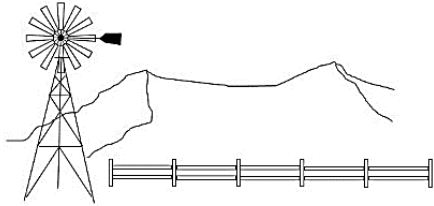


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<b>Docket Number:</b>	24-BSS-01
<b>Project Title:</b>	Battery Energy Storage Systems
<b>TN #:</b>	255492
<b>Document Title:</b>	Save Our Rural Town comments - Staff Workshop on BESS Safety
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**Save Our Rural Town comments in Docket 24-BSS-01**

*Additional submitted attachment is included below.*



# SAVE OUR RURAL TOWN

April 1, 2024

Elizabeth Huber, Director  
Siting, Transmission and Environmental Protection Division  
California Energy Commission  
Docket Unit, MS-4  
Docket No. 24-BSS-01  
715 P Street Sacramento, California 95814

Subject: Staff Workshop on BESS Safety February 23, 2024.

Reference: Notice of Staff Workshop on BESS Safety Posted February 2, 2024, in  
Docket: 24-BSS-01

Dear Director Huber;

Save Our Rural Town ("SORT") appreciates the efforts undertaken by the California Energy Commission ("CEC") to address public concerns regarding the safety of Battery Energy Storage Systems ("BESS") and in particular, lithium-based BESS facilities. SORT is an unincorporated association of rural residents that advocates on behalf of rural communities in Southern California; many of our members reside in the Antelope Valley area of Los Angeles County where hundreds of thousands of acres of pristine desert areas have been targeted for future solar+BESS farm development that will occur in and around existing rural communities which have endured for more than 100 years. Accordingly, SORT members have a significant stake in the activities addressed in Docket 24-BSS-01.

SORT understands that the Commission intended the Workshop to present diverse perspectives and provide a fair and balanced discussion of the concerns surrounding BESS siting and land use issues; it is always hoped that participants in such workshops are genuinely interested in convening an open and honest dialogue regarding issues of concern. That was certainly the case for most of the panelist who participated in the February 23 workshop and were quite impressive; the lone exception was Mr. Murtishaw who participated on behalf of the California Energy Storage Alliance ("CESA") which is a special interest and lobbying organization whose membership is a veritable "who's who" of large,

powerful, and influential utility scale BESS developers<sup>1</sup>. It quickly became evident that Mr. Murtishaw was far more interested in using the workshop platform to further the interests of CESA's members rather than participate in a frank discussion regarding BESS public safety and siting concerns. SORT was, frankly, appalled by many of the remarks made by Mr. Murtishaw (who is a self-confessed non-expert<sup>2</sup>) and we are particularly concerned that the Commission will give undue weight to Mr. Murtishaw's comments. To preclude this possibility, SORT offers the following comments on Mr. Murtishaw's remarks.

#### Mr. Murtishaw is Ignorant of Zoning Issues Pertaining to BESS Projects.

Mr. Murtishaw was asked about what parts of existing local permitting processes for BESS are "working well" for developers, and can some of these successes be turned into "Best Practices", Mr. Murtishaw states:

*"I'm still pretty pretty new to this, and far from being an expert but just in the time that I've been with CESA and a couple of Board of Supervisors meetings that I've participated in, what I've seen is that some local jurisdictions (because storage is new and some cases there are no "in front of meter", or what might also be referred to as utility scale storage at all), that when these developers seek a permit, it's a first impression. And so, what some counties have done is just treat a large scale energy storage system as a similar use to other electrical infrastructure like a substation. That's not an exact analogy but, you know, it is a similar footprint. It has a lot of the same transformers and circuit breakers; a lot of the equipment is the same. You just have the storage, obviously. And because they have those existing, permitting processes, and because these are projects at least that I'm aware of that have been cited on industrially zone parcels, they just use a ministerial approval process. Very quick. It's very easy and doesn't bog down the project development process. And so obviously we love that! The more of that, the better! But we can understand that counties and cities do eventually want to craft more targeted or tailored permitting processes for energy storage and so this is like a "Tale of Two Cities" this contrast and how this has been approached. In December the Los Angeles County Board of Supervisors voted to deny an appeal and a battery energy storage project and ordered the staff to begin developing a more tailored energy storage process but left the ministerial process in place". [Timestamp 1:16:37].*

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<sup>1</sup> CESA Board Members include AES, NextEra, Vistra, Tesla, LG Energy Solutions, Avantis, Terra-Gen, and REV Renewables (among others). CESA maintains a cadre of Sacramento Lobbyists (<https://www.storagealliance.org/our-work/working-groups>) and has more than 100 member organizations ranging from energy developers, utilities, BESS manufacturers, and other energy interests (<https://www.storagealliance.org/our-members>).

<sup>2</sup> Mr. Murtishaw affirms that he is "far from being an expert". Timestamp 1:16:34.

Putting aside the fact that Mr. Murtishaw has no experience in utility scale BESS planning or land use matters, the remarks he made show a manifest ignorance of utility scale BESS projects and the land use concerns that they pose. For instance, Mr. Murtishaw's claim that utility scale BESS are similar to substations and have the same footprint could not be more wrong as evidenced by a new utility scale BESS project proposed by Avantus Corporation (a CESA Board Member Organization) in the rural community of Acton; the project (referred to as the "Angeleno" Project) is more than a mile long and it winds around homes and businesses throughout an entire rural residential neighborhood<sup>3</sup>. The Angeleno project is enormous (it has a generation capacity of 1,415 MW) and, contrary to what Mr. Murtishaw claims, it is **nothing** like any substation in California; it certainly does not have the same "footprint" as any substation in California. SORT further points out that utility-scale, lithium-based BESS facilities are prone to spontaneous fires, explosions, and deflagrations which release large quantities of toxic gases that spread for miles<sup>4</sup>; in this regard, they are **nothing** like electrical substations and they pose a significant public safety and wildfire risk particularly in high fire hazard areas.

Mr. Murtishaw also expressed an understanding that the utility-scale BESS projects in Los Angeles County are sited on industrially zoned property; again, Mr. Murtishaw is wrong. The "Angeleno" project is located entirely on land that is zoned for residential agricultural (small farm) purposes<sup>5</sup>, and according to Avantus, the numerous parcels involved in the Angeleno project were under contract for sale more than a year ago. Because Avantus is a CESA Board Member Organization<sup>6</sup>, CESA is cognizant that "Angeleno" is not on industrially zoned property. Moreover, the "Maathai" BESS project proposed for development in Acton by Hecate Energy (who is also a CESA Member Organization) is also located entirely in a residential agricultural zone. Additionally, SORT understands that NextERA Energy (who is also a CESA Board Member Organization) is trying to acquire large areas in Acton for additional utility-scale BESS facilities; the land that NextERA is focusing on is all zoned

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<sup>3</sup> Avantus Corporation presented the "Angeleno" project at a Community meeting in Acton in May, 2023; materials provided by Avantus can be provided upon request.

<sup>4</sup> The public safety risks posed by BESS facilities will, no doubt, be addressed by others who submit comments in Docket 24-BSS-01.

<sup>5</sup> Avantus Corporation provided a map of the proposed Angeleno project at a community meeting in May of 2023; the entire project is on A-2 zoned property which, according to the Los Angeles County General Plan, is reserved for residential agricultural uses.

<sup>6</sup> <https://www.storagealliance.org/our-members>

for residential agricultural uses. *Everything* that Mr. Murtishaw said about the scope, scale, and zoning of BESS projects is erroneous; Mr. Murtishaw's gross misrepresentation regarding the facts pertaining to zoning designations of the many BESS projects in Los Angeles County that are being pursued by CESA Member Organizations is inexplicable and unforgivable. SORT is particularly appalled by Mr. Murtishaw's preference for ministerially approving utility scale BESS facilities because ministerial review does not "bog down the project development process". Mr. Murtishaw is certainly correct that perfunctory ministerial approval for all utility-scale BESS facilities would be uniquely advantageous for CESA's member organizations because it would allow their utility-scale BESS projects to sidestep environmental review pursuant to the California Environmental Quality Act ("CEQA"), ignore municipal resource concerns (such as water resource availability, emergency response capabilities, etc.), and avoid pesky public notice/public comment opportunities; this would facilitate such projects and move them quickly from project proposal to project construction. However, perfunctory ministerial review of utility-scale BESS facilities only serves the interests of energy developers; it *does not* serve municipal interests and it certainly does not serve the interests of affected residents and businesses.

An example of how Mr. Murtishaw demonstrated that his purpose in participating in the CEC Workshop was to advance the interests of CESA members is revealed in his emphatic comments expressing the extent to which his organization would support perfunctory ministerial BESS approvals; specifically, he stated "Obviously we [CESA] love that! The more of that, the better!" He also pointed out that ministerial approvals are "very quick", "very easy", and do not "bog down the project development process". Mr. Murtishaw's disparaging characterization of zoning/land use entitlement processes as mere impediments which "bog down the project development process" was particularly offensive and arguably disrespectful toward the planning professionals who were in attendance. While it is understandable that CESA's members may have that attitude, it is completely untoward for any panel member to express such a position.

Mr. Murtishaw's comments demonstrate beyond any doubt that his purpose in participating in the CEC Panel was *not* to provide unbiased and expert advice to city and county planners regarding land use and zoning concerns pertaining to the siting and approval of utility-scale BESS facilities; rather, it was to further the interests of CESA's members by advocating for perfunctory BESS approvals. Respectfully, SORT opines that Mr. Murtishaw had no business participating in the Commission's February 23 workshop.

## LiFePO4 BESS Technologies are In Fact Susceptible to Thermal Runaway

Mr. Murtishaw discussed two types of Lithium-based batteries which he referred to as "Lithium Iron Phosphate" (also known as LiFePO<sub>4</sub> and LiFPO) and "NMC" (also known as "Lithium NMC" which refers to Nickel, Manganese, and Cobalt ions). He stated:

*"Both can be designed to be safe.... as the industry is moving towards more Lithium Iron Phosphate, a lot of the concerns about the thermal runaway and the intensity of those fires actually apply to NMC and not to Lithium Ion Phosphate".* [Timestamp 1:11:07]

Mr. Murtishaw's claim that "thermal runaway" and "intense fire" concerns do not apply to Lithium Iron Phosphate batteries is incorrect. Although the chemistry of LiFePO<sub>4</sub> batteries suggest that they should have improved safety outcomes compared to than Lithium NMC technologies<sup>7</sup>, LiFePO<sub>4</sub> batteries still experience thermal runaway and LiFePO<sub>4</sub> accidents are still "frequent"<sup>8</sup>. Marketers support their claims that LiFePO<sub>4</sub> is "safe" by pointing out that its thermal runaway temperature is high compared to Lithium NMC; however, the temperature difference is less than 80°C. Contrary to what Mr. Murtishaw would have the Commission and the public believe, LiFePO<sub>4</sub> batteries are not immune to thermal runaway. Furthermore, LiFePO<sub>4</sub> BESS fires are **more intense** and **burn much faster** than Lithium NMC BESS because they release more hydrogen gas and hydrocarbons when thermal runaway is initiated<sup>9</sup>; this makes them arguably more explosive and more dangerous than Lithium NMC chemistries. Nothing that Mr. Murtishaw says about LiFePO<sub>4</sub> batteries is true: they are certainly not safe; they are certainly not immune to thermal runaway; and when thermal runaway occurs, the resulting fire is actually more intense than with Lithium NMC batteries.

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<sup>7</sup> Proponents assert that LiFePO<sub>4</sub> batteries have "an inherently safe chemistry".

[https://ceb8596f236225acd007-8e95328c173a04ed694af83ee4e24c15.ssl.cf5.rackcdn.com/docs/product/Relion\\_SafetyLithiumBattery\\_Jan2021.pdf](https://ceb8596f236225acd007-8e95328c173a04ed694af83ee4e24c15.ssl.cf5.rackcdn.com/docs/product/Relion_SafetyLithiumBattery_Jan2021.pdf) Page 3.

<sup>8</sup> *Understanding of Thermal Runaway Mechanism of Lifepo4 Battery In-Depth By Three-Level Analysis.* Yue Zhang, Siyuan Cheng, Wenxin Mei, Lihua Jiang, Zhuangzhuang Jia, Zhixiang Cheng, Jinhua Sun, Qingsong Wang. Applied Energy, Volume 336, 2023.

<https://www.sciencedirect.com/science/article/abs/pii/S0306261923000594>

<sup>9</sup> *A Review of Thermal Runaway Prevention and Mitigation Strategies for Lithium Ion Batteries.* Seham Shahid, Martin Agelin-Chaab - Engineering and Applied Science, Ontario Tech University. Published in the Elsevier Journal of Energy Conversion and Management; Vol. 16. December 2022. Table 2.

<https://www.sciencedirect.com/science/article/pii/S2590174522001337/pdf?md5=bbada63bce4d4dca9cce371e45dc62c00&pid=1-s2.0-S2590174522001337-main.pdf>

Mr. Murtishaw Disparaged Public Concerns and even Denigrated Public Comments Offered in Response to Proposed Utility-Scale BESS Projects.

Mr. Murtishaw offered commentary on his perspective of recent County Board meetings regarding BESS [beginning at timestamp 1:09:051 and continuing again at timestamp 1:16:33] and in particular, he focussed on a Los Angeles County Board of Supervisors hearing that was convened on December 19 to address an appeal of a ministerial approval that the County Regional Planning Department had issued for a utility scale BESS facility in Acton. At that meeting, more than 20 Acton residents (including many SORT members) expressed concerns regarding the public safety risks of the proposed project as well as the 2,285 MW of proposed BESS facilities in the community. Regarding such public comment, Mr. Murtishaw stated:

*"The public comments that I heard were based on old information that apply to different technologies or ways that energy source projects were developed in the past but are no longer... some of the early larger scale energy storage projects had multiple banks of batteries, all in a building that was fully contained. And when a thermal runaway event happens, there's a risk that then spreads to all the other battery modules in that building you also get a buildup of gases, and you know other safety issues can arise. Now, most of the larger scale projects are containerized so that manufacturers are developing these standard containers".*

SORT offers the following clarification of the events of the December 19 hearing: At issue was an appeal that was filed by SORT pursuant to the California Energy Quality Act ("CEQA") pertaining to the County's conclusion that a 420 MW Lithium-based BESS facility in a residential area of the community of Acton was exempt from CEQA. The basis for the County's conclusion was the fact that the Department of Regional Planning had ministerially approved the BESS by declaring that it was "similar" to a distribution substation. At the December meeting, SORT (and others) pointed out that the CEQA exemption was improper because the enormous Humidor BESS project was nothing like a distribution substation. Nonetheless, the Board rejected the CEQA appeal and upheld the ministerial action which perfunctorily approved a 420 MW Lithium-based BESS in the Very High Fire Hazard area of Acton without public notice or environmental review and despite the County's awareness of the very real and very significant public safety and wildfire risks that it posed to the community.

For the record, SORT participated in that hearing and we can assure the Commission that Mr. Murtishaw is very much mistaken because all the comments which were made by affected Acton residents reflected the most current data available and not "old



information". For example, the public comments did not address "past technologies" involving "banks of batteries all in a building" because the BESS facilities about which the residents spoke were all "containerized". More importantly, containerized BESS are *certainly* capable of deflagration and sustained fire which pose a significant risk of sparking a wildfire in high fire hazard areas such as the community of Acton; the types of BESS that caught fire in multiple deflagration events at Moss Landing, California and in Jefferson County, New York were all containerized (as have been many, many BESS fires around the world including in the U.S., China, and Australia<sup>10</sup>). This is because, contrary to what Mr. Murtishaw seems to think, *containerizing a BESS does not prevent thermal runaway*. SORT considers Mr. Murtishaw's condescending and denigrating remarks about the efficacy and accuracy of public comments regarding utility-scale BESS facilities to be completely untoward; no Commission panel member should *ever* show such disrespect toward the public.

#### BESS that Comply With UL Standards Are Still Susceptible to Ignition and Explosion

Mr. Murtishaw represented that BESS are safe because they meet UL Standards. Specifically, he said that lithium BESS:

*"can be designed to be safe" and "are subject to various UL certification requirements going from the individual module or cell level to the pack to the whole system, and then NFP fire codes"* [Timestamp 1:11:16.]

Mr. Murtishaw is incorrect. It is impossible to design a safe lithium-based BESS because the chemistries involved all carry the risk of thermal runaway. That is an indisputable truth. In fact, the United Laboratories ("UL") standards that Mr. Murtishaw cites here prove conclusively that Lithium-based BESS are susceptible to fire and explosion. Specifically, UL Test Method 9540A is the primary certification protocol for assessing the explosion and flame characteristics of BESS, and it establishes that a large, containerized BESS system is UL-compliant if the explosion and/or flames that result from its deflagration do not propagate "beyond the width of the initiating BESS". This means that, even if a BESS container explodes or catches fire, UL still approves it as "certified" *as long as the flames and toxic gasses are expelled from the top of the container and do impinge directly on adjacent BESS containers*. UL 9540A stands as proof that UL-compliant Lithium-based BESS are susceptible to fire and deflagration.

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<sup>10</sup> The Electric Power Research Institute maintains a database of BESS deflagration events found here: [https://storagewiki.epri.com/index.php/BESS\\_Failure\\_Event\\_Database](https://storagewiki.epri.com/index.php/BESS_Failure_Event_Database)

The Lack of Perceived "Injuries" in Recent BESS Fires in New York or California is Irrelevant.

Mr. Murtishaw states:

*"There have been no injuries in any of the fires that have happened in New York or California. At least to my knowledge. That's what I've read." [Timestamp 1:12:22].*

Mr. Murtishaw's belief that the California and New York BESS fire events did not result in injuries is not dispositive and it is certainly not relevant. The outcomes from the multiple BESS fires in Moss Landing in California and the recent BESS fires in New York are not in any way indicative of the outcome of future BESS fires in California. Neither Moss Landing nor New York experience hot, dry ambient conditions or have dry vegetation that will ignite from BESS fire embers or experience "Santa Ana" wind conditions that can turn a single ember from a BESS fire into a raging wildfire that consumes entire communities.

Furthermore, neither of these areas are in High Fire Hazard Severity Zones where wildfire risks are clearly mapped by the State of California and designated as zones where conflagration events are likely to occur should a BESS deflagration event take place. The Commission should give little credence to Mr. Murtishaw's opinions regarding the safety implications of BESS facility siting because Mr. Murtishaw's opinions appear to be based on a meager assessment of a handful of BESS failures in non-fire hazard areas. California has taken great strides to protect development in wildfire prone areas by adopting new safety policies, requiring local agencies to strengthen their General Plan Safety Elements, and developing more stringent fire protection regulations; therefore, it would be untoward for the Commission to develop BESS siting guidance in fire hazard areas based on Mr. Murtishaw's trite observation that "There have been no injuries in any of the fires that have happened in New York or California". SORT urges the Commission to carefully consider high fire hazard areas in any guidance that is issued in Docket 24-BSS-01.

Finally, and pursuant to Mr. Murtishaw's "belief" that BESS fires in California and New York did not result in any injuries, it must be pointed out that, during the Warwick BESS fire in New York, air sampling showed that "dozens of toxins" were measured in area surrounding the BESS during the three-day fire event. Furthermore, the risk posed by toxics released during the Moss Landing BESS fire was so significant that residents were ordered to "shelter in place" and Highway 1 was closed for 12 hours. Under such circumstances, one cannot say with **any** certainty whether health-related incidents such as asthma attacks or other respiratory insults occurred. Mr. Murtishaw's "belief" that the BESS fires in New

York and California did not cause injuries is not persuasive evidence that BESS are safe and it is certainly *not* an appropriate metric for establishing siting criteria for BESS facilities.

Mr. Murtishaw Shows Little Regard for Local Agency Land Use and Zoning Mandates.

Counties and cities are political subdivisions of the state and as such are mandated by California's Planning and Zoning Law (Gov. Code, § 65000 et seq.) to make prudent land use decisions that ensure developments are consistent with adopted General Plans. A General Plan establishes the fundamental policies relative to the distribution of future land uses (both public and private) and it expresses the vision about how a community will develop and grow; it is also the legal underpinning for all land use decisions and as such, all project approvals and zoning decisions must be fully consistent with it. In other words, cities and counties are compelled to give due consideration to all proposed land use entitlements, particularly to those projects which (like BESS) pose unique and significant hazards to the areas where they are located. Mr. Murtishaw's comments suggest that he understands none of this; in fact, he appears to argue that such concerns should be subordinated to accommodate CESA's objective of substantially increasing BESS developments. For instance, Mr. Murtishaw states:

*"We [CESA] understand the desire to have better permitting processes that really reflect what storage is, and what risks that may or may not impose. But I think this is really, you know, this is not a good decision at a time when we need so much capacity in line you know, just for reliability in the near term not to mention our GHG goals. So, we [CESA] we don't think that's necessary. We'd hate to see that replicated". [Timestamp 1:19:21].*

Contrary to what Mr. Murtishaw suggests here, local agencies do not merely *desire* to have a permit process that reflects what a proposed land use is and accounts for its risks; rather, they are *mandated* by California's Planning and Zoning Law and by CEQA have a such a permit process. These mandates cannot be washed away merely to accommodate energy developers who have foolishly chosen to exploit risky lithium-based storage technologies instead of pursuing safer alternatives.

Mr. Murtishaw points to the City of Menifee's BESS ordinance [timestamp 1:20:01] and recommends their process to other jurisdictions so that they "Don't need to reinvent the wheel" by "looking at the permitting processes that have been developed and using that as a framework". However, Menifee is not like other parts of the state, and it is nothing like unincorporated Los Angeles County; therefore, Menifee's BESS permitting process is not

apropos to other areas. For example, no portions of Menifee lie within any fire hazard area; accordingly, Menifee is not confronted with the same fire risks that other areas face. And, insofar as SORT is aware, Menifee is not home to extensive animal facilities and rescue operations, so it is very different from rural communities like Acton. We note that, in the event of a lithium-based BESS deflagration event in such areas, animals at rescue facilities will not be protected by any "shelter in place" orders because their handlers will be unable to bring them indoors since they themselves will be "sheltering in place". In other words, and notwithstanding Mr. Murtishaw's condescending and insulting attitude, a local agency is not "reinventing the wheel" when it embarks on the development of a prudent BESS ordinance that fits the circumstances within its jurisdiction and complies with its own adopted General Plan and Area Plans.

Finally, Mr. Murtishaw points to the fact that Los Angeles County's ministerial BESS approval process remains in place while it goes through the process of developing a "tailored" BESS ordinance [time stamp 1:18:20] and as such, he holds this ministerial process out as the appropriate path for local jurisdictions to take. Mr. Murtishaw is clearly unaware that the ministerial BESS approval process that he praises is at this moment under litigation because it violates CEQA, local zoning provisions, and the California's Planning and Zoning Law<sup>11</sup>. Therefore, SORT does not recommend that other jurisdictions pursue ministerial approval for utility-scale BESS facilities.

For all the reasons set forth above, SORT respectfully requests that the Commission not give significant weight to any of the recommendations or remarks offered by Mr. Murtishaw during the January 23 workshop.

Sincerely;

/S/ Jacqueline Ayer  
Jacqueline Ayer, Director  
Save Our Rural Town  
[SORTActon@gmail.com](mailto:SORTActon@gmail.com)

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<sup>11</sup> Superior Court of The State of California County of Los Angeles - Central District. Case No. 23STCP03422.