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New York State Leading on Utility Climate Change Adaptation

Christine A. Fazio and Ethan I. Strell

In a precedent-setting decision, the New York State Public Service Commission unanimously approved a settlement on Feb. 20, 2014, requiring Con Edison to implement state-of-the-art measures to plan for and protect its electric, gas, and steam systems from the effects of climate change. Although issued in the context of Con Edison's rate case, the commission's order issued on Feb. 21, 2014, explicitly broadened the sweep of its order to address resiliency measures for all utilities in New York State.¹

The process leading up to last week's order, and the work to continue this year, establishes New York State as a leader in climate change adaptation planning for utilities. Notably, the PSC decision ordered the continuation of the Storm Hardening and Resiliency Collaborative, which was created by the rate case parties to develop innovative resiliency measures and to address how storm hardening funds should be invested. The collaborative took place simultaneously with the rate case proceeding, and will continue through at least the end of 2014.

Background

In January 2013, Con Edison filed a petition for changes to its electric, gas, and steam rates for New York City and Westchester County. In that petition, Con Edison sought to increase its electric service rates by over \$400 million, with additional increases in gas and steam rates. Con Ed also requested \$1 billion in funds for "potential storm hardening structural improvements over the next four years...to reduce the size and scope of service outages from major storms, as well as to improve responsiveness and expedite the recovery process to better serve our customers."²

Hitting the New York region on Oct. 29, 2012, Superstorm Sandy was the most destructive storm to strike the region, causing more than one million electric customers to lose power, and resulting in the death of 43 New Yorkers. Beyond Sandy, however, five of the top 10 storms with the most Con Edison customer outages have occurred in only the last three years, 60 percent of tornado activity in New York City has occurred during the last six years, and the summer of 2013 was distinguished by an unusually long heat wave. Observed mean temperatures in New York City have increased almost a half degree annually since 1900, precipitation has increased approximately 0.7 inches per decade, and sea level rise has averaged 1.2 inches per decade.³ In short, historical conditions no longer serve as a reasonable baseline to plan for future infrastructure investments.

Rate Case Proceeding

After a failed attempt to settle the proceeding in June of 2013, evidentiary hearings were held in July and August, where 167 sets of testimony were filed, nearly 1,000 exhibits were accepted into evidence, and 2,420 pages of testimony transcripts were recorded. Parties to the proceeding included consumer protection advocates, other utilities and electric generators, large energy users, New York City, Westchester County, the State Attorney General, various public agencies and elected officials, environmental NGOs and academic centers, and the labor union representing Con Edison workers.

In the rate case, the coalition of NGOs and academic centers,⁴ the Attorney General, and New York City presented scientific and engineering testimony on climate change and resiliency, including testimony from leading climate scientists.⁵ Through this testimony, the discussion was broadened from “storm hardening” based on historical weather conditions to a more comprehensive discussion of the risks posed by future climate change, and innovative ways to promote resiliency over the life of the infrastructure.

Resiliency Collaborative

In tandem with the formal rate case proceeding, a parallel “collaborative track” was established under the supervision of Administrative Law Judge Eleanor Stein regarding storm hardening and resiliency. The collaborative working groups addressed: (1) storm hardening design standards, (2) alternative resiliency strategies, (3) natural gas system resiliency, and (4) risk assessment/cost benefit analysis.

Through the design standard working group, Con Edison and the parties agreed on an interim minimum design standard of the latest FEMA 100-year floodplain elevation plus three feet of freeboard to protect critical infrastructure from future floods. This “FEMA plus 3” standard will be reviewed to see if higher levels of protection are warranted. We note that other New York infrastructure agencies actually are requiring more stringent standards. For instance, projects receiving federal Storm Mitigation Loan Program funds under the New York Clean Water State Revolving Fund must build critical equipment to the highest of the following elevations: (1) best available 100-year floodplain level plus 5 feet; (2) Sandy high water plus 4 feet; or (3) the 500-year floodplain level. Even critical equipment not exposed to sea level rise must build to the highest of (1) 100-year floodplain level plus 3; (2) Sandy high water plus 2; or (3) 500-year floodplain.⁶

Settlement and Order

In October, after the completion of testimony and briefing, settlement discussions were re-initiated. The parties were able to negotiate a settlement, and a “Joint Proposal” memorializing the terms of that settlement, which was filed with the commission on New Year’s Eve. Twelve of the 20 active rate case parties signed the joint proposal, and only two parties opposed it.⁷ The Joint Proposal, with minor modification, formed the basis for the commission’s Feb. 21 order.

The order adopted the Joint Proposal’s recommendation that a second phase of the collaborative should continue.

Among the specific recommendations and requirements, the order confirms Con Edison’s commitment to conduct a Climate Change Vulnerability Study this year, which will provide important guidance on how the utility can best prepare for rising sea levels, more intense storms, heat waves, and other potential effects of a changing climate. The scope of the Climate Change

Vulnerability Study is found in Con Edison’s “Storm Hardening and Resiliency Collaborative Report.”⁸

Con Edison must also file an implementation plan for three kinds of alternative resiliency strategies, including a pilot study of voluntary residential “time-of-use” rates to promote electric vehicle use, and a major alternative solution for load growth and reliability in the Brownsville section of Brooklyn, which will include distributed resources instead of traditional infrastructure.

The “alternative resiliency strategies” working group is tasked with identifying alternative response strategies designed to make the grid more efficient and resilient, and the work of that group will continue. Such alternative strategies include critical peak pricing to reduce load during heat events, rate options to encourage smart charging of electric vehicles, and high-efficiency cogeneration and microgrids, which could be placed to reduce system load, isolate outages, and provide refuges of power “islands” during storms.

Although not specifically a “resiliency” strategy, the order also requires Con Ed to accelerate its identification and replacement of leaky natural gas pipes, which contribute methane to the atmosphere—a potent greenhouse gas. The commission noted that “resilience efforts must be accompanied by a continued commitment to reduce carbon emissions in order to mitigate long-term risks that will continue to challenge our adaptive capabilities.”⁹

The order also directs Con Edison and the collaborative working groups to develop and apply risk assessment and cost-benefit models. The cost-benefit model would go beyond the typical utility capital expenditure analysis, and would include alternative resiliency measures, such as microgrids:

The risks and probabilities of future climate events, the expected useful life of assets, the impact of outages of varying duration on affected customers, and the potential risk to critical facilities, among other societal cost factors, should be considered, and should be monetized to the extent that reasonable values can be established and will be of practical relevance. This approach should harmonize the comparison of traditional utility system and alternative solutions and investments.¹⁰

Developing such a cost-benefit model will be continued in a general proceeding concerning utilities statewide.¹¹

Although the commission’s order approves approximately \$1 billion in storm hardening and resiliency measures, customer rates should remain essentially flat over the course of the rate plans.

Statewide Reach

Perhaps most significantly, the order also addresses other New York State utilities and states:

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. These will differ: other coastal and estuarine utilities also face sea level rise and storm surges, while all the State’s utilities face challenges such as Hurricane Irene and Tropical Storm Lee, Nor’easters, floods, severe winds, increasing ambient heat, and extreme heat events. 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.¹²

The overall approach required in this case is among the most comprehensive nationwide.

Other Developments

Although the New York State Public Service Commission's order in the Con Ed proceeding marks the most explicit and comprehensive action on making utilities more resilient to climate change, Con Ed is not the only utility in the region planning for climate change. For instance, the governor recently announced a commitment of \$1.4 billion in federal recovery funds to make Long Island's grid more resilient, including elevating substations, sectionalizing switches, and placing certain lines underground.¹³ In New Jersey, PSE&G has petitioned the state Board of Public Utilities for a 10-year, \$3.9 billion program to harden its system.¹⁴

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Endnotes

¹ "Order Approving Electric, Gas and Steam Rate Plans in Accord with Joint Proposal," Feb. 21, 2014, at 71, available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B81F8F41-1051-4A89-877C-81C0DB7FB629}>, at 71.

² Filing Letter from Craig S. Ivey, President, Con Edison, to Hon. Jeffrey C. Cohen, Acting Secretary, New York State Public Service Commission (Jan. 25, 2013), available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B81F8F41-1051-4A89-877C-81C0DB7FB629}>

³ New York City Panel on Climate Change, *Climate Risk Information 2013: Observations, Climate Change Projections, and Maps*, June 2013.

⁴ The Columbia Law School Center for Climate Change Law, Natural Resources Defense Council (NRDC), Environmental Defense Fund (EDF), and the Pace Energy and Climate Center (Pace). Co-author Ethan Strell is employed by the Columbia Center for Climate Change Law and was one of the attorneys representing the Center in the rate case.

⁵ Dr. Radley Horton, a climate scientist at the Columbia University Earth Institute Center for Climate Systems, testified on behalf of the Columbia Center for Climate Change Law, and Dr.

Klaus Jacob, a geophysicist at Columbia University's Lamont-Doherty Earth Observatory (LDEO), testified on behalf of the New York State Attorney General.

⁶ New York State Department of Environmental Conservation and the New York State Environmental Facilities Corporation, Final Intended Use Plan, Clean Water State Revolving Fund for Water Pollution Control, Federal Fiscal Year 2013, Amendment No. 2, December 2013, available at <http://www.nysefc.org/Default.aspx?tabid=508>.

⁷ Retail Energy Supply Association and New York State Energy Marketers Coalition.

⁸ Con Edison's Dec. 4, 2013, "Storm Hardening and Resiliency Collaborative Report" is available at

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={E6D76530-61DB-4A71-AFE2-17737A49D124}>.

⁹ Order at 67.

¹⁰ Order at 68.

¹¹ Public Service Commission case no. 07-M-0548, Energy Efficiency Portfolio Standard.

¹² Order at 71.

¹³ See Press release, Governor Cuomo Announces Major Agreement with FEMA to Support State's Efforts to Strengthen Long Island's Power Utility System, Feb. 21, 2014, available at <http://www.governor.ny.gov/press/02212014-fema-agreement>.

¹⁴ See *In the Matter of PSE&G for Approval of the Energy Strong Program*, available at <http://www.nj.gov/bpu/agenda/presidingcommissionerorders.html>; PSEG, "PSEG Working to Make NJ 'Energy Strong,'" available at http://pseg.com/info/media/energy_strong/press_kit/index.jsp