DOCKETED	
Docket Number:	24-OPT-02
Project Title:	Compass Energy Storage Project
TN #:	259513
Document Title:	Cathleen Pryor Comments - Fire Safety Tech Manufacturing Defects in more than 25% of BESS
Description:	N/A
Filer:	System
Organization:	Cathleen Pryor
Submitter Role:	Public
Submission Date:	10/9/2024 4:36:59 PM
Docketed Date:	10/9/2024

Comment Received From: Cathleen Pryor
Submitted On: 10/9/2024
Docket Number: 24-OPT-02

Fire Safety Tech Manufacturing Defects in more than 25% of BESS

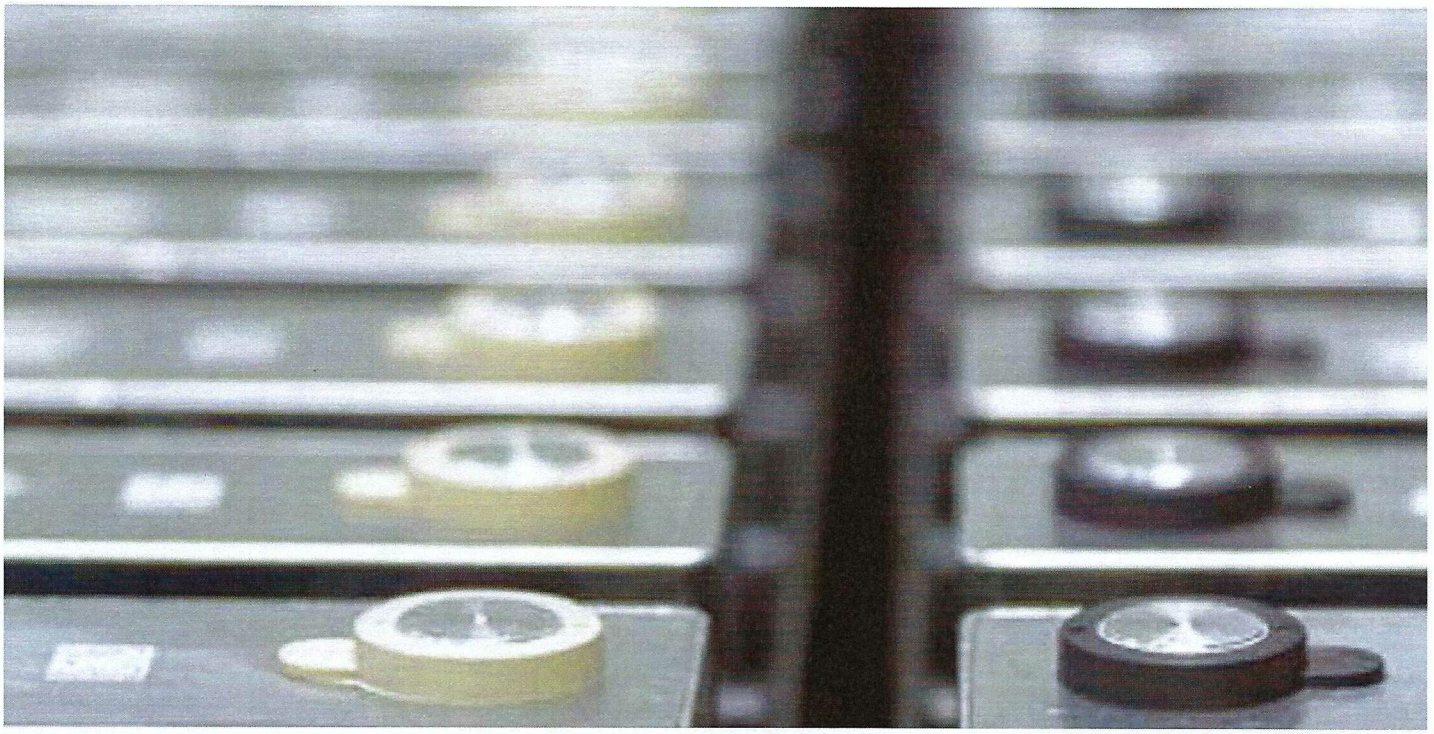
This permit is for Lithium Iron Phosphate batteries or similar technology batteries- Similar technology batteries would include Lithium Ion. Attached is a research article. The thermal management issues were traced to "system level" defects in 48% of the quality findings.
I have a concern about the manufacture of the batteries, the lack of specificity on which batteries will be used or if multiple types of batteries will be used (there are 1100 separate 30 foot long containers), and the manufacture of the shipping-size containers. Everything will be sourced from Asia as the Compass representatives told our Homeowners Association Board (Engie & Powerflow Development).
We do not know who is in charge of quality control in Asia or if there is a strict standard being applied. The representatives would not be more specific than stating Asia would be the source of the items.
Of course, we want American products to be used and American workers used to manufacture the batteries and the large containers. We want inspectors involved who will check these BESS containers carefully. Ideally, we want California workers and manufacturing plants involved.
If the containers have defects in the galvanized steel walls, seams or doors, the ocean air would degrade or cause openings that would allow dust, dirt, insects, and small animals inside very quickly. There are mice in the valley. If there are defects in some of the batteries, we are really in trouble. This area is within half a mile of thousands of residents. We are not protected by the perimeter walls. Embers would easily fly into the hillsides where California vegetation is being restored and there is no irrigation or fire hydrants. Then fire would race up the hills to ignite thousands of homes. The height of the containers would be nearly the height of the walls. Ocean breezes would lift embers up and quickly ignite the landscape.

Additional submitted attachment is included below.

Energy Transition

Fire safety tech manufacturing defects in more than a quarter of grid battery storage systems: study

Lithium-ion pivotal for large-scale renewable energy growth but quality issues must be tackled, claims report



BESS cells require high precision manufacturing. (Foto: Clean Energy Associates)

Gareth Chetwynd

Updated 8 March 2024, 07:20

More than a quarter of grid battery systems could have quality problems with key fire safety systems, according to a new report on an in-factory audit.

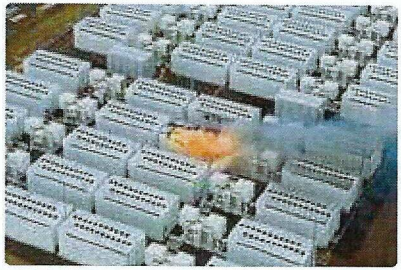
The six-year audit by Denver-based consultancy Clean Energy Associates (CEA) found quality issues in components that identify and suppress fire in 26% of battery energy storage systems (BESS) and defective components that manage temperature in 18%.

The report entailed 320 inspections, factory quality audits on 52 BESS systems and covered a total 30GWh of lithium-ion energy storage projects.

Some 64% of top-tier BESS cell manufacturers were audited worldwide, with a total of 1,300 manufacturing issues identified, CEA stated, adding that problems at factory level could be caught later during project installation and commissioning.

Recharge reported earlier this year **how high-profile blazes at lithium-ion battery projects** are damaging public confidence in and acceptance of the key energy transition technology.

"The past several years have shown that thermal runaway poses a significant risk to the energy storage industry," CEA stated.



Related

Green energy godsends or 'bombs waiting to go off'? Giant lithium-ion batteries draw fire-risk scrutiny

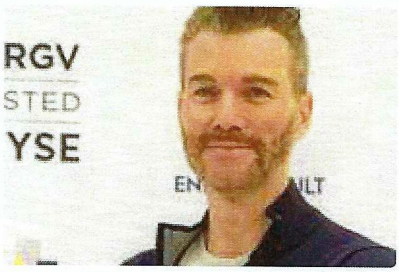
STORAGE

The preponderance of thermal management issues was traced to the fact that "system level" defects played a role in 48% of the quality findings.

CEA said this was due quality control shortcomings in a "highly manual and labour intensive" BESS integration process. Systems were also described as vulnerable to underlying defects with components that were not caught by earlier quality checks.

Issues occurring in the balance of system stage related to defective components and improper integration procedures, while problems in the enclosure stage were more rooted in assembly and transportation.

The audit found strict precision and safety requirements in highly-automated cell manufacturing processes. But this category still accounted for 30% of the quality issues due to lengthy production processes and higher precision requirements "leaving more room for error".



Related

Lithium-ion battery fires 'will go up exponentially', warns energy storage chief

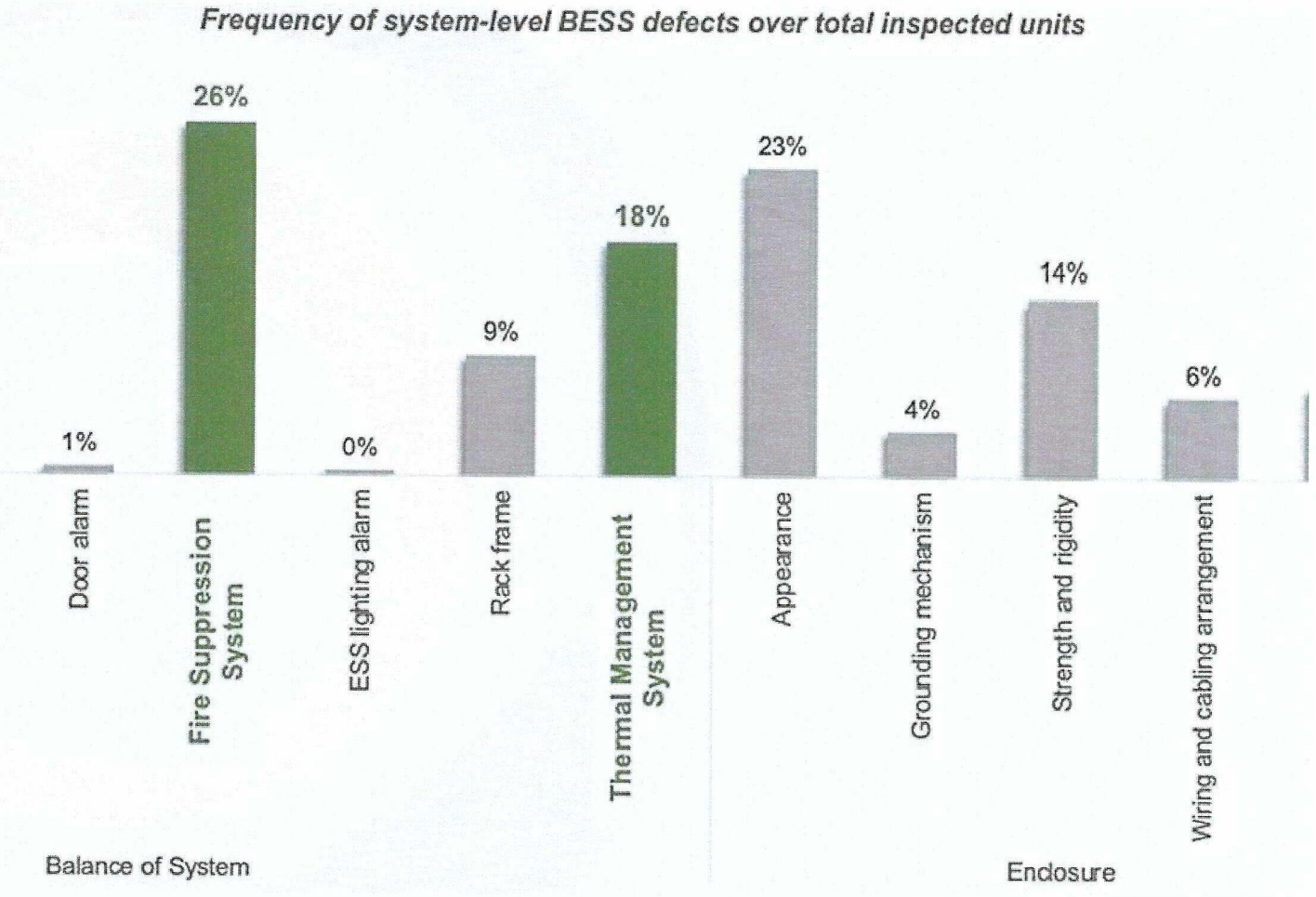
STORAGE

These cell quality findings were quite evenly split between electrode manufacturing — attributed to improper measurement system analysis and process control — and the finishing and assembly of the cells, where improper process and quality control execution was blamed.

The 23% of quality issues associated with modules were blamed primarily on the use of lower levels of automation found on some production lines.

BESS systems were defined as those using multiple batteries to store energy from a power plant or the grid.

Note: Updated version clarifies that problems addressed relate to fire safety systems and in-factory audit rather than field deployment.



BESS. Frequency of system-level BESS defects against total inspected units. (Foto: Clean Energy Associates)

Related

Renewables Rich List | China's billionaire 'battery king' who has Washington worried

STORAGE

Blazing batteries: Silicon Valley tech outfit claims it's cracked key lithium-ion safety challenge

TECHNOLOGY

'Dry water' could be key to fighting battery blazes stoking energy transition fears

STORAGE