



Emily A. Collins, Esq.
Executive Director &
Managing Attorney
ecollins@fairshake-els.org

647 E Market Street,
Akron, OH 44304

Via Electronic filing

September 30, 2019

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105

Re: Docket No. P-2019-3010128, Petition of PPL Electric Utilities Corporation for Approval of Tariff Modifications Necessary to Implement its distributed Energy Resources Management Plan

Dear Secretary Chiavetta:

On behalf of Natural Resources Defense Counsel, please find enclosed for filing a *Brief in Support of Petition for Interlocutory Review and Answer to Material Questions* in the above-captioned proceeding. Copies of the enclosed filing are being served upon the persons and in the manner set forth on the enclosed Certificate of Service. Electronic copies are also being served. Please be advised that the earlier filed brief contained a clerical error that referred to the "National Resources Defense Counsel." The brief that follows this letter corrects the reference to "Natural Resources Defense Counsel."

Please contact me if you have any questions concerning this matter. I can be reached at (234) 571-1971.

Sincerely,

/s/ Emily A. Collins
Emily A. Collins, Esq.

cc: Hon. Emily I. DeVoe, ALJ

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of PPL Electric Utilities Corporation :
for Approval of Tariff Modifications and :
Waivers of Regulations Necessary to : Docket No. P-2019-3010128
Implement its Distributed Energy Resources :
Management Plan :

**BRIEF OF NATURAL RESOURCES DEFENSE COUNCIL IN SUPPORT OF
PETITION FOR INTERLOCUTORY COMMISSION REVIEW AND ANSWER
TO MATERIAL QUESTIONS**

Andrew J. Karas
Pennsylvania Bar No. 321231
akaras@fairshake-els.org
Emily A. Collins
Pennsylvania Bar No. 208990
ecollins@fairshake-els.org
Fair Shake Environmental Legal Services
647 E. Market Street
Akron, OH 44302

Mark Szybist
Pennsylvania Bar No. 94112
mszybist@nrdc.org
Natural Resources Defense Council
1152 15th Street, Suite 300
Washington, DC 20005

*Counsel for Natural Resources Defense
Council*

DATED: September 30, 2019

I. CONCISE STATEMENT OF THE CASE

This proceeding was initiated on May 24, 2019 by the Petition of PPL Electric Utilities Corporation (“PPL”) for Approval of Tariff Modification and Waivers of Regulations Necessary to Implement its Distributed Energy Resources Management Plan (“PPL Petition” or “Pet.”). The Petition requests that the Commission approve modifications to the net metering and interconnection provisions in PPL’s Distributed Energy Resources Management Plan and waive nine of the Commission’s regulations implementing the Alternative Energy Portfolio Standards Act. *See* Pet., 1, 22; *See also* 52 Pa. Code. §§ 75.1 – 75.72. Should PPL’s Petition be granted, PPL’s modified Distributed Energy Resources Management Plan would, among other things, require customers seeking to interconnect new distributed energy resources (“DERs”) to use PPL-approved smart inverters that are compliant with The Institute of Electrical and Electronics Engineers Standards Association (“IEEE”) Standard 1547-2018 and the yet-to-be-finalized Underwriters Laboratories (“UL”) Standard 1741; and (2) install devices that enable PPL to monitor and proactively manage customers’ DERs. Pet., 2.

The stated basis for PPL’s Petition is, in essence, an expectation that DER development will expand rapidly in Pennsylvania over the next several years and that control over the type and operation of DER equipment will allow PPL to better manage outages and prevent safety issues such as “islanding.” *See id.* at 5-10, 17-21. In support of this expectation, PPL notes several legislative and private-sector developments, supplemented by its own experience that applications for interconnections are increasing. *Id.* PPL notes that increasing DER penetration in Pennsylvania (and, in particular, increased interconnection applications from customer-generators using Solar PV systems) “will require thoughtful planning by *all* [Electric Distribution Companies].” *Id.* at 6, 10 (emphasis added).

On July 30, 2019, Natural Resources Defense Council (“NRDC”) filed a motion to intervene and an answer to PPL’s Petition. That same day, motions for intervention and answers were likewise filed by Sunrun, Inc. (“Sunrun”) and the Office of the Consumer Advocate (“OCA”). Each answer opposed PPL’s Petition as premature, in light of the unfinished state of the technical standards that PPL seeks to

implement, and inappropriate for adjudication in administrative litigation concerning a single electric distribution utility, given the statewide importance of the technical and policy issues raised by the Petition. See Docket No. P-2019-3010128, *Answer of Natural Resources Defense Council to Petition of PPL Electric Utilities Corporation* (July 30, 2019); *Answer of Sunrun Inc. to Petition of PPL Electric Utilities Corporation* (July 30, 2019); *Answer of the Office of Consumer Advocate* (July 30, 2019). An additional intervention request was filed by Sustainable Energy Fund (“SEF”) on September 2, 2019 and granted at the Prehearing Conference. SEF likewise supports denial of the Petition or, in the alternative, investigation of the issues raised in the Petition on a statewide basis. See Docket No. P-2019-3010128, *Petition to Intervene of the Sustainable Energy Fund of Central Eastern Pennsylvania* (Sept. 3, 2019). All intervenors to this proceeding take the position that the PPL Petition should be denied, or, in the alternative, that the Commission should determine as a threshold matter whether the circumstances purportedly warranting PPL’s requested relief (principally, an expectation that the number of DER interconnections will increase throughout the Commonwealth in the near or medium-term future and that control over the type and operation of DER equipment will allow PPL to better manage outages and prevent safety issues) would be better addressed through a procedure applicable on a statewide basis. *Id.* Seven non-intervenor entities have filed comments recommending the Commission deny the Petition, expressly in support of NRDC’s Answer.¹

At the prehearing conference held on September 11, 2019, Administrative Law Judge Emily I. DeVoe declined to deny PPL’s Petition based on the existing record, as requested by NRDC and SunRun, and set September 20, 2019 as the deadline for petitions for interlocutory Commission review. Accordingly, NRDC filed its Petition for Interlocutory Commission Review on September 20, 2019.

¹ See Docket No. P-2019-3010128, *Trinity Solar’s Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019); *GridLab’s Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019); *SUNWPA’s Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019); *Energy Independent Solutions, LLC’s Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019); *Interstate Renewable Energy Councils’ Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019); *Pennsylvania Solar Energy Industries Association’s Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019); *ExactSolar’s Comments in Support of Answer Filed By Natural Resources Defense Council* (July 30, 2019).

Sunrun likewise filed a Petition for Interlocutory Commission Review on September 20, 2019, raising substantially identical material questions to those raised in NRDC’s Interlocutory Review Petition.

II. MATERIAL QUESTIONS AND SUGGESTED ANSWERS

1. Does PPL’s Petition implicate technical and public policy issues of statewide concern?

Suggested Answer: **Yes**

2. Should PPL’s Petition be denied in favor of addressing such issues on a statewide basis at a time deemed appropriate by the Commission?

Suggested Answer: **Yes**

3. Should the Commission initiate a statewide stakeholder process allowing for Commonwealth-wide input on whether current circumstances warrant addressing any or all of the issues raised in PPL’s Petition at the present time?

Suggested Answer: **Yes**

III. SUMMARY OF ARGUMENT

The Pennsylvania Alternative Energy Portfolio Standards Act (“AEPS”) was enacted in order to promote the development across the Commonwealth of alternative energy sources, including solar.

Sunrise Energy, LLC v. FirstEnergy Corp., 148 A.3d 894, 900 (Pa. Cmwlth. 2016). In particular, Section 5 of the Act incentivizes rate payers to become customer-generators by ensuring that they “receive full retail value for all energy produced on an annual basis.” 73 P.S. § 1648.5.

In support of this goal, the AEPS directed the Commission to “develop technical and net metering interconnection rules for customer-generators intending to operate renewable onsite generators.” *Id.* Moreover, the General Assembly specifically required the Commission to “***convene a stakeholder process to develop Statewide*** technical and net metering rules for customer-generators.” *Id.* (emphasis added). Following this direction, the Commission adopted the regulations contained in 52 Pa. Code §§ 75.11 – 75.17. On the one occasion the Commission comprehensively considered and enacted revisions to its net-metering regulations, it received input from some ninety stakeholders and commenters from

around the Commonwealth. *See* Implementation of the Alternative Energy Portfolio Standards Act of 2004 (November 19, 2016), 46 Pa. Bull. 7277, 7279.

PPL's Petition seeks to circumvent the mandate from the General Assembly that consumer-generators should have their obligations defined on a deliberative, "Statewide" basis. 73 P.S. § 1648.5 (stating explicitly and directly that "The commission shall convene a stakeholder process to develop Statewide technical and net metering rules for customer-generators."). If PPL is granted the modifications and waivers that it seeks, it would effectively impose an entirely new regime of net metering and interconnection rules upon consumers (as well as DER manufacturers and retailers) within PPL's service area. Given the statewide nature of the conditions that underpin PPL's Petition, this localized backdoor rulemaking should be rejected in favor of a statewide process, open to a broader set of stakeholders, that begins by inquiring whether circumstances in the Commonwealth currently warrant updates to the Commission's interconnection and net metering rules at all.

IV. ARGUMENT

A. Interlocutory review of the Material Questions appropriate

The legal standard for requests for interlocutory review are governed by 52 Pa. Code § 5.302(a) and by Commission precedent. *Commonwealth v. IDT Energy, Inc.*, Docket No. C-2014-2427657, 2014 Pa. PUC LEXIS 715, *15 (December 18, 2014). Granting interlocutory review "is appropriate when it would prevent substantial prejudice or expedite the proceeding." *Id.* (citing *Pa. Pub. Util. Comm'n v. Philadelphia Gas Works*, Docket No. P-2009-2097639. (April 15, 2010)). The "pertinent consideration" is whether such review is necessary in order to prevent substantial prejudice – that is, the error and any prejudice flowing therefrom could not be satisfactorily cured during the normal Commission review process." *IDT Energy*, 2014 Pa. PUC LEXIS 715 at *15 (citing *Joint Application of Bell Atlantic Corp. and GTE Corp.*, Docket Nos. A-310200F0002, *et al.* (Order entered June 14, 1999)). "The Commission has determined that a showing supportive of interlocutory Commission review may be accomplished by a petitioner by its proving that, without such interlocutory review, some harm would result which would not

be reparable through normal avenues, that the relief sought should be granted now, rather than later, and that granting interlocutory review would prevent substantial prejudice or expedite the proceeding.” *IDT Energy*, 2014 Pa. PUC LEXIS 715 at *15.

1. Interlocutory review will prevent substantial prejudice to NRDC

The dynamics that PPL cites as underpinning its Petition (legal, policy, and market developments driving the adoption of DERs) are in play throughout Pennsylvania. In time, they will affect all Electric Distribution Companies regulated by the Commission. *See* PPL Pet., 5-13 (outlining legislative and technical standard developments). If PPL is permitted to proceed with service area-specific administrative litigation, it is reasonable to expect that similar waivers will be requested by other utilities throughout the Commonwealth. *See id.* at 10 (“This increased solar generation and other types of DER on distribution systems ***will require careful and thoughtful planning by all EDCs***”) (emphasis added). Adjudicating which advanced inverter standards should be applicable in which service areas on a piecemeal, utility-by-utility administrative litigation process puts NRDC – which has members throughout the Commonwealth – in the position of litigating the propriety of each of these companies’ attempts at “careful and thoughtful planning.” *Id.* Commission precedent directly supports the notion that interlocutory review is an appropriate mechanism for avoiding the prejudice of a party’s needing to participate in multiple proceedings sharing common policy questions. *See IDT Energy*, 2014 Pa. PUC LEXIS 715 at *23-24 (existence of three contemporaneous complaint proceedings, which resolved some policy questions differently, justified interlocutory review in light of need for “clarifying the scope of the Commission’s subject matter jurisdiction and authority in this case and by ensuring the development of a full and complete factual record here that is consistent with the Commission’s jurisdiction and authority”). The Commission should likewise grant NRDC’s Petition for Interlocutory Review in order to avoid subjecting Pennsylvania’s environmental advocacy organizations, consumer advocates, DER manufacturers and DER retailers to this otherwise impending multi-front adjudication battlefield.

Additionally, addressing the trend of increasing DER interconnections on a utility-by-utility basis will lead to unpredictable implementation timelines and inconsistent standards, and varied requirements for consumers in neighboring service areas, depending on the timing of any future PPL-like petitions by other EDCs and the specific contents of any waiver requests those petitions may contain. Such an approach would create significant uncertainty for consumer-generators who are NRDC's members. Commission precedent indicates that interlocutory review is a curative mechanism for this concern, "ensuring that the material questions raised in the cases are decided consistently." *IDT Energy*, 2014 Pa. PUC LEXIS 715 at *23. Accordingly, the Commission should take on the material questions submitted for review to ensure that all AEPS-governed parties operate under the same predictable regulatory framework.

2. Interlocutory review will expedite the conduct of this proceeding

Granting interlocutory review will also expedite the conduct of this proceeding. The questions of public policy and the numerous technical questions implicated by PPL's Petition are such that a forum providing for statewide stakeholder input will be a more efficient vehicle for addressing PPL's concerns. A statewide proceeding ensures an administratively efficient process for investigating the appropriate timing and adoption of advanced inverter standards for all utilities across the Commonwealth. *See Joint Application of Bell Atlantic Corp. and GTE Corp.*, Docket Nos. A-310200F0002, *et al.*, 1999 Pa. PUC LEXIS 56, *15 (Order entered June 10, 1999) ("harm flowing from a delay in addressing the issues raised by the material question... outweighs our preference for the orderly disposition of a proceeding and our reluctance to review non-final determinations").

Indeed, given the likelihood that the time is *not* ripe for consideration of the questions raised by the PPL Petition (*See* Sec. IV(B), *supra*), proceeding with individualized litigation applicable solely to PPL's service area alone will result in irreparable harms, including foisting upon the non-PPL intervenors the burden of conducting prehearing discovery and assuming other unnecessary litigation costs. *See IDT Energy*, 2014 Pa. PUC LEXIS 715 at *17-18. There will be a time at which trends in DER use (and the industry standards designed to guide that use) will warrant a reconvening of the statewide stakeholder

process contemplated by 73 P.S. § 1648.5. Whether that time actually is now is an important threshold question that should be considered prior to entertaining PPL's desire to strike out on its own *ad hoc*. Moving forward with discovery and adjudication in this matter, in light of the unfinished technical standards at issue as well as the facts-on-the-ground that DER penetration in Pennsylvania remains relatively low, will delay the ability of all parties to consider this threshold question. *Bell Atlantic Corp. and GTE Corp.*, 1999 Pa. PUC LEXIS 56, *15 (Order entered June 10, 1999) (“harm flowing from a delay in addressing the issues raised by the material question” justifies interlocutory review).

For the above-stated reasons, the Commission should grant interlocutory review of the material questions.

B. The Commission should answer the questions submitted for review in the affirmative.

1. Material Question One: It would be inappropriate for the many statewide policy and technical considerations implicated in PPL's Petition to be addressed through the waiver of regulations in litigation focused on a single EDC service area.

Requests for waivers of Commission rules “must set forth the purpose of, and the facts claimed to constitute the grounds requiring the...waiver[.]” 52 Pa. Code § 5.43. The Commission grants waiver requests only after a demonstration that the requested waiver is “in the public interest,” a standard that may be met, for instance, by a demonstration that representatives of the public agree with the requested relief. *See Petition of Pennsylvania Power Company for Declaratory Orders etc.*, Docket No. P-00961028 1996 Pa. PUC LEXIS 109, *8, 47 (Order entered June 25, 1996) (granting waiver requests in case where Office of Consumer Advocate “highlighted its agreement with” majority of waiver requests). The Commonwealth Court has treated unjustified waiver requests skeptically. *See Diamond Energy v. Pa. Pub. Util. Comm'n*, 653 A.2d 1360, 1371 (Pa. Cmwlth. 1995) (rejecting argument that 52 Pa. Code § 5.43 allows waiver of “any” regulation, because were that true “then every regulation is meaningless”); *Lehigh Valley Power Committee v. Pennsylvania Pub. Util. Comm'n*, 593 A.2d 1333, 1336 (Pa. Cwlth 1991) (vacating waiver grant where reasons for granting waiver “are without support”).

The statutory and regulatory framework of Pennsylvania’s net metering and interconnection standards make them inherently unsuitable for waiver treatment. 73 P.S. § 1648.5 (contemplating net metering rules be enacted pursuant to Statewide “stakeholder process”). That the Commission has not appeared to have allowed, for instance, an Electric Distribution Company to require consumer-generators to install “additional equipment” in contravention of 52 Pa. Code § 75.13(k), supports the notion that statewide input on changes to interconnection and net-metering rules is necessary. Indeed, when utilities have sought Commission relief from § 75.13(k), the Commission has rejected the company’s request even where no parties have intervened. *Office of Consumer Advocate v. Duquesne Light Co.*, Docket Nos. R-2018-3000124 *et al.*, 2018 Pa. PUC LEXIS 450, *45-46 (Order entered December 20, 2018). Here, of course, PPL’s request is uniformly opposed by all Intervenors and Commenters.

The Declaration of Richard O’Connell, Executive Director of GridLab, attached to this Brief as Exhibit A, further outlines the statewide nature of the policies at issue, such that service-area specific litigation is wholly inappropriate. Ex. A, ¶¶ 5 (service area-specific litigation will cause uneven DER market across Pennsylvania’s different service areas); 6 (PPL’s requested relief will “shut down” DER market in service area in light of yet-to-be developed standards); 7 (low DER penetration in Pennsylvania makes the scope of PPL’s waiver requests inappropriate, in light of more modest controls being sufficient in states with markedly higher DER penetration).

2. Material Questions Two and Three: Because PPL’s Petition presents statewide technical and policy considerations, the Commission should deny the Petition in favor of addressing such considerations on a statewide basis at an appropriate time.

Commission precedent recognizes that in matters implicating “fundamental policy questions,” the participation of a broad range of interested parties enriches the Commission’s understanding of the issues and aids in their efficient resolution of:

We recognize that disposition of this policy question has the potential to impact existing and future interconnection agreements, including compensation arrangements, under state and federal law in Pennsylvania. Therefore, other interested parties should be encouraged to assist this Commission in resolving this fundamental policy question. We also want to encourage broader public participation and education on this question. Accordingly, we shall direct that public notice be published in the Pennsylvania Bulletin and posted on this

Commission's website setting forth the necessary information to educate the public on this fundamental policy question and to solicit comments.

Investigation of Issuance of Local Telephone Numbers to Internet Service Providers by Competitive Local Exchange Carriers, 1998 Pa. PUC LEXIS 80, *4-5 (Pa. P.U.C. September 02, 1998). Here, the prudence of proceeding in this matter is highlighted by the fact that the enabling statute for the regulations at issue contains an express mandate for Statewide input from a range of stakeholders. 73 P.S. § 1648.5.

It is well within the authority of the Commission, upon interlocutory review of the submitted Material Questions, to initiate a statewide stakeholder process to determine whether present circumstances (*i.e.*, the degree to which legislative developments, the status of industry standards, and on-the-ground use of DERs) warrant revisiting the rules governing the relationship between utilities, DER providers, and end users. *See, e.g.*, 52 Pa. Code §§ 5.302 (on interlocutory review, Commission may take a range of actions, such as “[c]ontinue, revoke or grant a stay of proceedings”), 5.221 (“To provide opportunity for the submission and consideration of facts, arguments...or consideration of means by which the conduct of the hearing may be facilitated and the disposition of the proceeding expedited, conferences between the parties may be held at any time prior to or during hearings as time, the nature of the proceeding, and the public interest permit”). Previously, the Commission formulated necessary updates to Pennsylvania’s net metering and interconnection requirements in the context of rulemaking proceedings. *See* Implementation of the Alternative Energy Portfolio Standards Act of 2004 (November 19, 2016), 46 Pa. Bull. 7277. ultimately, the rulemaking process remains the most sensible forum for deciding the obligations of utilities, DER manufacturers, and ordinary ratepayers throughout the state.

As outlined by Mr. O’Connell, PPL’s requested relief, if granted, is tantamount to a wholesale adjustment of the regulatory scheme in its service area, which has the knock-on effect of disrupting the DER market statewide. *See* Ex. A ¶¶ 5-7. Consequently, it is critical that the technical and policy issues raised in PPL’s Petition be addressed, at an appropriate time, on a statewide basis, with a full and fair opportunity for input by all interested stakeholders.

CONCLUSION AND REQUESTED RELIEF

Wherefore, it is respectfully requested that the Commission:

1. Grant NRDC's request for Interlocutory Review of its proposed Material Questions;
2. Declare that PPL's Petition raises policy questions of statewide concern;
3. Dismiss PPL's Petition as in favor of addressing such issues on a statewide basis at a time deemed appropriate by the Commission;
4. Convene a statewide stakeholder process in order to determine whether the issues underlying PPL's Petition presently warrant revising the standards in 52 Pa. Code Chapter 75; and
5. Grant such further relief as the Commission may determine appropriate.

Respectfully submitted,

/s/ Emily A. Collins

Andrew J. Karas

Pennsylvania Bar No. 321231

Emily A. Collins

Pennsylvania Bar No. 208990

Fair Shake Environmental Legal Services

647 E. Market Street

Akron, OH 44304

Mark Szybist

Pennsylvania Bar No. 94112

Natural Resources Defense Council

1152 15th Street, Suite 300

Washington, DC 20005

DATED: September 30, 2019

Counsel for Natural Resources Defense Council

Exhibit A

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of PPL Electric Utilities Corporation for	:	
Approval of Tariff Modifications and Waivers of	:	
Regulations Necessary to Implement its Distributed	:	
Energy Resources Management Plan	:	Docket No. P-2019-3010128
	:	

AFFIDAVIT OF RICHARD O’CONNELL

State of California)		
)	ss.	
County of Contra Costa)		

1. My name is Richard (Ric) O’Connell. I am the Executive Director of GridLab. My address is 2120 University Avenue, Berkeley, CA 94704. I am providing this Affidavit in connection with Petitions for Interlocutory Review filed by Natural Resources Defense Council (“NRDC”) and Sunrun, Inc. (“Sunrun”), respectively, in the above-captioned proceeding.

2. GridLab was formed in 2017 to provide comprehensive technical expertise to policy makers, advocates and other energy decision makers on the design, operation and attributes of a flexible and dynamic grid. GridLab provides direct technical assistance for expert testimony in contested dockets, engineering reports, and modeling. GridLab’s technical assistance platform is supported by a network of over sixty independent consultants and firms with recognized power systems knowledge. On July 30, 2019, GridLab submitted Comments in Support of the Answer filed by NRDC in this proceeding.

3. As Executive Director of GridLab, I lead a team of experts providing comprehensive technical grid expertise to policy makers and advocates. Prior to joining GridLab in 2017, I was at Black & Veatch for 12 years, where I was instrumental in building the global renewable energy consulting practice. I provided engineering support for more than 8 gigawatts of utility scale solar projects worldwide, including several of the largest projects in the world. While at Black & Veatch, I also provided expertise to the Energy Foundation China program and had leadership roles on several high-profile policy studies including National Renewable Energy Laboratory’s *20% Wind Energy by 2030* and the *California Renewable Energy Transmission Initiative*. I have a BSEE from Duke University and a Master’s in Renewable Energy Policy from the University of Colorado at Boulder.

4. I have read the petition (“Petition”) of PPL Electric Utilities Corporation (“PPL” or “Company”) for Approval of Tariff Modifications and Waivers of Regulations Necessary to Implement its Distributed Energy Resources Management Plan, filed with the Commission on May 24, 2019. I am providing this Affidavit to provide the Commission with information that bears on its decision regarding the appropriate process and timing for addressing the matters raised in PPL’s Petition. Specifically, my Affidavit discusses (1) the likely impact on the market for distributed energy resources (“DERs”) in Pennsylvania if the Commission allows this proceeding to move forward, (2) some of the technical issues raised in PPL’s Petition, such as the current absence of formally approved industry standards that would provide a sound basis for a DER management plan, and (3) the “state of play” with respect to these issues around the country, and whether the rate of DER penetration in Pennsylvania warrants consideration of these issues at this time.

5. In my opinion, allowing this proceeding to move forward in the manner proposed by PPL—through a standard administrative litigation process that treats PPL’s Petition as a routine filing of tariff revisions necessary to implement its DER Management Plan—would have very serious consequences on the future development of a DER market in Pennsylvania. It would represent a significant policy decision by the Commission that issues relating to the technical standards for integration of DERs are going to be decided on a utility-by-utility basis, with each of the electric distribution companies in the Commonwealth having the ability to impose its own set of equipment requirements on DERs (which, in PPL’s case, would require communications devices that enable PPL to monitor and control customers’ DERs). Such a disjointed, unsystematic process would likely result in unpredictable and inconsistent regulatory requirements, the practical effect of which would be to create substantial uncertainty—and risk—in the DER market in Pennsylvania and thereby severely hamper, if not undermine completely, the prospects for a robust DER market in the state. In contrast to this unilateral effort by PPL to impose requirements applicable only within its service territory, most states are thoughtfully considering standards for smart inverters, and developing interconnection requirements, in a collaborative way, with the participation of all utilities, the applicable regional transmission organization (“RTO”), industry, and other stakeholders.

6. Apart from the impact of the proceeding itself, the consequences for the DER market would be compounded by the requirements that PPL seeks to impose in its DER Management Plan. PPL’s Petition proposes that customers applying to interconnect new DERs with its distribution system be required to use “Company-approved smart inverters that are compliant with [Institute of Electrical and Electronic Engineers] IEEE Standard

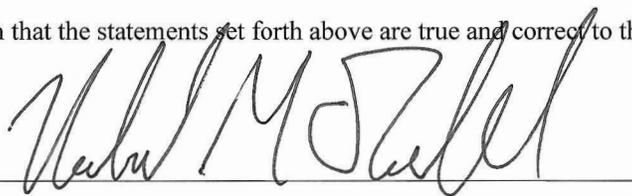
1547-2018 and *forthcoming* [Underwriters Laboratories] UL Standard 1741.” (Petition, page 2; emphasis added) While IEEE Standard 1547-2018 was adopted in April 2018, the revisions being considered by UL Standard 1741 are still under review. (UL Standard 1741 governs the physical testing procedures that manufacturers must perform to certify that a DER inverter meets IEEE Standard 1547-2018.) UL Standard 1741 will not be released until later in 2019, and DER inverter and communications devices will not be certified as compliant with IEEE Standard 1547-2018 using the new UL Standard 1741 *until 2021* at the earliest. In the meantime, PPL submits that it “may adopt screening requirements that are different and stricter than what is ultimately adopted by UL.” (Petition, page 2, note 4). If PPL tries to make its own requirements for certification different from UL Standard 1741, or tries to apply IEEE Standard 1547-2018 before certified equipment is available, DER installations in PPL’s service territory will effectively be shut down until mid-2021, when the market can supply IEEE Standard 1547-2018-capable equipment that has been certified according to UL 1741. PPL’s small service territory simply is incapable of jumpstarting the inverter market to test to its specific needs.

7. Other aspects of PPL’s Petition are troubling as well. A major thrust of PPL’s Petition is its express intention under the proposed DER Management Plan to take an active role in “managing” the DERs that are interconnected to its network through an extensive “communications and control” approach that could involve, among other things, curtailment or disconnection of DERs from the grid. The failure of PPL’s proposed DER Management Plan to address the necessary agreements for control of DERs—including how much curtailment is acceptable—would make it extremely difficult, if not impossible, for third-party DER providers to finance their system, given the unpredictability of the revenue stream from DER output. Conversely, PPL’s DER Management Plan fails to address how DER owners and operators would be compensated for the value that DERs would contribute to the grid through the implementation of PPL’s Plan. Implementation of a DER management system as intrusive as that envisioned in PPL’s proposed DER Management Plan would require a different form of DER compensation that acknowledges, and quantifies, the value of the various contributions that DERs would make to the grid under the “communications and control” approach contemplated in PPL’s DER Management Plan. In short, PPL’s proposed DER Management Plan is entirely one-sided, in favor of the utility: PPL would “proactively manage” DERs and potentially reduce their economic value through curtailments or other operations requirements, while not compensating the value that DERs contribute to the grid through the services associated with such

proactive management. This asymmetry, if approved, would severely hamper the development of a robust DER market in Pennsylvania.

8. Based on my experience and familiarity with state proceedings across the country considering DER interconnection requirements, the relief PPL is seeking in its Petition is unjustified. On a customer basis, the penetration of DERs in PPL's service territory is only 0.5 percent (8,000 DERs on its electric system), and PPL is anticipating only about 1,000 to 1,500 new interconnections per year. (Petition, page 6) In contrast, Pacific Gas & Electric in California has 370,000 rooftop solar customers and 4,000 megawatts of DER capacity—a penetration rate in its service territory of 6.9 percent—and anticipated growth of 5,000 new solar customers per month, or a growth rate about fifty times as great as PPL's. Yet notwithstanding its high DER penetration rates and anticipated growth rates, PG&E does not have a DER management plan, having concluded that it is "too early" to do so in the absence of unified standards, protocols and testing requirements in the industry. Nor does California currently have the sort of "communications and control" requirements proposed by PPL; under its Rule 21 interconnection standards, smart inverters must be capable of communications, but no communications are currently required. In Illinois, the utilities asked for communications and control requirements similar to those proposed by PPL here, and the Illinois Commerce Commission rejected those requests. It is possible to implement smart inverter standards with autonomous features—as California and Illinois have done—without including the communications and control requirements contemplated in PPL's proposed DER Management Plan. The current circumstances as well as anticipated rates of DER installations in Pennsylvania simply do not justify adoption of such an intrusive DER management plan.

I, Richard O'Connell, hereby confirm that the statements set forth above are true and correct to the best of my knowledge, information and belief.



Richard O'Connell

Sworn and subscribed before me this 29 day of September, 2019.



Signature of official administering oath

My commission expires September 4, 2020.

JURAT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

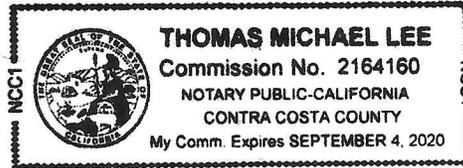
State of California

County of Contra Costa

Subscribed and sworn to (or affirmed) before me on this 29th day of September,
20 19 by Richard Murno O'Connell

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Thomas Michael Lee
Signature (Seal)



OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

affidavit of Richard O'Connell
(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages 4 Document Date 9/29/19

Additional information

INSTRUCTIONS

The wording of all Jurats completed in California after January 1, 2015 must be in the form as set forth within this Jurat. There are no exceptions. If a Jurat to be completed does not follow this form, the notary must correct the verbiage by using a jurat stamp containing the correct wording or attaching a separate jurat form such as this one with does contain the proper wording. In addition, the notary must require an oath or affirmation from the document signer regarding the truthfulness of the contents of the document. The document must be signed AFTER the oath or affirmation. If the document was previously signed, it must be re-signed in front of the notary public during the jurat process.

- State and county information must be the state and county where the document signer(s) personally appeared before the notary public.
- Date of notarization must be the date the signer(s) personally appeared which must also be the same date the jurat process is completed.
- Print the name(s) of the document signer(s) who personally appear at the time of notarization.
- Signature of the notary public must match the signature on file with the office of the county clerk.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different jurat form.
 - ❖ Additional information is not required but could help to ensure this jurat is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
- Securely attach this document to the signed document with a staple.

Exhibit B
Proposed Rulings on Material Questions

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities Corporation for	:	
Approval of Tariff Modifications and Waivers of	:	
Regulations Necessary to Implement its Distributed	:	Docket No. P-2019-3010128
Energy Resources Management Plan	:	
	:	

**BRIEF OF NATURAL RESOURCES DEFENSE COUNCIL IN SUPPORT OF
PETITION FOR INTERLOCUTORY COMMISSION REVIEW AND ANSWER
TO MATERIAL QUESTIONS**

Pursuant to 52 Pa.Code § 5.302(c), Natural Resources Defense Council (“NRDC”) hereby submits these proposed rulings and extracts from the record to assist the Commission in reaching a decision on the Petitions for Interlocutory Commission Review and Answer to Material Questions submitted by Sunrun and NRDC.

Given the early stages of this proceeding, the record is very limited, and consists of the *Petition of PPL Electric Utilities Corporation for Approval of Tariff Modifications and Waivers of Regulations Necessary to Implement its Distributed Energy Resources Management Plan* (“*Petition*”), submitted on May 24, 2019. All extracts included below are from that document.

A. First Material Question

1. Proposed Ruling

PPL’s Petition implicates technical and public policy questions of statewide concern.

2. Relevant Extracts from the Record

Section IV.B. of the *Petition* itemizes the nine Commission regulations from which PPL is seeking a waiver to implement its proposed Distributed Energy Resources Management Plan (“DER Management Plan”). As described in Sunrun’s Brief, these regulations were adopted—at the direction of the General Assembly—pursuant to a statewide stakeholder process, and thus the technical issues raised in PPL’s Petition are of statewide concern.

13. The AEPS Act directed the Commission to “develop the technical and net metering interconnection rules for customer-generators to operate renewable onsite generators in parallel with the electric utility grid.” *See id.* Pursuant to this directive, the Commission promulgated regulations that govern the interconnection and net metering of customer-generators’ facilities. See 52 Pa. Code, Ch. 75. (*Petition*, p. 6)

70. Specifically, the Company requests waivers of all or portions of the following regulations: 52 Pa. Code §§ 75.13(c), 75.13(k), 75.22, 75.34, 75.35, 75.37, 75.38, 75.39, and 75.40. (*Petition*, p. 22)

80. Waivers of all or portions of Sections 75.13(c), 75.13(k), 75.22, 75.34, 75.35, 75.37, 75.38, 75.39, and 75.40 may be needed to implement the DER Management Plan because PPL Electric will require DERs to meet IEEE 1547-2018, which is dependent upon forthcoming updates to UL Standard 1741. Indeed, although the relevant revisions to IEEE Standard 1547 have been made, UL Standard 1741 is still under revision. Until UL Standard 1741’s revisions are published, there is no standardized testing for manufacturers to certify that their inverters meet IEEE 1547-2018. In the absence of the revised UL Standard 1741, the Company may institute screening requirements for a DER system to be qualified for interconnection that are different than the current standards. Therefore, to the extent that the new UL Standard 1741 is not published by the time the Commission approves this Petition, PPL Electric respectfully requests a waiver of the Commission’s requirement that “certified” comply with the 2001 version of UL Standard 1741. (*Petition*, p. 25)

Page 2 of the *Petition* acknowledges that the issues raised in PPL’s proposed DER Management Plan are not unique to PPL, but rather apply throughout Pennsylvania and to all electric utilities operating in Pennsylvania, thus illustrating that issues of statewide concern are involved.

As explained herein, the electric transmission and distribution systems *in Pennsylvania* and the United States are currently undergoing significant changes. In particular, the increasing deployment and use of DERs, such as solar panels and batteries, are upending the traditional electric grid model of large scale generation located at significant distances from customers. By allowing customers to both consume and produce electricity at what were traditionally points of delivery, DERs force the electric distribution system to perform in a way for which it was not originally designed and, as a result, place an increasing stress on the grid. However, even as the deployment of DERs *in Pennsylvania* continues to increase, the Company still must provide reasonable, safe, and reliable electric service to all of its customers, including those who have not installed DERs. This can be particularly difficult because electricity cannot be readily stored. As a result, PPL Electric and *all electric utilities* must simultaneously balance distribution system demand and supply. (*Petition*, p. 22; emphasis added)

B. Second Material Question

1. Proposed Ruling

PPL’s Petition should be denied in favor of addressing such issues on a statewide basis at a time deemed appropriate by the Commission.

2. Relevant Extracts from the Record

PPL’s *Petition* raises fundamental policy questions regarding the extent to which utilities will be permitted to take an active role in “managing” the DERs that are interconnected to their networks through an extensive “communications and control” approach that could involve, among other things, curtailment or disconnection of

DERs from the grid, and operating the DERs in a manner that adds value to the grid. Issues regarding whether DERs should be compensated for the contributions they provide to the grid should be addressed on a statewide basis, at a time deemed appropriate by the Commission. The following extracts from the record describe the extent to which PPL would control DERs under its proposed DER Management Plan:

“The Distributed Energy Resource Interconnection Service (DERIS) shall be applied to all new DER interconnections to the distribution system to enable the Company to monitor and **manage the flow of electric energy from DER resources to the distribution system**” (Appendix A, *Pro Forma* Tariff Supplement, Distributed Energy Resource Interconnection Service (DERIS), p. 1; emphasis added)

“[A] DER Management Device **will be directed by the Company** and must be installed and connected to the data port of the smart inverter.” (Appendix A, *Pro Forma* Tariff Supplement, Distributed Energy Resource Interconnection Service (DERIS), p. 2; emphasis added)

“The instant Petition is an affirmative step by the Company . . . to better integrate and **manage** the increased deployment of DERs in its service territory (*Petition*, p. 1, emphasis added)

“[C]ustomers applying to interconnect new DERs with PPL Electric’s distribution system will be required to . . . (2) install devices that enable PPL Electric to monitor and **proactively manage** DERs” (*Petition*, p. 2; emphasis added)

“PPL Electric’s DER Management Plan will enable the Company to better integrate, monitor, and **manage** DER resources throughout PPL Electric’s service territory (*Petition*, p. 14; emphasis added)

“Under the DER Management Plan, DER management devices must be installed and connected to the local communication interface of the DER system so that the Company can monitor and **manage** the DERs and **take advantage of the DERs’ grid support functions**” (*Petition*, p. 15; emphasis added)

“PPL Electric is requesting the ability to monitor and **manage** DERs through the DER management devices by **engaging their smart inverter grid support capabilities**” (*Petition*, p. 16; emphasis added)

“[A]llowing PPL Electric to monitor and **manage** DERs eliminates the issue of ‘load masking’ because it provides real time visibility into individual and aggregate DER generation output” (*Petition*, p. 20; emphasis added);

“PPL **could remotely curtail the DERs** in the vicinity of the Company’s employees who may be working nearby to keep the distribution lines de-energized during maintenance and repair work” (*Petition*, p. 18; emphasis added)

“[T]he Company’s Plan would enable PPL Electric to **locate and disconnect DERs** in these unintentional islanding scenarios” (*Petition*, p. 19; emphasis added)

The following extracts from the record describe the extent to which PPL would operate DERs under its proposed DER Management Plan to provide value to the grid:

“PPL Electric’s proposal is designed to produce **substantial electric service, safety and reliability benefits** for PPL Electric and its customers” (*Petition*, p. 2; emphasis added)

“[T]he proposal will enable PPL Electric to (1) **improve system efficiency, power quality, and reliability**, . . . and (4) **reduce capital investments by the Company** where DER installations have traditionally required capital-intensive system enhancement or upgrades” (*Petition*, pp. 2-3 emphasis added;)

The requirement for DER inverters to be “smart” means they are “**capable of providing grid support functionality and communications** using revised specifications” (*Petition*, p. 11; emphasis added)

“Consistent adherence to the updated standards . . . will **improve distribution system management capabilities** . . . and could **reduce utility investments** supporting DER interconnection” (*Petition*, p. 13; emphasis added)

“Under the DER Management Plan, DER management devices must be installed and connected to the local communication interface of the DER system so that the Company can monitor and **take advantage of the DERs’ grid support functions**” (*Petition*, p. 15; emphasis added)

“PPL Electric’s DER Management Plan is designed to **provide several substantial benefits** to customers, the Company, and the Commonwealth by **improving the safety, quality, efficiency, stability, and reliability** of the Company’s operations and services” (*Petition*, p. 17;) emphasis added

“[B]y utilizing the grid support functionality, PPL Electric can **improve system efficiency**” (*Petition*, p. 19; emphasis added)

“[T]he Company’s proposals can **improve power quality** at customer sites and on distribution circuits by leveraging DER voltage support functions, potentially **avoiding the need to deploy traditional voltage regulation infrastructure**” (*Petition*, p. 19; emphasis added)

“[T]he DER Management Plan will **improve system stability and reliability**” (*Petition*, p. 19)

“With the ability to have real-time visibility to DER generation and an understanding of masked load, PPL Electric can **more effectively design and operate the system**” (*Petition*, p. 20; emphasis added)

C. Third Material Question

1. Proposed Ruling

The Commission should initiate a separate statewide proceeding now to allow all interested stakeholders to provide input on whether current circumstances warrant addressing any or all of the issues raised in PPL’s *Petition*.

2. Relevant Extracts from the Record

PPL’s *Petition* includes a number of statements bearing on whether current circumstances warrant addressing any or all of the issues raised in the *Petition*. On the issue of the status of the smart inverter standards that PPL seeks to implement in its DER Management Plan, the *Petition* states that:

80. [A]lthough the relevant revisions to IEEE Standard 1547 have been made, UL Standard 1741 is still under revision. Until UL Standard 1741’s revisions are published, there is no standardized testing for manufacturers to certify that their inverters meet IEEE 1547-2018. (*Petition*, p. 25)

[I]n the absence of the revisions to UL Standard 1741 being finalized, PPL Electric may adopt screening requirements that are different and stricter than what is ultimately adopted by UL. (*Petition*, p. 2, n. 4)

On the issue of the current circumstances regarding the level of DER penetration in PPL's service territory, the *Petition* states as follows:

2. PPL Electric furnishes electric distribution, transmission and default supply services to approximately 1.4 million customers throughout its certificated service territory, which includes all or portions of 29 counties and encompasses approximately 10,000 square miles in eastern and central Pennsylvania. (*Petition*, pp. 3-4)

14. Since the Commission's AEPS Act regulations became effective on December 16, 2006, the Company has connected over 8,000 customer-owned and third party-owned DERs to its electric distribution system. (*Petition*, p. 6)

15. On average, PPL Electric receives between 1,000 and 1,500 DER interconnection applications per year, with the overwhelming majority of applications for solar PV systems. (*Petition*, p. 6)

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of PPL Electric Utilities Corporation for
Approval of Tariff Modification and Waivers of
Regulations Necessary to Implement its Distributed
Energy Resources Management Plan

Docket No. P-2019-3010128

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Petition of Natural Resources Defense Council for Interlocutory Commission Review and Answer to Material Questions have been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54: *Via First Class Mail*

Devin T. Ryan, Esq. David B. MacGregor, Esq. Post & Schell, P.C. 17 North Second Street 12 th Floor Harrisburg, PA 17101-1601	Kimberly A. Klock, Esq. Michael J. Schafer, Esq. PPL Electric Utilities Corporation 2 North 9 th Street Allentown, PA 18101-1179
Ed Merrick, VP of Regulatory Affairs Trinity Solar 2211 Allenwood Rd Wall, NJ 07719	Kenneth L. Mickens, Esq. 316 Yorkshire Drive Harrisburg, PA 17111-6933
Phillip D. Demanchick, Esq. David T. Evrard, Esq. Office of Consumer Advocate 555 Walnut Street 5th Floor Forum Place Harrisburg, PA 17101	Joseph Morinville, CEO Energy Independent Solutions, LLC. 2121 Noblestown Road Suite 222 Pittsburgh, P A 15205
Mark Bortman Exact Solar 1655 Fairfield Road Yardley, P A 19067	Ron Celentano, President P A Solar Energy Industries Association 7821 Flourtown Avenue Wyndmoor, PA 19038
James Van Nostrand, Esquire Keyes & Fox LLP 275 Orchard Drive Pittsburgh, PA 15228	Beren Argetsinger, Esquire Keyes & Fox LLP. P.O. Box 166 Burdett, NY 14818

<p>Sara Baldwin, VP Interstate Renewable Energy Council, Inc. 125 Wolf Road Suite 207 Albany, NY 12205</p>	<p>Sharon Pillar, President Solar Unified Network of Western PA 1435 Bedford Avenue Suite 140 Pittsburgh, PA 15143</p>
<p>John Costlow, President Sustainable Energy Fund 4110 Independence Drive Suite 100 Schnecksville, P A 18078</p>	<p>Ric O'Connell Gridlab 20120 University Avenue Berkeley, CA 94704</p>

Dated: September 30, 2019

Respectfully submitted,

/s/Emily A. Collins
Emily Collins, Esq. (Pa. Bar ID 208990)
Andrew J. Karas, Esq. (Pa Bar ID 321231) Fair
Shake Environmental Legal Services
647 E. Market Street
Akron, OH 44304
Phone: (234) 742-4615
Fax: (412) 291-1197
Counsel for Natural Resources Defense Council