The Great Standby Rate Debate: Analysis of a Key Barrier to the Influx of Needed New Alternative Energy Sources

Increased use of Distributed Generation facilities has the potential to create significant benefits for both the electric utility distribution system and the public as a whole.[1] *Distributed generation can relieve the demand for electricity on an already strained distribution system, which can create savings for utility companies that would be, in turn, passed on to ratepayers.*[2] *However, these benefits do not come without significant costs.*[3] *Utilities incur certain fixed costs to keep distributed generation customers connected to the distribution system even when these customers consume no electricity.*[4] *Therefore, it is necessary to design a standby rate structure that is based on strict cost causation principles that will neither inhibit the introduction of new distributed generation nor subsidize new distributed generation at the expense of other ratepayers.*[5]

I. INTRODUCTION

The standby rate structure that a state adopts will have a significant impact on the development of new distributed generation.[6] Distributed generation

1. *See* CLEAN ENERGY GROUP, STANDBY CHARGES AND FUEL CELLS: NEW OPPORTUNITIES FOR STATE POLICY COORDINATION 8 (2005), http://www.cleanenergyfunds.org/library/Reports/Standby_Charges_and_Fuel_Cells_Sept05.pdf (discussing distributed generation's benefits to distribution system and society in general).

2. *See* Sean Casten, *Are Standby Rates Ever Justified? The Case Against Electric Utility Standby Charges as a Response to On-Site Generation*, ELECTRICITY J., May 2003, at 58, 63 (suggesting new distributed generation possible solution to strains on distribution system). Casten also asserts that distributed generation can benefit consumers in the form of reduced rates. *Id.* at 61. *But see* Jay Morrison, *Why We Need Standby Rates for On-Site Generation*, ELECTRICITY J., Oct. 2003, at 74, 77-79 (arguing distributed generation only benefits distribution system in very specific locations).

3. *See* CLEAN ENERGY GROUP, *supra* note 1, at 7 (outlining costs distributed generation units impose on utility companies); Morrison, *supra* note 2, at 75 (stating distributed generation customers impose costs on system similar to non-distributed generation customers).

4. *See* Morrison, *supra* note 2, at 75 (describing utilities' fixed costs to keep standby customers connected to distribution system). Morrison explains that the utility industry is very capital intensive, and the costs of capital investments must be recovered from customers. *Id.* Also, utilities companies must maintain enough load capacity to meet the demand of all customers to ensure system reliability. *Id.* Accordingly, utilities incur significant capacity costs. *Id.* Neither cost varies when a person switches from regular service to standby service. *Id.*

5. *See* Steven Ferrey, *Nothing but Net: Renewable Energy and the Environment, Midamerican Legal Fictions, and Supremacy Doctrine*, 14 DUKE ENVTL. L. & POL'Y F. 1, 51 (2003) (asserting standby rates created to achieve cost recovery); Morrison, *supra* note 2, at 75 (arguing need for standby rates to prevent non-standby customers from subsidizing distributed generation). *But see* CLEAN ENERGY GROUP, *supra* note 1, at 8 (maintaining standby rates should not inhibit development of new distributed generation projects).

6. A.J. Goulding & Serkan Bahçeci, *Standby Rate Design: Current Issues and Possible Innovations*,

refers to alternative consumer-owned power sources—such as wind turbines or solar power—that a consumer uses to satisfy his energy demand instead of relying on a utility company.[7] If standby rates are too high, then new distributed generation projects will prove uneconomical.[8] If utility companies do not hold distributed generation owners accountable for costs incurred, however, then these costs will be passed on to non-distributed generation ratepayers.[9]

Standby customers cannot be charged according to the volumetric rate schedule, through which customers pay according to usage, of non-standby customers because of their irregular load shapes.[10] Distributed generation customers often do not consume any electricity and would have no monthly charge under the volumetric schedule, though they still impose costs on the utility companies.[11] Without a separate standby rate, distributed generation customers would unfairly impose costs on the utilities that will invariably be passed on to non-distributed generation customers.[12]

The parties to the standby rate debate include distributed generation owners and developers and the regulated utilities who speak on behalf of the non-distributed generation ratepayers.[13] Some distributed generation advocates argue that standby customers should be charged under the traditional volumetric rate structure.[14] Yet most parties agree that there should be a standby rate structure based on cost causation principles, meaning the rate should allow the utilities to recover all costs that the distributed generation customers impose on the system but nothing more.[15] There is considerable

ELECTRICITY J., May 2007, at 87, 88 (stating standby rates increasingly important as standby service central to distributed generation economics).

7. *See* Goulding & Bahçeci, *supra* note 6, at 88 (defining distributed generation); Morrison, *supra* note 2, at 74-75 (providing information on concept of distributed generation).

8. *See* CLEAN ENERGY GROUP, *supra* note 1, at 8 (noting standby rates could serve as barrier to distributed generation development); *see also Distributed Generation Market in Mass. Lags, Except for Solar, Consultant Finds*, ELECTRIC UTILITY WEEK, June 13, 2005, at 12 (quoting distributed generation advocate maintaining current standby rates obstacle to distributed generation).

9. *See* Morrison, *supra* note 2, at 74 (noting other ratepayers absorb distributed generation costs not recovered from standby customers).

10. *See id.* at 75-76 (explaining traditional rate structures not well designed to accommodate consumer-owned generation).

11. *See id.* at 76 (asserting standby customers consume less electricity leading to cost under-recovery under volumetric rate).

12. *See id.* at 74 (contending lack of standby rates leads to non-distributed generation customers absorbing costs).

13. *See* CLEAN ENERGY GROUP, *supra* note 1, at 5 (explaining distributed generation advocates and utilities parties to standby rate debate); *see also Distributed Generation Market in Mass. Lags*, *supra* note 8, at 12 (noting utilities' duty to protect other ratepayers from cost shifting).

14. *See, e.g.*, Goulding & Bahçeci, *supra* note 6, at 89 (noting distributed generation proponents frequently argue volumetric rate proper for standby customers); *see also* Casten, *supra* note 2, at 59 (maintaining all arguments for standby rates fail).

15. *See* CLEAN ENERGY GROUP, *supra* note 1, at 9-10 (arguing standby rates should reflect actual usage and actual costs imposed on utilities); Goulding & Bahçeci, *supra* note 6, at 93 (advocating standby rates

disagreement, however, as to what costs and benefits the distributed generation project actually imposes on the distribution system.[16] Also, the parties dispute how and to what extent such costs and benefits should be incorporated into the standby rate structure.[17]

This Note will examine the costs and benefits that a distributed generation back-up customer imposes on the distribution system.[18] Also, it will outline the arguments for and against including such costs and benefits in the standby rate structure.[19] Thereafter, this Note will discuss the early development of standby rates.[20] It will briefly state the federal requirements for standby rate structure and discuss a case following the enactment of such requirements.[21] Further, this Note will explore the development and structure of standby rate policy in the leading state, California.[22] Lastly, this Note will analyze the components of each policy and determine the most effective policy in accordance with cost causation.[23]

II. HISTORY

A. An Overview of the Standby Rate Debate

There are numerous factors that a state must consider in order to develop a standby rate structure that accurately recovers costs imposed on the distribution system by distributed generation while also accounting for benefits to the distribution system and society as a whole.[24] Utility providers and distributed generation advocates vastly disagree over the factors that should be included in the standby rates.[25] Each state's public utility commission must look at the

resting on economic cost principles); Morrison, *supra* note 2, at 76 (stating standby rates needed to recover utilities' costs).

16. *See* Morrison, *supra* note 2, at 75-76 (maintaining standby rates must recover fixed, full capacity, and variable costs); CLEAN ENERGY GROUP, *supra* note 1, at 8 (listing distributed generation's benefits to system and noting argument to include in rate structure). *But see* Sean Casten, *Rebuttal: How Far We Have to Go*, ELECTRICAL J., Oct. 2003 at 81, 83 (suggesting unlikely distributed generation units will fail simultaneously necessitating full capacity planning).

17. *See supra* note 15 (citing divergence of opinions on proper make-up of standby rates).

18. *See infra* Part II.A (outlining costs and benefits associated with distributed generation).

19. *See infra* Part II.A (reciting arguments for and against including certain costs and benefits in standby rates).

20. *See infra* Part II.B (discussing early standby rate case).

21. *See infra* Part II.C (explaining federal standby rate requirements); *see also infra* Part II.D (discussing Florida case decided after PURPA).

22. *See infra* Part II.E (outlining development of standby rate policy in California).

23. *See infra* Part III (analyzing standby rate argument and suggesting model rate structure).

24. *See infra* notes 26-59 and accompanying text (outlining costs and benefits of distributed generation for states to consider).

25. *See* Morrison, *supra* note 2, at 75 (arguing utilities must recover all costs). Morrison contends that standby rates should allow for recovery of all costs that standby customers impose on the distribution system and rejects the notion that distributed generation provides a benefit that can be reflected in the standby rate. *Id.* at 74. *But see* Casten, *supra* note 2, at 59 (advocating inclusion of numerous distributed generation benefits in

costs and benefits and determine which factors should be included to create a rate that conforms with cost causation.[26]

The fixed costs that utilities incur to keep a customer connected to the distribution system are the first factor to consider.[27] Electric utilities spend billions of dollars on line maintenance and transistor and substation improvements, recovering these costs through the volumetric rate charged to customers.[28] The unique load patterns of distributed generation customers, however, can lead to under-recovery of a utility's fixed costs.[29] Distributed generation advocates argue that the utilities should still charge them at the regular volumetric rate and to do otherwise would discriminate against standby customers.[30] The utilities believe, however, that doing so would effectively cause the other ratepayers to subsidize the distributed generation customers.[31] The utilities argue that they should recover fixed costs through a fixed monthly "customer charge."[32]

Another factor to consider in the standby rate debate is the recovery of stranded costs.[33] When utilities make large-scale capital investments, such as constructing new power plants, they recover the capital over time through the

rates). Casten argues that for rates to accurately reflect costs, they must include the numerous benefits of distributed generation, such as increased system reliability, transmission and distribution investment deferral, and reduced emissions. *Id.* at 59-61. Casten further alleges that the benefits often exceed the costs imposed on the system, essentially eviscerating the rationale for charging standby rates. *Id.* at 59.

26. *See* Steven Ferrey, *Exit Strategy: State Legal Discretion to Environmentally Sculpt the Deregulating Electric Environment*, 26 HARV. ENVTL. L. REV. 109, 141-44 (2002) (alluding to state commissions' ability to set standby rates); Goulding & Bahçeci, *supra* note 6, at 91 (noting rates must align with cost causation principles).

27. *See* Morrison, *supra* note 2, at 75-76 (discussing fixed costs incurred to serve standby customers); *see also* Andrew R. Thomas et al., *Regulation of Power Generated by Stationary Fuel Cells in the United States*, 18 TUL. ENVTL. L.J. 141, 151 (2004) (noting utilities incur transmission and distribution costs for standby customers).

28. *See* Morrison, *supra* note 2, at 75-76 (describing fixed costs and noting costs usually recovered through volumetric rate). Morrison contends that the utility industry is capital intensive and must maintain adequate facilities to meet peak power demands. *Id*. Further, these fixed costs do not disappear simply because a customer switches to back-up power. *Id.*

29. *See id*. at 75-76 (discussing inadequacy of volumetric rate to recover fixed costs from standby customers). Morrison notes that standby customers tend to take less electricity from the distribution system. *Id.* Thus, under a volumetric rate, they pay less, which leads to an under-recovery of the static fixed costs. *Id.*

30. *See* Goulding & Bahçeci, *supra* note 6, at 88 (noting standby customers desire volumetric rate); *see also* Casten, *supra* note 2, at 63 (claiming separate standby rate unnecessary). Casten argues that the benefits of distributed generation offset any costs to the utilities and that, thus, there is no need to charge standby customers at a separate rate. *Id.*

31. *See* Morrison, *supra* note 2, at 76 (noting other ratepayers "make up the difference"). Under the regulated utility structure, the utility can recoup any losses it incurs as a result of the standby customers by charging higher rates to the other ratepayers. *Id.*

32. *See* Morrison, *supra* note 2, at 76 (arguing traditional rate structure fails to recover fixed costs and standby rate needed). Specifically, Morrison contends that utilities cannot recover fixed costs from standby customers under the volumetric rate. *Id.* Thus, standby rates are necessary to ensure distributed generation owners contribute to the costs they impose on the distribution system. *Id.*

33. *See* Ferrey, *supra* note 26, at 143 (discussing stranded costs to utilities).

volumetric rate.[34] As with fixed costs, when a distributed generation customer switches to standby power, the utility no longer recovers stranded costs from the customer, thereby resulting in increased burden on ratepayers.[35] Some distributed generation advocates refute the existence of stranded costs, while others maintain that they are simply part of the cost of doing business and that the utilities should not be able to recover these costs through the standby rates.[36] The utilities, however, contend that the standby customers should pay their "share" of the investment costs through the standby rate.[37]

Capacity charges, which represent the bulk of the standby rate charge, present another major issue.[38] Most utilities operate at the distribute level, and, in order to maintain system stability, must buy enough capacity to meet the expected need.[39] The utilities argue that they must maintain full backup capacity for standby customers to ensure that there is adequate power in the event that all distributed generation units are down simultaneously.[40] Distributed generation advocates reject this argument and maintain that utilities should calculate the probability that the distributed generation units will need power from the distribution system and plan their capacity accordingly.[41] This

34. *See id.* at 143 (explaining stranded assets). A stranded asset is an asset whose capital investment cost exceeds its production value. *Id.* Utilities thus recover the undepreciated value of stranded assets over time from the ratepayers. *Id.*

35. *See id.* at 144 (describing effect of distributed generation on stranded costs recovery). As Ferrey explains, while most states allow 100 percent recovery of stranded costs, if the utilities cannot recover these costs from distributed generation customers, they can compensate by increasing the charge to other ratepayers. *Id.*

36. *See* Casten, *supra* note 2, at 62-63 (arguing against stranded costs). Casten contends that electricity demand will likely continue to increase significantly over the next twenty years. *Id.* at 62. Thus, utilities will not have these so-called "stranded" assets unless the rate of new distributed generation interconnections exceeds the increase in demand, an unlikely occurrence. *Id.*; *see also* Ferrey, *supra* note 26, at 143-44 (noting experts believe utilities lack right to recover stranded costs). Ferrey maintains that the Supreme Court determined that it is constitutional for states to disallow stranded cost recovery. *Id.* at 144. Most states still permit utilities to recover 100 percent of stranded costs, which leads to utilities recovering more from capital investments than other formerly regulated industries. *Id.* at 143.

37. *See* Morrison, *supra* note 2, at 76 (arguing distributed generation customers must pay their share of costs). Morrison states that standby rates should act as a mechanism to recover fixed costs such as stranded costs. *Id.*

38. *See id.* at 75 (noting utilities incur significant capacity costs). *But see* Casten, *supra* note 2, at 61 (arguing utilities over plan generation capacity creating unnecessary expenses).

39. *See* Morrison, *supra* note 2, at 75 (outlining utilities' purchase of capacity). Morrison explains that the utility companies must buy enough generation capacity to meet the expected peak demand in order to maintain system stability. *Id.*

40. *See id.* at 75 (arguing utilities must maintain full back up capacity). Morrison contends that with regard to capacity, the utilities must treat standby customers as though they were full service customers. *Id.* Although simultaneous outage of all distributed generation units is unlikely, "utilities are not permitted to gamble with system reliability." *Id.*

41. *See* Goulding & Bahçesi, *supra* note 6, at 89 (arguing utilities should not assume all units will fail simultaneously); *see also* Casten, *supra* note 16, at 82 (rebutting allegation utilities cannot utilize statistical planning). Casten contends that utilities consistently use statistical planning to determine generation capacity during peak demand periods. *Id.* Thus, they should also be able to use statistical planning to determine the likelihood that distributed generation owners will demand electricity from the distribution system. *Id.*

would lead to decreased capacity costs for utilities and would thus decrease the standby rate.[42]

Another factor that is closely intertwined with capacity costs is system diversity.[43] That is, if there are numerous types of distributed generation on the distribution system, it is less likely that the units will be incapacitated simultaneously.[44] The distributed generation advocates argue that utilities should factor system diversity into their capacity planning and decrease backup capacity accordingly.[45] The utilities do not directly reject this argument but contend that there is simply not enough distributed generation on any individual circuit to create any measurable benefit at this time.[46] Therefore, until adequate distributed generation is present, the utilities must maintain full backup capacity.[47]

In addition, standby customers argue that capacity charges should account for individual unit reliability.[48] Some units are very reliable and rarely demand electricity, while others are less reliable and often consume electricity.[49] Thus, by charging reliable unit customers for the full capacity costs, the utilities are effectively subsidizing other less reliable unit owners.[50] The utilities firmly attest, however, that they must maintain full power capacity for all customers to ensure system stability and, as such, a distributed generation unit's reliability is

42. *See* Goulding & Bahçeci, *supra* note 6, at 88 (arguing reducing capacity estimates would lower standby charge).

43. *See* CLEAN ENERGY GROUP, *supra* note 1, at 10 (discussing system diversity).

44. *See id.* (defining system diversity and its effect). Diversity in the system makes it less likely that all units will be offline at once. *Id.* For example, when the wind is not blowing to power wind turbines, the sun will likely be shining, providing solar power. *Id.*

45. *See id.* (arguing for inclusion of diversity factor in standby rate). Clean Energy Group notes that distributed generation customers only impose maximum demand on the system when units go down. *Id.* As such, Clean Energy Group contends that utilities should buy less generation capacity because the numerous types of distributed generation on the distribution system make it unlikely that all units will be out simultaneously. *Id. But see* Morrison, *supra* note 2, at 76 (rebutting claim for diversity factor at this time).

46. *See* Morrison, *supra* note 2, at 76-77 (describing lack of distributed generation penetration on individual circuits). Morrison argues that there are not enough distributed generation units on individual circuits to allow utilities to reduce the generation capacity. *Id.*

47. *See id.* at 77 (contending utilities cannot reduce generation capacity at low levels of penetration). Further, Morrison asserts that, even if there is considerable distributed generation, utilities still cannot significantly reduce capacity because some types of distributed generation are likely to be offline at the same time. *Id.* For example, when the wind is not blowing, all wind power will be down. *Id.*

48. *See* Order Instituting Rulemaking into Distributed Generation, 211 PUR 4th 280, at 69-70 (Cal. Pub. Util. Comm'n July 12, 2001) (summarizing The Utility Reform Network's (TURN) position on unit reliability). TURN argued that the standby tariffs should adjust to accommodate more reliable units and that the adjustment be based on the specific distributed generation technology. *Id.*

49. *See id.* at 65-66 (relaying position of Federal Executive Agencies (FEAs)). FEAs suggest that reliable distributed generation units contribute less to system costs and, thus, the standby rate should be adjusted to reflect this reality. *Id.*

50. *See* Casten, *supra* note 2, at 60 n.3 (maintaining most distributed generation has reliability of 95 percent or higher). During peak period when these reliable systems are not taking electricity from the distribution system, the utility is using the excess backup capacity to serve other ratepayers, thus effectively overcompensating the utilities and subsidizing other customers. *Id.* at 62.

of no consequence to the standby charge.[51]

Distributed generation advocates also argue that standby rates should reflect transmission and distribution investment deferral.[52] Across the country, there are widespread power shortages that lead to blackouts and demand for electricity is projected to increase in the future.[53] To alleviate this, utilities will have to invest in system upgrades that can support the increased demand.[54] Distributed generation owners argue that increased distributed generation alleviates the congestion problems and defers the need for large scale investments.[55] Utility companies, however, contend that to create any actual system benefit requires strategic placement of units, and any deferral of investment would be short-lived.[56]

Finally, distributed generation owners argue that society as a whole benefits from increased distributed generation due to decreased emissions.[57] Standby customers further assert that the rates should be decreased because of such benefits.[58] The utilities counter by stating that while some "clean" forms of distributed generation do in fact emit fewer noxious gasses than traditional energy sources, others emit more and the rates thus should not be discounted.[59]

51. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 67 (discussing utilities' position on reliability factor). The utilities contend that there is not enough distributed generation on radial circuits to plan for anything less than full capacity. *Id.* at 67-68; *see also* Morrison, *supra* note 2, at 75 (arguing utilities cannot "gamble" with system stability). Morrison contends that, even if a unit is reliable and unlikely to be down, utilities must assume units will fail at the worst possible time. *Id.*

52. *See* Casten, *supra* note 2, at 63-65 (noting utilities overlook significant transmission and distribution investment deferral benefit of distributed generation).

53. *See id*. at 62 (showing U.S. electricity consumption expected to increase 44 percent over next twenty years); *see also* Casten, *supra* note 16, at 81 (noting widespread power outages during summer of 2003).

54. *See* Casten, *supra* note 2, at 65 n.11 (noting utilities must invest billions in order to maintain reliability).

55. *See id.* at 62-65 (arguing increased distributed generation prolongs need for more large scale investment). Casten maintains that distributed generation could save utilities significant investment costs and that, thus, in a sense, distributed generation is subsidizing other ratepayers. *Id.*

56. *See* Morrison, *supra* note 2, at 77 (claiming transmission and distribution upgrade deferral "overstated"). Morrison argues that the distributed generation units must be located in very specific locations and must generate electricity during certain peak periods to create any transmission and distribution deferral benefit. *Id.* Morrison thus disputes the beneficial effect and asserts that even with specifically situated distributed generation the benefit is minimal. *Id.* *See generally* Navigant Consulting, Distributed Generation and Distribution Planning: An Economic Analysis for the Massachusetts DG Collaborative (Jan. 20, 2006), http://www.masstech.org/DG/02-38-C_Attachment-G_Navigant_Economic-Analysis.pdf (discussing two year study indicating minimal transmission and distribution investment deferral benefit). The Navigant Group found that even with optimal levels of distributed generation penetration, in most places, transmission and distribution deferral was for only one or two years. *Id.* at 17.

57. *See* Casten, *supra* note 16, at 83-84 (rejecting argument distributed generation emits more than central generation). Casten argues that many of the less "clean" distributed generation units are used as backup power and thus are rarely in use. *Id.* Most of the units in use emit less noxious gas and are more efficient than central power sources. *Id.*

58. *See id*. (contending lower emissions of distributed generation creates important societal benefit). Casten claims that because distributed generation has potential to reduce the harmless effects of central generation, standby rates should be limited in order to encourage new "clean" energy sources. *Id.*

59. *See* Morrison, *supra* note 2, at 77 (comparing distributed generation emissions and traditional power

It is important to reiterate that any reduction in the standby rate would shift costs to the other ratepayers causing them to pay for a societal benefit—fewer emissions—for which they did not contract.[60] Other commentators advocate that distributed generation owners should be compensated for environmental benefits, but through state funded incentives rather than reductions in the standby charge.[61]

B. Early Case Law: State ex rel. Federal Reserve Bank of Kansas City v. Public Service Commission[62]

The standby rate debate dates back as far as the 1940s, when utility customers began to generate on-site power to satisfy part or all of their energy needs.[63] In *Federal Reserve Bank of Kansas*, the plaintiff bank installed all necessary equipment to generate sufficient energy to meet its demand.[64] It sought, however, to contract for a standby rate in order to remain connected to the utility distribution system in the event that its system failed to provide adequate energy to meet the bank's demand.[65] When the parties failed to agree on such a rate, the bank filed suit to have the Missouri Public Service Commission fix a fair rate.[66]

Many of the parties' arguments closely resemble those put forth in modern standby rate debates, including discrimination against standby customers, the system diversity effect, and utility fixed costs.[67] The court determined, first,

sources). Morrison notes that while some forms of distributed generation emit no gases, such units make up a small percentage of overall distributed generation. *Id.* In reality, the majority of distributed generation units emit more noxious gases then central power generation. *Id.* For example, the most common form of distributed generation, diesel-fueled generators, emits almost four times more nitrous-oxide than the average coal boiler. *Id.*

60. *See supra* note 9 and accompanying text (explaining utilities raise rates for other ratepayers to recover costs of serving standby customers).

61. *See Distributed Generation Thriving in Connecticut*, MEGAWATT DAILY, July 16, 2007, at 7 (discussing Connecticut incentives program). "The incentives include capital grants, low interest loans, discounts for the cost of natural gas, and an exemption from certain electric costs for backup service." *Id.*; *see also* Hethie S. Parmesano, *Standby Service to Distributed Generation Projects: The Wrong Tool for Subsidies*, ELECTRICITY J., Oct. 2003, at 85, 86-87 (maintaining incentive programs best tools to encourage distributed generation). Parmesano notes that certain states have introduced successful incentive programs to reward customers who invest in distributed generation technologies. *Id.* at 87. States intend such credits to compensate the standby customers for both environmental benefits and site specific transmission and distribution benefits. *Id.*

62. 191 S.W.2d 307 (Mo. 1945).

63. *See id.* at 309 (explaining plaintiff installed on-site generation leading to standby charge debate).

64. *See id.* at 309-10 (describing facts of case).

65. *See id.* at 310 (noting bank requested utility submit reasonable rate for standby service).

66. *See* 191 S.W.2d at 310 (explaining case procedural history). The bank requested that the Public Service Commission establish a "fair and reasonable" rate schedule to cover the costs imposed on the utility. *Id.*

67. *See id.* at 312-16 (outlining parties' arguments to Commission). The bank contended that a rate schedule that set a fixed demand charge would discriminate against standby customers because it would require them to pay at the same schedule as full-service customers who utilize significantly more power. *Id.* at 314.

that the utility was legally obligated to provide standby power to on-site generation customers and, second, that the rate charged for standby service should be reasonably connected to the costs imposed by serving such customers.[68] Ultimately, the court affirmed the Commission's ruling, which established a standby rate that included a fixed demand charge but totaled less than the rate charged to full-service utility customers.[69]

C. The Federal Public Utility Regulatory Policies Act (PURPA)

In 1978, Congress passed PURPA to standardize distributed generation policy and facilitate the introduction of new alternative power sources.[70] The United States Supreme Court has upheld federal pre-emption in this area.[71] Under federal law, standby rates must be just and reasonable to the consumer and in the public interest.[72] Also, the standby rates cannot discriminate against standby customers.[73] In addition, the Federal Energy Regulatory Commission has outlined criteria for utilities to consider when designing and approving standby rates.[74]

Further, the bank argued that it was unreasonable to allow the utility companies to plan and charge for sufficient capacity to meet maximum possible demand because the diversity factor indicates that at no time will all customers demand power simultaneously. *Id.* at 313. The utility, however, asserted that it incurred significant fixed costs to stand ready to provide power to the bank and therefore had to charge a fixed demand rate to recover such costs. *Id.* at 315-16. *See supra* notes 23-60 and accompanying text (discussing modern standby rate arguments).

68. *See* State *ex rel.* Fed. Reserve Bank of Kansas City v. Pub. Serv. Comm'n, 191 S.W.2d 307, 313 (Mo. 1945) (holding rate should be fair and reasonable). The court also indicated, however, that a fair and reasonable rate is determined by the "peculiar" facts of the case. *Id.* at 312.

69. *See id.* at 315-16 (analyzing and affirming Commission's ruling).

70. *See* Steven Ferrey, *Sustainable Energy, Environmental Policy, and States' Rights: Discerning the Energy Future Through the Eye of the Dormant Commerce Clause*, 12 N.Y.U. ENVTL. L.J. 507, 540 (2004) (discussing PURPA).

71. *See generally* Fed. Energy Reg. Comm'n v. Mississippi, 456 U.S. 742 (1982) (holding federal law preempts state law in regulating electricity sales).

72. *See* 18 C.F.R. § 292.304(a)(1)(i) (1978) (describing proper standby rates structure).

73. *See id.* § 292.304(a)(1)(ii) (noting rates must not discriminate).

74. *See* Ferrey, *supra* note 26, at 141-42 (listing additional FERC requirements). Utilities must consider:

> 1) The expected timing of forced outages of the [qualifying facility], if there is any reason to expect they could not occur with random probability;
> 2) The expected frequency of forced outages of the [qualifying facility];
> 3) The expected duration of forced outages of the [qualifying facility];
> 4) The expected demand placed on the supplying utility's generating resources in the event of a forced outage of the [qualifying facility];
> 5) The expected cost of electrical energy associated with the capacity to be used to meet the demand in the event of a forced outage of the [qualifying facility];
> 6) The cost, if any, associated with transmission and distribution facilities used to meet the demand resulting from a forced outage of the [qualifying facility]; and
> 7) The terms of backup service, in regard to its position as firm or interruptible service, and the cost of such terms of service imposed on the supplying utility.

Id.

D. Case Law After PURPA: C.F. Industries, Inc. v. Nichols[75]

In 1988, after the enactment of PURPA, which set federal standards for all states to follow when determining standby charges, the Supreme Court of Florida considered whether the Florida Public Service Commission's proposed standby rate structure conformed with PURPA's restrictions.[76] The court determined that the Public Service Commission had a "two-pronged responsibility" when setting standby rates: to consider both the impact of rates on the standby customer and the impact on non-standby customers.[77] That is, it held that the rate had to be reasonable for both the standby customers and the full-service customers who would bear the burden of costs resulting from standby service not recovered from standby customers.[78] The court agreed with the standby customers that it would be unreasonable to charge distributed generation owners at the same rate as full-service customers, but held that standby rates are not per se discriminatory because they deviate from the standard volumetric rate.[79] The court affirmed the Commission's rate structure because it determined that the rate adequately reflected the reasonable costs to the utility as mandated under PURPA.[80]

E. The Development of California's Standby Rate Design

California began to investigate standby rate policy in 1999.[81] The California Public Utilities Commission (the Commission) heard arguments from both distributed generation advocates and public utilities concerning which costs and

75. 536 So. 2d 234 (Fla. 1988).

76. *See id.* at 235 (outlining issue in case and factual background). Florida enacted guidelines for standby rates in Florida Administrative Code Rule 25-17.082(3)(f). To implement PURPA'S requirements, the Commission gathered input from numerous parties—including utilities—regarding the proper rate structure and then created a model standby rate based on that information. *Id.* at 237-38.

77. *See id.* at 238 (explaining Commission's rate-setting responsibilities).

78. *See id.* at 238-39 (contending standby rates also may discriminate against non-standby customers). Specifically, the court indicated that because full-service customers are not party to the rate negotiation, utilities should not require them to pay for costs not recovered from the standby customers. *Id.*

79. *See C.F. Indus.*, 536 So. 2d at 237-39 (discussing Commission's ruling).

80. *See id.* at 239-40 (analyzing and approving Commission's rate structure). The Florida Supreme Court held that the rate structure adopted in Rule 25-17.082(3)(f) reasonably represented the interest of both standby and non-standby customers because it included a fixed demand charge based on the cost to serve the individual customer and allowed the customer to elect how much capacity he or she wanted to contract for and pay for. *Id.* at 239. Further, the ratchet system, which increased a customer's contract capacity for twenty-four months if the customer exceeded his allotted amount, ensured that the utility would retain sufficient energy capacity to sustain system reliability. *Id.* Additionally, the ratchet system rewarded customers with reliable distributed generation units, as it provided them with low standby charges. *Id.* at 240.

81. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 7 (explaining procedural history). The Commission opened the investigation into distributed generation in order to facilitate the introduction of new distributed generation in California. *Id.* at 3-4. The investigation was divided into two phases. *Id.* at 4. Phase One addressed broad issues associated with distributed generation such as interconnection standards and ownership of distributed generation. *Id.* Phase Two sought to determine general policy guidelines for the development of standby rates. *Id.*

benefits to include in the rates.[82] The Commission adopted a uniform set of guidelines for standby rates in July 2001.[83]

With respect to fixed cost recovery, the Commission determined that the utilities should be able to recover all fixed costs through a fixed monthly reservation charge, ensuring that other ratepayers would not absorb distributed generation costs.[84] The Commission determined, however, that there was no evidence that distributed generation would cause significant stranded investment losses to utilities.[85] Thus, the Commission omitted stranded costs from the standby rate guidelines.[86]

Next, the Commission decided to include charges for backup capacity within the fixed reservation charge.[87] The Commission guidelines allow utilities to charge standby customers for full backup capacity; however, standby customers can reduce the capacity costs by providing physical assurances.[88] Physical assurances allow standby customers to pre-set their capacity amount and install a device at their expense to limit the amount of electricity at the amount of electricity that can be taken from the distribution system.[89] Alternatively,

82. *See id.* at 7-9 (explaining proceedings leading to standby rate policy). The Commission held a workshop in which interested parties were given a chance to voice their opinions on standby rate policy design. *Id.*; *see also id.* at 16-55. (summarizing the positions of participating parties).

83. *See id.* at 3-4 (describing adoption of standby rate policy). The Commission intended the rulemaking as a set of guidelines for the utilities to follow when designing their individual standby rates. *Id.* The utilities then develop their own standby rates and submit them to the Commission for approval. *Id.* at 2.

84. *See id.* at 126 (implementing fixed cost recovery through fixed reservation charge). *But see* Proceeding on Motion of the Commission as to the Reasonableness of the Rates, Terms and Conditions for the Provision of Electric Standby Service, 215 PUR 4th 77, 4-13 (N.Y. Pub. Serv. Comm'n Oct. 26, 2001) (outlining New York Public Service Commission rate structure). The New York Public Service Commission (NYPSC) implemented a unique rate design that bases charges on an individual customer's proximity to the distributed generation unit that powers his or her home or facility. *Id.* at 10. If a unit is close to a customer's facility or home, then it is a "local" facility, in place to serve that particular customer. *Id.* The utilities charge these customers a fixed contract demand charge based on their maximum annual demand. *Id.* at 10-11. Conversely, a unit located further away from a customer is a "shared" facility and is presumed to serve multiple customers. *Id.* at 11. Utilities recover distribution costs for a "shared" customer through a daily as-used demand charge that applies to the individual customer's daily maximum metered demand occurring during peak periods. *Id.* Last, customers located between these two classifications should be charged both a fixed and as-used charge as determined by the utilities in accordance with cost causation. *Id.* at 22.

85. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 86-87 (rejecting claim for stranded costs in standby rate).

86. *See id.* at 87 (explaining stranded costs not addressed in rate structure). *But see* N.Y. Pub. Serv. Comm'n Opinion, *supra* note 84, at 8-10.

87. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 125-26 (stating reservation charge includes backup capacity costs).

88. *See id.* at 88-89 (adopting reservation charge and physical assurance provisions); *see also* In the Matter of Establishing Generic Standards for Utility Tariffs for Interconnection and Operation of Distributed Generation Facilities Under Minnesota Laws 2001, 2004 Minn. PUC LEXIS 133 (Sept. 28, 2004) (establishing standby rate design in Minnesota). The Minnesota Public Utilities Commission (MPUC) also chose to allow standby customers to install physical assurances, at their own expense, in order to curb the high capacity costs charged to these customers. *Id.* at 43-46.

89. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 58 (describing how physical assurance can limit costs). By providing physical assurances, a standby customer can ensure that he will not take power from

standby customers can pre-select their back up capacity without physical assurances using a ratchet system.[90]

The Commission also considered system diversity.[91] The Commission agreed with the utilities' assertions that there is simply not enough distributed generation on the individual circuits at this time to create a benefit for diversity.[92] Thus, it determined that the rate structures should not factor in system diversity.[93] Further, the Commission did not include a system reliability factor; but again, reliable unit owners could decrease the standby rate by electing to employ physical assurances.[94]

The Commission did not go into extensive detail concerning transmission and distribution deferral.[95] It ruled that the utilities could elect to provide standby customers with a credit for investment deferral and timely and conforming installations.[96] The Commission did not require the utility companies to provide such credits.[97]

Lastly, the Commission did not adopt a universal reduction factor for reduced emissions in the rate guidelines, but did adopt the Independent Clean Energy Tariff (ICE-T).[98] ICE-T exempts solar generation facilities—up to one

the distribution system during peak demand, thus minimizing costs to the utilities. *Id.*

90. *See id.* at 130 (concluding customers can elect their own capacity, subject to increase). Nevertheless, if a non-physical assurance customer demands electricity in excess of the elected capacity, the customer's elected capacity is increased to the amount of electricity actually consumed for one year. *Id.*

91. *See id.* at 37-38 (relaying TURN's contention standby rates should include diversity factor). *But see id.* at 17-20 (summarizing Pacific Gas and Electric's argument inadequate distributed generation exists to create diversity benefit).

92. *See id.* at 124 (finding present diversity benefit). The Commission determined that diversity on individual circuits has the potential to reduce costs to the utility, but there are presently not enough units to do so. *Id.*; *see also* N.Y. Pub. Serv. Comm'n Opinion, *supra* note 84, at 21 (rejecting inclusion of diversity). Like California, the New York Public Service Commission (NYPSC) determined that insufficient data existed to show a measurable diversity benefit. *Id.* at 21. The NYPSC noted in its opinion, however, that the rate structure for "shared facility" customers accounts for diversity because these customers, whose units supply power to multiple customers, pay on an as-used basis. *Id.* at 20-21; Minn. Pub. Util. Comm'n Opinion, *supra* note 88, at 56 (refusing inclusion of diversity credit in standby rate).

93. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 126 (rejecting inclusion of diversity factor).

94. *See id.* at 125-30 (omitting reliability factor in findings of law); *see also supra* notes 88-89 and accompanying text (discussing physical assurances).

95. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 103-05 (mentioning transmission and distribution investment deferral briefly).

96. *See id.* (discussing credit for transmission and distribution deferral). The Commission determined that utilities could, at their discretion, provide credits to distributed generation customers whose installations conform to the California Interconnection Standards. *Id.*; *see* Minn. Pub. Util. Comm'n Opinion, *supra* note 88, at 22 (including credit for generation, transmission, or distribution savings to utility). The MPUC determined that the standby rate should "reflect the value of the distributed generation to the utility." *Id.* Thus, the standby rate must pass on any transmission and distribution savings to the standby customer. *Id.*

97. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 104 (stating utilities may provide credit in certain situation but not requiring broad credit allocation).

98. *See id.* at 83 (adopting ICE-T Program); *see also* Minn. Pub. Util. Comm'n Opinion, *supra* note 88, at 26-27 (including emissions credit for utility costs avoided by distributed generation). The MPUC determined that utilities incur costs if their emissions exceed a certain level. *Id.* at 25-27. Therefore, standby customers should be compensated to the extent that their unit allows the utilities to avoid such costs. *Id.*

megawatt—from paying standby, monthly minimum, customer, or interconnection charges.[99] The exemption encourages the introduction of small independent power sources in order to benefit both the California environment and the California distribution system.[100] Such customers simply pay for electricity consumed at the standard volumetric delivery rate.[101]

III. ANALYSIS

A. The Ideal Standby Rate in Brief

The ideal standby rate design should incorporate cost causation principles.[102] Specifically, the rates should be neither a barrier to new distributed generation projects nor a subsidy to standby customers by requiring non-standby customers to cover costs through increased rates.[103] A standby policy should adhere to the central principle of requiring standby customers to cover any costs that they impose on the distribution system, while allowing them to recover for any benefit *actually* conferred.[104]

B. Proposed Rate Structure

First, standby customers should pay a monthly reservation charge that allows utilities to recover any fixed costs incurred to serve such customers.[105] The fixed reservation charge should include the standby customer's planned reserve

99. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 106-08 (explaining ICE-T Program). ICE-T was enacted to facilitate and promote the introduction of solar generating units, in order to lower emissions. *Id.* at 106.

100. *See id.* at 113, 117 (restricting exemption to small solar powered distributed generation units); *see also id.* at 112 (noting environmental and system benefits).

101. *Id.* at 106-07 (listing rate benefits for qualifying facilities).

102. *See* Goulding & Bahçeci, *supra* note 6, at 88 (arguing for cost causation approach in standby charge); *see also* Casten, *supra* note 2, at 59 (contending rates should reflect costs and benefits). Casten argues, however, that the benefits distributed generation contributes to the distribution system outweigh the costs and that, therefore, standby customers should pay the standard volumetric rate. *Id.*; Morrison, *supra* note 2, at 74 (maintaining rates must recover all costs incurred by utilities). Morrison argues for a high fixed rate, taking a broad view of the costs and discounting any benefits of distributed generation. *Id.* at 75-80.

103. *See Distributed Generation Market in Mass. Lags*, *supra* note 8, at 12 (criticizing high standby rates as barrier to new distributed generation). Distributed generation supporters argue that standby rates can effectively render distributed generation projects uneconomical at a time when such project are critically needed. *Id.*; *see* Morrison, *supra* note 2, at 74 (contending non-recovery of costs causes standard customers to subsidize standby customers).

104. *See infra* Part III.B (outlining suggested standby rate policy).

105. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 85 (directing utilities to adopt standby rates that recover fixed costs through fixed reservation charge); *see also* Morrison, *supra* note 2, at 76 (maintaining standby rate design should recover costs through fixed rate). Morrison notes the inadequacy of traditional rate design when it comes to standby customers and proposes a rate that ensures cost recovery. *Id. But see* Casten, *supra* note 2, at 65 (arguing separate standby charges unnecessary and against public interest); Goulding & Bahçeci, *supra* note 6, at 88 (dismissing argument utilities only recover costs through fixed charge).

capacity.[106] Although distributed generation proponents strongly oppose a fixed charge—in favor of a strictly volumetric rate—it is necessary for standby customers to pay for costs that they impose on the system.[107] As the utilities note, any deficit in cost recovery will be absorbed by the standard customers through increased rates.[108] Therefore, without a fixed charge, standard customers would have to pay for technology from which they individually gain little benefit.[109]

Another central issue related to fixed costs is capacity charges, specifically how much capacity the utility should reserve for standby customers each month.[110] Distributed generation owners justifiably argue that utilities should not charge them for 100 percent reserve capacity, as there is virtually zero probability that all standby customers will demand electricity simultaneously.[111] As the utilities note, however, it is imperative that there be sufficient reserve capacity to guard against system failure.[112] Therefore, it is necessary for a standby rate to strike a balance between these two competing ideals.[113]

The most appropriate method of resolving this dilemma is to offer physical assurances at the expense of the distributed generation customer, as the California guidelines suggest.[114] Accordingly, the distributed generation owners can pre-select their reserve capacity, but cannot exceed that monthly amount.[115] Physical assurances are superior to a demand ratchet system

106. *See supra* note 74 and accompanying text (noting standby customers pre-select reserve capacity with physical assurances).

107. *See supra* notes 28-32 and accompanying text (discussing costs imposed on system and utility argument for fixed charge). *But see* note 30 and accompanying text (describing distributed generation advocate arguments against fixed charge).

108. *See* Morrison, *supra* note 2, at 74 (stating costs not recovered from standby customer absorbed by non-standby customers).

109. *See id.* at 74-75 (arguing charging standby customers at standard rate unfair to other utilities customers). *But see* Casten, *supra* note 2, at 61 (contending benefits to system and other customers offset costs). Casten maintains that other customers receive benefits such as increased reliability and transmission and distribution investment deferral. *Id.* Thus, customers and society generally are better off because of distributed generation. *Id.*

110. *See supra* notes 38-42 and accompanying text (discussing arguments for and against reserve capacity charges in standby rates).

111. *See* Goulding & Bahçesi, *supra* note 6, at 89 (arguing inappropriate for utilities to plan full reserve capacity for distributed generation customers); *see also* Casten, *supra* note 16, at 83 (contending utilities could use statistical planning to determine reserve capacity).

112. *See* Morrison, *supra* note 2, at 75 (rebutting argument utilities need full reserve capacity to maintain system reliability). Morrison refutes arguments of distributed generation supporters by noting that utilities have an obligation to customers to provide reliable services, which necessitates that utilities plan according to the worst case scenario. *Id.*

113. *See* Goulding & Bahçeci, *supra* note 6, at 91-93 (arguing for approaches balancing utility and standby customer interests).

114. *See supra* notes 88-90 and accompanying text (discussing California's implementation of physical assurances in standby rate).

115. *See supra* notes 88-89 and accompanying text (explaining physical assurances).

because the ratchet system allows distributed generation customers to exceed their contract demand, potentially causing system outages.[116] Also, from the standby customers' perspective, in a demand ratchet system an inadvertent surpassing of the applicable amount results in subsequent increased monthly charges.[117] Therefore, utilities should recover capacity costs through either a reservation charge or a separate fixed capacity charge with the amount based on the customer's maximum demand with physical assurances.[118]

Next, individual unit reliability should not be a factor in standby rates at this time.[119] Distributed generation advocates argue that standby rates should reflect system reliability.[120] Even if a system is very reliable, however, utilities must reserve sufficient capacity to meet possible demand.[121] There remains the chance, as minute as it may be, that distributed generation systems could be offline simultaneously.[122] With physical assurances, however, customers can determine their reserve capacity and, with a reliable unit, may elect a low contract reserve amount thereby lowering overall charges.[123]

Further, standby rates should not incorporate a diversity factor until there is sufficient distributed generation on individual circuits to create an actual benefit.[124] The utilities concede that if enough distributed generation exists to produce an actual benefit to the distribution system, then the standby rate should reflect the benefit.[125] The utilities correctly contend, however, that there is simply not adequate distributed generation on individual circuits to justify a

116. *See supra* note 90 and accompanying text (explaining California's alternate option-demand ratcheting); *see also* Morrison, *supra* note 2, at 75 (noting contract does not prevent standby customers from taking excessive electricity and threatening reliability).

117. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 56-57 (outlining Pacific Gas and Electric's demand ratchet system). Under Pacific Gas and Electric's demand ratchet, when customers exceed their contract amount, their demand level shifts to the electricity actually used for thirty-six months. *Id.*

118. *See id.* at 129 (adopting policy allowing recovery of fixed costs through reservation charge unless physical assurances provided); *see also* Morrison, *supra* note 2, at 77 (reiterating need for standby charge to recover planned reserve capacity).

119. *See supra* notes 47-51 and accompanying text (explaining unit reliability and arguments for and against its inclusion in standby rate).

120. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 37 (noting utility advocates stance on system reliability); *see also* Casten, *supra* note 16, at 82 (arguing utilities should incorporate high reliability of certain units in statistical planning for capacity).

121. *See supra* notes 46-47 (explaining utilities need to maintain capacity even with reliable distributed generation).

122. *See* Morrison, *supra* note 2, at 75 (emphasizing utilities must plan full reserve in case systems fail at worst time).

123. *See supra* note 88-89 and accompanying text (outlining physical assurances).

124. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 126 (omitting diversity factor from standby rate); *see also supra* note 46 and accompanying text (declaring insufficient distributed generation on distribution system to create measurable diversity benefit). *But see* CLEAN ENERGY GROUP, *supra* note 1, at 10 (advocating utility capacity planning should reflect system diversity).

125. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 28-29 (citing utility position that diversity can be factor with enough units on system); *see also* Morrison, *supra* note 2, at 76-77 (admitting standby rates can incorporate diversity at high levels of distributed generation penetration).

decrease in standby rates.[126] Diversity at the transmission level does not provide any benefit; there must be diversity on the individual distribution circuits.[127] Nevertheless, states should not ignore a diversity factor; rather, they should put the issue on hold and re-assess it when sufficient distributed generation exists on individual circuits to ensure the units will not be offline simultaneously.[128]

Standby customers should not be required to pay for stranded costs in standby rates.[129] According to the CPUC, if standby customers pay for all other costs imposed on the system, stranded costs will be minimized.[130] Thus, the California guidelines rightfully omit stranded costs in the rate design.[131]

Although utilities should require standby customers to pay for costs imposed on the system, stranded costs are not present costs imposed on the system by distributed generation units.[132] It is unfair to continually charge standby customers for capital investments that are no longer producing gains.[133] This presents a major deterrent to distributed generation that is independent of costs *imposed* by the distributed generation unit.[134]

Transmission and distribution investment deferral is another important issue, as states had hoped that increased distributed generation could potentially defer large-scale capital expenditures.[135] California's guidelines, however, failed to incorporate transmission and distribution investment deferral in the rate structure.[136] In addition, studies indicate that increased distributed generation

126. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 28-29 (discussing utility contention that insufficient distributed generation exists on radial circuits); *see also id.* at 126 (agreeing with utilities and excluding diversity as a factor in guidelines).

127. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 28-29 (explaining difference between diversity at distribution level and at transmission level).

128. *See id.* at 95-96 (holding utilities should include diversity factor when actual diversity benefit exists).

129. *See supra* note 36 and accompanying text (supporting rejection of stranded costs recovery).

130. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 55-56 (discussing stranded costs).

131. *See id.* at 123 (finding distributed generation customers do not cause significant costs). Further, the Commission's adopted guidelines make no mention of stranded cost recovery. *Id.* at 129-32.

132. *See* Ferrey, *supra* note 26, at 143 (explaining stranded costs). Stranded costs occur when a capital asset's book value exceeds it contribution to generation, and states allow utilities to recover for their loss through the stranded rate. *Id.*

133. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 48-49 (summarizing Capstone's argument utilities should not recover stranded costs from standby customers); *see also* Casten, *supra* note 2, at 63 (rejecting idea of stranded costs); Casten, *supra* note 16, at 82 (questioning utilities' claim distributed generation insufficient for benefit but enough for significant stranded costs). The utilities claim that there is currently not enough distributed generation on the circuits to create diversity benefits, but there is enough to cause significant stranded cost recovery losses. *Id.*

134. *See* Morrison, *supra* note 2, at 74 (maintaining standby rates required to cover costs utilities incur serving distributed generation customers). Stranded costs are not costs that utilities currently incur to serve standby customers, and the justification for recovery is therefore lacking. *See* Ferrey, *supra* note 26, at 143 (disputing right to stranded cost recovery).

135. *See* Casten, *supra* note 2, at 61-64 (contending increased distributed generation allows utilities to forbear large scale investments). *But see supra* note 56 (iterating transmission and distribution investment deferral argument overstated).

136. *See generally* Cal. Pub. Util. Comm'n Opinion, *supra* note 48 (omitting transmission and distribution

would have little or no effect on transmission and distribution investment in many areas.[137] Further, as utilities note, distributed generation can only create a transmission and distribution benefit if placed in specific locations.[138] Therefore, it would be inappropriate to provide a transmission and distribution credit for distributed generation owners across the board.[139] Standby rate guidelines should allow utilities to provide a credit for transmission and distribution investment deferral on a case-by-case basis, but should not require it for all standby customers.[140]

Finally, standby rates should not provide a credit for the environmental benefits of distributed generation.[141] Environmental benefits are difficult to calculate and vary according to each individual distributed generation unit.[142] California, with the ICE-T program, exempts solar units under 1 MG from standby rates.[143] Any credits to the standby customers would be absorbed by the other ratepayers, however, so standby rates should not incorporate credits for reduced emissions.[144] Such credits would be more appropriately distributed through avenues independent of standby rates.[145]

Specifically, standby rate customers should be compensated for environmental benefits through state funded incentives rather than reductions in the standby rate.[146] In addition to environmental benefit credits, distributed

investment deferral benefit from standby rate structure).

137. *See* Navigant Consulting, *supra* note 56, at 17 (showing study results indicated distributed generation provides negligible transmission and distribution deferral benefit).

138. *See supra* note 56 and accompanying text (outlining argument that distribution deferral benefit very situation specific).

139. *See* Morrison, *supra* note 2, at 78-79 (explaining actual effect of distributed generation on distribution planning). Morrison maintains that most units are put in place solely for the benefit of the owner and do not contribute to the distribution system. *Id.* at 78. Further, he states that many units, such as wind or solar power, are unreliable and that utilities therefore cannot factor these units into transmission and distribution planning. *Id. But see* Casten, *supra* note 2, at 63-64 (claiming distributed generation very valuable to utilities justifying no standby rate).

140. *See* Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 103-04 (suggesting utilities could provide credit for deferral benefit if actually exists).

141. *See* Goulding & Bahçeci, *supra* note 6, at 90 (presenting argument standby rates inappropriate method of providing credits).

142. *See supra* note 59 and accompanying text (laying out Morrison's argument rejecting distributed generation's environmental benefit). *But see supra* notes 57-58 and accompanying text (discussing Castens's contentions that distributed generation used daily is cleaner than central generation).

143. Cal. Pub. Util. Comm'n Opinion, *supra* note 48, at 106-07 (outlining adopted ICE-T program).

144. *See* Morrison, *supra* note 2, at 79 (proclaiming generic compensation to standby customers through decreased rates casts too wide a net). Morrison argues that giving distributed generation customers credit would reward some owners whose units provide no benefit and would lead to under-recovery of costs. *Id.* Also, such sweeping credits would provide distributed generation owners with no incentive to use the units in a way that "maximizes the societal benefit." *Id.*

145. *See infra* notes 146-147 and accompanying text (discussing alternate incentives for distributed generation).

146. *See* Goulding & Bahçeci, *supra* note 6, at 90 (suggesting alternate means of providing credits to distributed generation owners). Goulding and Bahçeci recommend crediting standby customers with clean energy tax credits, grants, subsidized loans, and locational credits. *Id.*

generation owners should receive state funded credits toward installation and interconnection in order to promote more distributed generation, as done in Connecticut.[147] Incentive programs allow states to promote and facilitate the introduction of new distributed generation, while preventing cost-shifting in utility rates.[148]

IV. CONCLUSION

Standby rates must conform with cost causation principles, where the utility recovers the costs each ratepayer imposes in the utility. Distributed generation has the potential to provide valuable societal benefits including decreased emissions and increased system reliability. Society will not realize such benefits, however, until there are high levels of distributed generation penetration.

Currently, utilities incur significant costs to serve standby customers. Without offsetting benefits, standby rates are necessary to recover these costs and to prevent rate increases for non-distributed generation customers. The suggested rate structure allows utilities to recover the costs while still minimizing charges to standby customers who utilize physical assurances. This provides for a balance between the two diametrically opposite views on standby rates.

Nevertheless, because standby rates are an inappropriate method of spurring new distributed generation, the burden is on the individual states to provide incentives for new projects. The federal government, as well as state governments, should provide incentives to potential distributed generation customers through grants, low interest loans, and tax credits. Proper incentives will promote new distributed generation and raise penetration to levels sufficient to provide measurable benefits. Once such distributed generation exists on the individual circuits, then standby rate structures can be re-assessed in light of the new benefits.

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147. *See Distributed Generation Thriving in Connecticut*, *supra* note 61, at 7 (discussing Connecticut's grant program instituted to promote distributed generation installations). Through its grant system, Connecticut successfully sparked an increase in distributed generation investment without adjusting its rate structure to do so. *Id.*

148. *See id.* (discussing success of Connecticut's grant program); *see also* Morrison, *supra* note 2, at 74 (stating burden shifts to other customers unless utilities utilize cost recovering standby rates); Parmesano, *supra* note 61, at 86-87 (advocating use of incentives over use of standby rates reductions).