

ADVANCING CLIMATE RESILIENCE PLANNING THROUGH RATE CASE PROCEEDINGS

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I. INTRODUCTION

In rate case proceedings, a state utility commission reviews and either approves or rejects an electric utility's rates and other terms of service. The regulatory framework varies between states, but all require electricity rates to be "just and reasonable,"² which has been interpreted to mean that rates must be "neither less than compensatory nor excessive."³ Broadly speaking, rates are set on a "cost of service basis," with the intention of enabling utilities to earn a reasonable rate of return on investments and recover reasonably incurred expenses.

Individuals, organizations, and community groups may intervene in rate case proceedings and challenge an electric utility's past or proposed future investments on the basis that it has not adequately considered the risks posed by climate change. Intervenors may point to several ratemaking principles—e.g., the prudent investment standard, the used and useful test, and the least cost principle—that require utilities to plan for climate-related risks.

II. BASICS OF RATE CASE PROCEEDINGS

A general rate case is a formal regulatory proceeding in which the state commission decides whether to approve or reject the rates proposed to be charged by an electric utility. The utility provides the state commission with a detailed accounting of its costs, including capital investments, interest on debt, and other operating expenses (e.g., labor, fuel, and taxes).⁴ The state commission scrutinizes those costs to ensure they are reasonable and, if so, sets rates at a level that will enable their recovery by the utility. Generally, the state commission determines the utility's "revenue requirement"—i.e., the amount of money the utility needs to cover its costs and earn a rate of return—based on the utility's rate base, a particular rate of return, and

¹ This document is part of the electric resilience toolkit, <https://www.icrll.org/electric-resilience-toolkit/>, and complements sections one through three of the report, [Romany M. Webb et al., Climate Risk in the Electricity Sector: Legal Obligations to Advance Climate Resilience Planning by Electric Utilities, 51 Env'tl. L. Rev. 577 \(2021\)](#). The authors would like to thank Olivia Satterfield and Jack Sherrick, Spring 2022 interns at the Environmental Defense Fund, for their assistance in preparing this document. Disclaimer: This document is the responsibility of the Sabin Center for Climate Change Law and Environmental Defense Fund, and does not reflect the views of Columbia Law School, Columbia University, or any ICRL partner organization. This document is an academic study provided for informational purposes only and does not constitute legal advice. Transmission of the information is not intended to create, and the receipt does not constitute, an attorney-client relationship between sender and receiver. No party should act or rely on any information contained in this paper without first seeking the advice of an attorney.

² James M. Van Nostrand, *Keeping the Lights on During Superstorm Sandy: Climate Change Adaptation and the Resiliency Benefits of Distributed Generation*, N.Y.U. ENV'T L. J. 92, 145 (2015), <https://perma.cc/93JL-GGN4> ("Ratemaking statutes uniformly require utility rates to be 'just and reasonable' or 'fair, just, reasonable, and sufficient.'" (internal citations omitted)).

³ *Farmer's Union Cent. Exch., Inc. v. Fed. Energy Reg. Comm'n*, 734 F.2d 1486, 1502 (D.C. Cir. 1984).

⁴ REGUL. ASSISTANCE PROJECT, *ELECTRICITY REGULATION IN THE US: A GUIDE* 36 (2011), <https://perma.cc/V82A-7S2F>.

expected operating costs.⁵ A utility's rate base is the total value of the utility's long-lived investments, minus depreciation.⁶

Rate cases involve a judicial-like process, with parties filing briefs, submitting evidence, and attending hearings before the state utility commission in which witnesses appear and can be cross-examined.⁷ The basic steps in the process are as follows:

- (1) **Initial filing:** A utility submits a filing to their state utility commission for a rate change, which triggers the formal process for a general rate case. State utility commissions provide specific filing rules, which utilities must abide by.⁸ Some state commissions hold rate case proceedings on a fixed schedule (e.g., every three years), while others conduct rate case proceedings on an ad hoc basis in response to utility rate change requests.⁹
- (2) **Petitions to Intervene:** Members of the public, community groups, and other organizations may participate in a rate case proceeding by formally intervening in, and becoming a party to, the proceeding.¹⁰ In most states, to gain intervenor status, an individual or organization must file a motion to intervene. Once approved by the commission, a party with intervenor status has the same rights and obligations as the other formal parties and is similarly bound by the commission's procedural rules. For further information about intervention, see part III below.
- (3) **Discovery:** Parties may file a discovery request or request for information from other parties. Discovery rules vary from state to state. Typically, the commission sets guidelines and deadlines for discovery requests.¹¹
- (4) **Evidence and witnesses:** Parties may submit evidence, such as pre-filed written testimony and exhibits. Testimony and exhibits are normally filed by the utility at the time it files its rate-change request. The commission then sets a schedule for when other parties must file their evidence. Parties are typically allowed to submit rebuttal evidence to counter evidence or testimony submitted by another party.¹²
- (5) **Hearing:** The hearing process allows the parties to ask questions of expert witnesses under oath. In addition, nearly all commissions allow time for testimony from the general public on major rate increases.¹³ In some states, members of the general public speak under oath and may address any topic covered in the proceeding.¹⁴
- (6) **Briefs:** Once the hearing is complete and all evidence has been presented, the parties are given time to submit their briefs, which summarizes relevant evidence and make arguments as to why the

⁵ *Id.* at 38.

⁶ *Id.* at 40.

⁷ Romany M. Webb et al., *Climate Risk in the Electricity Sector: Legal Obligations to Advance Climate Resilience Planning by Electric Utilities*, 51 ENVTL. L. REV. 577, 608 (2021), <https://perma.cc/WV5Y-U2HL>.

⁸ REGUL. ASSISTANCE PROJECT, *supra* note 4, at 32.

⁹ *Id.* at 31.

¹⁰ *Id.* at 32.

¹¹ REGUL. ASSISTANCE PROJECT, *supra* note 4, at 33.

¹² *Id.* at 33.

¹³ *Id.* at 33–34.

¹⁴ *Id.*

commission should rule in the parties' favor based on applicable law. Each state has its own rules governing the procedure for submitting briefs.¹⁵

- (7) **Decision:** The commission issues its decision as the final step to the rate case proceeding. A party may appeal the commission's decision in front of a court. Nearly all appeals are heard in state court.¹⁶ Appellants typically face a high burden due to courts' deference to state utility commissions.¹⁷ However, if a court finds that the commission's decision violates an applicable legal principle, the court will reverse or remand the decision.¹⁸ Parties may also have the opportunity to file motions for rehearing before considering an appeal.

During a rate case proceeding, the parties may also enter into settlement negotiations with the goal of reaching an agreement on all or some issues, which can then be presented to the commission.¹⁹ A commission is more likely to approve an all-party settlement, which can save parties the costs associated with formal hearings.²⁰

III. INTERVENTION PROCESS

Some parties (e.g., the utility) have a statutory right to participate in rate case proceedings. Other participants—known as intervenors—are granted the right to participate by the commission on a case-by-case basis.²¹ Most state utility commissions provide an opportunity for non-parties to make statements during public hearings or at other times in the rate case proceeding.²² State utility commissions generally attach less weight to these statements than to evidence submitted by parties. As a result, advocates may find it advantageous to formally intervene in rate case proceedings.²³ Intervention can, however, be costly and time consuming. Intervenors must be represented at hearings and file required documents in a timely fashion, which may necessitate the hiring of outside legal counsel. Intervenors may also need to engage expert witnesses or others to present their case to the commission.

Each state has its own standards on what a petition to intervene must include. Some state utility commissions require would-be intervenors to demonstrate that they will be substantially affected by the outcome of the proceeding and/or that their interests are not sufficiently represented by other parties.²⁴ Other states merely require a showing that intervention is "in the public interest."²⁵

¹⁵ Columbia Center for Climate Change Law Columbia Law School, *Public Utility Commissions and Energy Efficiency: A Handbook of Legal & Regulatory Tools for Commissioners and Advocates* 83 (Aug. 2012), <https://perma.cc/3NV8-42WC>.

¹⁶ REGUL. ASSISTANCE PROJECT, *supra* note 4, at 35 ("Nearly all appeals from state commissions occur in state court, but some are appealed directly to federal courts on federal legal or constitutional grounds.").

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.* at 34–35.

²⁰ *Id.*

²¹ *Id.* at 32.

²² *Id.* at 34.

²³ Webb et al., *supra* note 7, at 608–09.

²⁴ See, e.g., KAN. ADMIN. REGS. § 82-1-225 (providing that a party seeking intervenor status to demonstrate that the party's "legal rights, duties, privileges, immunities, or other legal interests may be substantially affected by the proceeding"); N.H. ADMIN. CODE § 203.17 (per N.H. REV. STAT. ANN. § 541-A:32, requiring a party seeking intervenor status to demonstrate that the party's "rights, duties, privileges, immunities or other interests may be affected by the case."); OHIO ADMIN. CODE 4901-1-11 (allowing intervention by any person who "has a real and substantial interest in the proceeding" and who "is so situated that the disposition of the proceeding may . . . impair or impede his or her ability to protect that interest, unless the person's interest is adequately represented by existing parties").

²⁵ See, e.g., 52 PA. CODE § 5.72 (allowing intervention where the petitioner has an "interest of such nature that participation by the petitioner may be in the public interest"); WASH. ADMIN. CODE § 480-07-355 (allowing intervention "if the petitioner's participation is in the public interest").

Advocates could intervene in rate case proceedings to challenge utility expenditures or investments made without considering the impacts of climate change. An example of this occurred in 2013 in New York. Following Superstorm Sandy, Consolidated Edison Company of New York, Inc. (“Con Ed”) filed a request with the New York Public Service Commission (“NYPSC”) to increase rates to enable recovery of (among other things) approximately \$1 billion to be spent on “storm hardening structural improvements . . . that are intended to reduce the size and scope of service outages from major storms, as well as to improve responsiveness and expedite the recovery process.”²⁶ As intervenors, the Environmental Defense Fund, Natural Resources Defense Council, Pace Energy and Climate Center, and Columbia Law School’s Sabin Center for Climate Change Law presented testimony showing that Con Ed’s system is not only at risk from storms, but also from a variety of other climate change impacts. The testimony noted that “climate conditions are projected to change in ways that are relevant to Con Edison’s operations.”²⁷ For example, climate change is projected to result in more frequent and intense “extreme heat events” and “intense precipitation events,” as well as “sea level rise [that] is projected to lead to increased coastal flooding . . . In light of these projected changes, infrastructure is likely to be faced with a different range of environmental conditions than it has experienced in the past, and risk management efforts should be revised to account and prepare for altered conditions.”²⁸ In response, the NYPSC established a “Storm Hardening and Resiliency Collaborative” as part of Con Ed’s rate case.²⁹ The collaborative participants reached a settlement under which Con Ed agreed to conduct a climate vulnerability assessment.³⁰ In approving the settlement, the NYPSC noted that the obligation to consider climate impacts should be applied to all New York utilities, stating:

[t]he State’s utilities should familiarize themselves with scientists’ projections for local climate change impacts on each service territory. . . . We expect the utilities to consult the most current data to evaluate the climate impacts anticipated in their regions over the next years and decades, and to integrate these considerations into their system planning and construction forecasts and budgets.³¹

IV. LEGAL OBLIGATIONS

To support the argument that electric utilities must engage in climate resilience planning, intervenors may point to several ratemaking principles. Here, we focus on the prudent investment standard, the used and useful test, and the least cost principle. While these principles apply in many states, they do not apply in every state,

²⁶ Letter from Craig Ivey, President, Consolidated Edison Co. of N.Y., Inc., to Hon. Jeffrey C. Cohen, Acting Sec’y, N.Y. Pub. Serv. Comm’n, 1 (Jan. 25, 2013), <https://perma.cc/HY8N-V3D4>.

²⁷ See Direct Testimony of Dr. Radley Horton On Behalf of Center for Climate Change Law and Environmental NGO Group 4 (May 31, 2013), <https://perma.cc/5HK7-A9DP>.

²⁸ *Id.* at 4–5.

²⁹ See N.Y. Pub. Serv. Comm’n, Notice of Collaborative Meeting Concerning Storm Hardening and Resiliency Issues, Case 13-E-0030 (July 1, 2013), <https://perma.cc/92Y3-6HJG>; N.Y. Pub. Serv. Comm’n, Order Approving Electric, Gas and Steam Rate Plans in Accord with Joint Proposal, Case 13-E-0030 et al., at 8 (Feb. 21, 2014), <https://perma.cc/Y78W-GY8H> [hereinafter NYPSC Order]

³⁰ NYPSC Order, *supra* note 29, at 71.

³¹ *Id.* at 71–72 (“We also observe that the considerations addressed in the Collaborative are specific to Con Edison, yet they have important implications for the regulatory regime in New York. The obligation to address these considerations should be broadened to include all utilities. The State’s utilities should familiarize themselves with scientists’ projections for local climate change impacts on each service territory. . . . We expect the utilities to consult the most current data to evaluate the climate impacts anticipated in their regions over the next years and decades, and to integrate these considerations into their system planning and construction forecasts and budgets”).

nor do they represent an exhaustive list of all the bases on which climate resilience may be raised in a utility rate case.³²

a. PRUDENCE STANDARD

Prudence is a central tenet of electric utility rate regulation.³³ Electric utilities are typically only permitted to recover prudent and necessary operating expenses and earn a return on prudent used and useful capital investments.³⁴ State utility commissions assess prudence by considering whether a reasonable, professional utility manager would have incurred the expense or made the investment given the information that was known or knowable at the time.³⁵ The burden of demonstrating prudence falls on the electric utility, which must prove that it acted reasonably in the circumstances.³⁶

In *Gulf States Utilities Co. v. Louisiana Public Service Commission*, the Louisiana Supreme Court explained the prudent standard as requiring “the utility [to] demonstrate that it went through a reasonable . . . process to arrive at a course of action and, given the facts as they were or should have been known at the time, responded in a reasonable manner.”³⁷ The court noted that an electric utility is expected to act prudently throughout a long-running investment, and thus, the utility must “respond prudently to changing circumstances or new challenges that arise as [the] project progresses.”³⁸ Courts and commissions in other states have applied the prudence standard similarly.³⁹ For example, in *Citizens Action Coalition of Indiana v. North Indiana Public Service Commission*, the Court of Appeals of Indiana held that “[t]he measure of the prudence of utility expenditures is gauged by what one would consider good management decisions and practices” and that a

³² To illustrate, a number of state utility commissions apply both the used and useful test and the prudence standard, though some commissions only employ one of the two standards. See generally Richard J. Pierce, Jr., *The Regulatory Treatment of Mistakes in Retrospect: Canceled Plants and Excess Capacity*, 132 U. PA. L. REV. 497, 512–13 (1984), <https://perma.cc/KE2Z-DZAZ>.

³³ Webb et al., *supra* note 7, at 610 (citing *Long Is. Lighting Co. v. Pub. Serv. Comm’n of State of N.Y.*, 523 N.Y.S.2d 615, 620 (N.Y. App. Div. 1987) (describing prudence as “an essential constituent of utility regulation”); see also *Appeal of Conservation L. Found.*, 507 A.2d 652, 673 (N.H. 1986) (describing the prudence standard as a key ratemaking principle); *Gulf States Utils. Co. v. La. Pub. Serv. Comm’n*, 578 So. 2d 71, 85 (La. 1991) (same); *Entergy Gulf States, Inc. v. La. Pub. Serv. Comm’n*, 726 So. 2d 870, 873–74 (La. 1999) (noting that a utility “must demonstrate that its decisions and actions are prudent in order to counterbalance the monopolistic effects on the ratepayers who do not have a choice about which company provides their utility service.”); *Town of Hingham v. Dep’t of Telecomms. & Energy*, 740 N.E.2d 984, 989 (Mass. 2001) (indicating that “[t]he prudence test determines whether cost recovery is allowed at all”).

³⁴ *Id.* (citing *REGUL. ASSISTANCE PROJECT*, *supra* note 4, at 47, 51–52, 57–58).

³⁵ *Id.* (citing Heather N. Jarvis, *Keeping the Lights on at All Costs? Imploring Consistent Prudence Review and a Prudence Standard that Includes Demand Response and Responsible Portfolio Management*, 29 VT. L. REV. 1037, 1042 (2005), <https://perma.cc/U6MU-UFJF>).

³⁶ *Id.* (citing *Long Is. Lighting Co.*, 523 N.Y.S.2d at 620 (holding that the “burden of proof is upon the utility whose rates . . . are being considered to justify its conduct”). Absent evidence to the contrary, electric utilities generally benefit from a presumption of prudence. See, e.g., *Off. of Pub. Couns. v. Mo. Pub. Serv. Comm’n*, 523 S.W.3d 14, 19 (Mo. Ct. App. 2017) (holding that “the presumption of prudence sets out an evidentiary presumption which provides that the utility’s expenditures are presumed to be prudent until adequate contrary evidence is produced, at which point the presumption disappears from the case The presumption affects who has the burden of proceeding, but it does not change the burden of proof, which [is] on the utility” (internal citations omitted)); see *infra*, n. 37–38.

³⁷ *Gulf States Utils.*, 578 So. 2d at 85, *aff’d*, *Gulf States Utils. Co. v. La. Pub. Serv. Comm’n*, 689 So. 2d 1337, 1346 (La. 1997); see also *Entergy Gulf States*, 726 So. 2d at 873.

³⁸ *Gulf States Utils.*, 578 So. 2d at 85.

³⁹ See, e.g., *Long Is. Lighting Co.*, 523 N.Y.S.2d at 620 (holding that “[p]rudence is determined by judging whether the utility acted reasonably, under the circumstances at the time”); *Fitchburg Gas & Elec. Light Co. v. Dep’t of Pub. Utils.*, 956 N.E.2d 213, 216 (Mass. 2011) (indicating that “[w]hen conducting a prudence review, the [D]epartment [of Public Utilities] determines whether a utility’s actions, based on all that it knew or should have known at the time, were reasonable and prudent in light of the circumstances”); see *infra*, n. 40–41.

utility must respond prudently to changing circumstances over the course of a long term project.⁴⁰ Additionally, in *Gulf States Utilities Company v. Public Utilities Commission of Texas*, the Court of Appeals of Texas noted that the state utility commission defines prudence as “[t]he exercise of that judgement . . . which a reasonable utility manager would exercise . . . in the same or similar circumstances given the information” that was known or knowable.⁴¹

In the context of climate change, the prudence standard arguably requires electric utilities to employ established techniques to evaluate and manage climate-related risks when making investment and other operational decisions that impact rates.⁴² The impacts of climate change on electric systems have been well-documented in numerous reports (see [Climate Risks to Electricity Infrastructure](#)). Electric utilities have access to data and tools that enable them to identify climate change impacts likely to occur in their service territories and evaluate the climate vulnerability of their systems (see [State of the Science](#)). Thus, electric utilities now know, or should know, that the impacts of climate change pose material risks to their operations and assets.⁴³

Electric utilities that fail to engage in climate resilience planning could have their investment decisions challenged in rate case proceedings under the prudence standard.⁴⁴ An example of this occurred in 2020 when Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) had their investments challenged under the prudence standard on the basis that they failed to adequately consider climate-related risks when making investment decisions. In February 2020, Vote Solar submitted testimony⁴⁵ in DEC’s rate case as intervenors before the North Carolina Utilities Commission, challenging DEC’s request to recover “[c]osts incurred to maintain and modernize the company’s electric system, generate cleaner power, improve reliability, [and] efficiently restore service to customers after major storm damage” (among other things).⁴⁶ Subsequently, in April 2020, Vote Solar submitted testimony as intervenors in DEP’s rate case proceeding and challenged its request to recover costs associated with grid maintenance and modernization.⁴⁷ Vote Solar asserted that DEC/DEP’s Grid Improvement Plan was “woefully deficient with respect to the integration of climate change impacts in its long-term planning.”⁴⁸ In particular, Vote Solar argued that DEC/DEP’s use of historical trends and failure to “take into account what we currently know about possible scenarios regarding temperature, humidity, precipitation, and sea level increases over time . . . is irresponsible, and contrary to prudent utility practice.”⁴⁹ Vote Solar further argued that, due to DEC/DEP’s failure to consider climate risk, there was insufficient evidence “to determine if the Compan[ies] made the most prudent prioritization and investments in light of [their] actual, projected climate risk.”⁵⁰ DEC and DEP each reached a settlement with Vote Solar and agreed to convene a Climate Risk and Resilience Working Group, which will look at ways to assess the impacts of climate change and integrate consideration of those impacts into planning.⁵¹ The

⁴⁰ *Citizens Action Coal. of Ind., Inc. v. N. Ind. Pub. Serv. Co.*, 472 N.E.2d 938, 958–59, 962 (Ind. Ct. App. 1984).

⁴¹ *Gulf States Utils. Co. v. Pub. Util. Comm’n*, 841 S.W.2d 459, 475 (Tex. App. 1992).

⁴² Webb et al, *supra* note 7, at 611–13.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ Direct Testimony of James Van Nostrand and Tyler Fitch on Behalf of Vote Solar, In the Matter of Application of Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina, N.C.U.C. Docket No. E-7, Sub 1214, at 19 (Feb. 18, 2020), <https://perma.cc/RLM6-Z4DA> [hereinafter Vote Solar DEC Testimony].

⁴⁶ Duke Energy Carolinas, LLC Application to Adjust Retail Rates, N.C.U.C. Docket No. E-7, SUB 1214 (Sept. 30, 2019), <https://perma.cc/95DV-WZDA>.

⁴⁷ Direct Testimony of James Van Nostrand and Tyler Fitch on Behalf of Vote Solar, In the Matter of Application of Duke Energy Progress, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina, N.C.U.C. Docket No. E-2, Sub 1219 (Feb. 18, 2020), <https://perma.cc/C5FD-E9QY> [hereinafter Vote Solar DEP Testimony].

⁴⁸ Vote Solar DEC Testimony, *supra* note 45, at 90; Vote Solar DEP Testimony, *supra* note 47, at 93.

⁴⁹ Vote Solar DEC Testimony, *supra* note 45, at 93–94; Vote Solar DEP Testimony, *supra* note 47, at 97.

⁵⁰ Vote Solar DEC Testimony, *supra* note 3, at 94; Vote Solar DEP Testimony, *supra* note 3, at 98.

⁵¹ Agreement and Stipulation of Settlement, In the Matter of Application Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina, N.C.U.C. Docket No. E-7, SUB 1214 (July 9, 2020) [hereinafter DEC Settlement Agreement], <https://perma.cc/6Q2C-7MDA>; Agreement and Stipulation of Settlement, In the Matter of Application

settlement agreements require DEC and DEP to “study the impacts of climate change on” their Grid Improvement Plans and “existing grid, including operations, planning and physical assets on its transmission and distribution systems” utilizing “[b]est-practices climate modeling and scenario analysis.”⁵²

b. USED AND USEFUL TEST

Many state utility commissions employ the “used and useful” test in deciding whether to grant cost recovery to electric utilities for their capital investments.⁵³ Under this test, electric utilities are only permitted to include in their rate base, and claim depreciation and other expenses on, capital investments that are physically used and useful in providing services to customers.⁵⁴ State utility commissions look at whether an investment resulted in an asset that is actually providing services (and is thus “used”) and whether that asset is actually needed to provide those services (and thus “useful”).⁵⁵ If both requirements are met, the asset may be added to the utility’s rate base, enabling the utility to earn a return on it. In each subsequent rate case (i.e., after the asset is added to the utility’s rate base), the state utility commission verifies that the asset is still used and useful, and will remain so for the period during which the rates will be in effect.⁵⁶ Prolonged outages (e.g., of a year or more) that are not expected under normal operating conditions may result in the assets being found to be not used and useful and thus removed from rate base.⁵⁷

Electric utility assets that are rendered inoperable due to the impacts of climate change, either permanently or for extended periods, may result in utility costs that would not be recoverable under the used and useful test. To illustrate, climate impacts (e.g., rising sea levels) may cause facilities to retire prematurely,⁵⁸ at which point they will no longer be “used and useful.” The costs of such assets cannot be recovered by electric utilities in rates under the used and useful test. Additionally, the used and useful test could also prevent electric utilities from recovering the costs of assets that experience regular and/or extended outages due to the impacts of climate change.⁵⁹ Thus, relying on the used and useful test, advocates can argue that cost-recovery should be denied for assets that are rendered inoperable due to climate change impacts that the utility failed to prepare for.

of Duke Energy Progress, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina, N.C.U.C. Docket No. E-2, Sub 1219 (July 9, 2020), <https://perma.cc/92S2-J5Y8> [hereinafter DEP Settlement Agreement].

⁵² DEC Settlement Agreement at 4; DEP Settlement Agreement at 4.

⁵³ Webb et al., *supra* note 7, at 614; A number of state utility commissions apply both the used and useful test and the prudence standard, though some commissions only employ one of the two standards. See generally Richard J. Pierce, Jr., *The Regulatory Treatment of Mistakes in Retrospect: Canceled Plants and Excess Capacity*, 132 U. PA. L. REV. 497, 512–13 (1984), <https://perma.cc/KE2Z-DZAZ>.

⁵⁴ See Webb et al., *supra* note 7, at 614 (citing *Denver Union Stock Yard Co. v. United States*, 304 U.S. 470, 475 (1983)).

⁵⁵ See generally Jonathan A. Lesser, *The Used and Useful Test: Implications for a Restructured Electric Industry*, 23 ENERGY L. J. 349, 352 (2002) (“Although the distinction between used and useful has not always been clear-cut, a reasonable interpretation is between investments that do not provide physical services (not used) and those that, while providing physical services, are superfluous (not useful”), <https://perma.cc/Z4AZ-68VN>.

⁵⁶ Webb et al., *supra* note 7, at 615 (citing Pa. Pub. Util. Comm’n v. Metro. Edison Co., 53 Pa. PUC 329, 333 (Pa. Pub. Util. Comm’n June 15, 1979) (holding that the commission must consider whether an “investment is or will be useful during [the] period in which the rates are to be in effect”).

⁵⁷ *Id.* (citing Pa. Pub. Util. Comm’n v. Metro. Edison Co., 53 Pa. PUC 329, 333 (Pa. Pub. Util. Comm’n June 15, 1979) (holding that a generating facility expected to be offline for two to four years must be removed from rate base because such facilities “by their nature are not expected to experience” such prolonged outages)).

⁵⁸ See, e.g., U.S. DEP’T OF ENERGY, EFFECT OF SEA LEVEL RISE ON ENERGY INFRASTRUCTURE IN FOUR MAJOR METROPOLITAN AREAS 13 (2014), <https://perma.cc/D66N-633K>; Kavya Balaraman, *Water Scarcity Accelerates Plans to Close Xcel’s Tolk Coal Plant by a Decade*, UTIL. DIVE (Jan. 15, 2020), <https://perma.cc/TXM9-JJ9Y>.

⁵⁹ Metro. Edison Co., 53 Pa. PUC at 333 (holding that “[t]he length of time which utility plant may be out of service and not removed from rate base depends upon the nature of the plant, the degree to which the outage can be expected to occur during normal operation of the plant, and the certainty with which resumption of service can be predicted”).

C. LEAST COST PRINCIPLE

State utility commissions have generally applied the principle of “least cost” when setting rates. Some states, such as Vermont⁶⁰ and North Carolina,⁶¹ impose legislative obligations to minimize costs but even absent legislation, state utility commissions have found the principle to apply.⁶² In rate case and other proceedings, state utility commissions have required electric utilities to take various steps to reduce electricity costs, while maintaining service reliability.⁶³ For example, electric utilities in thirty-six states are required to engage in integrated resource planning or an equivalent process that is intended to identify the optimal resource mix that will ensure long-term service reliability at least cost.⁶⁴

The impacts of climate change are expected to impose significant costs on electric utilities.⁶⁵ Requiring electric utilities to plan for the impacts of, and take steps to enhance their resilience to, climate change furthers the goal of reducing costs while maintaining service reliability and is thus fully consistent with the least cost principle.

A 2019 study by McKinsey and Company found that, if left unaddressed, climate change impacts would increase storm damage and outage costs incurred by an electric utility by at least twenty-three percent or \$300 million to \$1.7 billion by 2050.⁶⁶ Confirming this conclusion, a 2020 study found that climate change could cause spending on transmission and distribution infrastructure to increase by up to twenty-five percent or \$24 billion per year by 2090.⁶⁷ The study further found that designing new infrastructure based on projected future climate conditions “roughly halves the expected costs of climate change experienced in 2090.”⁶⁸ Advocates can rely on the least cost principle to push for climate resilience planning by arguing that such planning will result in cost-savings and improvements in service reliability. Additionally, advocates could argue that making investments without accounting for climate change impacts will result in increased costs over time, and is thus not consistent with the least cost principle.⁶⁹

⁶⁰ Webb et al., *supra* note 7, at 616 (citing VT. CODE ANN. tit. 30, § 218c(a)(1) (legislation calling for “meeting the public’s need for energy services . . . at the lowest present value life cycle cost.”)).

⁶¹ *Id.* (citing S.C. CODE ANN. § 48-52-210 (declaring a policy in favor of “minimiz[ing] the cost of energy throughout the state.”)).

⁶² *See, e.g.*, Re Ky. Power Co., 2010 WL 2640998 (Ky. Pub. Serv. Comm’n June 28, 2010) (recognizing “that ‘least cost’ is one of the fundamental principles utilized when setting rates that are fair, just, and reasonable”).

⁶³ Webb et al., *supra* note 7, at 615.

⁶⁴ *Id.* (citing Coley Girouard, Understanding IRPs: How Utilities Plan for the Future, ADVANCED ENERGY PERSPECTIVES (Aug. 11, 2015), <https://perma.cc/V6DQ-MPG7>).

⁶⁵ *See, e.g.* Sarah Brody et al., *Why, and How, Utilities Should Start to Manage Climate-Change Risk*, MCKINSEY & CO. INSIGHTS (Apr. 24, 2019), <https://perma.cc/R84Q-YKMY>; Charles Fant et al., *Climate Change Impacts and Costs to U.S. Electricity Transmission and Distribution Infrastructure*, 195 ENERGY 116889 (2020), <https://perma.cc/QN2J-D4VQ>

⁶⁶ Brody et al., *supra* note 65.

⁶⁷ Charles Fant et al., *supra* note 65, at 7.

⁶⁸ *Id.*

⁶⁹ It should be noted that climate resilience planning and investment can often involve significant upfront costs, which may necessitate consumer rate increases, at least in the short term. In the longer term, however, climate resilience planning and investments should generate cost savings that can be passed onto ratepayers, as discussed above.