September 1, 2016

TO: NARUC Staff Subcommittee on Rate Design

FROM: Ameren

Ameren appreciates NARUC's work in drafting the Distributed Energy Resources Compensation Manual. The draft distributed on July 21, 2016 generally provides a comprehensive and mostly balanced review of the rate design issues and considerations raised by increasing penetrations of DERs that will contribute positively to the dialogue around this issue. Ameren also supports the comments EEI has shared with member utility companies, which provides additional information that should be seriously considered for inclusion in/modification of the final Manual. Ameren further has a number of additional suggestions that would help ensure that the Manual will be an accurate and an objective resource for regulators wrestling with this emerging issue. Ameren has categorized comments into three sections to assist with focus.

Impacts on Utility Business Risk

In the second paragraph of Section IV.C on Page 34 "Impacts on utility", the manual seems to lose its objective tone and generalize about utility actions and motivations related to rate design with a clearly negative connotation. Further, the same paragraph treads squarely outside of the realm of rate design to make suggestions about the utility's business risk. This appears to be motivated by a desire to impact rate of return discussions in regulatory proceedings. Discussions of what does or does not impact a utility's business risk should be left to the appropriate venue and subject matter experts. This entire paragraph is clearly out of place in a manual intended to provide an objective guide to regulators.

On Page 49 in in the last full paragraph under Section V.C. “Demand Charges” again, Ameren views this discussion of risk returns as outside of the scope of a rate design manual. The statement is made regarding demand charges that "there is more certainty that the utility will be able to fully recover its authorized return. In this way it reduces risk for the utility". This statement is unsupported with evidence but presented as fact. We do not believe this statement to be universally true and find its inclusion in the manual inappropriate due to both potential inaccuracy and the nature of the statement relative to the scope of the document.

In general, all direct or indirect statements relating to business risk or other statements that implicate the appropriate return on equity as related to the impacts of rate design should be removed. Statements along the line of: "Varying rate designs will affect revenue predictability/stability", would be acceptable.

Residential Demand Charges

In the discussion of demand charges (pages 11, 50, 53) there are references to the inability of customers to reduce demand, or at least the difficulty of doing so. While there may be an initial challenge in educating consumers, demands are very definitely subject to customer management. As this manual is specifically designed to address an emerging technology, it would also be worthwhile to indicate that other emerging technologies may enable automated demand management, making demand even easier to manage than total energy consumption. A balanced view of these charges should acknowledge that under the right circumstances, appropriately designed demand charges can provide a powerful and actionable price signal to customers.

Further specific statements in Section V.C "Demand Charge" raises questions as well, such as:

- On page 50 in the last sentence of the first full paragraph, the meaning of the statement "Lastly, demand charges, if a large portion of a customer's distribution bill, would over collect customer costs as demand costs" seems to be either unclear or inaccurate.

- The first sentence on page 51 of Subsection 2 "Coincident Peak Considerations" states "Using a coincident peak method better aligns the demand charge with economic principles (to align costs to cost causers, among others)…". The statement is too general to be true for all utility assets (if one is discussing customer demands coincident with the single overall system peak), especially for unbundled distribution only utilities. Multiple layers of coincident demands could be determined as one moves from the top of the entire system, to facilities that serve fewer customers than the entire system, eventually to facilities that serve only a few to one customer.

- The statement in the first paragraph in Subsection 3 "Non-Coincidental Peak Consideration" on page 52 that "Non-coincidental peak usage does not correlate with how the system is designed, and costs are incurred, as the system needs to be designed for peak usage" is overly broad and not entirely accurate. Some parts of the system are designed based on NCP, and NCP does demonstrate some, albeit imperfect, correlation with system peak.

- In the first paragraph of Subsection 4 "Re-calculation of Peak Usage Period" on page 52 the statement that under the "C&I model…a system's total peak is measured once a year and an individual customers (sic.) usage at that time determines the individual's monthly rate for the next year", generalizes in a manner that is not universally true regarding the current implementation of C&I demand charges.

- On page 53 in the Subsection 5 "Effect on DER customers", demand rates appear to be criticized for reducing the ROI of DER. The manual has previously clearly identified net metering as

applied to energy charges as causing a subsidy of grid related costs to the benefit of DER customers. The removal of a subsidy will always reduce the ROI of the investment previously subsidized, but that does not seem to warrant criticism in the context of the discussion of rate designs intended to *fairly* compensate DER customers.

- On page 53 in the Subsection 6 “Path forward for Regulators”, the idea of pilots that "hold their customer's (sic.) harmless" is presented as a possible path forward for regulators to learn about demand charges. Clearly if customers are held harmless, the price signal to customers would have no enforceability, and hence the pilot may not provide useful information regarding customer response to a true demand charge.

Other General Comments

- The emerging nature of the technology that are the subject of this document warrant consideration of whether this document will be subjected to periodic updates. There are many references to the uncertain nature of DER and various compensation methodologies. As more information is learned through experience, the manual should be updated accordingly.
- The entire document should be reviewed for grammar and readability. Some examples:
    - Page 15, first sentence in Section III presumably needs the word "no" inserted between "is" and "single"
    - Page 17 in Section III.A describes DER as generally smaller than 10 MW, yet in Section III.B. 3 wind is referenced as generally smaller than 20 MW.
    - Page 24, third paragraph under Section III.E.4 “Technology and Physical Issues” reads as follows: "If the utility does not have visibility into the situation on that feeder at sufficient granularity necessary to have visibility into the feeder, …") Frequent grammatical and stylistic problems tend to reduce the understandability and credibility of the concepts being presented.
- Regarding Section II.B.b “Block Rates”, the last sentence on Page 9 should not state in the absolute that: "However, by lowering the savings potential DBRs discourage conservation, energy efficiency, and customer adoption of technologies that may reduce consumption or otherwise reflect costs." Only where DBRs have a "zero" rate for the highest level of use would this statement be absolutely true. Ameren suggests the aforementioned sentence be replaced by the following: "There is some disagreement as to whether DBRs discourage conservation, energy efficiency, and customer adoption of technologies that may reduce consumption."

- Regarding Section III.F “Benefits” beginning on Page 25, it should be acknowledged that the potential benefits associated with introduction of DERs onto the system largely occur in the future, have significant uncertainty, have potential to also increase other types of system costs, and are very different based on the penetration of the DER itself. There is a risk that, if future benefits are assumed to exist and compensation is created to encourage them, DER may be overbuilt to a point where the incurrence of benefits declines and integration costs increase. Specifically, solar or wind DER resources are known to be intermittent. When installed in relatively close geographic proximity (on the same circuit), these technologies may change the timing that the local system reaches its peak loading to a period when that DER is unavailable. Further, similarity in local solar irradiance and wind patterns may cause localized load swings that require backup capacity or voltage support. The first unit installed locally may have provided relief to the grid in terms of offsetting its peak loading, but the incremental unit after the peak is shifted may have no capacity value whatsoever, but increase integration costs. This phenomenon would translate broadly to the entire system as DER penetrations continue to increase. It is very important that any compensation afforded DERs for benefits they are assumed to bring recognize this reality and are structured carefully to avoid situations where overbuilt deployments are compensated for benefits never delivered. Further, a balanced assessment of the potential benefits, costs, and uncertainties of each needs to be made, recognizing that this is an area of analysis fraught with many assumptions about the future.

- Review the entire document for statements that may suggest bias. For example, on Page 26 in Section III.F “Benefits” , Paragraph 2 reads as follows: "Categories such as the promotion of jobs are normally not under regulators' purview, but can be used by the utilities to advocate for changes beneficial to them when before commissions or legislatures." Ameren suggests this statement be re-worded as follows: "Categories such as the promotion of jobs are normally not under regulators' purview, but can be used to advocate for changes beneficial to various stakeholders when before commissions or legislatures."

- Regarding Section III.G “Ownership and Control”, the second sentence at the top of Page 27 suggests that only third parties and not utilities are interested in driving the increase in DER. Many utilities currently own and others are considering building DER generation. A rewording suggestion for consideration might be “While utilities may consider DER to support reliability and renewable portfolio standards, the increased adoption of DER is often promoted and driven by third parties in support of their business models which respond to price signals that compensate strictly on the basis of total energy production."

- Question 1 on Page 28, in Section IV.A that asks "What costs should be paid by DER and what should be recovered from base rates?" seems to present these as mutually exclusive options

(i.e. costs are either paid by DER or in base rates). But under net metering and some other frameworks discussed, DER customers pay base rate (potentially on a net billing unit, but still base rates). A rewording is suggested.

- On Page 33 in Section IV.B.6 "Lifespan of utility assets do not match lifespan of DER", the average lifespan of most DER systems is noted to be 20-30 years. While this is true for the physical DER system, the section does not incorporate the concept that DER systems may start to lose their generation capacity much earlier than their physical lifespan. For example, solar panels may last 20 years but can lose significant generation capacity after just 10 years. This mismatch in the timeline means that utilities cannot plan on the original generation capacity for the entire lifespan of the DER asset, and may still be required to make capital investments sooner than originally predicted.

- The section beginning on Page 47 in Section V.B.3 "Transactive Energy" discusses emerging concepts that represent the potential for significant changes in the utility business model. The utility as an enabler of a complex platform that hosts millions of transactions is very different than the role of the utility as an infrastructure provider. As such, different compensation models for utility services beyond the traditional cost of service/return on rate base model may need to be explored, which may include per transaction fees that allow the utility to generate earnings based on value enabled by the transactions on the platform or total expenditures (including O&M) incurred by the utility in providing the service. The manual should acknowledge the need to explore these new paradigms and recognize the challenges that regulatory bodies will face if they attempt to tie utility compensation models in a very different future to historical regulatory models.

- On Page 59 in Section V.F, the first full paragraph ends with, "The utility's other customers will not subsidize the DER owner." This is questionably written as it makes a general all-encompassing statement but as discussed previously in that paragraph is only talking about interconnection and metering – not other distribution costs for which the DER customers may or may not be paying their fair share.

- In Section VI.C.1 "Advanced Metering Infrastructure", Zigbee is referenced on Page 63 in the third paragraph. To be more broad in considerations for home area networks, it is suggested to change this sentence to "This communication is support by communication protocols such as Zigbee . . ."