

**Round 2 Comments of the Illinois Industrial Energy Consumers (“IIEC”)  
Regarding the Distributed Generation Valuation and Compensation Workshop**

**July 28, 2018**

**I. Introduction**

IIEC is a group of large, energy intensive, consumers of electricity, natural gas and associated delivery services in Illinois. Over the last thirty years, IIEC has participated in many regulatory proceedings before the ICC, including nearly every major rate case and policy case involving rate matters of Commonwealth Edison Company (“ComEd”) and Ameren Illinois Company (“Ameren”) and its predecessor companies. IIEC was also an integral part of establishing the competitive generation market and delivery rules stemming from the Electric Service Customer Choice and Rate Relief Law of 1997 and subsequent laws and Commission rules. IIEC appreciates the opportunity to provide these comments on the Distributed Generation Valuation and Compensation Workshop.

As large energy consumers, IIEC seeks to ensure that the delivery service rates that it pays are fair, reasonable, and no higher than necessary. IIEC expects that the cost of distributed generation rebates will be collected from all retail customers, through a charge imposed on the utilities’ distribution delivery service bills. IIEC does not oppose the expansion of distributed generation, including solar generation, to the extent that it does not jeopardize the reliability of electric supply or delivery, or unnecessarily raise non-participating customers’ costs.

**II. General Comments**

IIEC understands Section 16-107.6 of the Illinois Public Utilities Act (“PUA”) to call for an examination of the real value of distributed generation to the “distribution system” when setting the rebate levels, not some expanded examination or ethereal assessment of alleged benefits that are not readily quantifiable or related to the distribution system.

*“The value of such rebates shall reflect the value of the distributed generation to the distribution system at the location at which it is interconnected, taking into account the geographic, time-based, and performance-based benefits, as well as technological capabilities and present and future grid needs.” (Section 16-107.6(e))*

In this regard, IIEC agrees with the stated position of ComEd and Ameren in their comments. To establish rebate levels greater than specifically authorized by the law, and cause the inflated costs to be passed to other customers on their delivery bills would exceed the Commission’s authority. Likewise, IIEC agrees with the comment of ComEd, where it states:

**“Objective cost/benefit analysis is critical.** Regulatory policy and structural change should be guided by unbiased, objective cost/benefit analyses that correctly reflect costs to the distribution consumers and

distribution system as a whole.” (ComEd Comments at 3, emphasis in original)

Not all distribution consumers will benefit to the same degree as others from the expansion of distributed generation. For example, savings to the secondary distribution circuits will not inure to any significant degree to customers taking service at primary voltage or transmission voltage levels. Accordingly, while this workshop process is not a retail rate design matter, per se, it will be important for the Commission to recognize the varying levels of assumed benefits among customer classes when it determines the eventual recovery mechanisms.

IIEC has reviewed the June “DG Valuation and Compensation White Paper: Version 2” (“White Paper”) and, as indicated below, offers some comments, ranging from editorial to substantive. One item worth discussing further here is the list of potential benefits to the distribution system, as discussed in Section 3.1 of the White Paper (pages 10 – 14). This subsection is the most relevant to the rebate determination, since it attempts to establish a framework for viewing the benefits mentioned in the statute. Specifically, the section lists and discusses the following potential benefits, by subsection. IIEC will comment briefly on each:

- Distribution Capacity Value;
- Reduction in Losses;
- Voltage Support, Operating Reserves and Other Ancillary Services; and
- Reliability and Resiliency.

#### *II.A. Distribution Capacity Value*

IIEC agrees, in theory, that expansion of distributed generation has the potential to expand distribution capacity, by possibly meeting circuit loads locally, and potentially avoiding or mitigating future circuit expansion costs. However, as properly acknowledged in the White Paper, “the presence of distributed generation may increase or decrease distribution system investments needed to meet system needs and keep the system running safely and reliably,” and that in some circumstances “added costs are incurred when additional distribution investments are necessary to upgrade wires, transformers, voltage-regulating devices, control systems, and/or protection equipment.” (p 10, emphasis added) Without knowing that benefits, not increased costs, will accrue, it will be difficult if not impossible to reasonably estimate net benefits.

Because of various circumstances, including compliance with safety regulations, often much of the utilities’ existing distribution systems already have capacities that exceed the current circuit load levels. Thus, load reductions due to expansion of distributed generation, if any, may not always provide benefits in terms of distribution capacity value.

In addition, as a practical matter few, if any, poles, overhead or underground conductors or underground conduit will be avoided by a reduction in circuit loads. Likewise, service lines to homes and meters will not be reduced. Perhaps some distribution transformers could be of lower capacity and distribution conductor (wires) could be of slightly smaller gauge. The cost savings of these reductions may be insignificant, however.

IIEC does not necessarily agree with the assumption at page 11 that “in the absence of specific values [associated with utilities’ capital expenditure plans in each geographic area and assessments of what may be deferred or avoided due to distributed generation], marginal cost of service (MCOS) studies provide a reasonable basis for calculating avoided distribution capacity value.” Although MCOS studies may be useful in determining the value of distributed generation, *if it is assumed that capital expenditures will be made and are imminent*, they tell us nothing about whether or when such investments will be needed. Given the relatively long lives of distribution facilities (25 to 50 years), it is not reasonable to assume that an MCOS measure determined today is an appropriate proxy for an investment (or avoided one) to be made decades from now.

In summary, while benefits of distribution capacity value due to expanded distributed generation are theoretically possible, they are highly uncertain and, in certain cases, may be negative.

### II.B. Reduction in Losses

IIEC agrees that expansion of distributed generation near load has the potential to reduce distribution losses, since electrical losses on distribution equipment are directly proportional to load. If load on parts of the distribution system is reduced, then losses on those parts would be reduced. IIEC further agrees with the statements in the White Paper that reverse power flows due to high penetration of distributed generation could increase losses (p 12) and that a determination of the benefit of losses will need to be done on a case-by-case basis, depending on feeder topology, distributed generation penetration levels and interconnection point (p 13). Accordingly, assigning a generic value to distribution losses in the rebate determination will be imprecise at best and specious at worst.

### II.C. Voltage Support, Operating Reserves and Other Ancillary Services

At page 13, the White Paper identifies voltage control and operating reserves as the ancillary services most commonly associated with distributed generation. IIEC agrees that expansion of distributed generation, particularly with smart inverters, has the potential to help control local distribution voltages. Unfortunately, the White Paper provides no real insight as to how to quantify the benefits of the improved distribution system voltage control. IIEC also recognizes that voltage control is related to reliability and suggests that the Commission should take care not to double count the potential benefit of improved voltage control.

Regarding operating reserves, IIEC cautions that provision of operating reserves is typically considered a generation function and is provided through transmission services, e.g. pursuant to Schedules 5 and 6 of the FERC Open Access Transmission Tariff. Thus, while distributed generation may in fact be able to provide operating reserves, it is not a benefit to the distribution system, per se. If the distributed generation rebate value is limited to the value of distributed generation to the distribution system, as discussed above, IIEC does not believe that the benefit of improved operating reserves is properly a part of the rebate value.

With regard to other ancillary services mentioned in the White Paper, namely reactive supply, frequency regulation, energy imbalance, and scheduling, IIEC believes that, like operating reserves, these are related to the generation and transmission systems, not distribution, and generally should not be considered in determining a distributed generation rebate value.<sup>1</sup>

#### II.D. Reliability and Resiliency

IIEC generally supports the idea that expanded distributed generation has the potential to improve the reliability and resiliency of the distribution system. However, as with the other benefits discussed above, high or uncoordinated penetrations of distributed generation also have the potential to reduce the reliability and resiliency of the distribution system, if existing distribution systems become overloaded or if swings in the output of distributed generation (and thus swings in the loads on the distribution system) become problematic, through voltage fluctuations or otherwise.

IIEC observes that the White Paper does not have much information on how to value the potentially improved reliability and resiliency of the distribution system.

### **III. Answers to Specific Questions Posed**

The Commission offered specific questions for the parties to address. IIEC does not offer an opinion on many of them, but does offer information on the following items, only. The numbering below corresponds to the Commission's original question numbers.

1. Please provide any suggested revisions to the June White Paper.

**IIEC provides comments and revisions to the White Paper as shown on Attachment 1, in redline format and with comments.**

3. Regarding the different benefits of distributed energy resources, please provide input on the following:

- a. Which value streams should be included in the Section 16-107.6 DG rebate?

**As discussed in our General Comments above, IIEC believes only reasonable estimates of net benefits to the distribution system, not other benefits, are to be considered.**

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<sup>1</sup> IIEC acknowledges that one of the identified ancillary services, reactive supply, in certain instances can be provided through distribution level facilities.

- c. Which value streams are outside the scope of Section 16-107.6?

**As discussed in our General Comments above, IIEC believes only reasonable estimates of net benefits to the distribution system, not other benefits, are to be considered.**

- e. How are any value streams reflected in current rate structures and how are they currently calculated?

**The potential value streams associated with benefits to the distribution system of expanded distributed generation identified in the White Paper are included in the distribution rates. In addition, some of the purported benefits are actually related to generation and transmission and are included in generation and transmission rates. None of the purported value streams are calculated explicitly, as ratemaking tends to be based on cost of service, rather than benefit of service and the investments needed to provide these benefits are compensated through such cost based rates.**

6. Apart from value formulas and/or specific rebate values, should candidate deferral projects, deferred distribution investment, marginal cost studies, or other information be made public?

**Yes. All elements that affect the rates charged to customers should be publicly available. Information that, if revealed publicly, could pose a security risk to the system should be made available only with sufficient protections.**

7. In terms of the next procedural steps prior to the initiation of the investigation pursuant to Section 16-107.6, we welcome your comments on the following:

- a. Should the Commission use a designated working group process? If so, how should the working groups be structured, governed, and otherwise implemented?

**IIEC recommends use of a working group, limited in size, consisting of representatives of customers, utilities, ICC technical staff and potential recipients of the distributed generation rebates. IIEC recommends that leadership for the group should be co-representatives of the two major electric utilities.**

- ii. Are there any value streams that may take more time to develop that should be separated from value streams that may be more quickly developed?

**IIEC interprets the question to refer to the value streams themselves, not the quantification of benefits for the purposes of establishing the distributed generation rebate. In either case, however, there definitely will be a difference in the time to develop. With regard to the actual value stream of the benefits related to Distribution Capacity, if any, as discussed above, the value may take**

**decades to manifest, as existing distribution infrastructure is replaced or expanded. Therefore, there should be a separation of value streams.**

**In addition, IIEC would note that the assumed lifespans and performance of the distributed generation over time should be considered. For example, if the output of a distributed generation facility is expected to degrade over time, this suggests that the value streams may likewise diminish over time.**

- b. Should the Commission consider using a consultant to help with developing Section 16-107.6 compensation methodologies and values?

**IIEC believes that use of a consultant may be helpful if, 1) the workshop process does not yield sufficient results and 2) the ICC technical staff is unable to develop such methodologies and values.**

#### **IV. Conclusion**

IIEC understands and appreciates the Commission's concern in developing a fair and reasonable distributed generation rebate level, which properly considers the benefits to the distribution system and which does not unnecessarily burden non-participating customers with inflated rebate costs. IIEC does not oppose the expansion of Distributed Generation. It recognizes in certain instances there are benefits it can provide to the distribution system and those benefits can have a value. Properly identifying and monetizing that value and returning it to the value creators is the challenge. The Commission should pursue a solution using the workshop process discussed above. IIEC hopes to be involved in that process to present large industrial users' insights and concerns. IIEC looks forward to assisting the Commission in developing a proper rebate mechanism.