Filing Receipt

Filing Date - 2025-03-31 11:52:46 PM

Control Number - 57236

Item Number - 36

PUC PROJECT NO. 57236

COMMENTS ON THE TEXAS BACKUP POWER PACKAGE PROGRAM RESEARCH ENTITY FINAL REPORT	§ § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS OF ALISON SILVERSTEIN CONSULTING IN RESPONSE TO STAFF'S MARCH 6, 2025 QUESTIONS

Comes now Alison Silverstein Consulting, an independent energy consultancy, to respond to the questions for comment on the Texas Backup Power Package (TBPP) Program Research Entity Final Report and the March 6, 2025 workshop on this topic. The substance of the comments below are that the Final Report as submitted contains several fatal flaws that distort the performance requirements for the Texas Backup Power Packages. Those flaws flow through the recommended specifications to unnecessarily and inappropriately raise the costs and limit the use of the resulting TBPPs. These design errors are too broad to enable easy, surgical revision of the TBPP specifications. Instead, the Commission should hire a new technical consultant to revise the TBPP performance assumptions and requirements and modify the specifications to meet these corrected requirements. Since one of the Final Report's flaws is that it does not offer any analysis or justification for the recommended TBPP package sizes, the Commission should request that material and scrutinize it before a new technical consultant revises the TBPP specifications. And because the Final Report's TBPP cost estimates are very high and of murky origin, the Commission should also have the new technical consultant develop revised cost estimates for the potentially revised TBPP package sizes and corrected TBPP specifications.

These comments build upon the detailed technical comments submitted in this docket on February 12, 2025.

Question 1A – How to refine the TBPP specs to prioritize cost savings, effectiveness and affordability without compromising backup power and resilience goals?

The Final Report assumes several factors that raise the costs and minimize usefulness of the TBPPs for critical facilities:

- The Final Report assumes that the TBPP must island its host critical facility instantly and switch over to the TBPP upon grid failure. This is unnecessary since the statute only requires "immediate" (several seconds delay) rather than "instantaneous" (zero seconds) switchover. This assumption significantly raises TBPP costs by requiring greater battery capacity and PV recharging capacity and a more costly automatic transfer switch.

- The Final Report assumes that the TBPPs can only be used during a power outage.[1] This is not a requirement of the statute, which only prevents selling energy and ancillary services (presumably by injection into the grid). This assumption would prevent critical facility hosts from using the TBPP strategically behind the meter to reduce peak load and bills or use its behind-the-meter power in aggregation with other facilities (as for the aggregator's portfolio balancing) for limited hours to earn some additional income from TBPP use. This assumption would also prevent ERCOT from calling on the critical facility TBPP fleet to operate in islanded mode in the event that ERCOT is about to enter Emergency Energy Alert Stage 2 conditions and needs additional capacity to forestall a major electrical outage.
- It is reasonable to allow some limited flexibility in TBPP battery sizing, particularly for critical facilities that fall in ranges between the TBPP package sizes and could have grossly over-sized batteries and package costs.
- To date the Final Report's specifications for communications, controls and cyber-security have received little critical scrutiny. These should be closely reviewed by a team with strong subject matter expertise to verify that these particular specifications are effective, commercially available and interoperable. Failure to do so could compromise the effectiveness of the entire TBPP packages and cause them to fail host communities when we need them most.

Question 1B – How can the features of a TBPP provide added value for a critical facility compared to purchasing and installing a genset? How can this value be quantified relative to the cost of additional TBPP features?

This question is interesting but irrelevant. The Texas Legislature has determined that providing standardized, multi-technology Texas Backup Power Packages for critical facilities under 2.5 MW that serve public and community health and safety is a desirable and well-funded goal. The Legislature did not create any cost-effectiveness test nor require that either TBPPs or critical facilities provide additional proof of their value relative to privately financed gensets.

In fact, many small Texas critical facilities could have acquired gensets already but have not done so, indicating that gensets are not a feasible solution for many of these CFs. We should hope that the coming availability of competitively produced and marketed standardized TBPPs with minimal interconnection and operation hassle and state subsidies and vendor financing options will create value and accessibility that gensets have not offered to date.

Additionally, many areas of Texas don't have access to natural gas local distribution lines and therefore can't be served with methane-powered gensets. Texas has painful experience that natural gas service is undependable for both bulk power and local distribution service during winter storms Uri and Elliot. This makes multi-technology TBPPs more resilient than methane-powered gensets alone, and necessitates that the Commission create some cautious variance for other TBPP fuels besides natural gas and propane.

[1] The Final Report also says the TBPP could be used for "storm anticipation", which is not mentioned in the statute.

Question 1C – How can contracts for alternative ownership models and financing mechanisms be structured to comply with statutory requirements? If these models and mechanisms are considered, what metrics could effectively measure value, performance and compliance for the TBPP program?

Other commenters have explained how they can offer diverse ownership and financing mechanisms to enable small, cash-limited critical facilities to acquire TBPPs and resilience services that would otherwise be inaccessible. The statute (Sec. 34.0205) authorizes awards of both the $500/kW TBPP grant and loans for TBPP procurement and operating costs; it does not specify that a critical facility cannot use a vendor or other third-party agent to apply for or manage TBPP grant or loan proceeds.

Metrics to measure the value, performance and compliance for the TBPP program include:

- The number of critical facilities able to access TBPPs, by load size, aggregate site TBPP size, critical facility purpose, and location (rural or urban).
- The allocation of Texas Energy Fund TBPP grants and loans across Texas regions and rural and urban locations.
- The number of TBPPs installed, by component unit sizes, genset fuel or electric schoolbus, and any battery size variances from the standard TBPP specifications.
- Track TBPP financing methods and the total value of TBPP investments relative to the value of the State TBPP grants and loans.
- Track how TBPPs are being used and verify whether they are performing effectively during grid failure events; track whether those that did not perform adequately are associated with particular vendors or equipment or failed to maintain effective maintenance and refueling contracts and practices.
- Establish processing turn-around requirements for utility handling of critical facility TBPP interconnection applications and monitor any utility failures.
- As TBPP deployment expands, require the utilities to incorporate TBPP locations into circuit segmentation and outage management planning to assure that the utilities leverage TBPP availability to reduce critical facility circuit lock-ups that prevent outage rotation among circuits (i.e., to prevent another Winter Storm Uri that imposed extended outages for customers on those circuits without critical facilities).

Question 2A – How can specifications include performance-based factors for design, installation or operation without overly burdening a critical facility in installing or maintaining a TBPP?

The Commission should prepare a set of rigorous performance-related warranty requirements to impose on vendors selling or otherwise contracting with critical facilities to deploy TBPPs. These warranty terms should be the minimum required for receipt of any TBPP grant or loan. The Commission should also work with the vendor and maintenance community to develop and publicize a set of TBPP maintenance, testing, refueling and operations guidelines to help critical facilities know how to keep TBPPs working effectively after installation.

Question 2B – Should specifications vary based on the size, type of critical facility, or other criteria? If so, how and for what reasons? How can the specifications be refined to encourage participation from or integration with existing backup facilities?

It is appropriate for TBPP specifications to vary slightly with the size of the TBPP. But since all of the TBPPs have to be interoperable with each other in order to be combined to serve any size TBPP under 2.5 MW, all of the package sizes will need to use common connections, controls, communications and cyber-security. There is no reason why the TBPP specs should vary as a function of the type of critical facility – it is probable that the bulk of TBPPs will be deployed outdoors and require tolerance for high temperatures, waterproofing, and other hazardous external conditions. Individual vendors may want to "ruggedize" TBPP offerings to suit the customer's locational and environmental challenges, but that can be left up to vendors rather than addressed in the TBPP specs.

There is no need to refine TBPP specs to encourage participation from existing backup facilities, nor to integrate them with such facilities. Such refinements to the specs would violate the statutory goal of making the TBPPs relatively standardized to increase vendor competition and production volume and thus lower costs to critical facilities. Individual vendors will be motivated to figure out whether and how a customer has backup generation and whether and how to modify the TBPP deployment plans to leverage customers' backup generation.

Question 2C – Considering that access to natural gas or propane may be limited in different geographic areas of the state, how if at all can specifications be expanded to include alternative technologies and fuels?

This question applies only to the generator portion of the TBPP package. Many commercial gensets and linear generators can operate on multiple alternative fuels and the specs should recognize and enable the use of generator technologies that can use diverse fuels. It will be the vendor's or marketer's responsibility to identify and tailor TBPP offerings to customers who cannot easily access methane gas or propane, but it is the Commission's responsibility to craft an exception to the natural gas and propane requirement to ensure that the TBPP Texas Energy Fund program can serve such customers.

Question 3A – Considering vendors that may utilize alternative fuel sources or other components that can meet the performance criteria, how could the Commission consider adapting the specifications to increase the number of vendors eligible to participate in the program and support other business models?

This question presumes that it is the Commission's place to determine eligibility for vendors participating in the TBPP program. This misinterprets the statutory language in Sec. 34.0205(b)(3): "The commission shall maintain and publish a list of approved vendors eligible to assist with the sale, installation, operation, and ongoing maintenance of Texas backup power packages." In that language, the term "approved vendors" can be interpreted to mean that the vendor offers TBPP packages and/or services that meet the Commission's rules for sale or contract, installation, operation and maintenance. The published list would be a customer protection effort to help critical facility customers easily identify trustworthy vendors. But there

may be excellent TBPP product or service vendors who are not yet on the Commission's published list, and the Commission must decide whether it wishes to restrict TBPP vendor competition by creating eligibility rules that ban some vendors and their customers from receiving TBPP grants and loans. This seems inadvisable until experience shows that particular vendors are installing products or services that don't meet performance requirements and warranties.

There is no reason to modify or adapt the TBPP specifications to increase the number of vendors serving the TBPP market. If the TBPP specifications are technically sound and don't contain provisions that inflate package costs while limiting their use, the specifications will be doing exactly what they were intended to do and should not need to be adapted. There appear to be over 30,000 critical facilities in Texas that could qualify for TBPP grant awards. This is a significant and attractive market. The Commission should take the time to see whether a good set of TBPP specifications, combined with a manageable application process and reasonable financial flexibility for vendor-to-customer arrangements, leads to strong market uptake before deciding that any modifications or compromises are needed.

Question 3B – How might other business models enable TBPP deployment by reducing potential limitations or constraints that a critical facility may face when installing or maintaining a TBPP? What would be the implications be if a critical facility exits the program?

Vendor business models such as "Resilience as a service," lease-to-own, or limited aggregation with other facilities [2] will enable more critical facilities to overcome capital constraints and access TBPPs. The Commission should facilitate such arrangements and also enable vendors to act as agents for critical facilities in the TPBB application process.

It is likely that if a critical facility needs to quit the TBPP program, it's because that facility has business problems is limiting or shutting down its entire operation rather than because the TBPP has become too expensive. If a critical facility exits the TBPP program, the critical facility's vendor may have a much greater financial problem than the state of Texas, which is only risking $500 per TBPP kW. Unless the Commission chooses otherwise, the State's financial interest in any individual TBPP should be subordinate to the vendor's interests. Every loan and grant program has failures; the Commission should expect that the TBPP program will have some failures as well. But our goal here is to protect Texas communities and critical facilities with TBPPs, not to claw back every dollar of grant and loan funds from failed critical facilities.

Question 3C – How can vendors … address supply chain disruptions to ensure timely deployment and adequate preparedness for emergencies?

This interesting question is a vendor challenge rather than a Commission issue. Good manufacturers and vendors work hard to manage risks such as supply chain disruptions, and they develop contracts and processes to manage and balance risks and costs between the manufacturer, vendor and the customer.

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[2] These limitations should be time-limited with respect to hours of operation to avoid reducing the 48-hour minimum islanded run time by more than 2-4 hours and use-limited to avoid having the critical facility inject energy into the grid to sell energy or ancillary services.

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EXECUTIVE SUMMARY

The Texas Backup Power Packages Final Report as submitted contains several fatal flaws that distort the performance requirements for the TBPPs. Those flaws flow through the recommended specifications to unnecessarily and inappropriately raise the costs of the resulting TBPPs. These design errors are too broad to enable easy, surgical revision of the TBPP specifications. Instead, the Commission should hire a new technical consultant to revise the TBPP performance assumptions and requirements and modify the specifications to meet these corrected requirements. Since one of the Final Report's flaws is that it does not offer any analysis or justification for the recommended TBPP package sizes, the Commission should request that material and scrutinize it closely before a new technical consultant revises the TBPP specifications. And because the Final Report's TBPP cost estimates are very high and of murky origin, the Commission should have the new technical consultant develop revised cost estimates for the TBPP package sizes and corrected TBPP specifications.

These comments build upon the detailed technical comments submitted in this docket on February 12, 2025.

The Commission should revise several of the TBPP assumptions before having the specs modified. These assumptions include: (1) that the TBPP must island its host critical facility instantly and switch over to the TBPP upon grid failure, rather than switching within a few seconds; (2) that the TBPPs can only be used during a power outage, when in fact it can be used behind the meter to reduce the load the host critical facility presents to the grid (as for peak reduction, limited aggregation, or ERCOT-wide load reduction under emergency circumstances); and, (3) there should be some limited flexibility in battery sizing for critical facilities that fall in ranges that require combining TBPPs, to reduce total battery cost relative to facility need.

The Commission should also require an expert review of the Final Report's specifications for communications, controls and cyber-security, to verify that these particular specifications are effective, commercially available and interoperable.

The Commission should not modify or adapt the TBPP specifications to allow greater revenue realization, attract more vendors, or cater to existing backup generation or different types of critical facilities. The TBPPs must be relatively standardized with strong performance warranty requirements to enable interoperation, high volume production and vendor competition, that lower ultimate TBPP costs to Texas communities and critical facilities.