COMMONWEALTH OF PENNSYLVANIA
(Public Utility Commission)

TOTALENERGIES DISTRIBUTED GENERATION USA, LLC, Complainant,	:	Docket No.: C-2024-3051475
vs.	:	
PPL ELECTRIC UTILITIES CORPORATION, Respondent.	:	

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TELEPHONIC HEARING
Judge's Chambers
Commonwealth Keystone Bldg.
400 North Street
Harrisburg, PA 17120

Tuesday, April 29, 2025
Met, pursuant to notice, at 10:07 a.m.

BEFORE: THE HONORABLE STEVEN K. HAAS
THE HONORABLE F. JOSEPH BRADY
Administrative Law Judges

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

TotalEnergies Distributed Generation USA, LLC,	:	
Complainant,	:	
	:	Docket No. C-2024-3051475
v.	:	
	:	
PPL Electric Utilities Corporation	:	
Respondent.	:	

DIRECT TESTIMONY
OF CHRISTOPHER ELIAS
ON BEHALF OF
TOTALENERGIES DISTRIBUTED GENERATION USA, LLC

TEDGUSA Statement No. 1
February 25, 2025

Q. Please state your name, title and employer for the record.

A. Christopher Elias, Vice President, Strategy & Business Development, TotalEnergies Distributed Generation USA, LLC ("TEDGUSA").

Q. What is your business address?

A. 2080 Addison Street, Suite 300, Berkeley CA, 94704.

Q. Please explain TEDGUSA's business for us?

A. TEDGUSA designs, builds, finances and operates both front of the meter and behind the meter commercial-scale solar and storage facilities across the United States. Our current portfolio includes over 1,400 project sites generating 1.4 GW of solar energy.

Q. Is TEDGUSA currently developing Projects in the PPL service territory?

A. Yes, we currently have 10 projects for which deposits have been paid. The total deposit amount is $2,340,834.00.

Q. Can you briefly explain why there are more projects than actual sites?

A. Yes. Net metered projects are limited to 3 MW AC, but there is no legal restriction on putting more than one project on a parcel provided that they are electrically separate from each other. Developers do this because the costs of development don't increase with scale so, for example, putting 3 projects on one parcel allows us to spread the development costs across 3 projects.

Q. Why did TEDGUSA file a Complaint against PPL?

A. PPL has unilaterally changed its interconnection review and approval processes with no prior authorization from the Commission or notice to developers, consequently putting developers at greater risk, causing potential financial harm and discouraging development of net metering projects in the service territory. TEDGUSA submitted the subject projects in February 2024. According to PPL, at approximately the same time we submitted our applications for interconnection, PPL changed its interconnection review and approval process to require non-refundable interconnection deposits of 25% of the total estimated cost to retain a position in their interconnection queue, due within 10 days of receiving the initial cost estimates. We were not made aware of this new practice until May 2024, after our application was submitted. PPL also changed the timing and sequence of their application review and subsequent submission of applications to the Pennsylvania Public Utilities Commission. Under its new process, PPL does not initially submit projects to the Commission for their review and approval. Instead, PPL moves directly to performing a high-level study of the project to determine the total cost of interconnection, after which PPL demands the non-refundable deposit of 25% of the estimated interconnection costs. Developers are being asked to put that money at risk without the application being submitted to the PUC, an essential vetting step for any project in Pennsylvania.

Q. Are there any concerns with PPL's new process?

A. Yes. While the non-refundable nature of the deposit is the primary concern, I am also concerned with the timing and the arbitrary amount of the deposit, which is being demanded before there is any commitment made by PPL to interconnect our project (that

is, no interconnection agreement has been signed) and without even submission of the project's application to the PUC. Moreover 45 days is a very short window within which we must pay the deposits or lose our position in the Queue. Also, in the course of this proceeding, we became aware that PPL has again amended its process to include purchasing "long lead time" equipment as soon as it receives the deposit and before it has even begun the detailed engineering study that should determine what equipment is needed. Based upon PPL's responses to discovery, it appears that PPL is attempting to encumber or spend the entire deposit so that no part of the deposit will be available to refund should a project fail. (See **Exhibit CE-1**).

Q. How many of TEDGUSA' projects are or will be impacted by PPL's deposit requirements?

A. We have already paid $2.34 million over 10 projects.

Q. Does TEDGUSA expect to pay additional deposits to PPL for projects that are already being processed by PPL?

A. Yes.

Q. Can you briefly explain TEDGUSA's concern with PPL's deposit policy?

A. There are number of interrelated problems with PPL's non-refundable deposit process. First is taking a deposit and refusing the possibility of refund before PUC approval puts the cart before the horse. PPL could recommend that the Commission not approve a project. If the Commission agreed and disapproved of the project, PPL would pocket the entire

deposit. Even if PPL didn't recommend the PUC disapprove the project, the Commission could find their own justification and refuse approval. Depositing that amount of money with that high degree of uncertainty puts the project at too great a risk. The Second problem is that the deposit is based on PPL's high-level estimate, which has a fairly high margin of error. So we are being asked to place money at risk (without recourse) based on a perfunctory review, not a detailed study. There is also no accountability for the estimate. PPL could be off by millions of dollars in either direction, which can have serious financial consequences for project economics. We are concerned that PPL is intentionally inflating the deposit requirement to increase the risk to developers. Finally, we recently learned through discovery that PPL intends to encumber the deposit as soon as it is received by ordering and paying for long lead time equipment, without the benefit or certainty of the detailed engineering study to support the need for the equipment that is being purchased. Because we only just learned of this issues through discovery in this case, we acknowledge that this issue was not part of the initial Complaint. To the extent necessary, TEDGUSA will amend the Complaint to include this new issue.

Q. Explain why having the deposits be non-refundable is a problem?

A. The main concern is the unwarranted and unnecessary imposition of risk on project developers. There are many reasons beyond the control of the developer that can cause a project to be no longer be viable. The reasons can be local land use denials, permitting issues, unexpected costs of interconnection and more. It is this latter category, unexpectedly high costs of interconnection which is the most likely cause of projects being lost. While we certainly do not apply for project approval frivolously (application fees alone are

$6500), we do so with the understanding that not every project we submit for interconnection may end up being built.

Q. Are there other risks or harms that non-refundability causes?

A. Yes. As noted above, regarding PPL's recent responses to discovery in which PPL, for the first time, states that it intends to use the deposits to *purchase* long lead time equipment and to prepay whatever expenses it can, so that even if PPL would be required to refund the deposit, little or none of the deposit will be left to do so. This new approach validates my concern that PPL is using the deposit as a weapon against customer generators. It is not prudent for a company like PPL to places an order for long lead time equipment and to not prepay for that. I would be surprised to learn that PPL did this for equipment it purchases otherwise, because my understanding is that the order is merely reserving a place in the manufacturing schedule. Typically, we would not pay in full for such equipment until after it is delivered.

Q. Are there any other reasons why the purchase of such equipment is a concern?

A. The order of PPL's new process is that it does the high-level review first, then orders and pays for long lead time equipment. This all happens before PPL does the detailed engineering study to decide how the interconnection is to be constructed, including specific upgrades and necessary equipment. It is inappropriate for PPL to spend money on equipment based on information available at this juncture before completing more detailed studies. It is also this high-level review and the costs it produces that determines the amount of the initial deposit. In our understanding, these reviews are not accurate and could

vary from actual costs by as much as 50%. I am concerned that PPL will purposefully increase deposits simply to add to the risk on developers.

Q. Would the loss of millions of dollars in non-refundable deposits be harmful to TotalEnergies? If so, why?

A. Yes, because we have no ability to insure against such losses. The reasons for project failure are almost always out of our control, and we have no recourse to recover those costs from the cost causer. For example, if a local land use agency denies our land use application for whatever reason, while we can appeal the decision which can take time we don't have, we cannot seek recourse from the local agency for damages even if we ultimately prevail. In the most likely scenario, the project will have been lost, and we have no ability to recover the money from the entities that are likely to be responsible for projects failing, i.e., government entities or PPL. If we are denied a land use authorization, for example, we cannot sue the local agency for the harm the denial imposes on us, and if the deposit is non-refundable, it is lost.

Q. Was this non-refundable deposit process approved by the commission?

A. No. PPL has confirmed that it has not sought approval. (**Exhibit CE 2**). They assert that because they are permitted to charge for the costs of interconnection, deposits can be charged in any matter and change at their discretion, without Commission approval.

Q. Is this specific process described in PPL's tariff?

A. Not that I am aware of. See **Exhibit CE-3** attached.

Q. Are the risks of project failure material?

A. Yes. In my experience as much as 50% of projects that are applied-for do not make it to construction.

Q. Is it possible that one or more of TEDGUSA' projects may end up being lost?

A. I would not only say it is possible, but I would also say it is probable based on my experience.

Q. What would happen if the unspent portions of the deposits were made refundable, i.e., if PPL returns unspent funds if projects were withdrawn or failed to achieve required milestones?

A. I would not expect such a system to cause the issues that are the subject of this complaint.

Q. What about PPL's contention that it needs the deposits to be non-refundable so that projects that start construction are completed, to ensure that those behind you in the queue are not disadvantaged?

A. I would expect that there are ways of ensuring the smooth operation of the queue other than requiring non-refundable deposits or encumbering those deposits through the purchase of long lead time equipment without the benefit of a detailed engineering study to validate the need for the equipment.

Q. Will PPL's ratepayers be harmed if PPL is not permitted to demand non-refundable deposits?

A. I see no path to ratepayer harm from going back to something similar to what PPL did pre-2024.

Q. Do the Commission's regulations permit PPL to charge deposits not based on actual costs and to then not refund the difference if the cost estimate was wrong or the project is not built?

A. No. While the Commission's regulations at 52 Pa. Code §75.39(e)(4) do allow EDCs such as PPL to charge for the costs of interconnection, the regulations do not appear to authorize deposits, nor do they authorize PPL to make a profit on deposits by retaining them or inflating costs. In fact, the regulations appear to require that the only thing an EDC can demand from the customer generator at the completion of the initial interconnection study, is the "agreement of the interconnection customer to pay for the interconnection facilities and distribution upgrades identified in the interconnection facilities study" *Id.* I am informed by counsel that there is a statute, 66 Pa. C.S.§ 1305, that prohibits a utility from demanding pre-payments or deposits without Commission approval.

Q. Under its new process has PPL completed the interconnection facilities study when it demands the deposit?

A. No, it has not, the detailed engineering study now comes later, after the deposit is paid.

Q. Is PPL authorized to retain deposits for other customers on its system?

A. No. I am advised by counsel that Chapter 56 requires, in several places, that utilities return unused portions of deposits.

Q. Why does it matter that EDCs cannot retain deposits for other customers?

A. Because the regulations prohibit EDCs from imposing requirements on Customer generators that do not apply to other customers. 52 Pa. Code § 75.13(k).

Q. What do you want the commission to do?

A. Ultimately to determine that PPL's non-refundable deposits are illegal and reverse and rethink the PPL Policy. Also to prohibit PPL from encumbering or spending deposit funds on any equipment until after it has conducted its detailed engineering study to determine what equipment is needed. In this context, we are asking the Commission to enjoin PPL from demanding or collecting deposits for Customer Generators that are non-refundable, nor could PPL refuse to refund unspent deposits in the event that a project is withdrawn from the queue. We also want the Commission to restrict PPL's ability to prepay the cost of equipment that are not required to be paid until the equipment is delivered.

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REBUTTAL TESTIMONY
OF CHRISTOPHER ELIAS
ON BEHALF OF
TOTALENERGIES DISTRIBUTED GENERATION USA, LLC

TEDGUSA Statement No. 1-R
April 17, 2025

Q. Please state your name.

A. Christopher Elias, Vice President of Strategy and Business Development for TotalEnergies Distributed Generation USA, LLC ("TEDGUSA").

Q. Are you the same Christopher Elias that presented Direct Testimony in this matter?

A. Yes, I am.

Q. What is the scope and purpose of your Rebuttal Testimony?

A. The scope is the discovery responses, testimony of Mr. Gregory Olsen, and exhibits submitted by PPL thus far in the proceeding. My purpose is to point out the inconsistency between PPL's initially stated positions and what PPL's witness now states as its position, and to show how these changes, as they stand today, do not resolve the basis for TEDGUSA's complaint.

Q. What was PPL's initial position?

A. The basis of the Complaint is that PPL announced that it was requiring a 25% non-refundable deposit.

Q. Does PPL's testimony significantly change that position?

A. Mr. Olsen's testimony, in what appears to be a complete policy reversal, now claims that PPL would return any "unspent" portion of the 25% deposit if the project were cancelled. While facially this may seem like an improvement, upon review of the details, it remains clear that PPL's intention remains the same, that the 25% deposit remains as an

unreasonable risk if a project is withdrawn. Moreover, Mr. Olsen's bold assumption that this change resolves the issues raised in the Complaint is plainly incorrect. PPL's policy still retains most of the risks that make it more likely than not that there will be little left of any deposit; the so-called "unspent" portion, to refund if a project is cancelled.

Q. Explain the so-called change in position.

A. In its January 24, 2025, response to TEDGUSA's Set I, No. 5 Discovery Request, PPL initially responded to the question of what PPL would do with non-refundable deposits if a project were cancelled, and the deposit retained. In that answer, PPL's witness, Mr. Olsen, states that PPL intended to spend the entirety of the deposit shortly after it was made and that it would be likely that no portion of the deposit would be left to be refunded. PPL also claimed that it would spend those funds to "restudy the queue necessitated by the project being cancelled." However, on March 27, 2025, the same day it submitted its Direct Testimony, PPL revised its discovery response (attached hereto as **Exhibit CE-4-R**) and, in its testimony (Page 15:19-16:7), criticizes me for addressing their original, not their "new" policy.

Q. **Is PPL changing its tariff, or website as a consequence of this "change", or has it submitted the new practice to the Commission for approval?**

A. It is not clear from Mr. Olsen's testimony or the discovery response what exactly PPL intends by claiming to change its practice. Indeed, it does not appear that there is anything to stop PPL from changing its practices again. Mr. Olsen makes no representation that this

"change" has been posted anywhere, or how PPL plans to implement it, or how it may be made to be binding on PPL in the future.

Q. What do these changes mean?

A. To explain, I must step back. Recall that the Complaint was filed because PPL imposed a 25% non-refundable deposit, before PPL had completed the engineering study and finally determined the cost of the project and instead based upon its IIR which has a margin of error of +/- 50%. Our position on this deposit has not changed, we believe it is an illegal rate, not tariffed, not approved by the Commission and not in compliance with the AEPSA or the Commission's regulations, as we have argued in our briefs in the Interim Emergency relief proceeding. Then, in response to a discovery request, PPL went even further and declared that it would not only demand a 25% deposit based on an estimate with a 50% margin of error, but that it also intended to immediately spend or otherwise encumber the deposit so that there would be no deposit to refund if the project became non-viable and was cancelled. Now, on the same day PPL served its testimony, it changed its position yet again, as discussed above. Now it appears that PPL is claiming that it will "not hold on to unspent portions of the 25% deposit." That is not a major change from its prior policy, where it stated that "if there were unspent funds after the study, PPL Electric would likely return those funds to the applicant." PPL now says that it would return the "unspent portion of the deposit" if a project were to cancel. What has changed is that "portion of the deposit spent on equipment deposits or actual equipment; PPL would first make an effort to **reuse the ordered equipment for other projects.** If PPL were successful in repurposing the equipment, PPL would also refund the cost of the repurposed equipment. PPL also claims

that if deposits or payments for equipment were refunded, it would pass those on to the applicant as well.

Q. Is this a change from PPL's prior policy?

A. Yes. It is simply a more nuanced recitation of what it previously stated. But there is more. PPL also now claims that it does not pay for long-lead time equipment when purchased but rather may pay deposits or "slots" when ordering such equipment. PPL also states that *not all* of its vendor purchase agreements require it to pay such deposits or "slots" when placing orders, so that the deposit will not be used to pay for long lead time equipment "in full" when it is ordered.

Q. What does this mean to TEDGUSA?

A. It barely changes the level of risk that we face under PPL's policy of encumbering deposits.

Q. Can you explain why it does not change the level of risk?

A. For starters, we are still being forced to pay a 25% deposit that is based on a process that produces an "estimate" with a +/- 50% margin of error. That fact alone is perhaps the largest risk factor. Mr. Olsen's claim on page 14 of his testimony that the IIR estimates "do not vary significantly from the original estimates" does not diminish the very substantial risk associated with a 50% margin of error. If the margin of error were more like 10% +/-, we could probably live with it. But there is more. Another risk is that PPL intends to spend any of the deposit on any equipment – again with a large margin of error on PPL's part but for which we bear all the risk of them being wrong. I am troubled by Mr.

Olsen's admission on pages 12-13 of his testimony that there is a very real possibility that PPL could order equipment that would be unnecessary, or just the wrong equipment based on the IIR (and not the engineering study), but that it would still consider the developer to be financially responsible for that mistake if PPL was unable to later re-purpose the wrongly purchased equipment.

Q. Are there additional problems with PPL's process?

A. Yes. PPL's process is not verifiable, which raises additional questions and risks because we have no way of knowing: 1) if PPL has placed any deposits and if so, how much; 2) if such deposits are refundable; 3) in the case of a project being withdrawn, whether PPL requested a refund, and if the refund were made; or 4) if PPL was able to repurpose equipment somewhere else on its system. We have no way to ascertain the likelihood of any of these or whether any of these conditions exist. What that means is that PPL's statement that it will not hold on to "unspent" portions of the deposit does not substantially reduce the level of risk associated with making a potentially large deposit.

Q. What portions of PPL's original Response to Set I No. 5 have not changed?

A. PPL has not changed its statement that it intends to charge the developer of a withdrawn project the cost of restudying the queue necessitated by the project being cancelled. That means that PPL would use our deposit to re-study the project, but not for our benefit, but for the benefit of projects behind us in the queue. This approach is wrong for several reasons, the first of which is that their study is not for our benefit, the only beneficiaries of such a restudy are those behind us in the queue and we should be forced to pay for it. In

essence, PPL would be punishing us financially for withdrawing, because there is no need to restudy the queue unless there were projects behind us, and if there were, those projects should pay for the restudy, to the extent needed for their projects. PPL's statement is that if the project is not restudied, it would return unspent funds.

Q. Is TEDGUSA claiming that PPL should not be reimbursed for the cost of the engineering study for TEDGUSA with funds from the deposit?

A. No. We understand that there is a cost to studying our projects, and the requirement that we pay for the studies for our projects is not in dispute. If we were for some reason to withdraw a project after it was studied, PPL would be within its rights to withdraw the cost of the study from our deposit. But I cannot think of a single circumstance where TEDGUSA's deposit should fund a study of any sort for a particular project, once we have given notice to PPL that a project is withdrawn – not our projects, not anyone else's projects.

Q. Mr. Olsen claims (page 6, Line 17) that the IIR process is the equivalent of the "Interconnection Facilities Study" ("IFS"), do you agree?

A. No, I do not agree. Mr. Olsen claims that he is advised by counsel that an IFS is the same as an IIR. It is not. I am advised by counsel that the Commission's Regulations define an IFS as "A study conducted by the EDC or a third party consultant for the interconnection customer to determine a list of facilities (including EDC's interconnection facilities and required distribution upgrades to the electric distribution system as identified in the interconnection system impact study), the cost of those facilities, and the time required to

interconnect the small generator facility with the EDC's electric distribution system." 52 Pa. Code § 75.22. The reason we disagree with Mr. Olsen and his counsel is that an IFS requires the utility to "determine", among other things, the cost of the interconnection. PPL's IRR does not do that – a 50% margin of error makes the IRR useless for accurately identifying the cost of a project. For some projects, a 50% swing can mean millions of dollars, and it is that cost that is the major factor in project viability as I have previously testified. PPL's IIR may cover all the topics required for an IFS, but it lacks one critical element – accuracy.

Q. PPL claims that the Commission's Regulations require TEDGUSA to pay the costs of interconnection, do you agree?

A. TEDGUSA does not disagree that it needs to pay for the costs of interconnection under the Commission's regulations. But I do not agree that PPL is complying with the Commission's regulation, because the regulations do not say that the payment must be made before the work is completed, nor to my knowledge does PPL provide the Interconnection agreement upon payment of the deposit, making it clear that it is not complying with the regulation's requirements. PPL puts the cart before the horse and demands at least partial payment, based not on an IFS, but rather its IIR study with large margin of error, and the regulation states only that the customer must merely "agree" to pay. In short, it is not a question of whether we must pay but rather when we must pay and based upon what level of certainty. I am advised by counsel that PPL's demand is for money for which it may or may not be entitled, as a deposit, while the margin of error remains large, means that PPL's process does not comply with 52 Pa. Code § 75.39(e)(4).

Q. Mr. Olsen claims that PPL only performs the engineering study to determine actual costs after the deposit is made, is that what the regulation require?

A. No. I am advised by counsel that PPL's process is not what the regulations require. It is only after the Customer-generator pays PPL's deposit based on the estimate with a 50% margin of error that PPL undertakes the engineering study to determine what the final costs will be. Again, we have no issue with paying for the study, but that is different from a 25% deposit based on what could be a very flawed estimate.

Q. Mr. Olsen claims that the 25% deposit is needed to protect ratepayers from projects being withdrawn, do you agree?

A. No. Any risk to ratepayers is a result of PPL's process. For example, if PPL were to tighten the margin of error on its IIR to 10%, developers would have accurate actionable information on the cost of projects earlier in the process – projects that were likely non-viable could be withdrawn earlier in the process and create no further burden to any party. Or, if PPL were to require a deposit for up to the entire amount of the engineering study, before the study were undertaken, but solely to pay for the study, ratepayers would be protected and again, it would provide one additional incentive for potentially non-viable projects to be withdrawn. Finally, if PPL would either tighten the margin of error on its IIR to something commercially reasonable, say 10%, and/or wait to place orders , or to pay for any equipment until after the engineering is complete, there would be no risk to ratepayers or project developers resulting from projects being withdrawn, because developers would know with certainty if a project were viable from an interconnection perspective.

Q. On page 10 of his testimony, Mr. Olsen claims that PPL wants to encourage "shovel ready" projects; meaning that developers are prepared to move forward with projects when they are submitted to PPL. Is that a legitimate or realistic basis for the process PPL has imposed?

A. No. In his testimony Mr. Olsen speaks of the 10 projects of TEDGUSA that remain active in the queue, but he wholly ignores the other 20 that were submitted and later withdrawn. The reality is that approximately 50% of projects will become non-viable at some stage of the process and expecting that a project will be 100 % ready to go on the day it is submitted is unrealistic. Many municipalities require, as a condition for land use approvals, that developers submit proof of approval by the host utility. Having a project "shovel ready" at the time IIR results are received is not what rational developers or investors would do, since developing a project to the level that it is ready for construction can require the expenditure hundreds of thousands of dollars, but the project has a high likelihood of failure as soon as the IIR results are received. A reasonable/rational developer would determine if there was a viable interconnection path and then continue with the due diligence, engineering, real estate work, and permitting required to obtain financing and construct a project. Nonetheless, the primary reason projects fail is not because they are not shovel ready, it is because the utility cost estimates are not favorable. What this means is that PPL's shovel ready goal ignores the reality that cost is the main killer of projects. I have been advised by counsel that nowhere does the AEPSA or the Commission's regulations implementing the interconnection requirements, require that projects be "shovel ready" when submitted.

Q. Mr. Olsen suggests, on page 12 of his testimony, that PPL sought to notify developers of the changes involving the non-refundable deposit – what was TEDGUSA's experience?

A. As far as we know, TEDGUSA was not informed of the changes until May 2024 at a conference that PPL held for developers. Prior to that, there was no affirmative outreach received by TEDGUSA, which had already submitted projects, to let us know that the rules were changing. While PPL may have changed its website, my view is that it is unrealistic to expect that those who have already applied for projects would expect that the rules would change mid-process and that they should regularly review PPL's website just in case.

Q. PPL goes to great lengths to discuss projects behind TEDGUSA projects in the queue (PPL St. 1 at 17-18); how do you respond?

A. PPL's overstated "concern" for projects behind ours in the queue is misplaced. It is often the case that projects behind ours (or any developer for that matter) in the queue will benefit from the investments that we might make to improve the utility's facilities to which they also intend to interconnect. The first party to seek interconnection typically is stuck with the lion's share of the upgrade costs. If that project is not pursued by the first developer because the interconnection costs are too high, the next in line would need to make the same choice. This process does not "impose" additional costs on the next project, which must make the same calculation that the first project made. We do not oppose the idea that decisions on whether to continue or withdraw a project based upon cost need to be made timely, but the idea that a cancelled project imposes costs on those behind in the queue is wrong.

Q. Do you agree with Mr. Olsen's contention that the rules for contributions in aid of construction ("CIAC") apply to customer generators?

A. I am advised by counsel that the Commission has not taken the position that the CIAC rules apply to customer generators. The AEPSA required the Commission to develop distinct interconnection rules for customer generators, and speaks nothing of CIAC, and I would suggest that the argument Mr. Olsen makes on page 20 that § 1305 of the Public Utility Code not applying because the Commission implemented regulations at 52 Pa. Code § 75.39(e)(4) requiring customer generators to pay for upgrades, defeats the notion that CIAC has anything to do with customer generator interconnection. My Counsel advises that PPL's rules violate § 75.39(e)(4).

Q. How do you respond to Mr. Olsen's contention that some of your requests for relief are now moot (PPL St. No.1, p. 21)?

A. I disagree. PPL's deposit may facially be "refundable" but with all the ways that PPL suggests it will encumber the deposit, before the final costs are known (the IIR with its 50% margin of error does not fit that criteria) it does not significantly reduce the risk, and the vast majority of the deposit remains functionally non-refundable.

Q. What are your conclusions after reviewing Mr. Olsen's testimony?

A. I suggest that PPL's initial 25% non-refundable deposit plan was a solution in search of a problem and that PPL's ongoing adjustments should have been considered before it implemented a policy that is so overtly antagonistic to net metering projects, regardless of the stage of development. PPL continues to ignore the plain fact that better information

provided to projects earlier in the process is the best way to allow developers to make rational decisions and is the best way to insure that non-viable projects do not remain in the queue.

Q. Does this conclude your Rebuttal Testimony?

A Yes, and I reserve the right to supplement this testimony as necessary.

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Respondent.	:	

DIRECT TESTIMONY OF GREGORY OLSEN

PPL Electric Statement No. 1

March 27, 2025

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Gregory Olsen, and my business address is 827 Hausman Road, Allentown, PA 18104.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by PPL Electric Utilities Corporation ("PPL Electric" or the "Company") as the Distribution Interconnections Tariff & Rules Supervising Engineer.

Q. WHAT ARE YOUR DUTIES AS SUPERVISING ENGINEER?

A. My responsibilities concern the review and evaluation of applications to interconnect alternative energy sources with the Company's electric distribution system. As part of my position, I supervise the Company's team of engineers that perform the Distribution Interconnection Impact Reviews ("IIRs") when an interconnection applicant seeks to interconnect a new alternative energy source with a nameplate capacity equal to or greater than 100 kW single phase or 250 kW three phase with the distribution system. The main objective of the interconnection application review process is to ensure that the alternative energy sources can interconnect with the system in a safe and reliable manner.

Q. WOULD YOU PLEASE DESCRIBE PPL ELECTRIC?

A. PPL Electric is a corporation organized and existing under the laws of the Commonwealth of Pennsylvania. PPL Electric is a wholly-owned direct subsidiary of PPL Corporation. I have been advised by counsel that PPL Electric is a "public utility," an "electric distribution

company" and a "default service provider" as defined in Sections 102 and 2803 of the Public Utility Code, 66 Pa. C.S. §§ 102, 2803.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I received a B.S. degree in Electrical Engineering from Drexel University with a concentration in Electrical Power Systems.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have been employed in my current role with PPL Electric since June 2024. Prior to that, I was a Transmission Relay Protection and Control Engineer for 2 years, then became a Transmission System Operator for 18 months. These positions allowed me to solidify a fundamental understanding of power flow and protection and control systems required to operate PPL Electric's system safely and reliably.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS A WITNESS BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION ("COMMISSION")?

A. Yes, I testified at the emergency hearing held in SolarStone Development, LLC's Petition for Interim Emergency Order at Docket No. P-2025-3053446.

Q. WOULD YOU PLEASE DESCRIBE THE SUBJECT MATTER OF YOUR TESTIMONY?

A. My testimony will: (1) provide information about the Company's interconnection application review process, including the IIRs it performs; (2) describe PPL Electric's 25%

deposit requirement and the reasons why the Company adopted that policy; and (3) respond to the direct testimony of Christopher Elias submitted on behalf of TotalEnergies Distributed Generation USA, LLC ("TEDGUSA").

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes, I am sponsoring the following exhibits:

- PPL Electric Exhibit GO-1 – IIR for TEDGUSA's Dornsife 1 Project;
- PPL Electric Exhibit GO-2 – TEDGUSA Answer to PPL to TEDGUSA-I-18;
- PPL Electric Exhibit GO-3 – PPL Electric's "Net-Metered Distributed Energy" Webpage; and
- PPL Electric Exhibit GO-4 – "Rules for Electric Meter & Service Installations (REMSI)" Webpage.

A. OVERVIEW OF PPL ELECTRIC'S INTERCONNECTION APPLICATION REVIEW PROCESS

Q. WOULD YOU PLEASE PROVIDE AN OVERVIEW OF THE COMPANY'S INTERCONNECTION APPLICATION REVIEW PROCESS?

A. PPL Electric's interconnection application review process follows the Commission's regulations, which provide four different "levels" of review:

1. Level 1 – The Level 1 review process is used when: (a) the small generator facility has an electric nameplate capacity of 10 kW or less; and (b) the customer interconnection equipment proposed for the small generator facility is certified. *See* 52 Pa. Code §§ 75.34(1), 75.37.

2. Level 2 – The Level 2 review process is used when: (a) the small generator facility uses an inverter for interconnection; (b) the electric nameplate capacity rating is 2 MW or less; (c) the customer interconnection equipment proposed for

the small generator facility is certified; (d) the proposed interconnection is to a radial distribution circuit, or a spot network limited to serving one customer; and (e) the small generator facility was reviewed under Level 1 review procedures but not approved. *See* 52 Pa. Code §§ 75.34(2), 75.38.

3. Level 3 – The Level 3 review process is used when: (a) the small generation facility has a nameplate capacity of 2 MW or less; and (b) the facility did not qualify under the Level 1 or Level 2 review procedures or was reviewed under one of those review procedures but was not approved for interconnection. Additionally, the Company uses the Level 3 review process when the small generator facility: (a) has an electric nameplate capacity of 5 MW or less; (b) is less than 5 MW and not certified; or (c) is less than 5 MW and noninverter based. The Level 3 review process also is utilized when the interconnection request was considered but not approved under a Level 2 or Level 4 review if the interconnection customer submits a new interconnection request for consideration under Level 3. *See* 52 Pa. Code §§ 75.34(3), 75.39.

4. Level 4 – The Level 4 review process is used for interconnection applicants whose projects do not qualify for Level 1 or Level 2 review and do not export power beyond the point of common coupling. There are other more particular circumstances when a Level 4 review process may be required, which are outlined in Section 75.40 of the Commission's regulations. *See* 52 Pa. Code §§ 75.34(4), 75.40.

Q. WHAT HAPPENS WHEN AN INTERCONNECTION APPLICATION IS SUBMITTED?

A. PPL Electric first evaluates whether the interconnection request is complete. If the request is complete, the applicant pays the application fee in full, and the Company's engineers approve the applicant's submitted one-line diagrams. After this, the Company places the applicant's project in PPL Electric's interconnection queue. The queue position is determined sequentially by the date and time that PPL Electric received all of the following: valid interconnection request, applicable interconnection application fee, and approved one line diagram. If the request is incomplete, PPL Electric informs the applicant that the interconnection request is incomplete and identifies the materials that are missing.

Q. WHAT IS THE IMPORTANCE OF THE INTERCONNECTION QUEUE?

A. The interconnection queue determines the order of projects that are interconnected. When an interconnection request is complete, PPL Electric assigns a "queue position" to the project. Under the Level 2, Level 3, and Level 4 review procedures, the queue position is used to determine the potential adverse system impact of the small generating facility.

Q. WHAT HAPPENS AFTER THE COMPANY ASSIGNS THE QUEUE POSITION TO THE PROJECT?

A. It depends on the "level" of interconnection review. However, generally speaking, the Company begins evaluating the project and its potential impact on the safety and reliability of PPL Electric's distribution system.

Q. WHAT "LEVEL" OF REVIEW APPLIES TO TEDGUSA'S PROJECTS IN PPL ELECTRIC'S INTERCONNECTION QUEUE?

A. All 10 of TEDGUSA's projects in the Company's interconnection queue are proceeding under the Level 3 review process, as required by the Commission's regulations.

Q. HOW DOES PPL ELECTRIC'S LEVEL 3 REVIEW PROCESS WORK?

A. Once PPL Electric receives the interconnection application, the Customer Energy and Integration team works with the applicant to ensure that all the fields in the application are filled out and accurate. If the application is complete, the Company then requests the applicable interconnection application fee as well as a one-line diagram for the project.

After those steps are finished, and PPL Electric's engineers review and approve the one-line diagram, the Company begins its IIR process.

Q. WHAT IS THE IIR PROCESS?

A. The IIR process is when PPL Electric's engineers model the impact of the proposed project on the Company's distribution system based on the project's design, location, and size. The Company will perform several load flow and power flow analyses to determine how the distribution system will respond to the project's interconnection. Then, based on the results of those analyses, PPL Electric accurately scopes the system reinforcements, if any, that are required to safely and reliability interconnect the project.

Q. DO YOU HAVE AN EXAMPLE OF THE COMPANY'S IIR?

A. Yes. Attached to my testimony as PPL Electric Exhibit GO-1 is a copy of the IIR provided to TEDGUSA for its Dornsife 1 project.

Q. WHAT IS AN "INTERCONNECTION FACILITIES STUDY"?

A. I am advised by counsel that the Commission's regulations define an "interconnection facilities study" as "study conducted by the EDC or a third party consultant for the interconnection customer to determine a list of facilities (including EDC's interconnection facilities and required distribution upgrades to the electric distribution system as identified in the interconnection system impact study), the cost of those facilities, and the time required to interconnect the small generator facility with the EDC's electric distribution system." 52 Pa. Code § 75.22. Furthermore, Section 75.39(e)(2) of the Commission's

regulations provides that the "interconnection facilities study shall estimate the cost of the equipment, engineering, procurement and construction work, including overheads, needed to implement the conclusions of the interconnection feasibility study and the interconnection system impact study to interconnect the small generator facility." *Id.* § 75.39(e)(2). Moreover, "[t]he interconnection facilities study must identify": (1) "[t]he electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment"; (2) "[t]he nature and estimated cost of the EDC's interconnection facilities and distribution upgrades necessary to accomplish the interconnection"; and (3) "[a]n estimate of the time required to complete the construction and installation of the facilities." *Id.* § 75.39(e)(2)(i)-(iii).

Q. IS THE IIR THE SAME AS AN INTERCONNECTION FACILITIES STUDY?

A. Yes, it covers all the elements of an interconnection facilities study.

Q. COULD YOU PLEASE ELABORATE?

A. Certainly. If you take a look at PPL Electric Exhibit GO-1 for example, you can see that the Company's IIR covers everything required for an interconnection facilities study. First, the IIR "determine[s] a list of facilities" that are needed to interconnect and provides "[t]he electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment." 52 Pa. Code §§ 75.22, 75.39(e)(2)(i). Specifically, Tables 2 and 4 in the IIR set forth the reinforcements needed for PPL Electric's system, while Table 3 provides the list of any additional interconnection equipment that the interconnection applicant must install at the point of interconnection. In the IIR provided

as PPL Electric Exhibit GO-1, the following reinforcements were determined to be necessary based on the Company's analyses and modeling: (1) install point of common coupling recloser ($85,000); (2) reconductor primary for voltage support ($749,000); (3) circuit breaker protection upgrade for sync check ($105,000); (4) substation Supervisory Control and Data Acquisition ("SCADA") upgrade ($30,000); and (5) substation upgrade due to reverse power flow ($4,500,000).

Second, the IIR provides the "cost of those facilities," an "estimate the cost of the equipment, engineering, procurement and construction work, including overheads," and "[t]he nature and estimated cost of the EDC's interconnection facilities and distribution upgrades necessary to accomplish the interconnection." 52 Pa. Code §§ 75.22, 75.39(e)(2)(ii). Those costs are provided in Table 4 of the IIR and are broken down by each reinforcement that is needed, as noted in the prior paragraph.

Third, the IIR provides "the time required to interconnect the small generator facility with the EDC's electric distribution system" and "[a]n estimate of the time required to complete the construction and installation of the facilities." 52 Pa. Code §§ 75.22, 75.39(e)(2)(iii). For this particular project, you can see in Table 4 that the Company provided an "Estimated Time to Complete Construction from Receipt of [Notification of Customer Intent ('NOCI')]" of "2 – 2.5 years."

Q. WHY IS THIS IMPORTANT?

A. I am advised by counsel that an interconnection applicant must agree to pay for the interconnection facilities and distribution upgrades identified in the interconnection facilities study. *See* 52 Pa. Code § 75.39(e)(4). Section 75.39(e)(4) states specifically,

"Upon completion of the interconnection facilities study, and with the agreement of the interconnection customer to pay for the interconnection facilities and distribution upgrades identified in the interconnection facilities study, the EDC shall provide the interconnection customer with a standard small generator interconnection agreement within 5 business days." *Id.*

B. OVERVIEW OF PPL ELECTRIC'S 25% DEPOSIT REQUIREMENT

Q. DOES PPL ELECTRIC REQUIRE LEVEL 3 INTERCONNECTION APPLICANTS TO PAY ALL OF THE ESTIMATED COSTS FOR THE INTERCONNECTION FACILITIES AND DISTRIBUTION UPGRADES IDENTIFIED IN THE IIR WHEN THAT IIR IS COMPLETED?

A. No.

Q. WHAT DOES THE COMPANY REQUIRE?

A. PPL Electric requires the interconnection applicant to pay a deposit equal to 25% of the cost estimate provided in the IIR. So, taking the example provided in PPL Electric Exhibit GO-1, the 25% deposit equaled $1,367,250. The interconnection applicant must pay that 25% deposit and return the signed NoCI within 45 calendar days of the interconnection applicant receiving the IIR.

Q. WHAT HAPPENS AFTER THE INTERCONNECTION APPLICANT PAYS THE DEPOSIT AND PROVIDES THE SIGNED NOCI?

A. PPL Electric will begin the detailed engineering for the reinforcements that were identified. Upon completing the detailed engineering, the Company will issue a final invoice based on the difference between the final cost of the IIR's scoped reinforcements and the initial invoice. That final invoice must be paid within 45 days of the invoice's receipt.

Q. WHEN DID THE COMPANY BEGIN REQUIRING THE 25% DEPOSIT?

A. This requirement became effective on January 1, 2024.

Q. WHY DID THE COMPANY IMPLEMENT THIS DEPOSIT REQUIREMENT?

A. The 25% deposit requirement is designed to cover the Company's costs associated with the processes that follow the IIR but occur before construction. That way, if a project were to cancel after PPL Electric committed time, resources, and costs to an interconnection applicant's project, the Company's ratepayers would be protected from bearing the costs associated with system reinforcements that are no longer needed.

In addition, PPL Electric wants to encourage "shovel ready" projects in its interconnection queue, meaning that the applicants are ready to move forward with their projects when the interconnection applications are submitted. Prior to January 1, 2024, the Company would not require the interconnection applicants to pay anything upon the completion of the IIR. However, given the substantial influx of Level 3 interconnection applications over the last few years, the Company's prior policy resulted in an interconnection queue heavily populated with projects that were not completed. I note that

TEDGUSA witness Elias appears to confirm this fact, stating that in his experience with TEDGUSA, "as much as 50% of projects that are applied-for do not make it to construction." (TEDGUSA Statement No. 1 at 8; PPL Electric Exhibit GO-2 [TEDGUSA Answer to PPL to TEDGUSA-I-18].) By encouraging "shovel ready" projects, PPL Electric's 25% deposit requirement helps speed up the interconnection for projects that are ready to move forward, as opposed to having them wait months if not years for projects ahead of them in the queue to move forward or cancel.

Q. HOW DID THE COMPANY COME UP WITH THE 25% DEPOSIT AMOUNT?

A. It was an estimated percentage amount based on the time and cost it takes to perform all of the steps between the IIR and construction of the reinforcements.

Q. WHAT DOES THE COMPANY COVER WITH THE 25% DEPOSIT?

A. PPL Electric applies the deposit to the costs of: (1) the detailed engineering for the system reinforcements; and (2) any deposits or "slots" that must be paid under the relevant vendor agreements to order the long lead time equipment for the system reinforcements. Also, payment of the ordered equipment is required upon receipt. Therefore, if the ordered equipment were to arrive, the Company would apply the 25% deposit toward the costs of paying for that equipment. However, I note that the long lead time equipment can take up to 2 years to receive after ordering it.

Q. WHAT STEPS DID PPL ELECTRIC TAKE TO INFORM INTERCONNECTION APPLICANTS ABOUT THIS REQUIREMENT?

A. PPL Electric updated its website and related materials. As an example, attached to my testimony as PPL Electric Exhibit GO-3 is a print-out of the Company's "Net-Metered Distributed Energy" webpage, which provides details about the interconnection application process, including the 25% deposit. Also, PPL Electric Exhibit GO-4 is a print-out of PPL Electric's "Rules for Electric Meter & Service Installations (REMSI)" webpage. On page 2 of that exhibit, it provides details about the 25% deposit and its applicability to interconnection applications received on or after January 1, 2024. PPL Electric also invited the developer community for a conference at its Walbert Lab in Allentown, PA. At the conference, developers listened to a presentation on the interconnection process, including the recent changes and the 25% deposit. Additionally, the Company was able to answer follow up questions that the developers had.

Q. THE REMSI WEBPAGE PROVIDED IN PPL ELECTRIC EXHIBIT GO-4 STATES THAT THE 25% DEPOSIT IS "NON-REFUNDABLE." WHAT DOES THAT MEAN?

A. To clarify, PPL Electric will not hold onto unspent portions of the 25% deposit. If a project were to cancel after paying the 25% deposit, PPL Electric would refund the interconnection applicant the unspent portion of the deposit. As for portions of the 25% deposit spent on equipment deposits or the equipment themselves, PPL Electric would see if it could reuse the ordered equipment for other projects in the interconnection queue or elsewhere the Company's operations. If so, the Company would refund the interconnection applicant the

portion of the deposit spent on that equipment. Also, if a project were to cancel, and the Company were refunded any portion of the deposit that was put toward the ordered equipment, the Company would pass those refunds back to the interconnection applicant.

Q. WHAT HAPPENS IF THE EQUIPMENT PPL ELECTRIC ORDERS BASED ON THE IIR ULTIMATELY IS NOT NEEDED BASED ON THE DETAILED ENGINEERING?

A. In that scenario, PPL Electric would first try to reuse that equipment for other projects in the queue or elsewhere in the Company's operations. If the Company cannot do so, PPL Electric would eat those costs. However, to my knowledge, this situation never has occurred.

C. RESPONSE TO TEDGUSA STATEMENT NO. 1

Q. DO YOU AGREE WITH MR. ELIAS THAT PPL ELECTRIC IS "PUT[TING] THE CART BEFORE THE HORSE" BY "TAKING A DEPOSIT AND REFUSING THE POSSIBILITY OF A REFUND BEFORE PUC APPROVAL" (TEDGUSA ST. NO. 1 AT 4-5)?

A. No. Mr. Elias's concern appears to be grounded in PPL Electric retaining an unspent portion of the deposit and in the potential for the Commission to deny an interconnection application. As I explained earlier in my testimony, PPL Electric will not retain the unspent portion of the 25% deposit and may refund spent portions of that deposit under certain circumstances. Additionally, I am unaware of any Level 3 interconnection application

recommended by PPL Electric that was denied by the Commission. Therefore, Mr. Elias's position lacks merit.

In addition, I observe that Mr. Elias states on page 8 of his direct testimony that "if the unspent portions of the deposits were made refundable," he "would not expect such a system to cause the issues that are the subject of this complaint." (TEDGUSA St. No. 1 at 8.) Accordingly, it appears that this clarification about how the unspent portions of the deposit will be treated should resolve TEDGUSA's Complaint.

Q. PLEASE RESPOND TO MR. ELIAS'S CLAIM THAT "PPL'S HIGH-LEVEL ESTIMATE . . . HAS A FAIRLY HIGH MARGIN OF ERROR" AND THAT ITS IIR IS A "HIGH-LEVEL STUDY" AND "PERFUNCTORY REVIEW." (TEDGUSA ST. NO. 1 AT 3, 5.)

A. I strongly disagree with Mr. Elias's characterizations. PPL Electric's IIR process involves detailed analyses and modeling of the proposed project's effect on the distribution system's safety and reliability. Based on those analyses, PPL Electric develops a reliable estimated cost for constructing the system reinforcements that are needed for the project. Although PPL Electric informs applicants that there the final costs of the system reinforcements could vary up to plus or minus 50%, the final costs do not vary significantly from the original estimates in the vast majority of cases. However, in case the final costs do differ materially from the original estimates, due to factors such as increased equipment and labor costs, increased constructability costs, or unforeseen environmental issues, PPL Electric wants to avoid situations where interconnection applicants dispute the final costs on the grounds that they exceed the plus or minus percentage bandwidth that the Company

provided. It is very rare for actual project costs to be off by plus or minus 50%, but PPL Electric feels it is better to inform the applicant of the possibility for awareness rather than having them be blindsided by unexpected costs.

Q. WILL PPL ELECTRIC "PURPOSEFULLY INCREASE DEPOSITS SIMPLY TO ADD TO THE RISK ON DEVELOPERS" (TEDGUSA ST. NO. 1 AT 7)?

A. No. PPL Electric will, as it always has done, base its estimates (and the associated deposits) on the detailed analyses and modeling performed as part of the IIR process. To that end, PPL Electric tries to develop the most reliable estimate based on the information available at the time the IIR is performed.

Q. MR. ELIAS ASSERTS THAT "IN THE COURSE OF THIS PROCEEDING, WE BECAME AWARE THAT PPL HAS AGAIN AMENDED ITS PROCESS TO INCLUDE PURCHASING 'LONG LEAD TIME' EQUIPMENT AS SOON AS IT RECEIVES THE DEPOSIT AND BEFORE IT HAS EVEN BEGUN THE DETAILED ENGINEERING STUDY THAT SHOULD DETERMINE WHAT EQUIPMENT IS NEEDED." (TEDGUSA ST. NO. 1 AT 4.) COULD YOU PLEASE RESPOND?

A. As I stated previously, PPL Electric does not purchase long lead time equipment as soon as it receives the 25% deposit. Also, the Company does not pay in full for long lead time equipment when it orders that equipment. Instead, PPL Electric may pay deposits or "slots" when ordering that equipment, although not all of the Company's vendor purchase agreements require PPL Electric to pay deposits or "slots" when placing equipment orders.

I note that this approach appears to be consistent with TEDGUSA's own procurement process, with Mr. Elias stating on page 6 of his direct testimony, "Typically, we would not pay in full for such equipment until after it is delivered." (TEDGUSA St. No. 1 at 6.) Further, Mr. Elias based his understanding about the Company's procurement process on a response that I provided in discovery. (*See* TEDGUSA Exhibit CE-1.) I have since supplemented that discovery response to provide this clarification, which was based on my further investigation into the Company's supply chain and procurement processes.

Q. DO YOU AGREE WITH MR. ELIAS THAT PPL ELECTRIC'S 25% DEPOSIT REQUIREMENT IS PLACING AN "UNWARRANTED AND UNNECESSARY IMPOSITION OF RISK ON PROJECT DEVELOPERS" BECAUSE THERE ARE "MANY REASONS BEYOND THE CONTROL OF THE DEVELOPER THAT CAN CAUSE A PROJECT TO . . . NO LONGER BE VIABLE" (TEDGUSA ST. NO. 1 AT 5)?

A. No. As I stated previously, PPL Electric's deposit requirement is designed to protect the Company's ratepayers. Mr. Elias's preference for the Company to undo its deposit requirement would, in my view, place an undue amount of risk on PPL Electric and its ratepayers. In addition, the external factors listed by Mr. Elias that may affect a project's viability are why the Company wants to encourage "shovel ready" projects in its interconnection queue. PPL Electric believes that developers should get their proverbial ducks in a row before submitting their interconnection applications. Therefore, the Company is not placing an "unwarranted and unnecessary" risk on interconnection applicants through its 25% deposit requirement. When PPL Electric receives an

interconnection application, the Company reasonably assumes that the applicant wants to interconnect its project with PPL Electric's system. The current process is designed to actually interconnect projects in a reasonable and efficient manner. This is ultimately good for the applicant as well as other applicants who may be in positions behind in the queue. TEDGUSA's apparent practice of submitting speculative applications wastes PPL Electric resources and can be harmful to other applicants in the queue.

Q. MR. ELIAS ALSO CLAIMS THAT TEDGUSA "HA[S] NO ABILITY TO INSURE AGAINST SUCH LOSSES" IF A PROJECT FAILS, BECAUSE TEDGUSA "HA[S] NO ABILITY TO RECOVER THE MONEY FROM THE ENTITIES THAT ARE LIKELY TO BE RESPONSIBLE FOR PROJECTS FAILING, I.E., GOVERNMENT ENTITIES OR PPL." (TEDGUSA ST. NO. 1 AT 7.) PLEASE RESPOND.

A. As I explained previously, PPL Electric would not retain the unspent portion of the 25% deposit and would, in certain circumstances, even refund spent portions of the 25% deposit. As for Mr. Elias's concern about the project failing due to the "local land use agency" denying TEDGUSA's "land use application," I am advised by counsel that while a municipality can make third-party approval a condition for its zoning approval, that cannot be the basis for a denial. Furthermore, the potential for issues with securing local approvals is why the Company wants to encourage "shovel ready" projects in its interconnection queue—so that significant time and resources are not devoted to projects that ultimately fail to come to fruition and, ultimately, delay the other projects behind them in the interconnection queue.

Q. ARE THERE OTHER PROJECTS BEHIND TEDGUSA'S PROJECTS IN THE INTERCONNECTION QUEUE?

A. Yes. Below is a list of TEDGUSA's 10 projects that, as of March 25, 2025, are in the Company's interconnection queue and the number of projects behind each of them:

1. Dornside 1 Phase 1 (3 MW) – 1 project behind TEDGUSA's project on the same feeder.
2. Pleasant Mount 2 Phase 2 (3 MW) – 2 projects behind TEDGUSA's project on the same feeder.
3. Blakeslee 2 Phase 2 (1,050 kW) – 3 projects behind TEDGUSA's project on the same feeder.
4. Pleasant Mount 2 Phase 1 (3 MW) – 2 projects behind TEDGUSA's project on the same feeder.
5. Hawley 1 Phase 1 (3 MW) – 2 projects behind TEDGUSA's project on a different feeder.
6. Orangeville 2 Phase 1 (3 MW) – 2 projects behind TEDGUSA's project on a different feeder. 4 projects behind TEDGUSA's project on the same feeder.
7. Orangeville 2 Phase 2 (3 MW) – 2 projects behind TEDGUSA's project on a different feeder. 4 projects behind TEDGUSA's project on the same feeder.
8. Mifflinburg 1 Phase 1 (3 MW) – 1 project behind TEDGUSA's project on the same feeder.
9. Hawley 1 Phase 2 (3 MW) – 2 projects behind TEDGUSA's project on a different feeder.
10. Blakeslee 2 Phase 1 (3 MW) – 3 projects behind TEDGUSA's project on the same feeder.

Thus, as seen above, there are a total of 28 projects behind TEDGUSA's 10 projects in the interconnection queue.

Q. HOW COULD A SUBSEQUENT CANCELLATION OF TEDGUSA'S PROJECTS AFFECT OTHER PROJECTS IN THE QUEUE?

A. It could force those other projects to bear increased costs for their own projects to interconnect. For example, a cancellation of the Orangeville 2 Phase 1 project or Orangeville 2 Phase 2 project could result in other interconnection applicants seeking to interconnect projects downstream of the Rohrsburg Substation to cover costs associated with upgrading the substation to address the reverse power flow that would be caused by interconnecting an alternative energy source of that size.

Q. MR. ELIAS CONTENDS THAT PPL ELECTRIC'S 25% DEPOSIT REQUIREMENT WAS NOT "APPROVED BY THE COMMISSION." (TEDGUSA ST. NO. 1 AT 7.) PLEASE RESPOND.

A. I am advised by counsel that PPL Electric is authorized by the Commission's regulations to require Level 3 interconnection applicants, like TEDGUSA, to pay toward the costs of the distribution system upgrades necessary to interconnect their projects safely and reliably. *See* 52 Pa. Code § 75.39(e)(4).

In addition, I think it is important that all 10 of TEDGUSA's projects propose new points of interconnection with PPL Electric's distribution system. In other words, these projects are not being installed at existing customer locations. I am advised by counsel that the Company's deposit requirement, as well as the Commission's requirement for interconnection applicants to pay toward distribution system upgrades, align with the well-established requirement that customers seeking to interconnect with an electric utility's distribution system are responsible for paying contributions in aid of construction

("CIACs") toward the cost of facilities that are needed to interconnect them, subject to and consistent with the line extension provisions of the utility's tariff. *See, e.g., Kossman v. Pa. PUC*, 694 A.2d 1147, 1151-53 (Pa. Cmwlth. 1997); *Popowsky v. Pa. PUC*, 910 A.2d 38, 52-56 (Pa. 2006).

Q. DO YOU AGREE WITH MR. ELIAS THAT PPL ELECTRIC HAS NOT "COMPLETED THE INTERCONNECTION FACILITIES STUDY WHEN IT DEMANDS THE DEPOSIT" (TEDGUSA ST. NO. 1 AT 9)?

A. No. As I explained previously, PPL Electric's IIR covers all the required elements for an "interconnection facilities study" under the Commission's regulations.

Q. DO YOU HAVE ANY RESPONSE TO MR. ELIAS'S ARGUMENT THAT SECTION 1305 OF THE PUBLIC UTILITY CODE PROHIBITS THE COMPANY "FROM DEMANDING PRE-PAYMENTS OR DEPOSITS WITHOUT COMMISSION APPROVAL" (TEDGUSA ST. NO. 1 AT 9)?

A. Yes. I am advised by counsel that Section 1305 of the Public Utility Code does not apply here. Section 1305 specifically states, "No public utility shall require the payment of rates in advance, or the making of minimum payments, ready to serve charges, or deposits to secure future payments of rates, except as the commission, by regulation or order, may permit." 66 Pa. C.S. § 1305 (emphasis added). Therefore, even assuming *arguendo* that the Company could be viewed as requiring the advance payment of rates or a deposit to secure future payment of rates, the Commission's regulations specifically authorize PPL Electric to require Level 3 interconnection applicants, like TEDGUSA, to pay toward the

costs of the distribution system upgrades needed to interconnect their projects. *See* 52 Pa. Code § 75.39(e)(4). This argument will be further addressed in PPL Electric's briefs.

Q. DO YOU HAVE ANY FINAL THOUGHTS ABOUT MR. ELIAS'S TESTIMONY?

A. Yes. On page 10 of his testimony, Mr. Elias outlines what he wants the Commission to do in this proceeding, which is: (1) "determine that PPL's non-refundable deposits are illegal and reverse and rethink the PPL Policy"; (2) "prohibit PPL from encumbering or spending deposit funds on any equipment until after it has conducted its detailed engineering study to determine what equipment is needed"; (3) "enjoin PPL from demanding or collecting deposits for Customer Generators that are non-refundable nor could PPL refuse to refund unspent deposits in the even that a project is withdrawn from the queue"; and (4) "restrict PPL's ability to prepay the cost of equipment that are not required to be paid until the equipment is delivered." (TEDGUSA St. No. 1 at 10.)

Items 3 and 4 are essentially moot points. PPL Electric will refund any unspent portion of the deposit if the applicant's project is withdrawn from the interconnection queue (Item 3), and PPL Electric pays in full for equipment when it is received, not when it is ordered (Item 4).

As for Items 1 and 2, I have established throughout this testimony that PPL Electric's 25% deposit requirement is just and reasonable and in the public interest. Furthermore, restricting the Company from spending or encumbering any deposit funds on paying toward the costs of equipment, including any deposits or "slots" when ordering the equipment or any payments for equipment when it is received, would be ill-advised. If that were the case, PPL Electric would have to wait until after the detailed engineering is

completed before ordering any of the long lead time equipment needed to construct the distribution upgrades for the project. The detailed engineering process alone can take 12 to 14 months, with the long lead time equipment taking up to 2 years to receive after the order is placed. Because projects in interconnection queues very often depend on the projects ahead of them moving forward, granting TEDGUSA's request in Item 2 would result in projects being delayed for years longer than PPL Electric's current process. I believe such a result would unduly harm other interconnection applicant and, based on the Commonwealth's commitment to encouraging the timely development of alternative energy sources, would be contrary to the public interest.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY AT THIS TIME?

A. Yes, although I reserve the right to supplement my direct testimony.

Distribution Interconnection Impact Review

PPL Electric Utilities ("PPL Electric" or "the Company") has completed a Distribution Interconnection Impact Review (IIR) of the proposed generation ("Generator") shown below in Table 1.

The intent of this IIR is to estimate the scope of work, engineering, cost, testing, and construction schedule of distribution system reinforcements, if applicable, required to interconnect the Generator to PPL Electric's distribution grid at the location specified by the Interconnection Customer. Distribution transformer cost and lead times are included in this IIR if required. This IIR is valid for 45 calendar days from receipt and may be updated by PPL Electric, as required, to reflect changes in application queue position, which may result in changes to the estimated cost and/or lead time.

Table 1: Interconnection Customer Details

Interconnection Customer	Solar Star Dornsife 1 LLC
Application Site Address	5476 PA-225, Dornsife, PA 17823
PPL Electric Work Order	58756403
Customer's Account Number	New Service
Point of Interconnection Grid Number	27116N21571
PPL 12 kV Circuit	HUNTER 01-01
Generation Size (kW)	3000
Voltage of PPL Service	7.2/12.47kV
Generation Type	solar
Approved for Net Metering*	Under Review
Distance to Three Phase (mi)	0.00
Distance to Substation (mi)	2.545
Energy Storage (Y/N)	No

***For applications 500kW and greater that are applying for Net Metering, the applicant is required to submit all relevant regulatory documents in a timely manner for PPL submission of the NM Recommendation to the PA PUC. Please contact businessaccounts@pplweb.com to submit any outstanding documents or for any questions, concerns, or to check the status of this application's Net Metering approval.**

As a requirement for interconnection, PPL Electric performs an engineering impact analysis of each Interconnection Customer's Generator applying to interconnect to the Distribution system on a first come, first served basis. As a result of this analysis, the Interconnection Customer will be responsible for:

1. The cost of constructing new or upgrades to the Company's facilities which are required to safely interconnect the Generator to the distribution grid while also maintaining grid reliability. See Table 2 below.

2. The installation of additional, site specific, Interconnection Customer equipment. See Table 3 below.

Results of PPL Electric's Engineering Impact Analysis

PPL Electric has completed an engineering impact analysis of the Generator as part of our Distribution Planning, Interconnection, and Protection requirements. Table 2 below provides the interconnection evaluation criteria reviewed during this engineering analysis and if new, or upgrades to, PPL Electric's facilities, referred to as "reinforcements", are required.

Table 2: Evaluation Criteria for Interconnection to PPL Electrics's Electric Distribution System

Interconnection Evaluation Criteria:	Result*
Point of Common Coupling (PCC) Recloser:** • Required for generators greater than or equal to 500kW and/or total transformation capability greater than 2.5MVA.	Required
Voltage Reinforcement: • Voltage support is required when the generator under review causes an unacceptable voltage or flicker condition.	Required
Line Devices Reinforcements: • Reinforcements are required if the generator under review causes device overloads, islanding risk, or protection coordination issues.	Not Required
Line Extension Reinforcements: • Reinforcements are required if the generator under review causes conductor overloads or if existing service is not available at the proposed generator's location.	Required
Substation Reinforcements: • Substation protection reinforcements may be required if the generator under review causes back feeding to the transmission system or other substation issues.	Required
Service Transformer Installation/Upgrade: • Required if the customer's existing service transformer will be overloaded due to aggregate generation on the transformer.	Not Required

* If result is shown as "Required", details will be delineated below in Table 4.
**Formerly Point of Interconnection (POI) recloser, as of 2023.

PPL Electric's engineering impact analysis also evaluates the need for additional required equipment to be procured, installed, owned, and maintained by the Interconnection Customer, while allowing PPL Electric access, if required. In addition, this analysis identifies required settings, including but not limited to relaying, recloser, and/or SCADA settings. Table 3 below provides the interconnection evaluation criteria reviewed during the engineering analysis and any additional, site specific, Interconnection Customer equipment. ***Please Note: The costs associated with these requirements are only for the review and approval of the Interconnection Customer's drawings by PPL Electric Engineering.***

Table 3: Summary of Requirements to Interconnection Customer's Point of Interconnection

Interconnection Evaluation Criteria: ** *Review for Required Additional Interconnection Customer Equipment at the Interconnection Customer's Expense*	**Result**
Intertie Relaying Requirements: • Intertie Protective Relaying (IPR) is required for inverter-based generation greater than or equal to 5MW or if analysis determines a risk at or above 500kW • Intertie Protective Relaying (IPR) is required for non-inverter-based generation when analysis indicates islanding concerns or the generator under review is greater than or equal to 2.5MW	Not Required

** Refer to Appendix I for more information on each criterion.

Summary of Costs

Table 4 reflects the summary of PPL Electric Reinforcements and Interconnection Customer Requirements outlined in tables 2 and 3 above. The "Total Interconnection Customer Cost Estimate" and "Estimated Time to Complete Construction from Receipt of NoCI" displayed is an order of magnitude estimate and are subject to cost of materials, labor, and final design. Costs will be adjusted after engineering and design is completed.

Table 4. Summary of Reinforcements to PPL Electric's System, from Table 2, and Order of Magnitude Costs

Description	**Item Line Cost**
Install Point of Common Coupling Recloser	$85,000
Reconductor Primary for Voltage Support	$749,000
Circuit Breaker Protection Upgrade for Sync Check	$105,000
Substation SCADA Upgrade	$30,000
Substation Upgrade due to Reverse Power Flow	$4,500,000
Total Interconnection Customer Cost Estimate*	$5,469,000
Estimated Time to Complete Construction from Receipt of NoCI	2 - 2.5 years

***Estimated costs for service work are based on the estimated cost of the transformer and 250 ft. of secondary conductor work. Should the Interconnection Customer confirm intention to proceed with the project, by return of the Notification of Customer Intent, service requirements and actual costs will be determined by PPL Engineering on-site.**

Due to reverse power flow onto transmission, substation reinforcements are required to maintain adequate system protection. Reverse power flow is determined by comparing the proposed Generator's maximum inverter rating against the distribution bus' historic loading during the hours of export plus any queued DER applications. The required protection standard is a transformer differential scheme to be able to identify when reverse flow is present and operate appropriately during potential outage causing scenarios. This requires a remotely operable and programmable protective device on the transmission and distribution side of the substation transformer. Substations with two transformers require this protection scheme for each transformer, as well as a similar protective device and differential scheme to ensure the safe operation of the tie between the distribution bus for each transformer.

The currect substation configuration does not have adequate space for the safe installation and maintenance of the additional protective devices, and the full 1 transformer substation must be rebuilt to accommodate the necessary reinforcements. This includes, but is not limited to, the relocation of transmission assets, relocation of the substation transformer, and installation of a new 12kV bus. The project may also include acquiring new transformers or land rights. There are 2 new major protective devices to be installed for the transformer differential scheme.

Next Steps

This Interconnection Impact Review results in PPL Electric requiring system and/or Interconnection Customer reinforcements as shown in Table 2 and/or Table 3. Before engineering and design may begin, **PPL Electric must receive a signed Notification of Customer Intent (NoCI).**

The Interconnection Customer has **45 calendar days from the receipt of this IIR** to return the required notice (Attachment II). The Interconnection Customer hasThe Interconnection Customer has **45 calendar days from the receipt of this IIR** to make a non-refundable payment of the accompanying upfront invoice. The upfront invoice will equal 25% of the estimated reinforcement costs. Receipt of this notice and payment will finalize the applicant's position in the interconnection queue.

Once the signed notice to move forward is received:

- Detailed engineering of the listed reinforcements will begin.

- Upon completion of engineering, a final cost of the required work and a final invoice will be provided. The final invoice will be the difference between the final cost and the upfront invoice. The Interconnection Customer must pay this final invoice within 45 days of receipt. If PPL Electric does not receive payment within 45 days, the Interconnection Customer's application will be cancelled and removed from the interconnection queue.

PPL Electric may arrange a call to discuss more fully the technical considerations and milestones associated with this project, if needed. The specification of system reinforcements is subject to change due to changes to standards or regulations. If you have any questions or concerns regarding these matters, your PPL Electric contact is Leonard Nwankwo, Interconnection Project Manager, at phone # 610-774-6930.

Finally, the Generator may not be placed in service until an inspection is successfully completed and submitted, and PPL Electric provides final written approval via a signed Certificate of Completion (COC).

This response may be forwarded to your consultant or contractors as needed. For important additional Terms and Conditions, refer to Attachment I.

Interconnection Impact Review issued by:

PPL Electric Utilities

Distribution Interconnections & Tariff Rules
Distribution Planning

Date: 9/17/2024

Attachment I: Terms and Conditions

DER Management Device:

Effective January 1, 2023, new DERs interconnecting with the Company's distribution system must have smart inverters installed that meet: (1) UL 1741 Supplement B and (2) the Company's testing for the communications requirements under the 2018 revisions to IEEE 1547-2018 in accordance with the DER Management Plan as approved by the Pennsylvania Public Utility Commission (PUC). Additionally, a Company-owned DER Management device will be installed on the Interconnection Customer's meter and inverter, and a volt/VAR curve and ride-through settings will be remotely applied to all inverters. For more information, please visit www.pplelectric.com/REMSI.

Metering Equipment Installation at the Point of Common Coupling:

PPL Electric will design and supply the required metering equipment at no cost. However, the installation of the meter base and the secondary wiring connections are the responsibility of the Interconnection Customer. All metering installations must meet applicable PPL Electric requirements. The equipment should be housed in a suitable metering cabinet or similar enclosure and must be accessible to the Company's metering personnel.

Net Metering:

All applications are reviewed for potential Net Metering compliance. However, for Interconnection Customer applications with a nameplate equal to or greater than 500 kW, PA PUC approval is required to secure Net Metering status. If, Net metering status is requested, PPL Electric will prepare the recommendation to the PA PUC. Note: Traditionally, this recommendation is prepared in parallel with the Interconnection Impact Review (IIR). As such, PUC approval may not be secured prior to the IIR being issued.

Generation Operation Requirements for Two Line Supply:

The Generator may only be operated on a single primary feeder. The only scenario where the Interconnection Customer may be allowed to operate the generator on two primary feeders would be in a momentary paralleling situation. Momentary paralleling may be allowed under the direct supervision of the PPL Electric System Operations for switching for maintenance or emergency purposes or when returning manually back to the normal source from the alternate source. This will permit load transfers from one source to the other without dropping any load.

Intertie Relaying Equipment: *Refer to Table 3 to determine if required.*

An Intertie Protective Relaying (IPR) scheme is required at a facility when non-inverter based generation causes a risk of islanding at or above 500kW or is greater than or equal to 2.5MW. IPR is required for inverter-based generation when the total facility generation is greater than or equal to 5MW. If required, please refer to the PPL Electric website for the IPR requirements as noted below. PPL Electric's preferred relay for IPR is the SEL-751 relay package. As a failure of the single microprocessor-based relay will disable the protection, PPL Electric requires that a backup relay be installed, or the generation is disabled if the single relay is out of service. Suitable choices for backup are the SEL 351-1 or SEL-751 packages. Note: the SEL-751-A relay is not allowed.

Relay and Control Documents, Parallel Operation of Generation on Distribution 12kV and Below: https://www.pplelectric.com/utility/about-us/electric-rates-and-rules/customer-owned-generation/distributed-generation-documents

Point of Common Coupling (PCC) Requirements for Distribution Voltage Customer-Owned Facilities 12kV Supply: https://www.pplelectric.com/site/More/About-Us/Electric-Rates-and-Rules/Point-of-contact-requirements

Isolation Breaker Requirement:

A customer-owned isolation breaker is required to separate the generator from PPL Electric's distribution system.

Transformer Requirement:

For 12kV primary customers, transformer windings shall be WYE' to 'WYE' with a solidly grounded high side transformer winding. Refer to the latest version of 'Relay and Control Requirements for Parallel Operation of Generation':
https://www.pplelectric.com/utility/about-us/electric-rates-and-rules/customer-owned-generation/distributed-generation-documents

Inverter Settings:

The Interconnection Customer must install inverters that are compliant with the most recent IEEE 1547 standard and certified to UL 1741 Supplement B.

Inverter Operation:

The Interconnection Customer will be required to comply with the requirements as denoted in this IIR document to ensure that the integration of the proposed installation will provide safe and reliable operation on the Company's distribution grid.

Abnormal Configuration:

The normal source for this generation is the HUNTER 01-01 12 kV circuit. In the event that PPL Electric needs to operate the system in an abnormal configuration causing this generator to be served by a different circuit, the generator may be required to curtail or shut down generation while abnormally configured. PPL Electric also reserves the right to change the normal source to the generation as required by system conditions.

Harmonic Guidelines:

The Interconnection Customer should be aware of PPL Electric's harmonic distortion guidelines. PPL Electric allows up to a 3% total harmonic voltage distortion level. In addition, no single harmonic shall exceed 1.7% of the system fundamental voltage. If the Company discovers that objectionable harmonics in excess of the stated limits are being injected into the system from the Interconnection Customer's equipment, Solar Star Dornsife 1 LLC will be responsible for taking corrective measures to mitigate harmonic currents.

Flicker Guidelines:

If the customers on the HUNTER 01-01 12 kV circuit begin to experience unacceptable voltage fluctuations due to the Generator, Solar Star Dornsife 1 LLC will be required to take all necessary corrective actions to mitigate the problem.

Battery Energy Storage Systems:

The primary use cases for battery energy storage systems are to provide backup power during utility outages and/or to offset energy consumption. Batteries are not qualified as a Net Metering resource and may not be operated in any mode that enables the export of power to the distribution grid at any time. PPL Electric reserves the right to require the customer to install monitoring equipment at the battery terminal to ensure compliance with the Alternative Energy Portfolio Standards (AEPS) Act requirement. Batteries may export to the distribution grid if operating within a PJM market.

Attachment II: Notification of Customer Intent (NoCI)

Solar Star Dornsife 1 LLC - WO 58756403 - Grid 27116N21571 (5476 PA-225, Dornsife, PA 17823)

This form confirms Solar Star Dornsife 1 LLC's ("Applicant" or "Customer") intentions regarding their distributed energy resource ("DER") interconnection application under Work Order 58756403, and acceptance of the Interconnection Impact Review ("IIR") dated 09/17/2024. This form must be completed, signed, and returned to Leonard Nwankwo, Interconnection Project Manager, at DERCoordinator@pplweb.com within 45 calendar days of the receipt of this IIR. The upfront payment as outlined in the accompanying invoice must be rendered within 45 days of receipt of this IIR. Failure to return a signed form and payment in their respective timeframes may result in a change in application queue position or the cancellation of this application. Cancellation of the application would require the submission of a new application should the Interconnection Customer intend to proceed. A change in queue position or a new application may lead to a change in cost and lead time estimates.

Interconnection Customer Acknowledgements:

The undersigned, has reviewed the IIR and confirms that the information provided in the application is stated accurately and completely, including that the generation type is solar with a nameplate output of 3000kW. Applicant has reviewed the results of the IIR and understands that there is an estimated $5,469,000 of system reinforcements with an estimated lead time of 2 - 2.5 years for engineering, design, and construction. Engineering will commence upon PPL Electric's receipt of this signed Customer Intent Form. Applicant understands that final costs and lead times are subject to change based on final engineering, changes to queue position, and will be invoiced with payment due within 45 days of receipt. Failure to timely pay an invoice will result in the Interconnection Customer's application being cancelled and queue position relinquished.

Interconnection Customer Intent (select one):

☐ The undersigned intends to move forward with this application, having read and understood any costs and timelines as delineated in the IIR and the associated Terms and Conditions (Attachment I). Applicant authorizes PPL Electric to begin the final engineering and design for the full and permanent interconnection of the generating facility at the location stated above. Applicant acknowledges that if this interconnection request is cancelled the Applicant must reimburse PPL Electric for all accrued costs associated with the engineering and design, as well as any long lead-time material procured. Applicant will cooperate with PPL Electric to meet all stated requirements for the electric interconnection of the planned generator installation. Applicant agrees to submit, upon request and in a timely manner, all the technical specifications for this generator for PPL Electric's review and acceptance. Applicant acknowledges that payment, in full, will be required within 30 days of receiving an invoice from PPL Electric. The final in-service date will be dependent on both the completion of the Applicant's interconnection requirements and PPL Electric's system reinforcements. Should the Applicant change its application, Applicant acknowledges that the Company may require submission of a new application with applicable fee, which may impact the Applicant's reinforcement costs and/or place in the interconnection queue.

☐ The undersigned requests the cancellation of this interconnection application. Applicant acknowledges that this decision removes the application from the interconnection queue and that Applicant will be required to submit a new application with applicable fee to proceed in the future.

Signed,

Signature: _____ Company: _____

Printed Name: _____ Date: _____

Title: _____

RESPONSES OF
TOTALENERGIES DISTRIBUTED GENERATION USA, LLC
TO INTERROGATORIES AND
REQUESTS FOR PRODUCTION OF DOCUMENTS
TO PPL ELECTRIC UTILITIES CORPORATION, SET I

DOCKET NO. C-2024-3051475

UGI to PR-I-18

Re: TEDGUSA Statement No. 1, p. 8. Mr. Elias states, "In my experience as much as 50% of projects that are applied-for do not make it to construction."

(a) Please provide any calculation performed by Mr. Elias to derive this amount, including any sources for the inputs in the calculation.

(b) Please explain whether this "experience" is specific Mr. Elias's experience with TEDGUSA. If not, please explain in detail what "experience" Mr. Elias is referencing.

(c) Please explain in detail why PPL Electric should incur costs to review TEDGUSA's projects when "as much as 50% of projects that are applied-for do not make it to construction."

(d) Please provide all Documents relied upon in answering this interrogatory.

RESPONSE:

a) Mr. Elias made no calculation, but rather relied on his experience in saying that "as much as 50%" of projects are lost. See Attachment 1.1.1.

b) It is based upon Mr. Elias' experience with TEDGUSA.

c) Mr. Elias did not state that PPL should not recover the costs of reviewing applications, it pays an application fee to cover that cost, and is required, and willing to pay for the engineering study. Mr. Elias never said that TEDGUSA should not pay, it is the timing of the payment, and the lack of accuracy in the initial demand for payment that are problematic.

Provided By: Christopher Elias

Net-Metered Distributed Energy

REQUIREMENTS, TIMELINE AND CHECKLISTS TO CONNECT TO THE PPL ELECTRIC UTILITIES POWER GRID

When you're installing solar panels, CHP, biomass, or another type of distributed energy resource (DER), PPL Electric Utilities is here to help you connect to the power grid. We recommend applying at least 6 months before interconnection service is needed.

For installations under 25 kilowatts, you'll hear from PPL within 3-4 weeks of submitting a completed application. For all other systems, additional engineering reviews and field visits may be required. In addition, for systems 500 kW or larger, PPL must submit a net-metering recommendation to the Public Utility Commission. Please see the following page for more information on what is required for that recommendation. For all DER projects, please see the full process outlined below.

Application

Application Submission – Applications with existing services should be submitted online at Contractor Services. When applying, you'll need the following documents:

- one-line diagram including communications and existing distribution facilities
- site plan (including geographic features)
- equipment data sheet
- For systems 500kW or larger, read more additional documentation requirements.

The level of review and the application fee will depend on the type and size of the proposed DER. Please refer to the table below for a breakdown of the different levels and associated application fees:

Levels	Brief Description	Base Fee	Per kW Fee
1	Certified inverter-based installations of 10kW or less.	$100	None
2	Certified inverter-based installations greater than 10kW but 2000kW or less.	$250	$1/kW
3	Non-inverter-based installations of any size. Certified inverter-based installations larger than 2000kW.	$350	$2/kW
4	Installations that do not qualify for Levels I and II and do not export power.	$350	$2/kW

Download Brochure

Be sure to double-check your application for accuracy. Once submitted, technical details cannot be modified or altered by PPL. Should you require a change in system sizing, equipment used, etc., you will need to cancel your existing application, submit a new application, and pay any associated fees.

For questions regarding your application and new services, please contact the following: Systems of 25 kW or less, email EUsolar@pplweb.com.

Systems over 25 kW, email DERapplications@pplweb.com.

Application Review

In most cases, smaller (<25kW) residential DER applications will be eligible for fast-track approval immediately. For your application to be considered complete, it must include your one-line diagram, site-plan, equipment datasheets, application fees, and confirmation of a signed interconnection agreement.

Applications will not be approved prior to payment of the application fee. Updates to your application status will be communicated via email. Applications that do not receive fast-track approval will be reviewed by engineering to determine if reinforcements on the PPL system will be required before interconnection is permitted.

Changes to the interconnection application made after the work order is created may require a new submission of the interconnection application. Such changes include, but are not limited to: kW nameplate, inverter manufacturer or size change; virtual metering aggregation (VMA) addition/deletion; required in-service date; DER ownership (customer-owned vs. third-party); and repetitive errors in the application (i.e. application level, missing signatures, multiple responses, etc.).

Engineering Review

- **Service Review** – performed on all applications regardless of size. This determines whether your service wire and transformer will need to be upgraded to support your DER request. Any required upgrades and associated costs will be communicated by a PPL design technician.
- **Impact Review** – Based on several factors such as proposed system size, substation proximity, and hosting capacity, an interconnection impact review will be conducted by several engineering departments to determine and mitigate risks to the distribution system. When the review is completed, a report will be sent to the customer detailing any required upgrades and associated costs. For systems under 50kW, a review will be conducted, but a report may not be needed if there is no impact on the system. In these cases, you will receive notification of approval to move forward.

Engineering Design/Customer Payment (25% Deposit)

Following review of the IIR document, if the customer intends to proceed, the completed Notification of Customer Intent (NoCI) must be returned and the associated invoice (25% of the Total Customer Cost Estimate on the IIR) must paid in full within 45 calendar days of the invoice date. This payment is non-refundable and non-transferable.

Once the completed NoCI and payment are both received, PPL Electric will begin engineering and procurement. If the NoCI and payment are not received in a timely manner, the customer may forfeit their queue position and their work order may be canceled.

Scheduling/Construction (75% Balance)

After design is complete, you will receive an invoice for the remaining 75% balance. This payment must be paid in full within 45 calendar days of the invoice date. Non-payment may result in project cancellation. All payments are non-refundable and non-transferable.

Construction work necessary to complete the upgrades is typically scheduled 6-8 weeks after engineering design completion and all customer requirements are fulfilled including customer payment, signed right-of-way agreement, customer contract agreement and customer tree work. Trench/conduit for underground secondary/services installation must be completed 2 weeks before construction. Be sure to prepare your site for PPL crews to complete the construction work. Remember to call 811 at least 3 business days before you dig.

The project must be scheduled for construction and installed within one year of the application approval.

Interconnection Approval

An inspection and witness testing, if applicable, needs to be completed before interconnection approval is granted. After your system is installed and before it is activated, log in to pplelectric.com/renewable and submit your Certificate of Completion online. Once approved, certificate of completion will be issued providing the customer with Permission to Operate (PTO).

Checklist for Distributed Energy Resources

Application

- [ ] Review the interconnection requirements for electric service at pplelectric.com/remsi. Ensure your design matches the requirements in the appropriate sketch and shows both electrical and communications layouts.
- [ ] Choose an inverter certified to UL 1741 Supplement B. Only approved inverters may be used. For more information, see pplelectric.com/inverters.
- [ ] Submit any battery installations for approval.
- [ ] To qualify for net metering, the generation must be used to offset your own existing usage.
- [ ] Submit your application, one-line diagram (electrical and communications), site plan, equipment data sheet, and electronically sign your Interconnection Agreement at pplelectric.com/renewable.
- [ ] Call PPL if the customer does not have a social security number or tax ID on file.
- [ ] Pay the application and any other fees related to your installation.

- [ ] Check your customer rate; only residential (RS), small business (GS1 and GS3) and large power (LP4) rates qualify.
- [ ] Be aware that systems over 50 kilowatts require customers to be on a non-residential rate.
- [ ] If any changes are made to a submitted application (equipment, nameplate, etc.,), then the existing application will be canceled and a new application along with application fee will need to be submitted.

Design

- [ ] Place the A/C disconnect switch directly next to and in sight of the PPL meter. See pplelectric.com/remsi for more details.
- [ ] Use approved termination and metering compartments listed at pplelectric.com/remsi. Transformer cabinets may not be used as junction points or termination cabinets.
- [ ] Pay any up-front costs to upgrade PPL equipment such as transformers and upgrading lines. Payments must be made before the job can be scheduled.

Scheduling

- [ ] If PPL equipment changes are needed, all customer responsibilities including customer payment and signed right-of-way agreement, if needed, must be met before your job can be scheduled.

Construction

- [ ] Call 811 at least 3 business days before you dig.
- [ ] Clear all obstructions at the service connection locations.
- [ ] Ensure all switchgears/meter box are installed and inspected.
- [ ] Submit your certificate of completion (COC).

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Careers

PPL Electric Utilities

Terms of Use (6/28/17)
Privacy Notice (2/21/18)
About Ads

Rules for Electric Meter & Service Installations (REMSI)

INFORMATION FOR CUSTOMERS AND CONTRACTORS

Stay safe!

Call 811 at least 3 business days before any digging.

First Responder Safety

Worker Safety

What's yours? What's ours?

Overhead service (English and Spanish)
Underground service (English and Spanish)

Building & Renovating
Work Order Process
& Timeline Chart

Interconnections General Info

DER Management Pilot Resources

Net Metering and Virtual Net Metering

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PPL Electric Utilities has set new thresholds on utility-owned secondary transformer sizing **for new applications** received on or after 8/23/2024. Click here for more details.

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250kW and Greater

Applications received on or after January 1, 2024, will be required to remit a non-refundable deposit of 25% of the estimated system upgrade costs as communicated by PPL Electric in an Interconnection Impact Review (IIR) report, according to the timeframes communicated in that IIR if applicable. Upon completion of detailed engineering, the remaining project balance must be paid in full prior to the start of construction. After construction, there will be a true-up. If the customer underpaid, they would owe the remaining balance. If the customer overpaid, they would receive a refund for the difference.

Applications received before January 1, 2024, will be required to pay all estimated system upgrade costs prior to the start of construction as communicated by PPL Electric in an Interconnection Impact Review (IIR) report, according to the timeframes communicated in that IIR if applicable. After construction, there will be a true-up. Therefore, if the customer underpaid, they would owe a

- Emergency (Stand-by) Generation Sketch Table
- Distributed Energy Resources (DER) Sketch Table (updated 8/23/2024)

11. Customer Reference Specifications
12. Utility Reference Specifications
13. Complete List of Changes *Note: Revision information for Sketches and Customer Reference Specifications (CRS)*
14. Letters to REMSI Users
15. Electrical Inspections

Please be advised

- Only electricians authorized to participate in PPL EU's Fast Track Program may alter PPL EU meter seals and make permanent connections at the customer's point-of-contact with PPL EU's distribution system. See Rule 1, *J and K.*

INSPECTORS: Please help PPL EU prevent unauthorized alteration of our facilities by enforcing these provisions of REMSI.

- It has been brought to PPL Electric Utilities' (PPL EU) attention that when an inspection is failed, a second inspector is being brought in for re-inspection. This does not follow PPL EU's guidelines for multiple inspections.

Please see the Electrical Inspections section for more information.

remaining balance. If the customer overpaid, they would receive a refund for the difference.

Aligning with common industry practice, PPL has revised its Point of Contact (POC) document to a Point of Common Coupling (PCC) requirements document. Changes: Point of Common Coupling Recloser (PCC) is required for all primary and secondary customers installing DER ≥500kW. Effective: 9/1/2023 Learn more here.

A new DER Interconnection Pre-Application process has been rolled out. The optional DER Pre-Application is intended for large interconnection projects (>= 500 kW nameplate) and provides information including estimated timeline and costs based on load projections and the system configuration as of the date of the request. Learn more here.

Per our Tariff Rule 12, inverter-based DER applications received on or after January 1, 2023 must use inverters that have been certified to UL 1741 Supplement B (SB).

Please see our Approved Inverter List to view models that have been verified by PPL to meet this new requirement.

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VERIFICATION

I, GREGORY OLSEN, being a Supervising Engineer at PPL Electric Utilities Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 03/27/2025

Greg Olsen
Gregory Olsen (Mar 27, 2025 10:58 EDT)

Gregory Olsen