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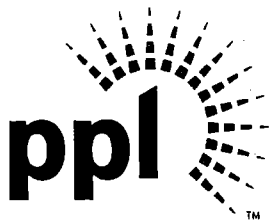


FEDERAL EXPRESS

February 2, 2005

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, Pennsylvania 17120

Re: Advance Notice of Proposed Rulemaking Regarding Small Generation Interconnection Standards and Procedures
Docket No. L-00040168

Dear Mr. McNulty:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and fifteen (15) copies of PPL Electric's comments in the above-captioned proceeding.

Pursuant to 52 Pa. Code § 1.11, the enclosed document is to be deemed filed on February 2, 2005, which is the date it was deposited with an overnight express delivery service as shown on the delivery receipt attached to the mailing envelope.

In addition, please date and time-stamp the enclosed extra copy of this letter and return it to me in the envelope provided.

If you have any questions regarding the enclosed comments, please call.

Very truly yours,

Paul E. Russell

Enclosures

cc: W. Blair Hopkin, Esquire
Irwin A. Popowsky, Esquire
William R. Lloyd, Esquire
J. Edward Simms, Esquire
David M. Kleppinger, Esquire
Mr. David O. Epple

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Advance Notice of Proposed Rulemaking Regarding Small Generation Interconnection Standards and Procedures	:	Docket No. L-00040168

Comments of PPL Electric Utilities Corporation

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

I. Introduction

By Order entered November 19, 2004, the Public Utility Commission ("PUC" or the "Commission") initiated an Advance Notice of Proposed Rulemaking ("ANOPR") concerning small generation interconnection standards and procedures to standardize the way in which small generators connect to the distribution grid. The Order states that, after receiving and considering comments in response to the ANOPR, the Commission will issue a Notice of Proposed Rulemaking ("NOPR"). The Order further states that the Commission intends to achieve several goals with this proceeding, including the following: (1) eliminate unnecessary barriers to entry in the distributed generation market; (2) promote distributed generation in order to provide peak demand responsiveness; (3) enhance grid reliability; (4) increase transparency in the interconnection process; (5) create uniformity and thereby ease the difficulty presented by a patchwork of different procedures; and (6) lower the overall cost of locating and placing distributed generation across the Commonwealth.

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") appreciates the opportunity to submit comments in this docket. The Company has, in the past, provided information to the Commission's Interconnection Working Group and currently is an active participant in the efforts of the PJM Interconnection, LLC ("PJM") to develop standardized technical requirements for interconnection. PPL Electric endorses the Commission's list of goals for this proceeding and notes that this process takes on additional urgency with the enactment of the Alternative Energy Portfolio Standards Act ("Act 213"), and the likelihood that Act 213 will encourage development of an increased number of small generation projects. PPL Electric is a member of the Energy Association of Pennsylvania ("EAP") and also endorses the separate comments being filed by the EAP in this docket.

II. Comments

PPL Electric believes that issues raised by this proceeding can be grouped into the following three subject areas:

- Net metering;
- Development of technical interconnection standards; and
- Development of procedures for processing interconnection requests.

The Company's comments will separately address each of these subject areas.

A. Net Metering

For reasons of efficiency and thoroughness, this docket should focus on the technical and procedural issues associated with the interconnection of small generators and the issue of net metering should be addressed in a separate proceeding. In the event that net metering remains a part of this proceeding, PPL Electric recommends that the Commission not require implementation of net metering (using a single meter) to avoid jeopardizing Electric Distribution Companies' ("EDCs") collection of distribution, stranded, and generation costs.

Two of the issues raised by this proceeding, technical standards and procedures, focus on the design and operation of equipment and systems,

associated safety and reliability standards, and the reviews and approvals necessary to assure that safety and reliability are not being compromised. The resolution of these issues involves, primarily, engineers and operators. The third issue, net metering, focuses on rate making, tariffs, cost recovery, provisions of the Electricity Generation Customer Choice and Competition Act ("Competition Act"), and, in some cases, the terms of existing Commission-approved restructuring settlements. The resolution of these issues involves, primarily, rate administrators, accountants and lawyers. Clearly, the technical/procedural issues and the rate issues are fundamentally different and involve two different types of expertise.

PPL Electric believes that attempting to address the two areas at the same time will be inefficient and could result in a less thorough review of each area than would be possible if they were considered separately. An inadequate review of either set of issues could jeopardize the Commission's ability to achieve the objectives of this proceeding. The Company further believes that there is no requirement that both technical/procedural issues and rate issues be addressed in a single proceeding. Act 213 does call for a stakeholder process to address interconnection and net metering, but does not specify that this process should be a single proceeding. PPL Electric believes that the technical and procedural issues will be easier to resolve and that, if these issues are addressed separately, the benefits associated with simplified and standardized technical requirements and procedures can be available to generators and EDCs earlier than if they are linked to the resolution of the unrelated net metering issues.

Moreover, the issues may affect different stakeholders groups. The technical interconnection standards and procedures for processing requests will apply to all small generation projects in Pennsylvania regardless of whether they are qualifying projects under Act 213. Conversely, the net metering provisions arise solely from the requirements of Act 213 and will apply only to qualifying projects under the Act. For all of these reasons, PPL Electric recommends that

this proceeding focus on the technical and procedural issues and that a separate proceeding be initiated to address net metering.

If, however, the Commission elects to consolidate the technical, procedural, and net metering issues into this proceeding, PPL Electric reiterates the recommendation it presented during the Act 213 technical conference (Docket No. M-00051865). The Commission should not require implementation of net metering (using a single meter) to avoid jeopardizing EDCs' collection of distribution, stranded, and generation costs.

The operation of a single meter results in reduction of the customer-generator's metered usage during the billing period with a corresponding reduction in total charges paid to the EDC. This reduction applies to all components of the EDC's rates including energy, capacity, distribution, Competitive Transition Charges ("CTC") and Intangible Transition Charges ("ITC"). An EDC provides a number of separate services to its retail customers and, because EDC rates were unbundled during the restructuring process, retail bills now reflect a separate charge for each service. Consistent with the unbundling of EDC bills, any reduction resulting from a single meter arrangement should be limited to the energy component only. However, this approach is impossible because a single meter can't measure what must be measured to properly adjust customer bills in this way.

Accordingly, under a single meter arrangement, the customer-generator receives excessive payments for its output because those payments include revenue from charges other than energy. At the same time, the EDC is not able to fully recover its distribution costs or its stranded costs.

In addition, imposition of single metering requirements could lead to uneven development of alternative energy resources in Pennsylvania. Because a single meter runs backward to record the electricity produced by the customer-generator, the customer-generator does not pay the EDC's charges for that amount of power. In essence, the customer-generator is receiving payments for its output equivalent to the EDC's total charges. In Pennsylvania, the EDCs'

charges vary widely, particularly during the cost recovery period while different CTCs and ITCs remain in effect. As a result, developers of alternative energy resources may have an incentive to construct facilities within the service area of EDCs with relatively high rates and not to construct facilities in other parts of the Commonwealth. Moreover, the payments received under a single metering protocol may be greater than or less than the amounts actually necessary to support such new construction.

Single metering is particularly problematic during the restructuring transition period. Act 213 recognizes the unique nature of the restructuring transition period, which the Act designates as the "cost recovery period." It is defined as the longer of the period during which CTCs or ITCs are recovered or the period during which an EDC operates under a Commission-approved generation rate plan. The Act explicitly recognizes that a critical element of the cost recovery period is collection of stranded costs through the CTC and the ITC. However, the customer-generator served under a single metering arrangement can, in essence, avoid paying the CTC and ITC. As defined in the Electricity Competition Act, both the CTC and the ITC are non-bypassable charges that must be paid by every customer accessing the transmission or distribution network. It could be argued that imposition of single metering requirements during the cost recovery period would violate this provision of the Competition Act.

In addition, the ratemaking consequences of a single meter arrangement would not be consistent with the cost recovery provisions of Act 213. Section 3(a)(3) of the Act provides that any direct or indirect costs for the purchase of resources to comply with Act 213 "shall be recovered on a full and current basis pursuant to an automatic adjustment clause." As discussed above, under a single meter protocol, the EDC, in essence, pays its total retail rate (including the components for energy, capacity, distribution and stranded cost recovery) for the output of qualifying generators. However, the EDC cannot recover these payments on a full and current basis through an automatic adjustment clause as mandated by Act 213. Specifically, the EDC cannot recover

its lost distribution revenue until its next base rate proceeding. Moreover, depending upon its contractual arrangements for the purchase of energy and capacity, the EDC may never be able to recover lost revenue associated with those components of its retail bill. This result simply is not consistent with the cost recovery provisions of Act 213.

Finally, as a practical matter, Alternative Energy Credits only exist to the extent that qualified generators generate electricity from alternative energy sources. Therefore, in order to determine the number of credits created, the generation must be measured. This cannot be accomplished using a single meter that nets usage against generation. Such a meter would understate the number of credits created. While estimates might be employed in place of actual measurement, such a practice introduces additional uncertainty that could make contracting for Alternative Energy Credits more difficult. This difficulty could, in turn, tend to make investment in alternative energy projects less attractive and, thereby, frustrate the fundamental objective of Act 213 -- to incent the development of renewable resources.

To address these concerns, PPL recommends that the Commission not mandate single metering. Rather, the Commission should implement a metering protocol under which the customer-generator utilizes two meters – the first to record its usage and the second to record its generation.

Under this recommended approach, it probably will be necessary for the Commission to establish the rates that EDCs would pay for the output from alternative energy generators. One possible approach would be a rulemaking in which the Commission could determine appropriate rates and establish generator qualification standards. Properly designed rates should provide alternative energy developers with an incentive to construct facilities throughout Pennsylvania.

In addition, EDCs would have an incentive to purchase output from these alternative energy facilities. Act 213 specifically provides that costs incurred during the cost recovery period for purchases of generation from

alternative energy sources and Alternative Energy Credits will be deferred as a regulatory asset and fully recovered in the first year after expiration of the cost recovery period. The Act explicitly provides that after the cost recovery period these costs shall be recovered on a full and current basis.

B. Technical Interconnection Standards

The Commission should adopt technical standards that, to the extent practical, simplify and standardize technical issues regarding the physical interconnection and operation of small generation projects. The Commission should attempt, to the extent possible, to be consistent with standards that currently exist and that can be applied regionally.

Standards for the interconnection of small generators should carefully balance two critical considerations. On one hand, those standards should recognize the unique circumstances of small generators; accommodate those circumstances to the extent possible; and thereby, facilitate development of small generator projects in Pennsylvania. On the other hand, those standards must protect the health and safety of EDC customers, the public and utility workers. Those standards also must minimize impacts on the power system, in order to assure system reliability and preserve power quality. PPL Electric believes that carefully drafted interconnection standards can satisfy both of these considerations.

Most importantly, interconnection standards that the Commission establishes should be consistent with standards that may already exist or are developed by PJM, the Federal Energy Regulatory Commission ("FERC"), or recognized standards organizations such as the Institute of Electrical and Electronics Engineers ("IEEE"). This approach is necessary to avoid creating inconsistent requirements. Inconsistent requirements will tend to discourage development of alternative energy projects and create difficult compliance issues for affected EDCs.

With only a few exceptions, all Pennsylvania EDCs either are members of PJM or will join PJM in the near future. PJM has created a Small Generator Interconnection Working Group ("PJM SGIWG") that currently is developing a set of small generator interconnection standards through a stakeholder process. These standards will be consistent with standards proposed in a recent FERC Notice of Proposed Rulemaking at Docket No. RM02-12-000. A copy of the current draft of the PJM SGIWG standards (filed as a revision to the PJM Open Access Transmission Tariff and assigned Docket No. ER05-462-000) is attached to these comments (Attachment 1). To facilitate development of small generation projects throughout Pennsylvania, final rules adopted by the Commission should harmonize with the standards being developed by the PJM SGIWG. However, there is no reason for the Commission's regulations necessarily to conform to standards adopted by other states unless those standards also conform to the PJM SGIWG standards.

Interconnection standards promulgated by the PUC should also be aligned with the IEEE Standard 1547 titled "Interconnecting Distributed Resources with Electric Power Systems." This standard addresses the performance, operation, testing, and safety of interconnection products and services, such as hardware and software for distributed power control and communication. The standard also addresses product quality, interoperability, design, engineering, installation and certification. As stated in the IEEE press release issued on July 14, 2003, IEEE 1547 supports "a serious transformation for the electric power industry, as well as for the electric grid which was not designed to accommodate alternative power generation (i.e., two-way energy flow), store energy at the distribution level, or allow distributed generators to supply other customers." As with other standards, EDCs should retain the flexibility to waive certain IEEE 1547 requirements if such requirements are otherwise addressed in the design or operating protocols of that EDC's distribution system.

The Commission's final interconnection standards should facilitate pre-certification of manufactured generation equipment and systems to streamline the

design, review and approval processes and to minimize costs. In addition, the proposed standards should, at a minimum, address the following items:

- Voltage Regulation
- Integration with Area Electric Power System (EPS)
- Synchronization
- Connections to Secondary Grid; *e.g.*, Low Tension Network
- Inadvertent Energization of Area EPS
- Monitoring
- Isolation Device
- Protection from EMI
- Surge Withstand Performance
- Paralleling Device Withstand
- Area EPS Faults
- Area EPS Reclosing
- Voltage
- Frequency
- Loss of Synchronism
- Reconnection to Area EPS (Voltage and Frequency Requirements)
- Limitation of DC Injection
- Limitation of Flicker Induced by the Small Generator
- Harmonics
- Unintentional Islanding
- Design Test
- Production Test
- Interconnection Installation Evaluation
- Commissioning Tests
- Periodic Tests

C. Procedures for Processing Requests

The Commission should adopt procedures for the processing of interconnection requests that reflect reasonable time frames for analysis of project information. EDCs should have explicit authority to collect additional actual costs incurred directly from the interconnecting generator or from the broad customer base.

PPL Electric believes that certain aspects of the procedures for processing interconnection requests can be simplified and standardized. However, there is a certain amount of engineering analysis that is necessary and should not be jeopardized by efforts to streamline and expedite the process. The distribution of electricity is a complex undertaking requiring systems that can accommodate a wide range of conditions on an instantaneous basis. While connecting a generator may seem like a simple matter, consideration has to be given to how the distribution system will respond to various levels of generator outputs and, conversely, how various loadings on the distribution system can affect generators. Ultimately, engineering analysis must be performed to develop a method of accommodation that minimizes the likelihood of disruption to both the system and the generator. This accommodation may be different at different points on the distribution system. Inadequate accommodation can lead to outages and power quality problems. It also can create unsafe conditions for utility workers, customers, and the general public.

Any procedural requirements established by the Commission to expedite the processing of interconnection requests should be carefully balanced and not place unreasonable burdens on the EDCs. PPL Electric recommends that the Commission not adopt any procedures that establish timeframes shorter than those established in the "super-expedited" process proposed by the FERC at Docket No. RM02-12-000. This proposal is currently being reviewed by parties with comments due to the FERC by February 18, 2005. PPL Electric's understanding of the proposed process is that it would apply to generators less than 2 MW in size interconnecting at voltages less than 69 kV. PPL Electric further

understands that this proposal establishes a 35 business day elapsed time from the submission of a complete interconnection request by the customer/generator to the completion of an interconnection agreement for signature by the customer/generator. Importantly, this time frame applies when the equipment being installed has been pre-certified for interconnection with the EDC's system. This process also spells out steps for rectifying incompleteness, failure of the proposed project design to meet pre-established criteria, and other circumstances.

All stakeholders should recognize that expedited schedules for processing interconnection requests will require EDCs to obtain additional technical resources (manpower and systems) and incur additional costs. PPL Electric anticipates the need to obtain such additional resources, not only to respond more quickly to requests, but also to respond to what the Company expects will be a greater number of interconnection requests. The Company anticipates that the cost of these resources will be recovered, in part, directly from individual project developers. In addition, some costs will be recovered from the broad customer base as components of the cost of Alternative Energy Credits, through the recovery of costs associated with Demand Side Response, and through distribution base rates.

The EDC and the interconnection customer must have a mutual commitment to meet deadlines established by the PUC and work in good faith to achieve the required in-service dates. The process must clearly identify the specific milestones to be completed by the interconnection customer before any actions on the part of the EDC are to be initiated. The EDC cannot be held responsible for a delay in the in-service date resulting from an interconnection customer's failure to provide complete information or meet its milestones.

PPL Electric recommends that any procedures adopted by the Commission include a requirement that all engineering drawings and design documents submitted by the interconnection customer for the EDC's review must be signed and sealed by a registered professional engineer licensed to practice in

Pennsylvania. This requirement will ensure that these documents are properly prepared, will reduce the number of iterations in the review process and make the process more efficient.

EDCs must be permitted to recover the costs of processing and analyzing interconnection proposals plus the costs of all system upgrades needed to interconnect small generators. The Company notes that such costs may be case-specific. For example, costs may vary among generators who desire connection at the same point simply because interconnection of the first generator will be less complex than the interconnection of subsequent generators. Any procedure or standard that limits the cost responsibility of the generator must not preclude the EDC's ability to recover its additional costs through other means.

III. Conclusion

For all of the reasons stated above, PPL Electric recommends the following:

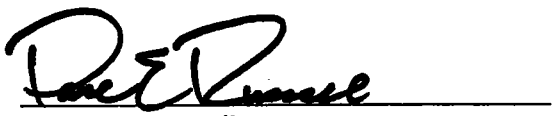
(1) For reasons of efficiency and thoroughness, this docket should focus on the technical and procedural issues associated with the interconnection of small generators and the issue of net metering should be addressed in a separate proceeding. In the event that net metering remains a part of this proceeding, PPL Electric recommends that the Commission not require implementation of net metering (using a single meter) to avoid jeopardizing EDCs' collection of distribution, stranded, and generation costs.

(2) The Commission should adopt technical standards that, to the extent practical, simplify and standardize technical issues regarding the physical interconnection and operation of small generation projects. The Commission should attempt, to the extent possible, to be

consistent with standards that currently exist and that can be applied regionally.

(3) The Commission should adopt procedures for the processing of interconnection requests that reflect reasonable time frames for analysis of project information. EDCs should have explicit authority to collect additional actual costs incurred directly from the interconnecting generator or from the broad customer base.

Respectfully submitted,



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Dated: February 2, 2005
at Allentown, Pennsylvania