disproportionate” test to avoid extreme disparities between costs and benefits.<sup>306</sup>

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<sup>299</sup> *Id.* ¶ 3.D, 3.D.(1).

<sup>300</sup> *Id.* ¶ 3.D.(7).

<sup>301</sup> *Id.* ¶ 3.D.(7)(a)–(c).

<sup>302</sup> *See id.* ¶ 3.D.(8), ¶ 3.D.(9) (“In the event the State Water Board establishes alternate requirements . . . the difference in impacts to marine life resulting from any alternative, less stringent requirements shall be fully mitigated. Mitigation . . . shall be . . . directed toward the increase in marine life associated with the State’s Marine Protected Areas in the geographic region of the facility.”).

<sup>303</sup> *Id.* ¶ 3.D.(8).

<sup>304</sup> *Id.*; *see id.* ¶ 3.D.(7)(b)–(c) (listing factors court considers in making determination of reasonableness).

<sup>305</sup> *Id.* ¶ 3.D.(8).

<sup>306</sup> *See* California State Water Resources Control Board, Final Substitute Environmental Document, Appendix G – Final Response to Public Comments, Response to Comments 29.10 and

The California Supreme Court recently recognized the permissibility of using cost/benefit comparisons under Section 316(b) when selecting BTA.<sup>307</sup> *Voices of the Wetlands v. State Water Resources Control Board* involved an expansion of the Moss Landing Power Plant that included changes to the design and operation of the existing once-through cooling system.<sup>308</sup> The National Pollution Elimination Discharge System permit for the Moss Landing Power Plant allowed the continued use of once-through cooling, concluding under Section 316(b) that the “costs of alternatives to minimize entrainment impacts are wholly disproportionate to the environmental benefits.”<sup>309</sup> The California Supreme Court wrote that *Entergy* “clearly disposes of plaintiff’s general claim that CWA [S]ection 316(b) prohibited the Regional Water Board [which issued the permit] from premising its BTA finding on a comparison of costs and benefits.”<sup>310</sup> The Supreme Court ruled that a BTA determination could be appropriately based “on a finding that the costs of alternative cooling technologies for the [Moss Landing Power Plant] were ‘wholly disproportionate’ to the anticipated environmental benefits.”<sup>311</sup>

The holding in *Voices* suggests that the California Water Board’s Policy’s reliance on the wholly disproportionate test (or a functionally equivalent approach)<sup>312</sup> would be found permissible for evaluating the special studies for nuclear power facilities. This mechanism established by the California Water Board’s OTC Policy represents the type of agency cost-benefit investigation that we believe establishes better public policy and reasoned rulemaking. In the case of the SONGS and Diablo Canyon nuclear power plants, the California Water Board’s OTC Policy will result in the development of cost-benefit analysis information that the California Board will be required to substantively analyze and utilize before any decision to enforce the OTC Policy against SONGS and Diablo Canyon.<sup>313</sup>

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43.08 (“implementation provisions for special studies, and evaluation thereof, for the two nuclear plants generally accomplishes the same objective as previously provided in the [wholly disproportionate demonstration] section”), available at [http://www.swrcb.ca.gov/water\\_issues/programs/ocean/cwa316/docs/cwa316may2010/sed\\_final\\_g.pdf](http://www.swrcb.ca.gov/water_issues/programs/ocean/cwa316/docs/cwa316may2010/sed_final_g.pdf)

<sup>307</sup> See *Voices of the Wetlands v. State Water Resources Control Bd. (Voices)*, 52 Cal. 4th 499 (2011).

<sup>308</sup> See *id.* at 509.

<sup>309</sup> *Id.* at 511 (emphasis removed).

<sup>310</sup> *Id.* at 537.

<sup>311</sup> *Id.* at 538.

<sup>312</sup> See California State Water Resources Control Board, *supra* note 306.

<sup>313</sup> California Water Board, Statewide Water Quality Control Policy On the Use of Coastal and Estuarine Waters for Power Plant Cooling, ¶ 3.E (May 4, 2010).

## VII. CONCLUSION

The Supreme Court's acceptance of economic balancing as a common-sense tool to avoid unreasonable regulatory outcomes represents a remarkable shift in jurisprudence that previously had deemphasized the role of economics under the Clean Water Act. After *Entergy*, agencies and reviewing courts should be more likely to consider the reasonableness of an environmental regulation and less likely to discount or ignore evidence of gross disparities between compliance costs and benefits achieved.<sup>314</sup>

Another remarkable aspect of *Entergy* is that Justice Breyer joined a conservative majority on substantive grounds, through his concurrence. Justice Breyer agreed with the notion that "it makes no sense to require plants to spend billions of dollars to save one more fish or plankton . . . , even if the industry might somehow afford those billions."<sup>315</sup> "Any such prohibition [of cost-benefit comparison] would be difficult to enforce [because] every real choice requires a decision maker to weigh advantages and disadvantages . . . an absolute prohibition would bring about irrational results."<sup>316</sup> Breyer's concurrence adds breadth and weight to *Entergy* because it reflects Breyer's well-recognized policy argument that administrative agencies can develop a myopic focus, or "tunnel vision," that leads to inefficient regulatory outcomes. After *Entergy*, if presented with a similar fact pattern, six of the Court's Justices appear ready to accept a role for economics as a commonsense tool to avoid unreasonable results.

Professor Cannon persuasively argues that *Entergy* creates a presumption that it would be unreasonable to implement Section 316(b) without avoiding extreme disparities between costs and benefits (i.e., without performing the weak cost-benefit). Professor Cannon, however, would leave it to an agency to determine whether a weak cost-benefit analysis is applied; in essence, allowing the agency to determine whether its regulatory outcome avoids irrational results. We question, in the absence of clear statutory direction from Congress, whether such an agency decision would, in Justice Breyer's words, "conflict with the test of reasonableness by threatening to impose massive costs far in excess of any

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<sup>314</sup> *Entergy's* oral arguments paint a clear picture of a majority of Justices focusing on the need to avoid unreasonable outcomes. See *supra* Part V.B. Even Justice Stevens' dissent recognized an irrational limit to regulatory actions. *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 15019-20 (2009) (Stevens, J., dissenting). When read against the backdrop of the majority's opinion, Breyer's concurrence signals that a majority of justices may look skeptically on any interpretation of Section 316(b) that did not include a check against gross disparities between costs and benefits (i.e., unreasonable outcomes). See *generally id.* at 1512-16 (Breyer, J., concurring and dissenting).

<sup>315</sup> *Entergy Corp. v. Riverkeeper, Inc. (Entergy)*, 129 S. Ct. 1498, 1513 (2009) (Breyer, J., concurring in part and dissenting in part) (internal quotations and citations omitted).

<sup>316</sup> *Id.*

benefit.”<sup>317</sup>

Instead, we believe that after *Entergy*, if a statute is silent as to the role of costs and benefits, an agency is not automatically required to consider costs and benefits. This is because such a presumption could create an unnecessary procedural burden where there would be little risk of an unreasonable or inefficient regulatory outcome. However, if an agency is presented with reasonable, competent evidence that its action would have an unreasonable result (i.e., where costs are grossly disproportionate to benefits), the agency should substantively address the evidence or change its course of action. After *Entergy*, an agency may stand on shaky legal ground if it entirely ignores competent evidence of gross disparities between costs and benefits. Instead, the agency should either substantively critique the presented evidence by explaining why the evidence is erroneous or inapplicable, or the agency should point to substantial evidence in the record supporting the reasonableness of its action despite the economic evidence. If the agency does not meet this burden, its action may fail as unreasonable under *Chevron* Step Two and/or as arbitrary and capricious under the Administrative Procedures Act.

*Entergy* remains highly relevant because states can continue to promulgate Section 316(b) regulations under their delegated Clean Water Act authority. The EPA also continues to develop revised Section 316(b) rules for existing facilities.<sup>318</sup>

The California State Water Resources Control Board has already adjusted to *Entergy* when promulgating rules under Clean Water Act Section 316(b). The California Water Board’s action matches our expectation that *Entergy* will steer agencies towards more balanced decision-making. We believe our approach would further encourage reasonable and more efficient regulatory outcomes without mandating overly formal cost-benefit analyses that could be viewed as too restrictive or time-consuming for certain environmental, health, or safety regulatory regimes.

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<sup>317</sup> *Id.* at 1514.

<sup>318</sup> EPA issued a revised Phase II rule for existing facilities for public review and comment on April 20, 2011. See <http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/index.cfm> (last visited Oct. 16, 2011).