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IOWA UTILITIES BOARD

STATE OF IOWA

BEFORE THE IOWA UTILITIES BOARD

IN RE:	
DISTRIBUTED GENERATION	DOCKET NO. NOI-2014-0001

PRELIMINARY IMPLEMENTATION PLANS

COMES NOW, Interstate Power and Light Company (IPL), and provides its preliminary implementation plans pursuant to the Order Regarding Policy Statement, Rate Design Presentations, and Net-Metering Generation Pilots on October 30, 2015 (October 30th Order), by the Iowa Utilities Board (Board). In the October 30th Order, the Board encouraged utilities to develop pilot projects regarding net metering and expanded renewable distributed generation (DG) in Iowa. IPL provides the following preliminary implementation plans in response to the Board's requests:

INTRODUCTION

IPL appreciates the opportunity to provide the Board with preliminary DG pilot implementation plans. IPL supports integration of DG onto the system as part of a larger sustainability vision. As such, IPL's approach has focused on expanding a variety of renewables and reducing emissions, all while affordably meeting all customers' energy, capacity and reliability needs. IPL believes its pilots will provide an opportunity for evaluating new DG delivery platforms; will benefit all customers, the utilities, and the State of Iowa; and will establish a roadmap to help IPL provide sustainable customer benefits into the future.

IPL's pilots will allow for DG resources to be integrated in a sustainable manner that protects the long-term reliability and integrity of the grid for all customers, using pricing that is consistent with the foundational rate making principles established by the Board. IPL supports DG integration and the use of renewable energy resources at cost-based pricing, whether customer-owned, utility-owned or through power purchase agreements. IPL has had considerable collaboration with the DG NOI participants through the NOI and continues to seek stakeholder feedback in the development of the DG pilots. IPL's pilots address many of the issues IPL and other stakeholders - as well as the Board - have brought forth in the DG NOI, including expanding renewable DG, encouragement of time-of-use rates, proper cost allocation, avoidance of subsidies, treatment of excess net-metering credits, and further education on system planning. IPL embraced the Board's direction in the October 30th Order when developing these preliminary plans:

A pilot approach creates an opportunity for innovation and exploration of best practices outside the parameters of current net-metering policies. It also provides an opportunity to make changes on a limited basis in order to determine the impacts that those changes might have on the utility and its customers prior to making these changes permanent.¹

IPL proposes three DG pilot implementation plans:

1. Residential and General Service Customer-Owned Renewables Rate Design Pilot;
2. Large General Service Customer-Owned Renewables Rate Design Pilot; and
3. Community Solar Pilot.

¹ Docket No. NOI-2014-0001 Order Regarding Policy Statement, Rate Design Presentations, and Net-Metering Generation Pilots issued October 30, 2015.

The pilot proposals will allow IPL to collect information specific to customer participation and interests in DG as well as critical information for the utility related to system stability, siting, customer solar market research and pricing. IPL appreciates the Board's willingness to allow the utilities the flexibility needed to explore options that may inform future policy decisions.

In addition to these preliminary pilot plans, IPL is also pursuing other opportunities to explore DG outside of this NOI. These latter opportunities assist communities and customers in the service territory who have reached out to IPL with targeted project ideas or other projects related to system planning. IPL is also considering options to educate customers on demand rates and actions customers can take to reduce their demand through expanded use of a behavioral pilot in the energy efficiency plan. Each of these efforts - including the preliminary pilot plans - is focused on participating and non-participating customer service, quality, and value.

PRELIMINARY IMPLEMENTATION PLANS

A. Residential and General Service Customer-Owned Renewables Rate Design Pilot

IPL supports customer choice to participate in DG and interconnect to the system. In providing this support, IPL must be mindful of the underlying economics of the program, as costs to support DG - through the purchase of energy - are ultimately borne by all its customers. IPL must consider all customers when making energy purchases, and not unreasonably discriminate between certain classes or individual businesses. The current net metering and rate design configuration results in unrecovered costs that are shifted to non-

participating IPL customers. The current rate design uses a kilowatt-hour (kWh) charge as the cost recovery mechanism. When net metering customers reduce their kWh charge by using less system energy, they do not pay their proportionate share of the transmission and distribution costs embedded in the system energy costs that are necessary for the utility to provide full electric service to all its customers. The pilot is designed to recognize the fact that DG customers are equal parts consumer and generator, to price each of those services equitably, and to provide additional flexibility to DG customers to operate in a more nimble tariff environment.

IPL intends the pilot to move customers from a commodity view of electric services reinforced by banking kWh for future use by the customer, and where utility services may be undervalued, to a new financial structure monetizing the transaction where the value of each entity's (utility and customer) energy and services are more transparent. IPL proposes the pilot as a gradual step towards cost-based pricing and future rate design that will facilitate sustainable renewable and DG growth through customer choice and education, while maintaining a safe, reliable, economic electric system for all customers.

With the above goals in mind, IPL's residential and general service customer-owned renewables rate design pilot offers distinct benefits to participating and non-participating customers and the utility when compared to the existing net metering tariffs. The pilot aims to: 1) provide participating customers new options not available under the current net metering tariff, including a cash-out feature and better enabling time-of-use options; 2) increase

transparency of the financial transaction to all parties and non-participating customers; and 3) promote efficient cost recovery and right sizing of customer-owned renewables.

1. Pilot Structure

The pilot proposal features a new net metering design while retaining the current rate design for Residential and General Service customers. The pilot is an alternative form of net metering using a buy-all/sell-all arrangement.

a. *Overview.* Under the pilot, participating customers can still continue to self-supply their energy requirements from behind-the-meter generation. Participating customers will still require supplemental energy from IPL, which will be priced at their current retail rate. At any moment, IPL will continue to receive power from these customers in excess of what they can utilize. The power that IPL receives will be priced pursuant to two different rate tiers; up to the customer's monthly energy consumption level at one rate, and above the customer's monthly energy consumption level at a second, market-based rate.

Unlike the current net-metering banking provision (Alternative Energy and Small Hydro Production (AEP) tariff), the pilot proposal provides participating customers compensation for their excess generation. Elimination of the banking provision enables participating customers to take better advantage of time-of-use pricing. Under the current net metering provision, a customer may accumulate a large on-peak balance, which is difficult to draw down. The proposed pilot eliminates this obstacle in the promotion of time-of-use pricing.

b. *Pricing.* A DG customer's energy usage is billed according to the customer's current retail rate schedule.

Power IPL receives from the DG customer is compensated according to a two-tiered pricing structure on a monthly basis. The first tier, up to the customer's monthly kWh consumption, will be compensated at the average annual retail energy rate by customer rate class. The average retail energy rate will exclude transmission and energy efficiency costs. The energy-only rate allows the participating customer to be compensated for the generation it provides while alleviating some of the cross-subsidization issues by maintaining full recovery for transmission and energy efficiency costs. This construct is supported by the fact that DG customers benefit from transmission infrastructure as part of IPL's integrated grid management, as well as undiminished access and benefit by DG customers to IPL's energy efficiency programs.

The second tier, for power in excess of the customer's monthly kWh consumption, will be compensated at an average energy market rate. The energy market rate is defined as the Midcontinent Independent System Operator (MISO) locational market price (LMP) energy market price, i.e. the rate at which IPL could have bought energy in the market. This bifurcated price for the DG energy purchased by IPL reflects the dual nature of a customer with DG. Up to the point of their own consumption they are generating energy that the company does not need to produce for them as retail consumers. Any production beyond that point is materially no different than that produced by a wholesale generator. This pricing structure effectively protects all customers from unnecessarily higher

energy prices by pricing the customer owned generation cost effectively. It also ensures that customers who size their DG systems larger than what they need for personal consumption are fairly compensated for what they effectively are producing at the point of inflection where their consumption ends – wholesale energy.

IPL will recover what it compensates these customers as purchased power through the energy adjustment clause (EAC).

c. Applicability. The pilot will maintain the same 500 kW facility nameplate capacity limit in as contained in the current Alternative Energy Production (net metering) tariff. All new net-metering customers will be enrolled under the pilot tariff. Existing net-metering customer will have the option to participate in the pilot. IPL will encourage existing net metering customers to join the pilot in order to be able to compare their performance on the two different rate designs.

2. Collaboration Plan

IPL will provide notice to all DG NOI participants of an in-person meeting to review preliminary pilot details and receive feedback from stakeholders. IPL will hold subsequent meetings, as appropriate, by phone or web conferencing. IPL plans to hold initial stakeholder meeting no later than June 30, 2016.

3. Detailed Timeline

Upon completion of the collaborative process, IPL will file a tariff for the Residential and General Service Customer-Owned Renewables Rate Design Pilot. IPL will determine a target date for filing a tariff, but will adjust based on

any changes to pilot design that result from the collaborative process. Upon approval of the pilot tariff by the Board, all new net metering customers and willing existing DG customers from the two classes will be placed on this tariff. IPL proposes to keep the tariff in place for a minimum of 12 months.

4. Results Quantification

IPL proposes to begin a pilot evaluation 12 months from operation to ensure an appropriate level of data is available for evaluation. The process evaluation² will include participant surveys for customers and DG distributor/contractors to study pilot satisfaction, understanding of the alternate net metering pricing structure, and customer bill transparency. IPL will also study effects under the pilot tariff versus the current net metering tariff on customer participation rate and size of customer systems versus usage.

5. Reporting Results

IPL proposes to hold a public meeting to present the evaluation findings and will submit a report of the results to the Board.

B. Large General Service Customer-Owned Renewables Rate Design Pilot

IPL has customers who have a demand bill rate structure that have DG. Some of these customers, in addition to others without DG, have asked to be able to net meter. IPL seeks to address this interest through a pilot tariff.

² Process evaluation is generally defined as an evaluation to assess pilot activities and provide specific recommendations for improvements, where warranted. High-level objectives may include effectiveness of customer outreach, customer experience and satisfaction, effectiveness of distributor/contractor communication, and identification and mitigation of barriers.

A customer-owned renewables rate design pilot for LGS customers will allow IPL to test customer response to an alternative form of net metering. IPL's current AEP tariff does not provide a net metering option for demand billed (LGS) customers. Under the current tariff structure, demand billed customers who install generation can enter into power purchase agreements with IPL under the AEP tariff or, if the generation capacity is under 100 kW, the customer can opt for specified compensation rates available through the Cogeneration and Small Power Production (CSPP) tariff. This pilot will allow IPL to provide demand billed customers who install generation up to 500 kW in nameplate capacity with a new rate option for their DG resource.

As with the pilot for residential and GS classes, IPL aims to provide additional benefits and options to participating large, demand billed customers and measure their responses to pilot features such as the ability to cash out monthly and better utilize time-of-use pricing. The pilot will improve the transparency of the value of service that IPL and DG provide and will incentivize the proper sizing of DG systems through new pricing signals.

1. Pilot Structure

This pilot is similar to the Residential and General Service Customer-Owned Renewables Rate Design Pilot. The pilot is an alternative form of net metering using a buy-all/sell-all arrangement.

a. Overview. Under the pilot, participating customers self-supply their energy requirements from behind-the-meter generation. Participating customers will require supplemental energy from IPL, which will be priced at their current

LGS retail rate. At any moment, IPL will continue to receive power from these customers in excess of what they can utilize. The power that IPL receives will be priced pursuant to two different rate tiers; up to the customer's monthly energy consumption level at one rate, and above the customer's monthly energy consumption level at a second, market-based rate.

The pilot proposal provides participating customers compensation for their excess generation.

b. Pricing. A DG customer's energy usage is billed according to the customer's current LGS retail rate schedule.

Power that IPL receives from the DG customer is compensated according to a two-tiered pricing structure on a monthly basis. The first tier, up to the customer's monthly kWh consumption, will be compensated at the average annual retail energy rate for the LGS rate class. The average retail energy rate excludes demand, transmission and energy efficiency costs. The energy-only rate allows the participating customer to be compensated for the generation it provides while alleviating some of the cross-subsidization issues by maintaining full recovery for demand, transmission and energy efficiency costs. This construct is supported by the fact that DG customers benefit from the electrical system infrastructure as part of IPL's integrated grid management, as well as undiminished access and benefit by DG customers of IPL's energy efficiency programs.

The second tier, for power in excess of the customer's monthly kWh consumption, will be compensated at an average energy market rate. The

energy market rate is defined as the MISO LMP energy market price, i.e. the rate at which IPL could have bought energy in the market. This bifurcated price for the DG energy purchased by IPL reflects the dual nature of a customer with DG. Up to the point of their own consumption they are generating energy that the company does not need to produce for them as retail consumers. Any production beyond that point is materially no different than that produced by a wholesale generator. This pricing structure effectively protects all customers from unnecessarily higher energy prices by pricing the customer owned generation cost effectively. It also ensures that customers who size their DG systems larger than what they need for personal consumption are fairly compensated for what they effectively are producing at the point of inflection where their consumption ends – wholesale energy.

IPL will recover what it compensates these customers as purchased power through the EAC.

c. Applicability. IPL will limit participation in the pilot to generation with a maximum nameplate capacity of 500 kW. Participating customers will not be moved from the LGS rate class to the GS rate class, unless the customer's actual power take from IPL is less than 20,000 kWh per month for 12 consecutive months (consistent with current eligibility requirements for the GS rate schedule). The customer's power take will not be netted against any generation provided in excess of their consumption for purposes of calculating the customer's actual power take.

2. Collaboration Plan

IPL will provide notice to all DG NOI participants of an in-person meeting to review preliminary pilot details and receive feedback from stakeholders. IPL will hold subsequent meetings, as appropriate, by phone or web conferencing. IPL plans to hold initial stakeholder meeting no later than June 30, 2016.

3. Detailed Timeline

Upon completion of the collaborative process, IPL will file a tariff for the Large General Service Customer-Owned Renewables Rate Design Pilot. IPL will determine a target date for filing a tariff but will adjust based on any changes to pilot design that result from the collaborative process. Upon approval of the pilot tariff by the Board, all new LGS net metering customers will be placed on this tariff. IPL proposes to keep the tariff in place for a minimum of 12 months.

4. Results Quantification

IPL proposes to begin a pilot evaluation 12 months from implementation to ensure an appropriate level of data is available for evaluation. The process evaluation will include participant surveys for customers and DG distributor/contractors to study pilot satisfaction, understanding of the alternate net metering pricing structure, and customer bill transparency. IPL will also study effects under pilot tariff versus current treatment of LGS DG systems on customer participation rate and size of customer systems versus usage.

5. Reporting Results

IPL proposes to hold a public meeting to present the evaluation findings and will submit a report of the results to the Board.

C. Community Solar Pilot

The proposal for a community solar pilot is responsive to IPL research indicating customers' interest in renewable energy, specifically solar generation. IPL wants to expand options for customers interested in solar and research the economic and system benefits a utility-sized project may offer in comparison to individual customer installations. Additionally, IPL will design the pilot in such a way that, if successful, it can be replicated and deployed to other locations within or near to interested communities. IPL anticipates that the pilot results will influence future project development for both project sizes as well as locations with the intention of ensuring renewables are a stronger resource for all customers.

The primary goals of the pilot are to provide for increased customer access to and participation in solar, leverage economies of scale and provide an opportunity to install solar across IPL's service territory. Secondly, the pilot will be an opportunity to gain additional understanding of solar as a system resource, including appropriate ownership and regulatory treatment.

1. Pilot Structure

IPL seeks to develop a single pilot with the option for multiple sites for community solar projects across IPL's service territory. IPL plans to locate the

community solar projects near newer substations that are not expected to require substantial upgrades and that have adequate system load that IPL can offset. Based on distribution system location assessments, IPL has a short list of possible pilot locations in eastern and central Iowa. Further, IPL plans to overlay this assessment with market research and collaboration to determine final locations.

Customers will have the ability to choose subscription options that best suit each customer's situation. In option one, the customer will pay a small fee up front but have the ability to "lock in" the energy costs paid for the community solar project production for the life of the contract. Option two is a full upfront buy-in option with a monthly bill credit for the community solar project production. In essence, the customer will buy the panels up front and receive a monthly bill credit for the project production through the life of the contract. The credit will reflect IPL's avoided cost (currently on file at the time of the contract). IPL intends to offer both options for each community solar project. Subscription will be available for both Residential and General Service customers.

IPL will also engage a third-party consultant to conduct market research during the collaboration/pilot development phase to assess and understand areas where there is the highest market interest in solar across IPL's service territory. IPL intends to overlay this market research with IPL's site selection criteria to help determine appropriate locations to site the pilot where there is a high likelihood of community support. IPL will work to develop appropriate

marketing and customer outreach programs to aid IPL's customer understanding of enrollment and pricing options.

2. Collaboration Plan

IPL will provide notice to all DG NOI participants of an in-person meeting to review preliminary pilot details and receive feedback from stakeholders. IPL will hold subsequent meetings by phone or web conferencing. IPL plans to hold an initial stakeholder meeting no later than June 30, 2016.

3. Detailed Timeline

Upon completion of the collaborative process, IPL will file a tariff for the Community Solar pilot. IPL will determine a target date for filing a tariff but will adjust based on any changes to pilot design that result from the collaborative process. Upon approval of the Community Solar tariff, the following activities will begin concurrently and may be expected to take 18 months for completion: system upgrades, contracts and permitting, and marketing and subscription.

Based upon receiving an appropriate customer subscription rate, construction of the project will begin and may be expected to take three to six months depending on the season construction commences.

4. Results Quantification

IPL proposes two phases of evaluation, one beginning 18 months after tariff approval to study the customer engagement process to date and the construction phase. The second phase would begin 18 months from operation to

study customer satisfaction and understanding of the pricing mechanism as well as technical lessons learned.

5. Reporting Results

IPL proposes to hold a public meeting to present the evaluation findings and will submit a report of the results to the Board.

WHEREFORE, Interstate Power and Light Company requests that the Board accept IPL's preliminary implementation plans are requested in the Board's October 30, 2015, Order.

Dated this 28th day of March, 2016.

Respectfully Submitted,

Interstate Power and Light Company

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