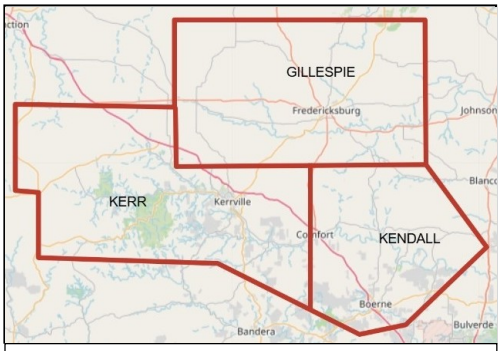
HILL COUNTRY ENERGY SUB-REGIONAL PLANNING COMMISSION



HILL COUNTRY ENERGY SUB-REGIONAL PLANNING COMMISSION TERRITORY

July 28, 2026

Dr. David Yoskowitz, Executive Director
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Subject: Request for Texas Parks and Wildlife Assessment of Potential Impacts of a Battery Energy Storage System (BESS) Thermal Runaway Fire on Threatened and Endangered Species in the Texas Hill Country

Dear Director Yoskowitz,

As President of the Hill Country Energy Sub-Regional Planning Commission (HCESRPC), I respectfully request the assistance of the Texas Parks and Wildlife Department (TPWD) in evaluating the potential impacts of a large-scale Battery Energy Storage System (BESS) thermal runaway fire on threatened, endangered, and sensitive species within the Texas Hill Country.

The HCESRPC was established to promote regional planning and coordination among local governments pursuant to Chapter 391 of the Texas Local Government Code.

Section 391.009(c) of the Local Government Code which states:

> *"In carrying out their planning and program development responsibilities, state agencies shall, to the greatest extent feasible, coordinate planning with commissions to ensure effective and orderly implementation of state programs at the regional level."*

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Kerrville, Texas 78028
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In furtherance of that responsibility, we respectfully request the assistance of the Texas Parks and Wildlife Department in conducting an independent scientific assessment to assist local officials in making informed decisions regarding major infrastructure projects that may affect our region's natural resources, public safety, and environmental quality.

Several large Battery Energy Storage System facilities have been proposed within the environmentally sensitive and drought prone Texas Hill Country. While environmental information is typically provided by project applicants and their consultants, our Commission believes that an independent and trusted assessment by the State's wildlife and natural resource experts would provide a more objective basis for regional planning and intergovernmental coordination.

Accordingly, we respectfully request that TPWD:

1. Identify Sensitive Ecological Resources

Identify all federal and state-listed threatened and endangered plant and animal species, Species of Greatest Conservation Need, rare plant communities, and other sensitive ecological resources that may occur within the potentially affected area, with particular emphasis on:

- Mountain Home and surrounding portions of Kerr County,
- Comfort and surrounding portions of Kendall County, and
- Harper, Marshal Springs and surrounding portions of Gillespie County.

2. Evaluate Potential Ecological Impacts

Evaluate the potential environmental consequences associated with a large-scale lithium-ion Battery Energy Storage System thermal runaway fire, including consideration of:

- Smoke plume dispersion and airborne contaminants,
- Deposition of combustion byproducts on vegetation and habitat,
- Potential contamination of surface water, groundwater, soils, springs, and watersheds,
- Short-term and long-term impacts to wildlife populations,
- Effects on native vegetation and sensitive plant communities,
- Habitat degradation or fragmentation,
- Cumulative impacts where multiple energy facilities may exist within the region, and
- Potential impacts resulting from emergency fire suppression activities and runoff.

3. Specifically Evaluate Species and Habitats of Concern

If present within the study area, we request that TPWD specifically assess potential impacts to:

- Federally or State-Protected Birds including,
  - Golden-cheeked Warbler,
  - Black-capped Vireo, and
  - Migratory bird nesting habitat.
- Bats
  - Cave-roosting bat colonies,
  - Mexican Free-tailed Bat,
  - Townsend's Big-eared Bat, and
  - Other bat species utilizing Hill Country caves and abandoned structures.
- Aquatic Resources
  - Spring-fed streams,
  - Native fish populations,
  - Freshwater mussels,
  - Amphibians, and
  - Riparian ecosystems.
- Karst Resources
  - Cave ecosystems,
  - Karst invertebrates,
  - Groundwater-dependent ecosystems, and
  - Recharge features associated with the Edwards Plateau.
- Sensitive Plants
  - Bracted Twistflower,
  - Texas Snowbells,
  - Rare native grasses,
  - Rare wildflowers, and
  - Other listed plant species occurring within Kerr, Kendall, or Gillespie Counties.
- Pollinators
  - Monarch butterfly habitat,
  - Native bees, and
  - Other important pollinating insects.

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4. Emergency Planning Recommendations

Provide recommendations regarding:

- Appropriate environmental monitoring,
- Emergency response planning,
- Wildlife protection measures,
- Habitat monitoring following an incident,
- Long-term environmental restoration should a thermal runaway event occur, and
- Planning considerations local governments should incorporate when reviewing Battery Energy Storage System proposals.

The Texas Hill Country is recognized as one of the state's most biologically diverse regions, containing unique karst geology, spring systems, riparian corridors, oak-juniper woodlands, native grasslands, and habitats supporting numerous species found nowhere else in Texas.

Because the ecological consequences of a large-scale Battery Energy Storage System thermal runaway event remain an evolving area of scientific understanding, particularly within the unique environmental conditions of the Edwards Plateau, we believe an independent scientific review conducted by TPWD would provide invaluable guidance to local governments, emergency management officials, landowners, and the public. To assist you in your review, we have attached a Commissioner Briefing Package containing key information on documented thermal runaway fires and explosions involving BESS facilities worldwide. For example, when Vistra Energy's 300 MW Moss Landing BESS facility in Monterey, California caught fire on January 16, 2025 the batteries burned for 5 days and resulted in a huge plume of toxic smoke containing carbon monoxide, methane, hydrogen fluoride, hydrogen cyanide and formaldehyde. These contaminates found their way into the soil and water in the surrounding area; the impact of which is still under study.

Our request is intended to support informed regional planning and intergovernmental coordination. We are not requesting TPWD to advocate for or against any particular project. Rather, we seek the Department's scientific expertise to ensure that future planning decisions are informed by the best available ecological science and reflect the State's commitment to conserving Texas' natural heritage.

We appreciate TPWD's long-standing leadership in protecting Texas' fish, wildlife, and natural resources and look forward to any guidance or assistance the Department may be able to provide. We would welcome the opportunity to meet with your staff to discuss this request and any information that may assist your evaluation.

Thank you for your consideration and your continued service to the people and natural resources of Texas.

Respectfully,

Rich Paces
President,
Hill Country Energy Sub-Regional Planning Commission
& Kerr County Commissioner, Precinct 2

Attachment – Commissioner Briefing Package

CC via email:

State Agencies

- Alan Cain, Wildlife Division Director, Texas Parks and Wildlife Department
- Kelly Keel, Executive Director, Texas Commission on Environmental Quality
- Chief Nim Kidd, Texas Division of Emergency Management
- Kendria Ray, Executive Director, Texas State Soil and Water Conservation Board
- Jared Karns, Division Director Fire & Emergency Response, Texas A&M Forest Service
- Rick Avery, Texas A&M AgriLife Extension Service

Federal Agencies

- U.S. Fish and Wildlife Service – Austin Ecological Services Field Office
- Scott Mason, Regional Administrator, U.S. Environmental Protection Agency Region 6
- U.S. Geological Survey (USGS) Texas Water Science Center

Regional and Local Agencies

- Katherine Romans, Executive Director, Hill Country Alliance
- Tara Bushnoe, GM, Upper Guadalupe River Authority
- Monica Thibodeaux, GM, Headwaters Groundwater Conservation District

Legislative Representatives

- Representative Wes Virdell, Texas House, District 53
- Senator Pete Flores, Texas Senate District 24
- Representative Ellen Troxclair, Texas House, District 19
- Senator Donna Campbell, Texas Senate District 25

COMMISSIONER BRIEFING PACKAGE

Documented Thermal Runaway Fires and Explosions Involving Battery Energy Storage Systems Worldwide

Assignment: CQB-2026-003

Prepared for: Kerr County Commissioner Rich Paces

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Documented Thermal Runaway Fires and Explosions Involving Battery Energy Storage Systems (BESS) Worldwide

Evidence rule: documented facts, expert/technical guidance, engineering inferences, and unknown/disputed findings are separated.

Executive Decision Dashboard

Decision Area	Finding	Commissioner Meaning	Evidence Status
Safety posture	BESS thermal runaway can produce flammable/toxic off-gas, reignition risk, and enclosure explosion/deflagration hazards.	Kerr County should not treat a BESS fire like a normal structure or grass fire. Emergency response guide: allow the battery fire to burn itself out and protect surroundings.	Documented technical guidance: DOE, PNNL, FSRI, ERG2024
Texas exposure	ERCOT reported maximum June 2025 battery generation of 5,794 MW and 177,929 MW of proposed battery capacity in the generation interconnection queue.	BESS is now material to ERCOT operations and likely to expand in rural counties.	Documented ERCOT report
County gap	Texas SFMO guidance points to NFPA 855/UL/IFC standards but states SFMO does not itself issue BESS permits; HB 3824 adds state standards for facilities >=1 MWh with COD on/after Jan. 1, 2027.	Counties need emergency-planning authority and a local checklist even where siting authority is constrained.	Documented Texas sources; implementation details require legal review
Recommended posture	Adopt evidence-based county review, emergency planning, developer-question protocol, public-notification plan, and legislative questions.	Protect public safety without making unsupported claims or blocking reliability resources categorically.	Policy recommendation / engineering inference

Scope and Evidence Limitations

Documented fact: this briefing uses the EPRI public BESS Failure Incident Database as the baseline global inventory. EPRI states the database focuses on incidents caused by BESS system/component failure with wider public health and safety impact. The inventory is necessarily limited to public reporting and changes over time. Therefore, this briefing should be updated before public release if new investigation reports are issued.

Unknown/disputed: many incident rows do not publicly disclose the final root cause, battery chemistry, suppression details, property-damage dollar amount, evacuation distance, environmental sampling results, or official lessons learned. Those fields are marked unknown unless a cited report documents them.

Global Incident Inventory Summary

Documented EPRI inventory rows captured in local appendix: 175 incidents/events as of 2026-07-14 access date.

Top Countries / Regions by Public EPRI rows	Count
South Korea	70
US	42
China	27
France	8
Australia	4
UK	3
Netherlands	3
Taiwan	3
England	2
Germany	2
Japan	2
Belgium	2

Selected Significant Incidents from Full Inventory

Date	Location	MW	MWh	Module / Chemistry	Application	State	Source
16 January 2025	US, CA, Moss Landing	300	1,200	LG Energy Solution	Resource Adequacy		EPA Presentation: Moss Landing Battery Fire Response
4 September 2021	US, CA, Moss Landing	300	1,200	LG Energy Solution	Solar Integration		Vistra
20 September 2022	US, CA, Moss Landing	182.5	730	Tesla	Energy Shifting, Ancillary Services	Operational	KSBW News
13 February 2022	US, CA, Moss Landing	100	400	LG Energy Solution	Solar Integration	Operational	KSBW News
18 September 2023	US, CA, Valley Center	140	560	LG Energy Solution		Operational	Valley Road Runner
5 April 2022	US, CA, Valley Center	140	560	LG Energy Solution		Operational	Valley Road Runner
4 January 2025	South Korea, Anjwa□myeon (Anjwa Township), Shinan□gun, Jeollanam□do	96	340	LG Chem	Solar+storage		FPN
4 January 2025	South Korea, Anjwa-myeon (Anjwa Township), Shinan-gun, Jeollanam-do	96	340	LG Chem	Solar+storage		FPN

Date	Location	MW	MWh	Module / Chemistry	Application	State	Source
13 June 2024	South Korea, Baeksu□eup, Yeonggwang□gun, Jeollanam□do	100	312		Solar+storage		Energy News
13 June 2024	South Korea, Baeksu-eup, Yeonggwang-gun, Jeollanam-do	100	312		Solar+storage		Energy News
27 December 2022	South Korea, Jeollanam-do, Yeongam-gun, Geumjeong-myeon		251		Solar Integration	Operational	E2News.com
15 May 2024	US, CA, Otay Mesa	250	250	LG Chem	Energy shifting		The San Diego Union-Tribune
25 September 2023	South Korea, Shinchon□dong, Seongsan□gu, Changwon, Gyeongsangnam□do	35	175	Samsung SDI	Peak shaving BESS only		Electimes
25 September 2023	South Korea, Shinchon-dong, Seongsan-gu, Changwon, Gyeongsangnam-do	35	175	Samsung SDI	Peak shaving BESS only		Electimes
6 September 2022	South Korea, Incheon	103	103	Samsung SDI	Energy Shifting	Operational	Teller Report
10 October 2024	South Korea, Soryong□dong, Gunsan□si, Jeonbuk		102		Peak shaving		YNA
10 October 2024	South Korea, Soryong-dong, Gunsan-si, Jeonbuk		102		Peak shaving		YNA
1 October 2025	US, AZ, Peoria	25	100	NMC	Peak shaving	Operational	AZ Family
19 February 2025	England, Essex, Tilbury	300	600		Frequency Regulation, Capacity Market, Balancing Mechanism, Wholesale Power Markets	Construction	Energy Storage News
16 June 2025	South Korea, Gyeongsangbuk-do, Pohang City		62.1	Li ion	Industrial	Operational	Yonhap News Agency
12 January 2022	South Korea, Nam-gu, Ulsan	10	50	SK Innovation	Peak Load Reduction	Operational	E2News
21 January 2019	South Korea, Ulsan		46.8		Demand Charge Mgmt	Charged, inactive	MOTIE Investigation, June 2019
31 May 2023	US, NY, East Hampton	5	40	LG Chem	Resiliency, Utility Peak Reduction	Operational	East Hampton Star
26 June 2023	US, NY, Warwick	8	36	Powin Energy	Energy Shifting, Backup	Operational	Convergent Energy and Power

Date	Location	MW	MWh	Module / Chemistry	Application	State	Source
9 March 2025	South Korea, Doam□myeon, Gangjin□gun, Jeollanam□do, Seokmun□ri		35				Newsis
9 March 2025	South Korea, Doam-myeon, Gangjin-gun, Jeollanam-do, Seokmun-ri		35				Newsis
16 April 2021	China, Beijing		25	Gotion High-Tech [LFP]	Solar Integration	Construction, Commissioning	Investigation Report (English Translation)
27 June 2023	US, NY, Warwick	4	22	Powin Energy	Energy Shifting, Backup	Operational	Convergent Energy and Power
24 September 2019	South Korea, Pyeongchang		21	Samsung SDI	Wind Integration	Charged, inactive	Social construction of fire accidents in BESS in Korea
15 June 2018	South Korea, North Jeolla, Gunsan		19	Samsung SDI	Solar Integration	Charged, inactive	No Cut News

Public Safety Analysis

Hazard	Documented fact / guidance	County implication
Toxic/flammable gases	DOE identifies off-gas from damaged cells including hydrogen, carbon monoxide, carbon dioxide, hydrogen fluoride, and hydrocarbons; FSRI documented HCN and CO monitoring at McMicken.	Require air monitoring, gas detection, and public-message triggers.
Explosion/deflagration	DOE identifies hydrogen accumulation explosion risk; FSRI documents deflagration injuring firefighters after enclosure opening.	Avoid entry; require explosion-control design and incident-commander data access.
Water usage	Water may be used for exposure protection/cooling but may not stop internal cell thermal runaway already in progress.	Require water supply and runoff plan; do not promise quick extinguishment.
Burn duration/reignition	DOE states once a cell is in thermal runaway there is no way to stop the reaction and reignition is possible.	Plan for long-duration incident, reentry control, and thermal monitoring.
Evacuation distances	No universal distance is established by reviewed sources; zones must depend on site, plume, gas readings, weather, and vulnerable populations.	Adopt preplanned evacuation/shelter maps and update dynamically.
Environmental impacts	EPA's Moss Landing response demonstrates need for air/environmental monitoring and cleanup coordination.	Pre-identify TCEQ/EPA contacts, contractors, debris/firewater plan.
Groundwater risk	Risk depends on drainage, containment, battery materials, firewater use, and cleanup; do not assert contamination without sampling.	Require containment and sampling plan.

Texas Implications

Documented fact: ERCOT's July 2025 monthly report states maximum June battery generation was 5,794 MW and that battery energy storage represented the largest component of ERCOT's generation interconnection queue, with 177,929 MW among 420,381 MW of proposed generation capacity. This does not prove every queued project will be built, but it documents strong developer interest.

Documented fact: HB 3824, 89th Legislature, creates Utilities Code Chapter 187 for battery energy storage facility safety; applies to BESS facilities with capacity of one megawatt hour or greater and commercial operations date on or after January 1, 2027; requires the Commissioner of Insurance by rule to adopt fire-safety standards and testing requirements based on nationally recognized standards such as UL 9540A; and gives counties/municipalities request rights for independent evaluation reports while restricting inconsistent local regulation unless otherwise authorized.

Engineering inference: rural counties should assume that a major BESS event may exceed ordinary VFD capacity, require hazmat/air monitoring, involve long-duration defensive operations, and create public communications demands beyond ordinary fire response.

Regulatory Review

Authority/guidance	Role in BESS safety	Recommended use
Battery Energy Storage System Fire Safety	Thermal runaway, off-gas, reignition, hydrogen explosion risk, safety systems.	Federal technical source.
Battery Energy Storage System Safety Report: Design Considerations for Electric Cooperatives	Rural utility/cooperative BESS safety, thermal runaway, codes, commissioning/decommissioning.	Federal national laboratory report.
FAQ: Texas battery energy storage systems	Texas fire-safety guidance, local permitting/enforcement context, standards references.	Texas official agency guidance.
H.B. No. 3824, 89th Texas Legislature, enrolled bill text	Texas battery energy storage facility fire safety standards and emergency operations plans.	Official bill text.
ERCOT Monthly, July 2025	Texas battery generation and interconnection-queue context.	Official ERCOT source.
Understanding UL 9540A, NFPA 855 and Large-Scale Fire Testing	Difference between UL 9540 system listing and UL 9540A thermal-runaway/fire-propagation testing.	Standards organization technical guidance.
2021 International Fire Code, Chapter 12, Energy Systems / Section 1207 Electrical Energy Storage Systems	Model fire-code requirements for ESS construction documents, commissioning, decommissioning, fire protection, explosion control, and emergency planning.	Model code source.
NFPA 855: Standard for the Installation of Stationary Energy Storage Systems	Stationary ESS installation, hazard mitigation, fire protection, separation, emergency planning.	Authoritative consensus standard; full standard may require access.