Filing Receipt

Filing Date - 2025-04-03 11:59:49 AM

Control Number - 57236

Item Number - 41

. .PROJECT NO. 57236

PROJECT TO DEVELOP THE TEXAS BACKUP POWER PACKAGE PROGRAM	**§ §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS BY TEXAS ENERGY POVERTY RESEARCH INSTITUTE (TEPRI)

Texas Energy Poverty Research Institute (TEPRI) appreciates the opportunity to provide comments on Project No. 57236 Project to Develop the Texas Backup Power Package Program. TEPRI is a 501(c)3 nonprofit organization that advances equitable solutions for affordable, reliable, and clean energy for disadvantaged communities across Texas. Our work advances research on the energy needs of low-income households, develops solutions to address those needs, and establishes a network of on the ground relationships to enable deployment.

A key focus of our work is developing solar and storage systems that reduce facility electricity demand while providing critical backup power during grid outages. TEPRI has conducted feasibility studies for multiple facilities across Texas seeking to serve as resilience hubs for their communities. Recently, we were awarded $1 million by Google to develop two resilience hubs in partnership with Foundation Communities in Arlington, TX. We look forward to integrating TBPP solutions into our future projects to further strengthen community resilience.

1. Cost Offsets

A. How can the specifications be refined to prioritize cost savings, effectiveness, and affordability for TBPPs without compromising backup power and resilience goals?

Permitting smaller systems. TEPRI recommends that the Commission allow facilities to choose equipment sizes truly suited to their needs, recognizing that many nonprofits and smaller critical facilities have minimal capacity requirements and limited budgets. Adopting smaller, modular systems (for instance, 10 kW, 25 kW, or partial-load coverage) reduces overall cost and expands the range of sites eligible for TBPP participation. Furthermore, **Allow Grid-Connected Operation** is critical to ensuring economic viability, because permitting TBPP systems to remain connected to the grid under normal conditions allows facilities to offset daily energy costs, manage demand more effectively, and detect maintenance issues preemptively. This grid-tied approach does not conflict with statutory prohibitions on selling energy or ancillary services and significantly enhances the value proposition for critical facilities with resource constraints. Likewise, TEPRI urges the Commission to **Encourage Partial-Load Backup** rather than requiring full 48-hour coverage at 100% load for all sites. Many facilities only need essential functions covered—such as cooling, device charging, or medical refrigeration—which can be facilitated by smart panels that isolate non-essential circuits. In practice, these partial-load systems have proven sufficient for community resilience needs and often come at a lower capital cost, making TBPP participation more attractive and feasible across Texas.

B. How can the features of a TBPP provide added value for a critical facility compared to purchasing and installing a generator set? How can this value be quantified relative to the cost of additional TBPP features?

Legislative Framework & Expanded Resilience Benefits. Many smaller critical facilities have historically not purchased standalone generators due to factors like financial constraints or minimal in-house technical expertise. By contrast, a Texas Backup Power Package that integrates generator, solar, and battery storage not only provides standby power but also delivers year-round cost management capabilities and continuity for vital community services during long outages. For instance, solar-plus-storage microgrids can power cooling centers, charge electronic devices, and maintain refrigeration for medical needs—functions that often outstrip what a single-fuel generator can accomplish, especially under severe weather events where gas lines are unavailable. Moreover, **Year-Round Value** stems from the fact that a generator alone lies dormant outside of emergencies, whereas a TBPP system combining solar and battery elements can cut normal operating costs, enable revenue or demand savings through aggregator or virtual power plant participation, and reduce reliance on fuel during high-stress conditions. Finally, **Quantifying the Value** of these added features involves tracking annual electricity cost reductions, peak-shaving opportunities, any revenues from aggregator or utility programs, and broader social benefits like reliable shelter services. Although the statute does not impose a strict cost-effectiveness test, this data can confirm that a multi-technology TBPP delivers far more community value than a lone generator can.

C. 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?

Provide Flexibility in Financing Options. Many smaller nonprofits and under-resourced facilities prefer third-party ownership, energy-as-a-service, or leasing models, which shift capital expenditures and the technical burden away from internal staff. In light of Patrick's Final Report, which indicates especially high per-kW costs for 10 kW and 25 kW systems, TEPRI suggests blending the TBPP grant with external grants, loans, philanthropic investment, and perhaps bulk or cooperative procurement tactics—an approach that often makes smaller packages more cost-effective. Coupled with Performance-Based Service Agreements that include guaranteed uptime, minimum fuel autonomy, or specific "resiliency hours," such financing structures help meet the 48-hour requirement without restricting day-to-day flexibility. At the same time, Tracking Metrics remains essential to uphold statutory requirements and to evaluate effectiveness. TEPRI recommends monitoring availability (percentage of functional backup time), maintenance logs (verifying regular inspections and system health checks), community benefits (services provided to the public during an outage), and non-market compliance checks (ensuring no direct participation in wholesale energy sales). Together, these measures ensure robust performance, compliance, and resilience for diverse types of critical facilities.

2. Flexibility and Applicability of Technical Specifications

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

Use a 48-Hour Performance Standard. TEPRI suggests defining a straightforward performance goal—such as 48 continuous hours of backup for a specified fraction of a facility's load—instead of requiring particular solar or battery ratios. This approach allows facilities to select the most cost-effective generator, battery, and solar mix that meets their unique needs. Additionally, **Encourage Standardized Equipment** whenever possible, because generators and battery modules typically come in discrete size increments. Allowing flexible system combinations under a broad performance standard helps lower procurement costs and simplifies maintenance. For smaller organizations, it is also essential to **Simplify Maintenance Requirements** by encouraging service warranties or performance-based agreements that ease ongoing administrative burdens. TEPRI's field experience with resilience hubs demonstrates that many facilities have limited staff resources, so ensuring that vendors handle routine checks and performance metrics can avert operational pitfalls and help maintain readiness.

B. Should the 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?

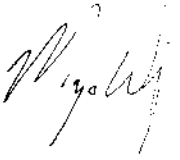
Tiered Approaches by Facility Type. Hospitals or larger medical centers may require higher-capacity systems and multi-day backup strategies, whereas smaller community shelters might thrive with partial coverage and lower capital costs. Tiers can prevent one-size-fits-all rules that inflate costs needlessly for smaller sites. Next, **Retrofit Paths** can be valuable, since many facilities already have diesel or natural gas generators in place; adding solar-plus-storage to an existing generator setup leverages prior investment and can significantly strengthen resilience. TEPRI's fieldwork demonstrates that a hybrid approach—blending an existing generator with battery storage—can drastically improve overall reliability and cut fuel dependence. Furthermore, **Criteria for Low-Income / Underserved Areas** must remain in focus, recognizing that some small community centers or multifamily buildings struggle with financing system upgrades. By offering streamlined incentives or simpler requirements, the Commission can ensure that essential backup power reaches a broader, and often more vulnerable, cross-section of the state.

C. 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?

Battery-Centric Microgrids can be a powerful solution in regions where pipeline gas or propane supply is constrained, including flood-prone or remote locales. In such circumstances, a larger battery—potentially combined with on-site solar—might maintain the 48-hour autonomy needed for a facility's essential loads. Meanwhile, **V2G or Mobile Storage** points to the possibility of using electric school buses or vehicle-to-building (V2B) solutions for smaller or shorter-term backup, so long as statutory readiness requirements (48 hours) can be verified. Finally, **Other Fuel Sources** should not be

categorically excluded if they meet reliability and duration thresholds; resources like biogas, biodiesel, or hydrogen blends could be crucial for facilities without access to natural gas lines or those requiring a fuel hedge against disruptions.

Respectfully submitted,



Margo Weisz
Executive Director
Texas Energy Poverty Research Institute
[cell phone]
margo@tepri.org

Executive Summary

Project No. 57236: Project to Develop the Texas Backup Power Package Program
Submitted by Texas Energy Poverty Research Institute (TEPRI)

TEPRI's comments underscore the need for **flexible system sizing**, **partial-load backup**, and **grid-connected operation** to make the TBPP both practical and cost-effective. We recommend allowing smaller, modular packages (e.g., 10 kW or 25 kW) and performance-based standards (e.g., "48 hours of backup for essential loads") in place of rigid sizing rules. This approach better accommodates facilities with limited budgets and more accurately reflects real-world resilience needs.

In addition, TEPRI highlights the **added value** that a combined generator–solar–battery TBPP offers over a standalone generator, including year-round cost savings, reduced fuel dependency, and the ability to support critical functions (such as cooling, device charging, or medical refrigeration) during extended outages. We also emphasize **financing flexibility**, encouraging third-party ownership or energy-as-a-service models to assist nonprofits and small facilities facing high per-kW costs—particularly for 10 kW and 25 kW packages. Clear metrics like system availability, maintenance logs, and community services provided ensure performance and compliance without imposing burdensome requirements.

On the **technical side**, TEPRI supports using broad performance goals—for instance, 48-hour autonomy for essential loads—rather than prescribing fixed solar or battery ratios. Standardizing equipment sizes and simplifying maintenance guidelines can further reduce costs and complexity, helping smaller sites succeed. We also propose **tiered approaches** by facility type, enabling large medical centers to pursue more extensive solutions while allowing smaller community hubs to adopt partial coverage cost-effectively. Lastly, we urge the Commission to permit **alternative fuels and battery-centric microgrids** in areas lacking natural gas or propane. By integrating solar, storage, and potentially novel fuels, these remote or underserved facilities can still meet the TBPP's 48-hour requirement, bolstering resilience across the state.