



# BLACKMOUNTAIN

ENERGY STORAGE

## KILLEEN CITY COUNCIL WORKSHOP

GOLDENEYE BESS

May 2023

## CORPORATE OVERVIEW

- Founded in 2007 by Rhett Bennett
- Headquartered in Fort Worth, TX
  - BMES headquartered in Austin, TX
- Family of entrepreneurial companies experienced in sourcing, developing, and operating assets
- Through their experience at the Black Mountain Entities, members of management have overseen investment of >\$1.35B in various assets and ventures
- Flat organizational structure with hands-on executive management
- Deep expertise within every vertical to create long-term value for customers and stakeholders

## HISTORIC & CURRENT INVESTMENTS

### Essential Commodities



OIL & GAS



NICKEL



LITHIUM



POTASH



WATER

### Infrastructure & Logistics



TRANSPORTATION



DISPOSAL



SAND MINES

Produced Water Management  
(Byproduct of O&G Production)

Economic Material Extracted  
Throughout Process

### Energy Transition Applications



BATTERY  
STORAGE

### Financial Vehicles



HEDGE  
FUNDS



ROYALTY  
VEHICLES



SPACS

## BLACK MOUNTAIN BY THE NUMBERS



**3,400+**

Upstream  
Transactions  
Executed



**19,605**

Wells Planned  
And Monitored



**3,108**

Wells Drilled  
And Frac'd



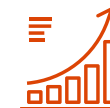
**\$2B**

USD transacted  
since 2007



**34M**

Tons of Frac  
Sand Mined



**9**

Businesses  
Built Since 2007



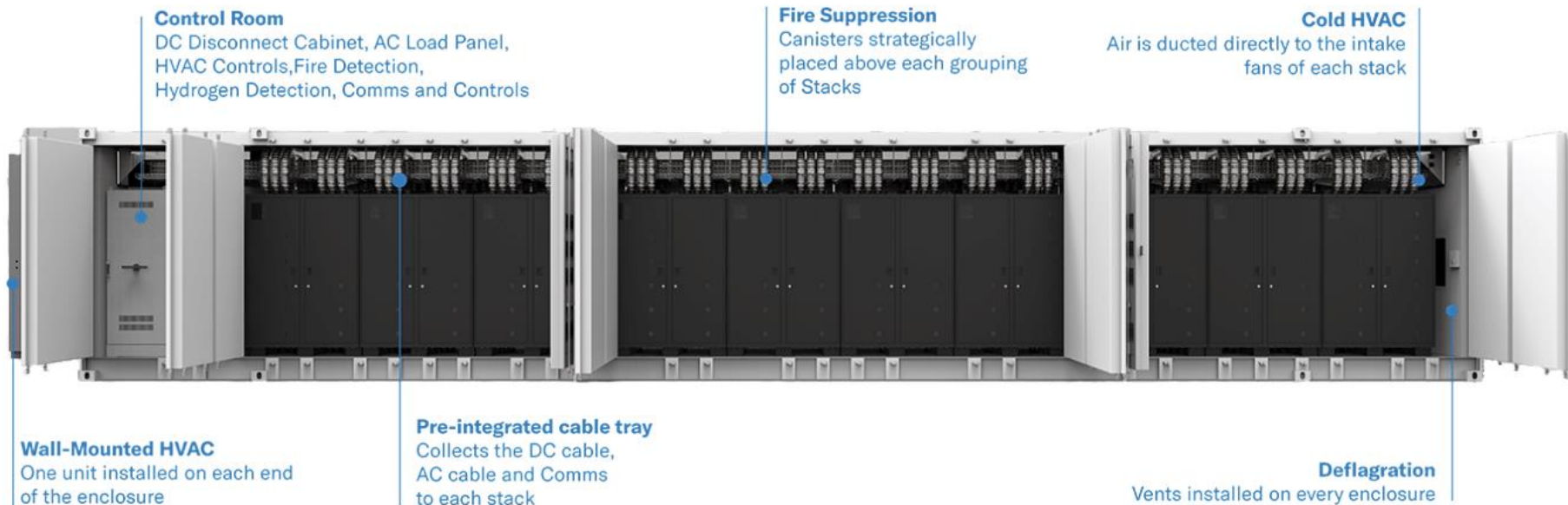
**300+**

Years Of Combined  
Experience

## BATTERY ENERGY STORAGE SYSTEMS EXPLAINED

Utility-scale BESS facilities are connected directly to the electric grid and consist of:

- Lithium-ion batteries & battery racks
- Battery enclosure
- Inverters to convert DC to AC electricity
- Energy Management System (EMS) controls and monitors equipment
- Fire suppression and HVAC systems



## BENEFITS TO KILLEEN AND THE SURROUNDING AREA



### **RESOLVES TRANSMISSION CONGESTION**

Unparalleled operational flexibility allows battery storage to resolve congestion brought on by growth in intermittent renewable resources and additional industrial development



### **INCREASE ELECTRIC RELIABILITY**

Battery energy storage is uniquely positioned to improve grid resilience, leading to fewer blackouts and lower power prices



### **SIGNIFICANT TAX CONTRIBUTOR**

With proposed capital cost of ~\$180MM and operational life of 20+ years, the proposed facility will become a meaningful contributor for decades to come.



### **GOOD NEIGHBORS**

Black Mountain is all about putting down roots within our communities; our goal is to give back to the community by delivering economic opportunities and outreach support for local causes

## FIRE SAFETY FEATURES

The enclosure features a broad range of fire detection and prevention mechanisms with built-in redundancy.

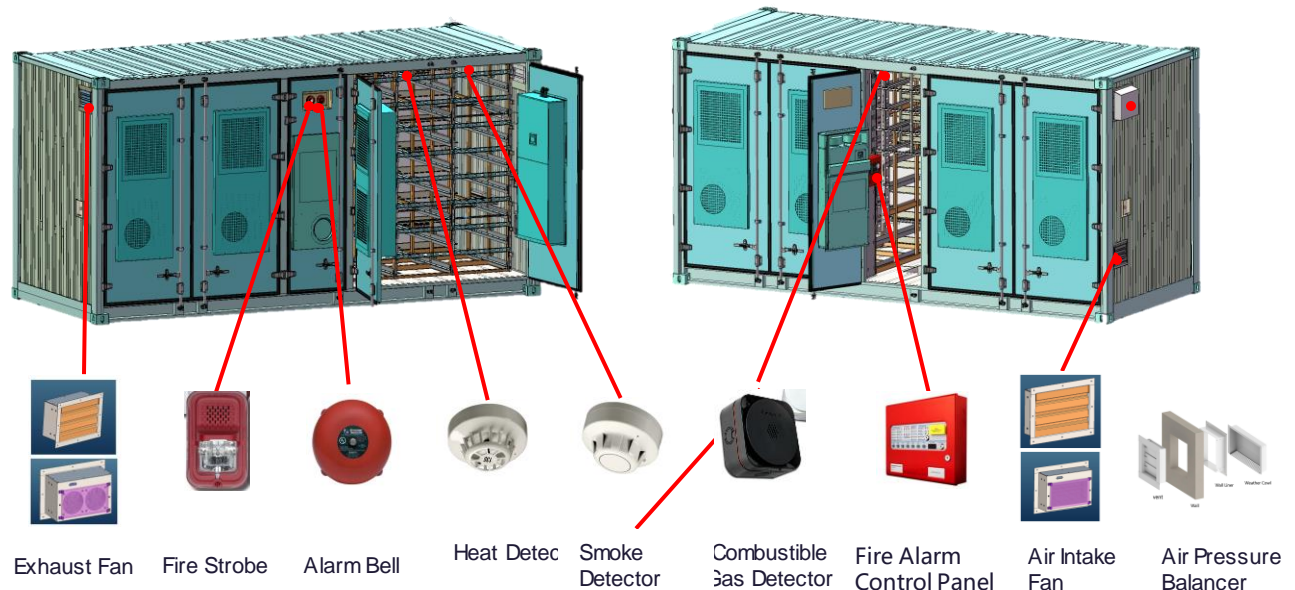
### SAFETY FEATURES

- Fire detection (smoke + heat detection)
- Fire alarm (remote and local)
- Explosion prevention (combustible gas detection, active ventilation)
- Emergency shutdown (E-Stop)
- Non-walk-in container design with open door sensors
- Lockable disconnect switch for LOTO

### REDUNDANCY DESIGNS

- Two sets of smoke, heat detectors, trigger of any will report fire alarm
- Two gas detectors, trigger of any will report gas alarm
- Build in UPS for battery monitoring, ventilation, fire detection, and alarming
- Backup aux power supply for fire safety system

### FIRE ALARMING COMPONENTS LAYOUT





The UL9540 test method was created to address safety concerns identified by building codes and fire services through developing data on the fire and deflagration hazards from thermal runaway and its propagation through energy storage systems.

The test consists of four stages of testing where the cell, module, unit, and installation are forced into a thermal runaway condition.

The BESS units will be fully tested and certified in accordance with UL9540.

## UL9540 – UNIT LEVEL FIRE TEST RESULTS

- No module-to-module thermal runaway propagation
- No flying debris or explosive discharge of gases during the test
- No electrical arcs, or other electrical events during test

*Note: Above summaries are based on draft test report from the NRTL based on recent completed UL9540A tests. Final report to be expected later in development.*

[illegible][illegible]

<b>Gültigkeitsbereich:</b> China		 <b>TÜV Rheinland®</b> Zertifiziert nach	
<b>Produkt-Nr.:</b> Test artikel:	<b>CN2016C1 001</b> Kunden Referenz-Nr.: 2371108	<b>Auflage-Nr.:</b> Order-Nr.:	<b>24022002</b> Seite 1 von 51
<b>Kunden Referenz-Nr.:</b> 2371108	<b>Auflage-Nr.:</b> Order-Nr.:	<b>2022-08-30</b>	
<b>Auftraggeber:</b> CN	Ede Energy Storage Co., Ltd. 199, Lufan Road, INDU. BUCHU City, Jiangsu, P.R. China		
<b>Prüfgegenstand:</b> Test Item:	Battery Rack		
<b>Prüfungsmethode / Type-Test:</b> Identifikations / Type-Test:	GB-Code: R-370 15-A-H, GB-Code: R-370-2-A-H, GB-Code: R-370-4-A-H		
<b>Auflageanlass:</b> Test request:	Test report		
<b>Prüfungsort:</b> Inspection location:	15, BSH4, 1500 (Fourth Edition): Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems		
<b>Warenkennungsangabe:</b> Identification:	2022-10-14		
<b>Produkt-Nr.:</b> Test sample No.:	K001010001		
<b>Testdatum:</b> Testing period:	2022-08-30, 2022-11-03		
<b>Ort der Prüfung:</b> Place of testing:	See clause 1.1 of main report		
<b>Prüfungsort:</b> Testing laboratory:	See clause 1.1 of main report		
<b>Prüfer-Nr.:</b> Test report:	R61 main report		
<b>geprüft von:</b> authorized by:			
<b>Datum:</b> 2022.11.05	<b>Prüfer / Wang Ding</b> Project Engineer	<b>Ausstellungsort:</b> Issued in:	<b>Beijing / 北京</b> Beijing / P.R.China
<b>Bestellung / Auftrag:</b> Sales order / Order:	2022.11.05		
<b>Zustand des Prüfgegenstandes bei Ablieferung:</b> Condition of the test item at delivery:		Prüfmitel vollständig und unberührt Test item complete and undamaged	
Der Prüfer hat keine Beanstandungen festgestellt. The inspector has found no objections.		Die Prüfung wurde nach den in der Norm angegebenen Verfahren durchgeführt. The inspection was carried out according to the methods specified in the standard.	
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## UL9540 - Cell Level

## UL9540 - Module Level

UL9540 - Unit Level

## PROJECT LOCATION





## PROJECT OVERVIEW

# GOLDENEYE BESS - 25INR0100

### LAND

- Land Control: 21 acres
- Land Status: Purchase Option executed
- Location: S. Killeen across from Killeen Police Dept.

### INTERCONNECT

- Proposed Size: 200MW x 2h
- Proposed POI: 138kV Oncor Substation
- Filing Date: 10/15/2022
- Estimated Operation Date: Q3 2025

### ENVIRONMENTAL / PERMITTING

- Critical Issues Analysis: Complete
- Field Environmental Studies: Complete
- Current Zoning: Agriculture – Rezone to B-2 w/ CUP
- Platting: Not required (>10 acres)
- Estimated Filing of Major Permits: Q4 2023

### ENGINEERING / CONSTRUCTION

- Preliminary Site Layout: Complete
- Estimated Construction Start: Q3 2024

### ADDITIONAL INFO

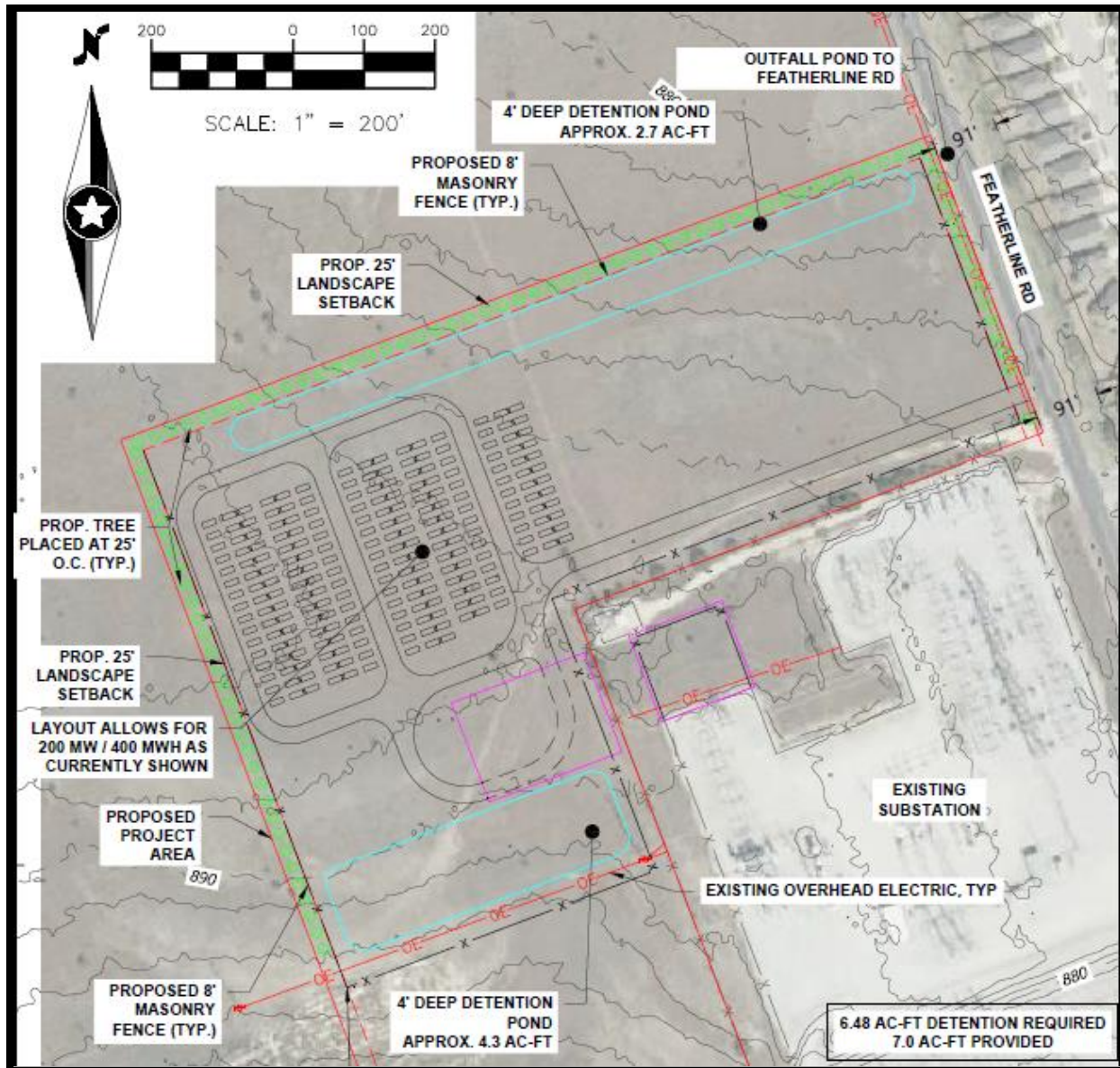
- Full-Time Employees: 0 (unmanned facility)
  - 100 – 200 construction jobs
  - Landscaping for site maintenance
- Trips Per Month (once operational): 1-2
- Project Cost: ~\$180M



**County:** Chambers  
**RTO Region:** ERCOT



# CONCEPT SITE PLAN





GOLDENEYE BESS

## BATTERY ENERGY STORAGE FACILITY – PFLUGERVILLE, TX





GOLDENEYE BESS

## BATTERY ENERGY STORAGE FACILITY – PFLUGERVILLE, TX





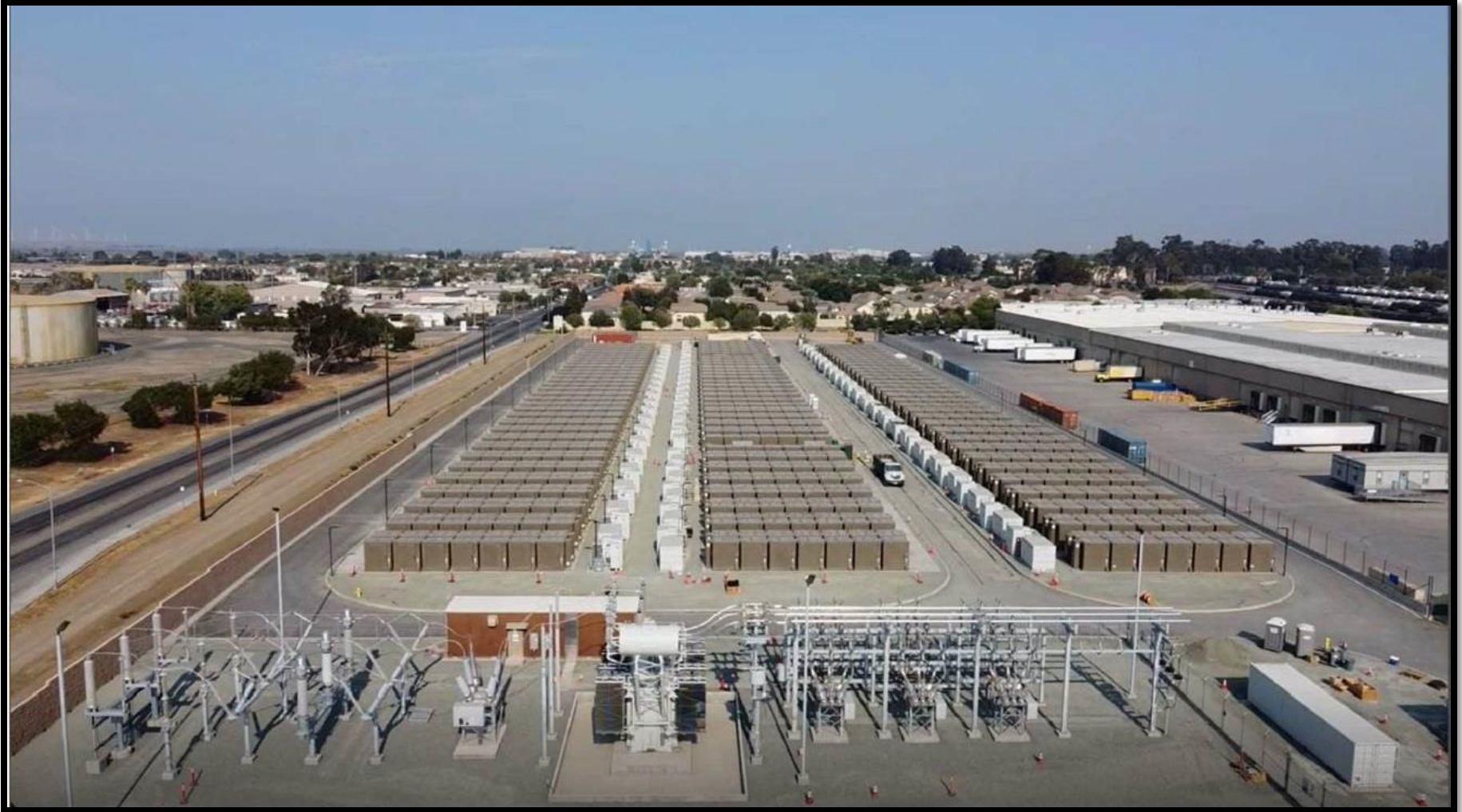
GOLDENEYE BESS

## BATTERY ENERGY STORAGE FACILITY – PFLUGERVILLE, TX



GOLDENEYE BESS

## BATTERY ENERGY STORAGE FACILITY – CONTRA COSTA, CA



*500 MW BESS facility located in dense urban area*