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Texas Backup Power Package
Advisory Committee Recommendations

October 1, 2024

I. Introduction

The Texas Backup Power Package Advisory Committee (the "**Committee**"), established under the authority of the Public Utility Regulatory Act ("**PURA**") §34.0203 and following the directives outlined in PUCT Rule §25.515, has been convened to develop criteria for the allocation of grants and loans under the Texas Backup Power Package ("**TBPP**") initiative. This report (the "**Committee Report**") provides the Committee's recommendations for application procedures, eligibility criteria, operational guidelines for the TBPP, and other recommendations that have been considered by the Committee. The goal is to support critical facilities across Texas in maintaining resilience during grid outages through the strategic deployment of backup power systems.

To a limited extent this Committee Report has been informed by the *Texas Backup Power Packages Initial Report* prepared by Patrick Engineering, dated September 9, 2024.

The conclusions and recommendations contained in this Committee Report reflect the consensus of the Committee members. Individual members of the Committee who disagree with or wish to expand upon particular issues herein addressed have submitted separate letters to that end, and those letters are attached.

II. Facility eligibility qualifications

Eligibility, generally. By statute, financial grants and loans under the TBPP should be awarded to "facilities on which communities rely for health, safety and well-being." Texas Utility Code §34.0202. The program is fundamentally aimed at providing backup power for *critical* community services where otherwise it would be financially unfeasible to do so (whether due to insufficient tax base, commercial viability, or other factors).

Facilities not eligible. By statute, grants may not be awarded for backup systems supplying greater than 2.5 MW of power; nor are commercial energy systems (or their supporting infrastructure), private schools, or for-profit entities that do not directly serve public safety and human health.

Eligibility determination. Eligible facilities will include the types identified and listed in the Texas Administrative Code [16 TAC §25.52] as "loads for which electric service is considered crucial for the protection or maintenance of public safety": hospitals, police stations, fire stations, critical water and wastewater facilities, and medical facilities.

The TBPP program, however, contemplates a larger set of facilities upon which communities may rely for critical services in the event of a local or widespread sustained grid outage. These may include the following, for example, provided that they supply *critical* community services for human health and public safety:

- facilities providing hospice, nursing, assisted living, end-stage renal disease treatment and dialysis;
- community heating or cooling centers and homeless shelters;

- evacuation route fuel stations;
- gas stations and grocery stores in areas (urban and rural) that have highly limited access to essential supplies;
- communications facilities that serve 911 call centers and radio/television emergency alert systems.

In addition to these categories, TBPP eligibility may, upon consideration of relevant factors, extend to certain facilities that local officials identify as critical – *if* those facilities are designated to and in fact do provide critical services to their communities at large. Depending on the critical needs of the community, these many include food banks and gathering places like public schools, libraries, or houses of worship if they in fact provide critical community services.

III. Ownership Criteria for Eligible Applicants

Ownership Structure. The Committee considered but did not reach a firm conclusion regarding ownership of backup systems funded by grant under the statute. It may be that vendor ownership in conjunction with firm agreements with vendors will make the program more broadly accessible, among other potential benefits. There are, however, appreciable concerns about an entity other than the grantee of a TBPP grant or loan holding title to the backup generator.

It is likely, meanwhile, that the statutorily capped amount TBPP grants will not cover the full cost of TBPP acquisition, in which event third party financing may be needed. Some financing and ownership options could include:

- direct ownership by the critical facility owner, with loans from a third-party financing entity or the TBPP vendor;
- ownership by a third-party energy services provider or vendor, expressly subject to a long-term lease or lease-to-own to the owner of the critical facility;
- a "resilience-as-a-service" provider that finances installation and leases the TBPP to the facility, with ownership transitioning to the facility within a few years.

Again, the Committee does not offer a recommendation on the question of ownership, but believes that it warrants consideration by the Commission.

Eligible application submitters. Applications of course may be submitted by owners of critical facilities. The Committee concludes that applications might also be appropriately submitted by an energy services company or vendor contracted to install and/or operate the TBPP at the applicant facility, acting on behalf of the facility.

In order to protect critical facilities that do not have extensive financial or contracting experience or legal budgets, the Committee recommends that the Commission prepare guidance material pertaining to terms, conditions, and costs that could be included in vendor and energy service company contracts. This guidance should also address appropriate performance warranties and liability language in the event that some vendors or equipment does not meet expectations, and other matters as the Commission deems useful.

IV. TBPP module capacity

The statute authorizes a TBPP grant in the amount of $500/kW to finance a facility backup power package up to 2.5 MW in size. A facility with load (maximum total demand during the year, as measured by the TBPP's serving electric utility) exceeding 2.5 MW may apply for a TBPP grant for no more than 2.5 MW, with the understanding that the facility must either design its TBPP installation to serve only essential (critical) loads when it cannot access grid power, or that it may acquire additional backup power capacity using some other, non-TEF funding source.

Combining modular TBPP packages. The TBPPs will be designed and marketed as a suite of interoperable packages of various sizes that can be combined together to serve the applicant's total load requirement. Facilities with load requirements exceeding 2.5 MW have the options of connecting the TBPP to serve only essential loads (up to 2.5 MW) rather than total facility load, or using other funding to pay for backup power in excess of 2.5 MW.

Facilities with total load under 2.5 MW in many instances will be combining multiple TBPP modules to cover their backup power requirements. TBPP module designers should use the most efficient combination of TBPP modules to serve the TBPP's load, both to protect the facility owner from being burdened with excess costs and to assure that the available Texas Energy Funds are used efficiently for the maximum number of Texas communities.

The Advisory Committee recommends that the Commission and its agents prepare a confidential on-line tool to assist analyzing TBPP needs, and a package configuration builder that potential applicants can use to assess their potential TBPP configuration and costs, including the costs of acquiring, installing, financing and maintaining the full TBPP package over time.

TBPP technology composition. The statute requires that TBPPs utilize a combination of gas, solar, and battery capability (or be an electricity-powered school bus) and be able to continuously operate in islanded mode for at least 48 hours without refueling or recharging from the grid. The Committee concludes that preference should be given to backup packages that can, within practicable cost constraints consistent with the objectives of the TBPP program, provide power for greater lengths of time, either through base capacity or re-fueling or recharging for operation during extensive outages.

Excess solar and battery capacity. Applicants intending to install more solar or battery capacity than required for their facility load may do so, provided that the additional capacity is part of a separate system that is designed, funded, metered, and operated wholly separate from the TBPP. This is essential to ensure that the TBPP is reserved and used solely for its primary purpose of emergency resilience, and is not commingled with non-TBPP onsite equipment or funds.

V. Grant and loan criteria

General criteria for award of grants *or* loans. Grants and loans should be awarded for TBPPs that meet actual facility load, or actual critical load, for up to 2,500 kW of TBPP capacity that meet the TBPP technical specifications. TBPP funds should not be used to fund backup capacity in excess of actual present load, unless the facility demonstrates the imminent plan and necessity for expansion to accommodate the *existing* need (not projected) for critical services.

Grants versus loans. Whereas the program is primarily aimed at grants, the statute also authorizes loans from the appropriated program funding. The statute caps the *grant amount* at $500/kW of capacity per applicant, an amount that almost certainly will not meet the cost of the TBPP; the statute does not cap the amount of loans. A loan might therefore be used in combination with a grant to bridge the affordability gap beyond the $500/kW grant, and/or to fund short-term maintenance, testing and refueling of the TBPP system.

The Committee notes, without reaching a conclusion, that the statute may be read to provide that amounts loaned deplete from amounts available to disburse as grants, irrespective of future repayment.[1] Since the TBPP program could be over-subscribed, the Committee recommends that preference be given to grants over loans, but notes that loans might serve the program purposes where balancing considerations of scale of deployment and program accessibility for facilities lacking substantial resources (for example, where costs of ongoing maintenance and testing pose an obstacle).

VI. Funding and Financial Integration

Combining Funding Sources. In order to use the available TEF-TBPP funds most effectively, *the Committee recommends that the Commission encourage applicants to seek and leverage multiple funding streams in conjunction with TBPP grants or loans*. Potential sources for additional funding include:

- Texas Loan Star
- Texas Property Assessed Clean Energy (PACE)
- Texas Department of Emergency Management grants
- Local utility energy efficiency programs
- EPA Solar for All awards
- Other federal grants from the Federal Emergency Management Agency, Department of Transportation (as for electric school buses), Department of Energy (DOE) (as for microgrids), Environmental Protection Agency (EPA), and Rural Utility Service.

VII. Application Process and Prioritization

Procedures. The Committee recommends that the Commission develop a clear set of qualification criteria, and implement a scoring rubric to ensure fair distribution of funds. Review of applications should ensure that each applicant's load corresponds to the TBPP capacity sought in the application and that the TBPP engineering and module combination plans meet all statutory requirements and technical specifications.

Application Contents. Each application should be verified by a sworn affidavit, and should include:

- A statement that the facility understands and will abide by the stated statutory limits on TBPP use (e.g., no sale of TBPP-generated energy or services back into the ERCOT market);

[1] Texas Utilities Code §34.0204

- A statement that the TBPP will receive annual ongoing maintenance, testing and refueling to assure that it is ready and able to operate when needed, and a plan to support these requirements;
- A statement that the TBPP components to be acquired meet the Commission's adopted TBPP equipment, security, operational and other specifications;
- If the applicant is not a facility as defined by the statute, a letter from a local, municipal or other community official explaining why the facility is critical to protect the public safety and human health of that community.

TBPP certification. The statute specifies that TBPPs be certified as meeting technical specifications. *The Advisory Committee recommends that once the TBPP technical specifications have been finalized (including securing industry review and feedback to verify that the specs are feasible, workable and marketable), the Commission and its agents establish a TBPP certification process for this purpose.* In the likelihood that TBPP packages will be offered before the certification process is established, the Commission should recommend appropriate performance warranties and liability language to protect facilities that acquire uncertified TBPPs.

The Commission and its agents should specify a set of standard TBPP maintenance, testing and refueling requirements and encourage vendors to develop standard packages and pricing for these services.

Priority among applicants. Priority for TEF-TBPP awards should be determined in accordance with the considerations listed (but not ranked) below (these considerations will be more important if aggregate TBPP program funding applications exceed the available funds):

1. facilitation of loadshed management capability by TDUs;
2. access to existing backup power (including mobile emergency backup power deployed by a transmission/distribution utility);
3. ability to finance backup power, including the availability of other funding sources, tax base (and relative strain on tax base), or other source of appropriations, and federal grants, loans, and subsidies, and profit v. non-profit status;
4. relative criticality of the affected service;
5. provision of direct support for:
    a. critical public services – police stations, fire stations, critical water and wastewater facilities, hazardous materials facilities, and communications facilities that serve 911 call centers and emergency alert systems;
    b. human life and health – hospitals, hospice, nursing, assisted living, and other medical facilities, facilities used for community heating and cooling centers, and homeless shelters;
    c. food banks as needed for public accessibility or preservation of perishable items for emergency purposes, including cold food storage and food distribution centers critical to ensuring the time-sensitive delivery of food and essential supplies;
    d. vital fuel stations and food stores on evacuation routes or with limited access to essential supplies needed quickly;
6. the applicant's and facility's regulatory compliance history, if any;

7. the number of people served by the facility, with due consideration for the needs of sparsely populated communities to acquire backup power;
8. geographic distribution.

VIII. Operational Requirements During ERCOT Emergency Conditions

The TBPP initiative provides for the strategic deployment of state-funded backup power systems to support critical facility resilience. TBPP installations must be capable of immediately islanding from the power grid and support the host facility in off-grid, stand-alone mode. Critical facilities hosting TBPPs will be expected (and must be prepared) to immediately island and operate upon loss of grid power.

This state investment in TBPPs will yield a fleet of backup power distributed across the entire state. This represents a source of potential load relief that could be utilized in the event of a future ERCOT generation shortfall. If ERCOT is experiencing emergency conditions, the grid operator could call upon TBPPs to move into islanded operation, taking their load off the ERCOT system for several hours. This step could be taken before ERCOT enters EEA Level 3, as an additional tool to forestall ERCOT-ordered TDU load-shedding.

The Commission should determine the role of TBPPs during grid emergencies and specify any operational limitations or requirements that should apply. On the one hand, the Commission could specify that TBPPs are intended only for the provision of backup power to critical facilities in the event of a power outage and have no obligation to enter islanded operation until a power outage occurs. On the other hand, the Commission could specify that during grid emergencies, TBPPs be required to reduce ERCOT grid-served load by disconnecting from the grid and operating in islanded mode when directed by ERCOT.

In determining the role of TBPPs during grid emergencies, the Commission should consider:

- the amount of cumulative load reduction that could be realized from TBPPs;
- the purpose of TBPPs;
- TBPP's ability to respond to ERCOT signals;
- methods available for implementing an ERCOT dispatch instruction;
- TBPPs ability to operate the critical facility for 48 hours upon loss of power;
- appropriate compensation, if any, for TBPPs directed to island by ERCOT.

IX. Rule and regulatory recommendations

The Committee recommends that the Agency develop and promulgate rules to address the following matters:

- Where and to the extent necessary, change existing regulations regarding power provision to critical facilities to authorize utilities to rotate loadshed among critical feeder lines where critical load has been equipped with TBPPs.
- Align the timeline on rulemaking for TBPP grants and loans with rulemaking for expediting TBPP interconnection to electric utility distribution systems.

- Develop an outreach effort, in coordination with utilities, to ensure facilities deemed "critical" under prior law and current law are aware of potential TBPP eligibility. The commission and its agents should engage industry stakeholders and state agencies in this effort.
- Establish a consulting/navigation service to help potential applicants assess (1) their backup power needs, and (2) practical aspects of participating in the TBPP program. The latter may include, among other things, costs and feasibility of installation and ongoing maintenance, and whether to apply for a grant, loan, or both.
- To the extent financially feasible, require that TBPPs include commercially available cybersecurity protections for all communication and control systems.
- Encourage critical facility TBPP applicants to work with the Texas PACE program (serving for-profit entities) and Texas Loan Star and SECO offices to secure complementary financing for energy and water efficiency improvements that can support the host facility's cost profile and operational resiliency.
- Require TBPP recipients to notify local disaster coordinators, their serving transmission and distribution utility, and the Texas Division of Emergency Management of the installation of backup power packages at their facilities.
- Require applicants to agree to comply with all rules regarding on-site fuel supply, maintenance, testing and refueling, and permissible use limitations.
- Require TBPP award recipients to verify that the TBPP grant and loan funds awarded were spent on TBPP acquisition, installation, maintenance, refueling and operation.
- Require TBPP award recipients to periodically file verified maintenance, testing, and use limitation compliance reports, and assess and enforce noncompliance fees.
- Determine the role of TBPPs during grid emergencies and specify any operational limitations or requirements that should apply.
- Encourage utilities to incorporate critical facilities with TBPPs into their resiliency plans and, with any necessary regulatory changes, into circuit segmentation and outage management plans.
- Preclude use of TBPPs for energy and ancillary service sales or other injection of electricity into the grid.
- Establish rules regarding manufacturer and vendor liability for TBPP performance.

X. TBPP Ownership Over Time

A critical facility that owns a TBPP or has a contractual relationship for TBPP ownership or use may be sold or run into financial difficulties over time. The Commission should determine by rule how TBPPs funded by Texas taxpayers can be protected in the event that the TBPP owner runs into financial difficulties, sells the host facility, or runs into other financial complications.

XI. Conclusion

The Texas Backup Power Package (TBPP) represents a critical investment in the resilience of Texas's infrastructure. These recommendations are intended to guide the effective and equitable distribution of TBPP funds, ensuring that critical facilities across the state are prepared to maintain essential services during grid disruptions.

Texas Backup Power Package Advisory Committee Members

Senator Nathan Johnson, Chair

Senator Mayes Middleton

Representative Ana Hernandez

Representative Jay Dean

Chief Nim Kidd, Texas Department of Emergency Management

Kevin Knippa, Senior Policy Specialist, Health and Human Services Commission

Alison Silverstein, Alison Silverstein Consulting

Matthew Boms, Executive Director, Texas Advanced Energy Business Alliance

Ivan Velasquez, Regulatory Affairs, Oncor

October 1, 2024

Chairman Thomas Gleeson
Public Utility Commission of Texas
William B. Travis Building
1701 Congress Ave.
Austin, TX 78701

Re: Addendum to the Texas Backup Power Package (TBPP) Advisory Committee Report

Dear Chairman Gleeson,

We respectfully submit this letter as an addendum to the Texas Backup Power Package Advisory Committee Report. In reviewing the progress of the Texas Energy Fund's TBPP initiative and the work being conducted by Patrick Engineering, we have identified several critical areas that need further attention to ensure the program's success.

1. Critical Facility Energy Demand and TBPP Module Sizes

We have raised **several serious concerns** with Patrick Engineering's initial report on critical facilities in Texas. Namely, it generalizes energy demands for critical facilities without accounting for the wide variance in energy needs between rural and urban locations, or between small and large facilities. For example, small rural hospitals may require less than 50 kW, while large urban hospitals could exceed 10 MW.

It is crucial that the final TBPP module sizes reflect this diversity. We recommend reevaluating the module sizes to ensure they align with the actual power demands of critical facilities across the state. Without such recalibration, there's a risk of over- or under-sizing TBPP modules, which could waste resources and ultimately fail to meet the needs of critical infrastructure. By engaging private sector and other stakeholders with practical experience in deploying such systems, the final report can offer more nuanced and effective solutions.

2. Broad Inclusion of Available Technologies

We have heard concerns that Patrick Engineering may have already selected specific technologies and components for the TBPP packages. One manufacturer of non-traditional gensets has reported that Patrick declined their briefing, citing that equipment had already been selected.

Prematurely narrowing technology options poses significant risks. Texas's diverse energy landscape requires flexibility, and the private sector is in the best position to offer innovative, cost-effective solutions. We strongly urge that a **formal stakeholder consultation process** be established before Patrick issues its final report. This would allow for input from a wide range of technology providers to ensure the packages are

practical, scalable, and cost-effective. **Ongoing dialogue with the private sector** will help ensure that no viable technology is excluded and that the TBPP packages can be successfully implemented across a range of facilities.

3. Integration of Electric School Buses (ESBs)

Senate Bill 2627 lists electric school buses (ESBs) as eligible backup power sources, but there appears to be a gap in the Patrick Engineering contract regarding formal specifications for designing an interconnection for ESBs. Ensuring that ESBs can be reliably integrated into the TBPP as backup power sources is critical for the program's success.

While ESBs offer a potentially viable solution, their integration may face challenges, particularly around the requirement to operate for 48 continuous hours without recharging. This could limit the practicality of ESBs for smaller critical facilities. However, it is equally important to ensure that Patrick Engineering develops and includes specifications for interconnection design to make ESBs a feasible option across the board.

We recommend that the lack of formal interconnection specs for ESBs be addressed and that a further technical review ensure that their inclusion is both practical and beneficial for the program. Engaging stakeholders—such as school bus fleet managers and industry experts—will be vital in identifying flexible solutions for integrating ESBs into critical facility backup systems, particularly for smaller and rural facilities.

4. Technical Review of TBPP Specifications

We understand that the December 4 deadline for Patrick Engineering's final report may leave limited time for a formal technical review and workshops before the specifications are issued. However, given the importance of ensuring that the final specifications are practical and implementable, we recommend that a technical review be conducted after the full specifications are made public.

To facilitate this, we request that the PUCT consider extending Patrick Engineering's contract by a few months to allow for industry stakeholders, including TAEBA and other relevant organizations, to conduct a thorough technical review of the final specifications. This would provide an opportunity to address any issues raised during the review and ensure that the specs are revised as necessary before final implementation.

Such a process would not only enhance the quality of the final product but would also ensure that the TBPP specifications reflect real-world needs and can be readily adopted by the private sector, ultimately benefiting critical facilities across Texas.

Next Steps

In order to avoid producing specifications that may be impractical or difficult to implement, we respectfully request that the PUCT consider organizing a **formal stakeholder consultation process** before and after completion of Patrick's TBPP specifications, including workshops or technical reviews, to allow the private sector and other stakeholders to provide valuable input before Patrick issues its final report on **December 4**. This consultation process would ensure the inclusion of innovative solutions and avoid the risks associated with pre-selected technologies.

We appreciate your attention to these concerns and look forward to working collaboratively to ensure that Texas's critical facilities receive the robust, reliable backup power systems they need.

Thank you for your leadership on this important issue.

Sincerely,

Alison Silverstein
Executive Director
Alison Silverstein Consulting

Matt Boms
Executive Director
Texas Advanced Energy Business Alliance

MEMO

To: Texas Backup Power Package Advisory Committee
Cc: PUCT Staff, Patrick Engineering
From: Alison Silverstein and Matt Boms, TBPP Advisory Committee Members
Re: Concerns about Patrick Engineering's Initial Report

September 18, 2024

We want to raise several concerns regarding the methodology and conclusions in Patrick Engineering's Initial Report (September 9, 2024), which estimates the number of critical facilities (CFs) that might be eligible to apply for Texas Backup Power Package (TBPP) funding and the size range of those facilities. This note lays out those concerns and explains how the conclusions of the Critical Facility survey effort could affect the appropriateness of TBPP package sizing and effective use of Texas Energy Fund TBPP resources.

Why This Matters

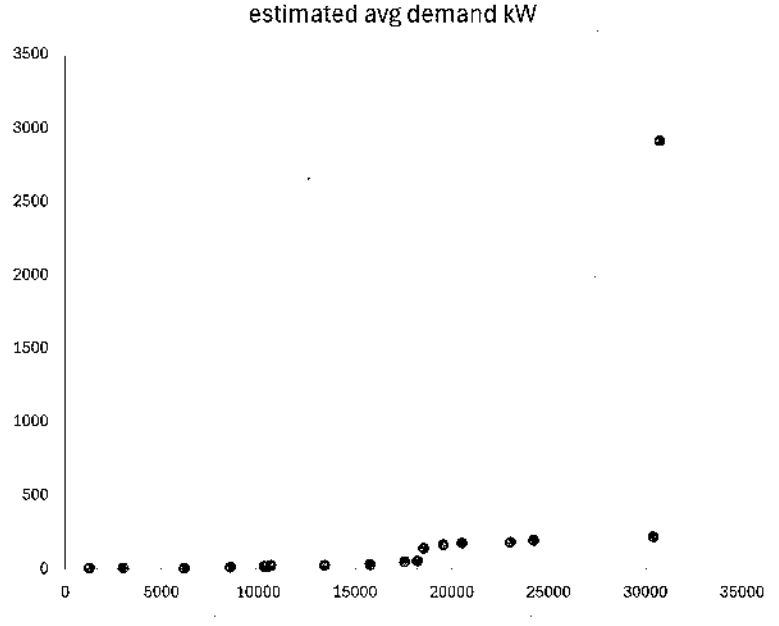
Given the limited public data on building energy use in Texas, it's difficult to estimate the number of critical facilities (CFs) or their energy demands. However, Patrick Engineering's methodology relies on gross averages that fail to capture the wide variation in energy use within each CF category. For example, the report estimates an average hospital demand of 2200 kW (Table 4, p.11), but this ignores the fact that small rural hospitals may need less than 50 kW, while large urban hospitals might exceed 5 MW. Public schools, town halls, and first responder facilities also face similar discrepancies based on their size and location.

Texas needs a set of TBPP modules that can be combined to meet the diverse needs of everything from small rural convenience stores to large urban hospitals. Understanding the range of peak demands for these facilities will help us identify the right set of TBPP modules and stretch the available TEF-TBPP funds effectively. Better data will also make it easier to calculate how many TBPP grants we can issue and what they will cost, estimated at $500 per kW of capacity.

Alternate Interpretation of Patrick's Data

Using Patrick's own data from Table 4, we have reordered the estimated average peak demands for CFs. (See table below. Column 4 shows a guess of possible peak demand around Patrick's average peak demand estimate.) Over 18,200 CFs have estimated peak loads under 60 kW, and 24,000 CFs have loads under 200 kW. Patrick's estimate of an average hospital peak load exceeds the maximum 2500 kW grant allowed under the statute, suggesting that large hospitals, which already have significant backup generation, may not need much TBPP support.

facility type	estimated number in TX	estimated avg demand kW	possible peak demand range, kW	cumulative number by kW
radio/TV alert system	1,252	9	5-20?	1,252
storm shelters	1,799	10	8-25?	3,051
grocery stores and evac route gas stations	3,155	10	10-30?	6,206
ambulance dispatch	2,332	14	10-20?	8,538
heating & cooling ctrs	1,799	18		10,337
emergency call ctrs	206	19	15-30?	10,543
homeless shelters	102	24	15-50?	10,645
police stations	2,800	27	20-40?	13,445
fire stations	2,332	34	25-50?	15,777
town halls & municipal buildings	1,799	50	30-70?	17,576
health care clinics	634	56	20-80?	18,210
water treatment plants	329	144	100-200?	18,539
hospice, assistend living	1,000	165	40-300?	19,539
dialysis centers	1,000	180	50-250?	20,539
waste water treatment plants	2,513	183	100-300?	23,052
nursing homes	1,195	197	100-500?	24,247
public schools	6,158	218	50-400?	30,405
hospitals	357	2,917	150-2,500 (2,500 = TBPP maximum)	30,762



Patrick recommends five module sizes (10 kW, 25 kW, 75 kW, 300 kW, and 2500 kW), but they don't explain why these specific sizes were chosen. Based on our analysis of Patrick's numbers, we could serve more CFs by using module sizes of 10 kW, 25 kW, 50 kW, 100 kW, and 1000 kW. These sizes would better match the energy demands of different CFs without the large jumps between module sizes, avoiding unnecessary costs and better serving Texas's needs.

Exploring Electric School Buses

Another way to save costs could be to explore using electric school buses (ESBs) for some smaller CFs, as allowed under the statute. Extended range ESBs have a battery capability of 250-660 kWh, which could provide a small CF with 5 kWh per hour for 48 hours. Larger CFs could use multiple ESBs by segmenting their electrical systems. This option could be a more flexible and cost-effective alternative to full TBPP modules.

Concerns About Methodology

Patrick Engineering's demand estimation method is overly complicated, relying on generalized data such as load factors and energy use per square foot, which may not be accurate for Texas-specific conditions. This method could produce questionable peak demand estimates. For example:

- Did Patrick use national average energy use estimates or West South Region data, which would better reflect Texas's higher heat levels?
- Where did the load factors used to reverse-engineer peak demand from average energy use come from?

This reliance on generalized data risks under-sizing TBPPs for CFs with tight budgets or over-sizing them, which would burden a CF's budget unnecessarily.

Specific Facility Type and Location Concerns

Co-located facilities and rural CFs may be underrepresented in this analysis, leading to inaccurate power need estimates. Additionally, estimates for evacuation route fuel stations, convenience stores, and rural grocery stores may not fully account for location-specific factors like hurricane evacuation traffic, which would spike demand. A more detailed site-specific analysis of a sample of CFs would help ensure TBPPs are appropriately sized for real-world applications.

Conclusion

Patrick's report raises important questions about module sizing and methodology. By adjusting module sizes and exploring alternatives like ESBs, we could stretch the TEF-TBPP funds further and serve more CFs across Texas. A more granular analysis of energy demands and facility types will ensure that TBPPs are tailored to meet the needs of diverse critical facilities without unnecessary costs.

We urge Patrick Engineering to work more closely with the Advisory Committee moving forward, and to develop a set of technical questions regarding TBPP specifications for stakeholders, particularly in the private sector, to review and provide input. Additionally, we recommend setting up virtual or in-person workshops to engage stakeholders in discussing these specifications and refining the approach.