

Prefiled Rebuttal Testimony of James D. Bride
Docket No. DE 16-576
December 16, 2016
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EXHIBIT LIST

Exhibit NHSEA-JB-Reb1

Lost Revenues Relating to Small Net Metering
Projects

Exhibit NHSEA-JB-Reb2

Salt River Project article

Exhibit NHSEA-JB-Reb3

ComEd Statement

EXHIBIT 1

Lost Revenues related to Small Net Metering Projects

Small Project Assumptions

Customers bill reflects the avoidance of paying the full retail rate (all c/kWh charges) for 100% of KWH produced

For Rate R and G - (see table)% of the annual kWhs are consumed internally and is accounted as lost utility sales and revenues:

For Rate R and G - the other (see table)% is exported to Eversource and is accounted as a purchased power expense at the full retail rate.

For Rate GV and LG - 100% is accounted as lost sales and revenues and 0% is purchased power.

No impact on the utility collection of customer demand charges (i.e. \$/kW charges).

No impact on the utility collection of customer
Rates (c/kWh) are those effective July 1, 2016.

Rate G lost revenues are 0% in block #1, 10% in block #2 and 80% in block #3.

Rate G lost revenues are 0% in block #1, 10% in block #2 and 90% in block #3.

Rate GV lost revenues are 70% in the first block (first 200,000 kWh) and 30% in the second block.

Rate LG lost revenues are 70% in the On-Peak period

The over-market payments for Energy Service are relative to an illustrative ISO-NE energy and capacity market.

Digitized by srujanika@gmail.com

Rate G Blocks	GV Block Ratio
1 0%	1 70%
2 10%	2 30%
3 90%	Internal Consumption Ratio
Rate LG Periods	Rate R 60%
Peak 70%	Rate G 60%
Off-peak 30%	ISO-NE Mkt Value \$0.065

ISO-NE Mkt Value \$0.065

	(C) = (A) - (B)	(D)	(E) = (C) x (D)	(F) = (C) x 5.0	(G) = (E) - (F)
Rate	Purchase Power (kWh)	Full Retail Rate (c/kwh) includes Default Service at 10.95 c/kWh	Purchase Power expense (\$)	ISO-NE Value c/kWh (\$)	Over-Market Payments for Energy (\$)
R	9,330,442	17.971	1,676,774	606,479	1,070,295
G	2,201,349	13.987	307,897	143,088	164,809
	11,531,792		1,984,671	749,566	1,235,104

Total Lost Sales and "Over-Market" payments			
Lost T&D revenues	"Over Market Payments for Electric Supply"	"Over Market" payments for Banked Energy	Total
\$1,051,963	\$845,159	\$1,235,104	\$3,132,226

EXHIBIT 2

SRP data shows some solar customers save money with demand rates



Ryan Randazzo, The Republic | azcentral.com 10:29 a.m. MST March 28, 2016



It's been more than a year since Salt River Project approved new "demand rates" for customers with rooftop solar panels, forcing customers to pay attention to how many appliances they run simultaneously.

Utility officials said a preliminary review of those customers' bills shows 14 percent of them are saving money, while others are ignoring the price penalty for using significant amounts of power during peak-demand hours and paying significantly higher bills.

(Photo: Nick Oza/The Republic)

The data from SRP is important because state utility regulators are considering demand rates for solar and non-solar customers of UniSource Energy Services, which serves Mohave and Santa Cruz counties, and the state's biggest utility, Arizona Public Service Co. is likely to request approval for them this summer.

Demand rates are based on the highest use of power during a single 30-minute time period during certain hours in the month. Regulators could use the SRP data to determine whether customers can adapt to the new rates.

Normally, customers are billed based on the total amount of power they use in a month. Time-of-use rates, which are common in Arizona but not throughout the country, charge higher rates during peak hours and lower rates during off-peak hours. Demand rates take that a step further, and base a large portion of a customer's monthly bill on how much power is used at once. Demand rates are common nationally for businesses, which have more control over major appliances, but not for homeowners.

RELATED: [Study says rooftop solar good for all utility customers \(/story/money/business/energy/2016/03/02/solar-study-odds-aps-analysis-says-paying-excess-power-good-everyone/81157478/\)](/story/money/business/energy/2016/03/02/solar-study-odds-aps-analysis-says-paying-excess-power-good-everyone/81157478/)

How the new rate affects solar customers

Faced with that complexity, far fewer people are installing solar in SRP territory today compared with before the new rates took effect. That's because regardless of the amount of power they generate with solar, customers can set a high demand rate for the month if they don't operate their appliances carefully.

SRP officials in February 2015 decided demand rates were a better way to bill customers with rooftop solar.

The utility's managers said the rates were fair because solar customers previously would offset much of the power they consumed during the month through net metering, where they got credits for power sent to the grid. They said solar customers still require the full services of the power grid when their panels are not generating power and they are running multiple appliances and drawing electricity from SRP.

SRP analyzed the June to January bills of 190 customers who installed solar since the demand rate took effect. Officials found that the average customer in that group paid \$181 a month before solar, compared with \$122 a month with solar on the demand rate.

On the old net metering rate, SRP solar customers would have had bills averaging \$93, or \$29 less than under the demand rate, called E-27.

The \$29 differential between the new solar rates and old solar rates is less than the \$50 bill increase SRP expected. SRP officials said when the new rate was approved that customers could mitigate the bill impact by changing their behaviors.

"It's good news I think," said John Tucker, SRP's manager of pricing design. "We are getting less than the 50 bucks we expected."



AZCENTRAL

[Solar advocates hope to oust SRP board members](#)

(<http://www.azcentral.com/story/money/business/energy/2016/02/29/solar-advocates-hope-oust-srp-board-members/80871904/>)

On-peak vs. off-peak

SRP officials said one of the goals of the demand charge was to encourage customers to shift usage to off-peak hours, when demand across the power grid is low and there is surplus energy.

SRP's on-peak hours are weekdays from 1-8 p.m. in summer (May through September) and weekdays from 5-9 a.m. and 5-9 p.m. in winter (November through April).

SRP offers an online calculator to help customers understand demand (<http://www.srpnet.com/prices/home/calculator.aspx>). Based on the average appliances, running an air-conditioner and a dishwasher simultaneously results in about 5 kilowatts of demand. The demand fee varies by season. Five kilowatts brings a fee of \$68 in July and August, \$56 in the rest of summer, and \$22 in winter.

But switching on a pool pump, clothes dryer and refrigerator simultaneously with the AC and dishwasher will set a demand of about 13 kilowatts. That 30 minutes of use results in a \$265 demand fee in July and August. The cost would be \$217 during other summer months and \$79 in winter.

The basic service charge and charges for the total amount of electricity used would come on top of the demand charges.

SRP has found that about 14 percent of the E-27 customers actually save more money than if they were on the previous SRP solar plan by delaying the use of big appliances until off-peak hours.

Those customers set an average demand of 5.8 kilowatts on peak, but their energy use rises to 8 kilowatts shortly after 8 p.m., when the peak period ends, according to data from September only.

Tucker said this is evidence they are aware of the time and which appliances are running, and they delay running appliances until the off-peak hours begin.

However, about 12 percent of the customers, or 22 total, paid \$50 or more a month than they would have under the old net metering rate schedule. These customers set an average on-peak demand of 8 kilowatts and off-peak demand of 8.9 kilowatts, essentially shifting very little of their major appliance use to off-peak hours, according to the September-only data.

Solar companies adjust



Sun Valley Solar Solutions workers Robert Cogswell, on left, with Nemo Dunton installing solar panels on a home in Tempe, Az. Some solar installers continue to work in SRP territory despite new fees for solar customers that utility approved last year. They say they have figured out how to work with the new rate plan and continue saving customers money. (Photo: Nick Oza/The Republic)

The new demand fees at SRP have significantly slowed the number of solar installations in its territory, but some installers are coming back to the utility.

In October 2014, just before the new rates were proposed, SRP received 677 applications for solar interconnections. SRP approved the rates in February 2015, and in the next 11 months received only 333 applications. Customers who installed before Dec. 8, 2014 were allowed to remain on the old net metering plan.

Before the new rates, about 75 percent of the installations in SRP territory were solar leases, where customers make a monthly lease payment and don't own the panels. Ideally, the combined lease payment and monthly bill are less than the customer paid before installing solar.

But with demand rates in place, only about 25 percent of SRP's installations have been leases, Tucker said. Leases usually offer less in savings each month, and fewer customers are able to save at all with a lease and the demand rate. The nation's largest leasing company, SolarCity Corp., has essentially pulled out of the SRP territory and is suing the utility over the rate ([/story/money/2015/03/03/solarcity-sues-srp-antitrust-violations/24318777/](#)).

The companies selling solar to SRP customers for the most part are local firms. One of them is Sun Valley Solar Solutions, which installed 10 systems in the territory as of January and has a few dozen more on the way.

Change your lifestyle, change your electricity bill

Sun Valley uses a "demand manager" to control when customers' air-conditioners operate to avoid a high demand rate. CEO Russ Patzer says the ideal customer has two air-conditioning units, which can be controlled so they don't operate simultaneously. Controlling other appliances is optional.

"We can always have one on and keep the house cool," he said. "We just don't let everything run at the same time. We will control as much as the customer wants. We have to do the AC. Everything else is customer choice. One thing is we will not control the stove. You can cook when you want to cook."

Patzer said getting customers to change their behavior is a challenge.

"Our whole point is we want something the customer doesn't have to think about," he said. "They don't have to have a comfort change or lifestyle change."

Because solar customers are no longer rewarded for producing large quantities of excess energy, Patzer said he doesn't install as many panels on a home as he did previously. Even with the additional cost of the demand manager, he said the average solar installation costs about \$18,000 now compared with about \$20,000 before in SRP territory.

"We are seeing return on investments in seven to nine years, if you paid cash for the system," he said.

His company offers leases through SunPower, but not in SRP territory with the demand rate.

The future of solar power with SRP

Another Arizona company, American Solar and Roofing, began a test last year with SRP's demand rate. The company installed solar panels facing west, where they would capture more late-afternoon sunlight to generate power late in the day when people typically run the most appliances. The company also installed a battery system to store energy produced off-peak and dispatch it during peak hours to reduce demand.

President/CEO Joy Seitz said the company still is working on the software required to operate such a system, and is not yet ready to sell products that specifically target SRP's new rate.

Seitz said it is a positive development that companies such as Sun Valley are working in SRP territory, but she said that if other utilities in the state make drastic moves like SRP, it will put many out of business and destroy the local market.

"On the consumer side, with consumers being able to own their own solar system and control their own energy usage, that is not a success story today in SRP territory," she said. "I applaud them in all the other work they are doing, but that is not how you maintain a market and push solar forward."

As other state utilities such as Arizona Public Service Co. consider demand fees, Seitz said she hopes to see a much more gradual approach. Technology today is not widely available to address such fees, and consumers need time to learn how to manage them, she said.

"Consumers have to have a better understanding of how they use their energy," she said. "Until they understand the difference between usage and demand, we don't have it."

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REGULATION & POLICY

ComEd Strips Mandatory Demand Charges From Illinois Energy Bill



With just days to spare, a massive bill designed to save Exelon's nuclear plants may now be on track to pass.

by Julia Pyper

(<https://www.greentechmedia.com/authors/Julia+Pyper>)
November 23, 2016

With just three days remaining in the Illinois legislative session, Exelon and Commonwealth Edison have stripped several problematic provisions from a comprehensive energy bill, including mandated residential demand charges.

ComEd initially backed (<https://www.greentechmedia.com/articles/read/ComEd-Backs-a-Bill-Moving-Residential-Customers-to-Demand-Charges>) legislation to impose demand charges on residential customers in March 2015, arguing the change was necessary to fairly allocate costs among customers using the grid. After failing to advance in last year's session, the demand charge proposal was taken up again in a sweeping energy bill (<http://www.progressillinois.com/posts/content/2016/05/06/debate-over-illinois-energy-polices-intensifies-after-comed-exelon-unveil>) introduced by ComEd and parent company Exelon in May.

A core feature of the bill is the establishment of a zero-emission standard that would keep open two of Exelon's struggling nuclear power plants at a cost of up to \$265 million per year. Unless the bill passes, Exelon says its Clinton Power Station will close on June 1, 2017, and its Quad Cities Generating Station will close on June 1, 2018. The two plants have lost a combined \$800 million in the past seven years.

An updated version of the bill introduced this month -- dubbed the Future Energy Jobs Bill (<http://futureenergyjobsbill.com/resources.html>) (SB 2814 (<http://http://www.ilga.gov/legislation/99/SB/09900SB2814ham002.htm>)) -- proposed to also

offer credits for coal-fired power plants

(<http://www.chicagotribune.com/news/local/politics/ct-exelon-rate-hike-met-20161121-story.html>)

in Southern Illinois owned by Texas-based Dynegy. The provision came as a sort of peace offering to end Dynegy's opposition to the bill.

Despite the coal funding, several consumer and environmental groups agreed to back the bill last week (<http://midwestenergynews.com/2016/11/16/massive-illinois-energy-bill-divides-clean-energy-supporters/>). The Natural Resources Defense Council, Sierra Club, Environmental Defense Fund, Faith in Place and the Citizens Utility Board highlighted the legislation's clean energy benefits, including new efficiency programs, steps to fix the state's renewable portfolio standard and nearly \$1 billion in programs for low-income consumers.

The Future Energy Jobs Bill continued to see strong opposition, however. The BEST Coalition (<http://www.noexelonbailout.com/the-problem/>), an organization of environmental, consumer and business groups, calculated that the bill would cause a \$24 billion rate hike. AARP, the environmental justice group Blacks in Green, The Alliance for Solar Choice and others argued that the demand charge would be particularly damaging for solar customers and customers on fixed and lower incomes.

Then on Tuesday, ComEd issued a statement proposing to eliminate the demand-based rate provision to reflect feedback received from stakeholders. The proposed changes also include dropping the requirement for ratepayers to support Dynegy's two downstate coal plants, although ComEd plans to "continue to address in earnest" the issue of how the legislation will impact competitive rates in Illinois.

The plan to preserve Exelon's Clinton and Quad Cities nuclear power plants remains intact.

In addition, ComEd proposed reducing the number of utility-owned microgrids from five to three, over concerns from consumer and clean energy groups that ComEd was angling to make microgrids a monopoly service. The changes also expand rebates for community solar, and commercial and industrial solar installations.

"In the past week, we have heard from groups and individuals representing a broad cross-section of interests. We have listened to what they had to say and have made changes to the bill based on their input," said Joe Dominguez, Exelon's executive vice president of governmental and regulatory affairs and public policy. "The proposals emerging today will strengthen Illinois' commitment to clean energy, deliver billions of dollars in savings from energy efficiency, provide needed support for low-income residents, retain \$1.2 billion in economic activity associated with the Quad Cities and Clinton nuclear plants and create thousands of jobs to support our economy."

Changes to the legislation came less than a day after Republican governor Bruce Rauner's office commented on the Future Energy Jobs Bill for the first time. In a November 21 memo (<http://capitolfax.com/2016/11/21/rauner-administration-rejects-key-components-of->

exeloncomed-bill/) published by the Illinois blog Capital Fax, policy advisor Jason Heffley harshly criticized ComEd's demand charge proposal.

"These are not demand rates, these are insane rates -- and they should be rejected," he wrote.

Heffley said the administration had also received complaints (<http://www.chicagobusiness.com/article/20161105/ISSUE01/311059996/guess-who-gets-zapped-by-springfields-latest-energy-efficiency-plan>) from some of Illinois' largest employers over projected energy cost increases.

"Given our already high workers' compensation costs and property taxes, rising energy costs would make us even less competitive," he wrote. "Such costs should be mitigated to avoid heavy job losses and lost opportunity across the state."

Solar companies cheered ComEd's decision to drop the demand charges. The latest revisions would allow retail rate net metering for solar customers to continue up to 5 percent of ComEd's peak demand. The utility previously sought to lower the net metering compensation rooftop solar customers receive for excess generation to just the energy portion of a customer's rate, amounting to less than 4 cents per kilowatt-hour. Eventually that credit would be replaced with an up-front rebate.

Amy Hart, spokesperson for The Alliance for Solar Choice (TASC), said that maintaining the existing 5 percent net metering cap offers a fair amount of runway for installers, given that there are currently fewer than 1,000 rooftop solar customers in Illinois, representing just one-tenth of one percent of the cap. But there are other lingering concerns.

"We support the proposed elimination of demand charges and the reinstatement of full retail net metering," said Hart. "Exelon and ComEd made this verbal proposal on Tuesday to improve the bill; however, our final support is dependent on final legislative language."

"There may still be important tweaks needed to the bill, including ensuring a full stakeholder process at the Commission when the 5 percent net metering cap is reached to guarantee a fair valuation of the benefits of rooftop solar, ensuring distributed solar can continue to thrive, creating job opportunities and improving Illinois' environment," she said.

Once net metered systems reach 5 percent of peak demand, ComEd's latest proposal would move new solar customers to an energy-only net metering credit and offer a rebate based on locational value. However, to receive the rebate, customers would be required to install a smart inverter and give control of their solar system to ComEd. TASC wants to see the utility control provision removed.

"It's premature to define technological restrictions since inverter technology is rapidly changing," said Hart. "This unnecessary provision could foreclose cost-effective opportunities for improving the grid."

Despite making substantial progress at the eleventh hour, the Future Energy Jobs Bill continues to see opposition, including from groups that view support for Exelon's nuclear plants as a "bailout," which sets a troublesome precedent as more reactors become uncompetitive. Other stakeholders, including Ameren and industrial customers in Illinois, oppose the bill's more stringent energy efficiency targets.

However, after more than a year of negotiations, many stakeholders now finally see a path that allows the legislation to pass with just three days remaining in the Illinois legislature's veto session, which ends on December 1.

Check out the following articles for more information on the Exelon-ComEd energy bill:

- Key compromises reached on Illinois energy bill, advocates say
(<http://midwestenergynews.com/2016/11/22/key-compromises-reached-on-illinois-energy-bill-advocates-say/>)
- Rauner team finally weighs in on massive energy bill
(<http://www.chicagobusiness.com/article/20161121/NEWS11/161129977/rauner-team-finally-weighs-in-on-massive-energy-bill>)
- Massive Illinois energy bill divides clean energy groups
(<http://midwestenergynews.com/2016/11/16/massive-illinois-energy-bill-divides-clean-energy-supporters/>)
- Exelon teams up with Big Coal in subsidy-filled Springfield bill
(<http://www.chicagotribune.com/news/local/politics/ct-exelon-rate-hike-met-20161121-story.html>)



Julia Pyper

Senior Editor
Greentech Media

Julia Pyper is a Senior Editor at Greentech Media covering clean energy policy, the solar industry, grid edge technologies and electric mobility. She previously reported for E&E Publishing, and has covered clean energy and climate change issues across the U.S. and abroad, including in Haiti, Israel and the Maldives. Julia holds degrees from McGill and Columbia Universities. Find her on Twitter @JMPyper.

EXHIBIT 3

FOR IMMEDIATE RELEASE

Contact

ComEd Media Relations
312-394-3500

Significant Progress Achieved Toward Comprehensive Energy Legislation with Redesigned Future Energy Jobs Bill

Changes to legislation reflect feedback from a broad cross-section of stakeholders

SPRINGFIELD (Nov. 22, 2016) — Exelon Generation and ComEd today announced significant progress toward achieving a streamlined version of the Future Energy Jobs Bill that will reduce costs and address feedback gathered from a broad cross-section of stakeholders since the bill was introduced and conditionally passed by a 9 to 1 vote at last week's Illinois House Energy Committee hearing .

The proposed changes maintain important provisions to boost the state's economy, support low-income programs, preserve 4,200 jobs at Exelon's Clinton and Quad Cities nuclear plants and create thousands of new clean energy jobs by advancing renewable energy development and expanding energy efficiency programs. They also reflect feedback received from the governor's office, legislative staff and through continuing discussions and collaboration among environmental groups, renewable energy developers, faith organizations, consumer advocates, business groups, utilities, community leaders, policymakers and legislative staff, among others.

Though the legislation continues to be refined, proposed changes include:

- Eliminating the demand based rates provision
- Eliminating the Fixed Resource Adequacy Plan, or FRAP, but reserving for discussion a proposal to achieve a solution sometime in the near future
- Ensuring that the Zero Emissions Standard proposal will preserve Exelon's Illinois nuclear plants for at least 10 years and include even stronger consumer protections
- Reducing the number of proposed microgrids from five to three
- Expanding rebates for community solar, and commercial and industrial solar installations

ComEd and Exelon continue to address in earnest an open item of concern among some business community members about the impacts this legislation will have on competitive rates in Illinois.

"We have said from the beginning that we wanted the Future Energy Jobs Bill to bring diverse ideas and constituents together to arrive at a comprehensive plan to address the state's complex energy and economic challenges," said Joe Dominguez, Exelon's executive vice president, Governmental and Regulatory Affairs and Public Policy. "In the past week, we have heard from groups and individuals representing a broad cross-section of interests. We have listened to what they had to say and have made changes to the bill based on their input. The proposals emerging today will strengthen Illinois' commitment to clean energy, deliver billions of dollars in savings from energy efficiency, provide needed support for low-income residents, retain \$1.2 billion in economic activity associated with the Quad Cities and Clinton nuclear plants and create thousands of jobs to support our economy."

"We have been working for more than a year and a half on this legislation with stakeholders representing government, environment, consumers, communities and businesses," said Fidel Marquez, senior vice president, government and external affairs, ComEd. "We have listened and heard the issues presented at the recent hearing and worked with staff

to make revisions to the bill so that it is better for everyone. We're encouraged by the progress we have made toward

achieving a clean, reliable and affordable energy future for our customers. We look forward to continuing this work so that we can deliver innovative solutions that bring value to our customers, state, business community and environment."

The legislation will continue to undergo revisions prior to the start of the Veto session, which begins Nov. 29. For more information, visit futureenergyjobsbill.com.

#

Exelon Corporation (NYSE: EXC) is a Fortune 100 energy company with the largest number of utility customers in the U.S. Exelon does business in 48 states, the District of Columbia and Canada and had 2015 revenue of \$34.5 billion. Exelon's six utilities deliver electricity and natural gas to approximately 10 million customers in Delaware, the District of Columbia, Illinois, Maryland, New Jersey and Pennsylvania through its Atlantic City Electric, BGE, ComEd, Delmarva Power, PECO and Pepco subsidiaries. Exelon is one of the largest competitive U.S. power generators, with more than 32,700 megawatts of nuclear, gas, wind, solar and hydroelectric generating capacity comprising one of the nation's cleanest and lowest-cost power generation fleets. The company's Constellation business unit provides energy products and services to approximately 2.5 million residential, public sector and business customers, including more than two-thirds of the Fortune 100. Follow Exelon on Twitter @Exelon.

Commonwealth Edison Company (ComEd) is a unit of Chicago-based Exelon Corporation (NYSE: EXC), the nation's leading competitive energy provider, with approximately 10 million customers. ComEd provides service to approximately 3.8 million customers across northern Illinois, or 70 percent of the state's population. For more information visit ComEd.com, and connect with the company on Facebook, Twitter and YouTube.

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