

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

**In the Matter of the Commission's
Review of Chapter 4901:1-22 Ohio
Administrative Code, Regarding
Interconnection Services**

Case No. 12-2051-EL-ORD

**SUPPLEMENTAL COMMENTS OF OHIO EDISON COMPANY,
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, AND
THE TOLEDO EDISON COMPANY**

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I. INTRODUCTION

Pursuant to the Commission's Entry of January 16, 2013, Ohio Edison Company ("Ohio Edison"), The Cleveland Electric Illuminating Company ("CEI"), and The Toledo Edison Company ("Toledo Edison") (collectively, the "Companies"), respectfully submit their supplemental comments in this proceeding addressing several Staff questions contained in the Commission Entry and recommended amendments to rules contained in Chapter 4901:1-22 of the Ohio Administrative Code ("O.A.C."). The Companies respectfully request the Commission consider their supplemental comments in addition to their initial and reply comments and appropriately modify and/or add the proposed rules.

II. COMMENTS

1. Level 2 Expedited Review Procedure [Paragraph (4)]

The Commission Staff (Staff) recommendation is to determine the applicability of Level 2 Expedited Review based on the voltage level of the distribution circuit to which the generation is to be connected and the distance from that connection to the substation serving that circuit.

Since the Companies determine the means by which service is provided to a customer, not the other way around, the Staff proposal would mean that customers would require advanced knowledge of how the Company will serve any particular generator so the customer could apply at level 2 or level 3. Further, as more customer generators are attached to a distribution circuit, the impact of an additional larger generator of the sizes included in Staff's proposed framework, regardless of location on the circuit, may need to be studied to determine the impacts arising due to interaction with the distribution circuit

and existing generation on the circuit. Therefore, any limits for fast-track eligibility must recognize the capacity impacts of: 1) existing generators; 2) generators that have already been approved for installation; and 3) generation applications ahead of the new customer generator in the queue.

The Companies' proposed limits for Level 2 Expedited Review, based on experience with various topology conditions and the complexity of issues as project size increases are presented in Table 1 below.

Table 1: Distributed Generation Limits for Circuits & Substation Power Transformers			
Circuit Voltage (kV)	Max Total Generation Connected to a Circuit ^[1]	Max Total Solar & Wind Generation Connected to a Circuit ^[2]	Maximum Total Generation Connected to a Substation Power Transformer
2.4 Δ	1060 kVA	600 kVA	Substation Power Transformer Top Nameplate Rating ^[3]
4.34 Δ 4.16 Y/2.4* 4.8 Δ	1840 kVA	1,000 kVA	
7.2 Δ 7.2 Y/4.16 * 8.32/4.8	4240 kVA	2,300 kVA	
12.0 Δ 12.47 Y/7.2 * 13.2 Y/7.62	7340 kVA	4,000 kVA	
22.86 Y/13.2	13,500 kVA	7,400 kVA	
34.5 Y/19.9	20,300 kVA	11,000 kVA	

^[1] Maximum total generation is calculated based on 85% of nominal planned circuit ampacity.

^[2] Total wind and solar generation is limited on a circuit due to the uncertainty of generator operation, in response to variation of wind and sun, and that generation's impact on system voltage and voltage regulation devices. Values represent 55% of Column 2.

^[3] For example, the total DG limit is 14 MVA on an 11/14 ONAN/ONAF modular substation transformer. If there are plans to replace the transformer within five years, the nameplate of the replacement unit could be used.

2. Level 2 Supplemental Review (Paragraph 5)

Staff proposes a limit of one supplemental review at Level 2 for the purpose of providing additional time for utilities to address any easily identifiable issues impacting the safe and reliable interconnection of a generator without Level 3 Standard Review. The Companies do not support the Staff's approach.

The Companies believe the existing review protocol allowing incremental studies is a more realistic and cost-effective review process that allows a developer to substantially modify the proposed project or even cancel based on an initial study. The Staff proposal to limit the Level 2 Review to just one supplemental review would require more studies to be performed in one "omnibus" supplemental review instead of giving customers the option of incremental reviews—potentially leading to higher costs for some projects that could benefit from incremental feedback. For example, an initial study finding capacity deficiency to connect to existing facilities might lead a customer to downsize or cancel a project, thereby avoiding the costs for a further detailed engineering study. The Companies recommend retaining the existing review protocol that allows incremental studies.

3. Additional Technical Screens (Paragraph 6)

The Staff proposes three additional technical screens in the event that a proposed project fails one or more of the Level 2 initial screens. Of these three proposed screens, the Staff's second proposed additional technical screen regarding power quality and voltage tests to determine whether a full study is required may be problematic to apply. The Companies have found that developers and equipment manufacturers generally are unable to provide adequate technical information and/or guidance to apply power quality

or voltage analysis for proposed installations. For example, to look at voltage flicker for a photovoltaic project requires a statistical model of output ramp rates, limits at which ramp rates occur, and maximum frequency at which those ramp rates occur when cloud cover passes over. Similarly, to consider harmonics issues requires a statistical model of harmonic current injection at various load levels. The Companies are not opposed to this screen, but suggest that if this additional screen is adopted in the Rule that it be stated clearly that the recourse is to require a full study if the applicant is unable or unwilling to provide this information in a timely and complete fashion.

For example, a determination of compliance with IEEE 1453 requires knowledge of in-service generation ramp rates and power output fluctuation levels—data which would need to come from the expertise of the customer/generator, the installer, or their consultant. Similarly, the determination of compliance with IEEE 519, prior to project completion, is complex with generation system manufacturers or suppliers unable (or unwilling) to provide adequate data regarding their systems' operational parameters. In general, the only methods for compliance with IEEE 1453 and 519 is to allow the system to go into service and measure actual performance.

The Staff's proposed third additional technical screen regarding whether the location of the aggregate generation could adversely impact safety and reliability is currently the standard practice of the Companies and the Companies recommend retaining that technical screen.

The Staff also asks whether an hourly rate or a flat fee should be used to assess supplemental review study costs. The Companies believe an hourly rate should be assessed for supplemental review study costs. The use of an hourly rate better aligns the

costs associated with a full evaluation of options and assistance provided to customers and developers with the fees paid, especially on difficult projects.

4. Pre-application Reports (Paragraph 7)

The Commission requests comments on Staff's proposed pre-application reports through which it hopes to improve information accessibility for developers. The Companies incorporate by reference their earlier comments filed in this matter, and submit that the most effective information dissemination is for developers simply to call the Companies' designated personnel and ask for the desired information.

5. Interdependencies With Queued Generators on Transmission or Sub-Transmission Systems (Paragraph 8)

The Commission seeks comments on Staff's proposed screen language in Rule 4901:1-22-07(B)(1)(c) requiring additional study if the proposed generator is in an area where there are known or posted transient stability limitations or interdependencies with earlier queued transmission system interconnection requests known to the utility. The Companies agree that known or posted transient stability limitations require additional study and do so under the existing rules. The Companies are concerned to the extent Staff's screen language may purport to require disclosure of non-public transmission system data known to the EDU. In other words, the Companies may know of proposed transmission projects that have not yet been publicly disclosed in the PJM process, and which would not be appropriate to divulge to a new applicant. The Companies submit that this proposal is unnecessary, but if additional screen language is adopted that it be clarified that EDUs are not obligated thereby to disclose confidential information.

6. Transformer capacity limit (Paragraph 9)

The Commission seeks comments on whether the screen set forth in Rule 4901:1-22-07(B)(1)(k) should be modified to set the aggregate generation capacity limit on a single phase shared secondary at sixty-five percent of the transformer nameplate power rating as opposed to a static capacity threshold of ten kilowatts. The Companies support this proposed change to the Level 2 Expedited Review procedure, but emphasize that this change would be unworkable in the Level 1 Simplified Review procedure.

7. Backup Supply for Partial-Service Customers (Paragraph 10)

The Commission requests comments on the following questions related to backup electricity supply for partial service customers, including backup service for unplanned outages and planned system maintenance. Staff recognizes the importance of ensuring that the benefits provided by distributed generation technologies are appropriately recognized and fairly balanced with the EDU's costs of providing infrastructure support for interconnection services. Staff recommends that standby tariffs be simplified to enable the accurate estimation of partial service costs for the potential development and operation of distributed generation in Ohio, including cogeneration systems. Answers to the following questions have been requested by Staff and are intended to identify ways in which these goals can be accomplished, as well as to identify methods of aligning existing rates with the current regulatory and market environment.

- A. Given the current regulatory framework in Ohio, does it make sense for EDU's to offer a standby tariff for generation related services? If not, should the standby tariff be limited to transmission and distribution-related services and the generation service linked to reflect either (1) the SSO rate contained in the full-service tariff or (2) a rate offered by a competitive retail electric service (CRES) provider?

The Companies recommend against requiring EDU's to offer a separate standby tariff for generation-related services when they do not own, operate or control any generation facilities. The EDU's standby tariff should provide for full recovery of costs related to providing stand by distribution service to a customer. A standby service customer who is taking standard service offer ("SSO") generation service from its EDU would be charged the existing SSO rate for all generation service, standby or otherwise. Customers receiving generation service from a Certified Supplier should receive "standby" generation service from their Certified Supplier based on the terms and conditions of their contract. Regulated EDU's cannot, and should not, be required to subsidize competitive suppliers by providing "standby" generation service to customers who do not take SSO service.

- B. Currently, the majority of standby rates link the reservation demand charge for distribution services to the full-service rates, based on voltage classification. Would it be beneficial to establish a uniform provision for customers willing to take interruptible service? Under such a rate, the customer would only pay for distribution service actually used (on a pro-rated basis) during a given billing period for the contracted load, given those customers are willing and able to take interruptible service during peak periods.

The Companies are opposed to establishing a uniform provision for customers willing to take interruptible distribution service. Loading on distribution circuits can vary widely from circuit to circuit for various reasons at any given time. EDU's cannot jeopardize reliability of service to its firm service customers by depending on customer-generators to interrupt service as needed to reduce circuit loading. For example, if a distribution circuit were designed to a lower capacity level based on the assumption that a customer generator would generate at a certain level and/or interrupt as needed and that

generator were to discontinue generating power for any reason and failed to interrupt, that customer would need to receive standby service. In this circumstance, other firm service customers may lose power or be otherwise affected until the generator was brought back on-line by the customer-generator. The EDU would have to determine when and if the generator would be coming back on-line, and either wait for the generator to resume operations or engineer a solution and possibly upgrade equipment. This could take a significant amount of time to restore service to the other affected customers at considerable expense to the EDU. There is no practical remedy if the customer refuses to interrupt when called upon while the customer's generator is not operating.

Furthermore, the systems, processes, and procedures necessary to call for load interruptions or curtailments due solely to loading on a distribution circuit, substation, or sub-transmission basis do not exist. Any interruptible distribution service would require coordination at all times between customer-generators and loading on each distribution circuit. This would likely entail an expensive and complicated system while at the same time threatening distribution service reliability.

Customers taking standby service should be responsible for the entire cost of the distribution service they are being provided, reflecting peak capacity requirements. These facilities need to be in place, maintained, and ready for service at a moment's notice at the peak demand of the customer. Providing any distribution rate reduction for standby service would mean the cost of such premium service to the select few customers that can afford to install their own electric generation facilities would be socialized across distribution customers that may not be able to afford such an investment.

- C. Likewise, would it be useful to develop a similar provision for distribution rates charged for planned-maintenance services, during non-peak periods, i.e. pro-rated based on actual use?

The Companies respond that it would not be useful to develop a provision for distribution rates charged for planned-maintenance services and oppose such a suggestion. Loading on distribution circuits can vary widely from circuit to circuit for various reasons at any given time. Non-peak periods would not be known for all circuits, making it extremely difficult to estimate loading in order to pre-establish maintenance periods. Furthermore, the distribution system must be capable of serving the peak load of circuits. EDU's would not design to a lesser capacity level and depend on the operation of customer-generators to make up the capacity shortfall due to reliability concerns. Therefore, the establishment of maintenance periods would not reduce the EDU's cost of providing circuit capacity and, therefore, should not form the basis for reduced standby service charges.

- D. What is the best way to develop a pro-rated rate structure for distribution services? Would it be beneficial to establish a universal standby rate template, used by all the EDUs in the state?

The Companies believe that pro-rated demand charges may have value from a generation standpoint, but would not be useful or desirable in regard to distribution delivery service, since the distribution system is built to accommodate customers' peak demands which can vary widely from circuit to circuit for various reasons at any given moment. The preferred rate structure for distribution services is one that: 1) avoids complexity; 2) provides proper recovery of costs for delivery equipment installed and standing by to provide reliable service during those times when on-site customer-generators are not operating; 3) works in concert with the EDU's other general service

tariffs; and 4) recognizes that service to other customers must not be negatively impacted by the operational characteristics of on-site customer generators. Such outcomes can be achieved under the Companies' tariffs by setting a contract (minimum) demand that includes a representation of incremental load in the event of a non-operation by the customer's generation equipment that would flow through existing demand-based tariffs.

The Companies submit that any rate structure developed for standby rates should protect against subsidizing service to customer-generators for the costs of their premium service by parties that likely cannot afford to make such investments.

- E. Should each generator/customer be charged a rate that accounts for the benefits provided by a diversity of units? If so, should the several (group of) units providing diversity be limited to those within a service territory, or could the diverse group of units extend beyond the service territory?

The Companies state that customer-generators should not be charged a rate that accounts for a purported diversity of units. The Companies are not aware of any study or other empirical evidence quantifying benefits derived by a diversity of distributed generation units. If a distribution-system benefit existed, it would only occur if such diversity of units were sited in a small geographic area, *i.e.*, multiple units connected to the distribution circuits fed out of one substation, where the reserved capacity on the substation may be less than the sum of the units connected. For larger geographic areas, *e.g.*, an EDU's service territory, any benefit of multiple unit diversity would be shifted to the transmission system and transmission system owner. Distribution rates should not be used to address transmission system benefits.

From a distribution perspective, if such a rate were to be established, which the Companies recommend against, at a minimum, the distributed generation would need to be dispatchable by the EDU and available under all anticipated conditions. Of course, no system to allow this to happen even exists. Further, from a transmission perspective, the magnitude of distributed generation would need to be significant and would likely require the review, approval, and control of PJM. Again, distribution rates are not an appropriate mechanism to address transmission system benefits.

EDU's simply cannot risk reliability of service to its customers who are taking service on such circuits by depending on actions taken or not taken by customer-generators who do not have such responsibility or requirements. Distribution capacity must be available at all times to serve the load of all the Companies' customers.

III. CONCLUSION

The Companies again appreciate the opportunity to provide supplemental comments on the proposed interconnection rules. The Companies urge the Commission to adopt the recommendations of the Companies set forth in both their initial, reply and supplemental comments.

/s/ James W. Burk

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