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| **TEXAS BACKUP POWER PACKAGE PROGRAM** | §<br>§<br>§ | **BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS** |

## POWERFIN PARTNERS COMMENTS

PowerFin Partners ("PowerFin") respectfully submits these responses to questions asked by the Public Utility Commission of Texas in its January 23, 2025 Memorandum entitled *Project No. 57236 – Questions for Comment on the Texas Backup Power Package Program Research Entity Final Report* ("the Report").

***Question 1:*** *The final report outlines specifications for TBPPs of various sizes to serve critical load facilities.*

A. *How if at all, could these specifications affect the ability of critical facilities to apply for, install, or utilize TBPPs?* As proposed, the specifications may restrict the number and type of facilities eligible for TBPP funds beyond the level intended in statute. Specifically, the statute states that funds from TEF can be used for a TBPP that "is designed so that one or more Texas backup power packages can be aggregated on-site to serve not more than 2.5 megawatts of load at the host facility" (underline added). It does not, however, say that the host facility's load cannot exceed 2.5 MW. The impact of this difference is material. By restricting eligibility to facilities with peak loads of 2.5 MW or lower, medium and larger facilities will be prevented from accessing the funding. Many critical infrastructure sites that may benefit from TBPP funding for resiliency, especially water treatment plants, hospitals and other medical facilities, have peak loads higher than 2.5 MW.

B. *How if at all, should the outlined specifications for TBPP packages be modified to ensure that the packages can serve most critical facilities in Texas?* PowerFin suggests clarifying (a) that a "facility" is defined to mean an electric utility meter and (b) that the peak load on each meter may exceed 2.5 MW but that the TBPP itself cannot exceed 2.5 MW. For additional clarity, PowerFin suggests that a critical infrastructure site, such as a hospital that has multiple electric utility meters (each a "facility"), could install multiple TPBBs, provided that funding for none of the individual TBPPs exceeds 2.5 MW and that one or more of the meters may have peak load exceeding 2.5 MW.

PowerFin also notes that the program should avoid defining "facility" as a building or street address because doing so will cause confusion and conflict when more than one meter and utility account holder are at the same property and, also, because it is common for different activities at critical infrastructure sites (*e.g.*, research laboratories versus patient care areas), each of which is vulnerable to disruptions in electrical supply, to be tied to different meters. Ensuring that a separate TBPP can be connected to each meter will allow for multiple types of critical infrastructure to survive outages, thus helping more people and saving more lives.

***Question 2.*** *The final report provides a list of potential vendors for the TBPP program.*

A. *What factors, if any, could affect the ability of such vendors to assist with the sale, installation, operation, and ongoing maintenance of TBPPs?* In PowerFin's experience, the ability to access third-party financing, primarily federal tax credit monetization, is key to the feasibility and affordability of systems contemplated under the TBPP program. Because energy projects of this type require highly structured project financings, the ability to fund these kinds of projects is generally concentrated among specialized third-party developers of such projects rather than contractors or utility customers.

B. *How should the TBPP program be designed to maximize the ability of vendors to assist with the sale, installation, operation, and ongoing maintenance of TBPPs?* To address financing issues noted above, and in its selection process, the Commission should be attentive to the structured finance expertise of potential vendors, as contemplated in the Report, which notes that "Critical facilities almost always are operated by non-profit entities, with limited cash resources and no ability to directly utilize federal tax credits essential to solar and BESS affordability." Therefore, third-party financing, referenced in the Report as "EaaS" and "MaaS", is almost certainly necessary for potential vendors to successfully and affordably fund any TBPPs.

Additionally, regarding ongoing maintenance of battery energy storage systems ("BESS") in particular, PowerFin notes that at this stage in the evolution of these assets, building engineers at critical facilities rarely have the training or expertise to manage these TBPPs. Personnel qualified to maintain BESS are generally scarce and concentrated among BESS manufacturers and operations & maintenance divisions of energy asset owners, as these entities typically have significant experience installing and operating the technologies making up a TBPP. Consequently, the TBPP rulemaking should emphasize the ability of

the vendor to successfully maintain the assets proposed for installation, such that their full capacity will be available in times of need.

***Question 3:*** *In Sections 2-4 and 2-5, the Final Report outlines design requirements and assumptions; technology specifications; operating sequences; and installation requirements.*

A. *How, if at all, could the specifications described in these sections affect implementation of the TBPP program?* The Report states that the amount of solar associated with each TBPP be limited to 16% of the TBPP's capacity. Implicitly, this requirement assumes that the solar is used exclusively or primarily to charge the battery. It also assumes that PV systems will receive roughly 6.25 peak sun hours per day (*i.e.*, six sun hours of production at 16 percent of the TBPP's capacity equals 100 percent of the battery's capacity, before accounting for round trip losses). The solar resource in Texas is not sufficient to generate this level of energy production throughout the year, meaning the battery will not be chargeable even over the course of an entire day if the 16% ratio becomes part of the program rules. This 16% ratio requirement would ensure that TBPPs will be charged slowly in emergencies rather than quickly, thereby undermining the resiliency benefit TBPPs are intended to provide. More generally, it is quite common to design solar and battery systems to maintain the battery's state of charge at all times and simply provide any excess power to loads at the facility. Additionally, because not all non-profit critical facilities are financially robust, restricting them from using affordable solar PV, paired with the TBPP, will undermine the fiscal resilience benefits of the program for these critical community institutions.

PowerFin also notes that the "islanding only" design guidance seems inconsistent with the TEF's intent to provide support to the Texas power grid and, thereby, help to avoid calamitous events like Winter Storm Uri. (TEF transmission voltage applications reflect this grid supporting role.) Allowing excess flows to the facility will reduce strain on the grid by reducing load at times of peak power usage. The Report also notes that the total cost of each backup power package is significantly greater than the TBPP grant cap of $500 per kilowatt, meaning that a TBPP that only operates in islanded mode during utility outages, will not generate sufficient, if any, utility cost savings necessary to recover the balance of the capital investment not provided through TBPP. Chapter 34 of PURA states that "TBPPs: Use interconnection technology and controls that enable immediate islanding from the power

grid and stand-alone operation for the host facility" (underline added). It does not state that TBPPs exclusively operate on an islanded basis and only when the grid is down. The Report acknowledges that "TBPPs would be considered to fall into a general definition of microgrid," and that, "microgrids are typically deployed to operate in a connected model (in parallel) with the grid or islanded (stand-alone) from the grid or both." Restricting TBPP operations to extremely rare periods of grid emergencies is inconsistent with real-world microgrid applications and will greatly discourage participation by the types facilities that are the program's target. Regulatory precedent and real-world practice do not prohibit energy consumers (*e.g.*, critical facilities) from self-generating and operating in parallel with the grid.

Finally, the Report indicates that PV and BESS only be operated as auxiliary power for a thermal genset. A requirement along these lines favors one generating resource (natural gas or propane) over another (PV and BESS) without consideration of the relative merits of each in any particular application. To the extent that economics will be considered as a factor in TBPP approval, PV is the least expensive source of power, as noted in Table 1 of the Report. Limiting it to a role as backup to the thermal generator, which itself is a backup that rarely operates, creates imbalance within the TBPP and unnecessarily distorts its economics. Chapter 34 of PURA states that TBPPs "Provide power sourced from a combination of natural gas or propane with photovoltaic panels and battery storage, or battery storage on an electric school bus." As such, PV and BESS should not operate only to support natural gas or propane generators during rare grid emergencies.

B. *How if at all, should the specifications be modified to ensure effective implementation of the TBPP program?* PowerFin recommends the following:

1. Because the statute requires the TBPP to be no larger than 2.5MW at each facility and to be able to operate for at least 48 continuous hours without refueling or connecting to a separate power source, there is no need to prescribe further restrictions on specific technologies, as long as these performance requirements can be met by the proposed TBPP. Liquidated damages may be imposed on TBPPs unable to perform during emergency grid conditions.
2. Provisions in the various Design Basis sections, such as those in 2-4.1 and 2-4.2, should be used only as recommendations, not requirements for application

acceptance or TEF funding awards. Provided that the TBPP can serve load at a critical facility for 48 hours, developers and other market participants should determine the appropriate mix of resources. For these reasons, as well as those noted earlier, the 16% PV to battery storage capacity ratio should be eliminated.

3. The islanding-only-during-grid-emergencies operational requirement should be eliminated in order to improve the operational and financial efficiency of TBPPs.
4. A TBPP's ability to be ready to perform during outages should be evaluated as a function of the operational regime proposed by their developer/owners rather than relying on an approach that only allows operation during outages. Any requirement that PV and battery storage be operated solely as a backup to backup generators should be eliminated as inefficient, wasteful, and overly restrictive.

***Question 4:*** *How should the TBPP be designed to mitigate or remedy any other factors that could negatively affect program implementation or participation, while ensuring compliance with statutory requirements? Please limit this response to factors not previously mentioned in responses to questions one through three above.* PowerFin respectfully suggests that the process for accepting applications be roughly as follows. First, applications should be accepted and queued on a rolling first come-first served basis. The Commission should then establish the queue based on the time applications are received and then expeditiously review the applications for compliance with program rules. To optimize critical facility participation and to avoid "queue squatting," non-compliant applications should be removed from the queue as quickly as reasonably possible.

This process will result in a preliminarily approved list and waiting list of projects based on their time of submittal and preliminary review. The preliminary review will test for completeness, as well as whatever additional threshold requirements the Commission deems appropriate. PowerFin suggests striking a balance such that compliance involves criteria that indicate minimum levels of viability (*e.g.*, evidence of site control) as well as criteria that convey the proposer's ability to move forward, to avoid clogging the queue with projects that will never be built. For example, these criteria could involve committing modest amounts of capital or providing single-line electrical diagrams for the projects under development.

In any case, timely queue management will be critical to success of the program. The Commission should consequently strive to implement criteria that (a) send a clear signal to qualified bidders/projects

of their place in the queue and thus likelihood of success while also (b) quickly removing speculative projects that have a low probability of being built from the queue.

Additionally, we respectfully note that municipalities and local utilities have very different permitting processes and timelines across the state. As noted in the Report and in real-world practice, microgrids (TBPPs) operate in parallel with utility grids on a non-exporting basis (not on an island-only basis); therefore, interconnection policies and practices, which vary across distribution utilities, should be uniform for TBPPs. PowerFin recommends that the Commission provide some guidance wherever appropriate to help establish some level of permitting and interconnection uniformity.

PowerFin appreciates the opportunity to provide these comments and is available to provide additional color and detail as may be needed by the PUC of Texas.

Respectfully submitted,

*/s/ Tuan Pham*
Tuan Pham
CEO
PowerFin Partners
3305 Northland Drive, 4th Floor
Austin, Texas 78731
tpham@powerfinpartners.com

## POWERFIN PARTNERS EXECUTIVE SUMMARY

PowerFin Partners ("PowerFin"), an experienced Texas-based developer, owner and operator of commercial solar and storage projects, strongly supports the mission and intent of the Texas Backup Power Package Program ("the Program") and appreciates the opportunity to offer comments on the Texas Backup Power Package Program Research Entity Final Report ("the Report"). The comments we offer are designed to help the Program expeditiously and cost effectively reach its goals.

Our key recommendations are:

- **2.5 MW Cap.** Clarify that the 2.5 megawatt cap is for the size of a Texas Backup Power Package ("TBPP") and not a limit on the peak demand of the electrical service the TBPP serves. It is understood that a TBPP's aggregate capacity cannot exceed 2.5 MW; however, it should be clarified that a TBPP can serve a facility or utility meter whose peak demand may exceed 2.5 MW.
- **Facility Definition.** Clarify that the definition of a "facility" is an individual utility meter, as is commonly accepted contractual and regulatory practice.
- **Financing Acumen**. TBPPs are capital intensive and require third-party financing to monetize federal tax credits. Therefore, viability of TBPP projects relies heavily on access to third-party project financing. Demonstrated ability to finance and develop projects similar to those under the Program should be a strong consideration in the TBPP application process.
- **PV:Storage Ratio.** The 16% PV:storage ratio is based on non-applicable assumptions that needlessly distort the economics of each TBPP, and should be eliminated.
- **Islanding Only Rules.** Any requirements that TBPPs operate only in islanding mode during grid emergencies underutilizes microgrid capabilities, which operate in parallel with the grid in nearly all real-world circumstances, largely eliminates the grid support and economic benefits that TBPPs are intended to provide to critical facilities and the communities they serve.
- **Backup-Only Restrictions of Solar and BESS.** Restricting solar and batteries only to function as auxiliary power for backup gas or propane generators (a) favors one generation resource over another, (b) greatly diminishes their utilization, and consequently, (c) obviates the economic viability and operational benefits of the TBPP to the critical facility it serves.
- **Maintenance.** The Commission's evaluation process should be highly attentive to participants'

proposed maintenance regime, with special attention to the training of the individuals/firms performing this work. Liquidated damages for non-performance should be considered.

- **Prescribed Design Basis Requirements.** Provided that a TBPP can serve load at a critical facility for 48 continuous hours without refueling, system operators must have discretion over the specific design and mix of resources that best serves the needs of each unique critical facility.
- **Operational Regime.** Battery storage systems should not sit idle except in rare emergencies. Rather, they should be operated and cycled regularly while also allowing the TBPP to provide onsite energy to the critical facility it serves during all periods.
- **Evaluation Process.** The application process should enable viable projects to move quickly and also expeditiously purge projects that will not be built.
- **Guidance on Permitting and Interconnection.** Given inconsistencies in permitting processes throughout Texas, provision of guidance from the Commission, where appropriate, would allow for much needed uniformity and standards for TBPPs to be developed on a timely basis.