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Nate Leutz Concern for Safety

Additional submitted attachment is included below.

Author: Nate Leutz

Independent | Moral Resistance

Project Title: Compass Energy Storage Project

Re: Opposition to Proposed Compass Energy Storage Project

Letter of Concern for Safety

April 21, 2025

Letter of Concern for Safety: BESS Storage System

I, Nate Leutz, thoroughly oppose the Compass Energy Storage Project. Through the evidence I have gathered today, along with the information below, I aim to convince you too that there is a significant risk in this project being implemented. The Compass Energy Storage Project poses an undeniable risk to the residents of Laguna Niguel, San Juan Capistrano, and Mission Viejo, California because of its location.

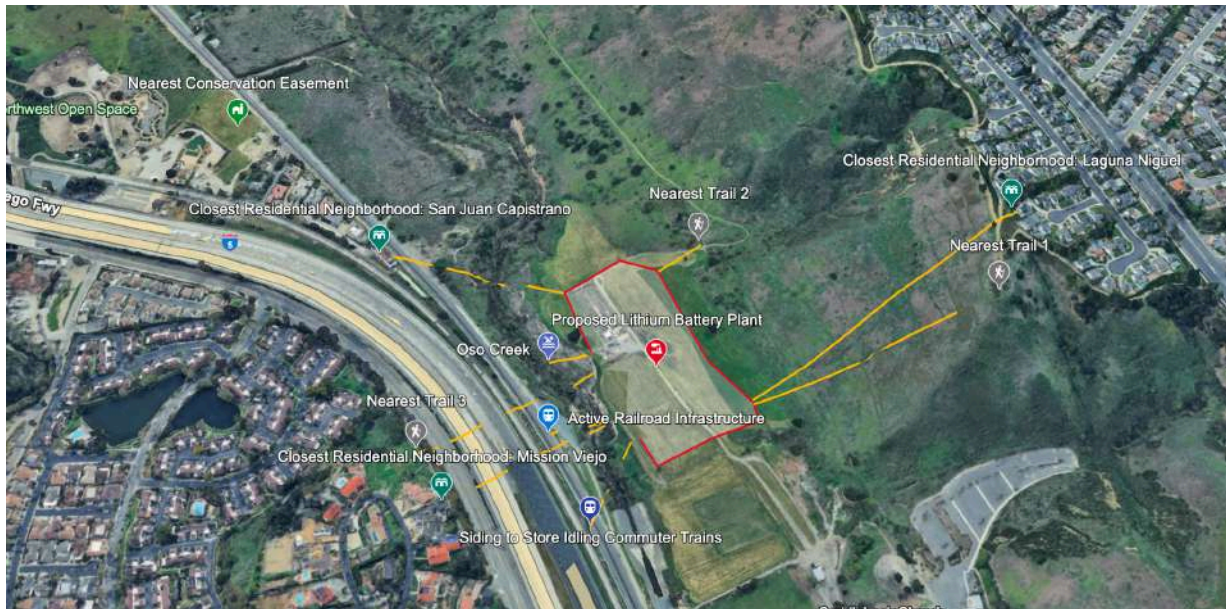


Section 1: Definitions

<p>^{D01} SUGD: Sees Use on a Given Day</p> <p>^{D03} IEOC: Metrolink Inland Empire Orange County Line</p> <p>^{D05} Hz: Hertz</p> <p>^{D07} Autorack: Railcars used for automobile transportation</p>	<p>^{D02} OC: Metrolink Orange County Line</p> <p>^{D04} RPM: Revolutions Per Minute</p> <p>^{D06} Manifest: Mixed Cargo</p> <p>^{D08} Payload: Cargo or Passengers</p>
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Section 2: Location & Proximity

The proposed location¹ is within the northern portion of the City of San Juan Capistrano, adjacent to Camino Capistrano and Interstate-5 to the east. The reason for my concern over its location stems from the surroundings of the proposed site. It is within dangerous proximity to neighborhoods, trails or nature areas/easements, and most importantly, railroad infrastructure. To put it simply, this is a disaster waiting to happen.



Using Google Earth I was able to determine the proximity of the proposed lithium battery plant relative to nearby points of interest. My findings are displayed in the table below:

Point of Interest	Category	Proximity to Plant	Heading Degree	Notes:
Active Rail Infrastructure	Rail Misc.	338 Feet	96.78°	LOSSAN Corridor
Siding: Idle Commuter Trains	Rail Misc.	470 Feet	49.19°	Metrolink (SCRRA)
Residential: Mission Viejo	Neighbr.	849 Feet	84.64°	-
Residential: San Juan Capistr.	Neighbr.	886 Feet	130.18°	-
Residential: Laguna Niguel.	Neighbr.	1,374 Feet	263.96°	-
Capistrano Trail	Trails	242 Feet	261.54°	-
Spotted Bull Trail	Trails	864 Feet	84.45°	-
Colinas Ridge Trail	Trails	1,083 Feet	278.08°	-
Oso Creek	Nature Misc.	184 Feet	107.42°	-
Interchange/Freeway	-	456 Feet	83.42°	Interstate5/TollRoad133
<i>Intentionally Left Blank</i>	-	-	-	-

Data 221A (Approximate Distance & Heading Degree using 011A's PROPOSED BESS FACILITY as the plant).

After gathering my data, I believe there is sufficient concern to be raised regarding the close proximity of critical infrastructure nearby the proposed lithium-iron phosphate plant, especially when taking into account Sections 2 and 3.

Section 3: Railroad Infrastructure

Upon hearing about this project, the first thing to enter my mind was the railroad tracks placed mere hundreds of feet from the proposed site of the battery plant. How could I not? In order to enter the property (Saddleback San Juan Capistrano) you must cross one of the very few private crossings left in Orange County, let alone the LOSSAN Corridor. In order to understand why I was so concerned, we need to look into a few things. 1. How often do trains pass by the proposed site of the plant? 2. What locomotives are utilized for operations on the track adjacent to the plant? 3. How much power/vibrations do those locomotives make? Using math and data available we are able to give an answer to all three of the questions.

Subsection 3.1: Train Frequency

Railroad infrastructure nearest to the proposed site of the plant is utilized by Amtrak (NRPC), Metrolink (SCRRA), and Burlington Northern Santa Fe (BNSF) with each having their own purpose and frequency. Amtrak caters to travelers from San Diego, California to as far north as San Luis Obispo, California making intermediate stops at more densely populated cities while Metrolink offers a commuter-style service which serves cities that Amtrak doesn't, however Metrolink terminates at Oceanside, California. Burlington Northern Santa Fe, or BNSF, is a freight railroad that also voyages as south as San Diego, California with trains coming from multiple areas nationwide but typically originating in Barstow, California.

Train/Type	Weekday Freq.	Weekend Freq.	# of Train Cars	# of Locomotives
Amtrak TOTAL	22	22	Normally 6	Normally 1 [^]
Metrolink TOTAL	42	12	Normally 4-6	Normally 1 [^]
BNSF TOTAL	4	4	Normally 30-70	Normally 2-4*
BNSF Autorack	2	2	Normally 30-60	Minimum 2*
BNSF Manifest	2	2	Normally 30-60	Minimum 3*
Metrolink OC	24	8	Normally 5-6	Normally 1 [^]
Metrolink IEOC	18	4	Normally 4-5	Normally 1 [^]
Metrolink Set Storages²	Normally 2-3	-	-	-
<i>Intentionally Left Blank</i>	-	-	-	-

[^] In the event a passenger train suffers any mechanical issues, a second engine is typically added. Amtrak typically has a spare unit in San Diego that is brought to Los Angeles for routine maintenance every so often.

* BNSF trains range in power and payload. As many as seven locomotives may be used and train cars can reach triple digits on occasion. Southbound trains typically have additional power and are more likely to have DPUs.

Notes: BNSF may see an occasional rise in frequencies based on port related conditions and military related programs.

Subsection 3.2: Locomotives Utilized

Amtrak, Metrolink, and BNSF all use different locomotives to haul their trains. Below is a spreadsheet showing the locomotives each system uses and their corresponding specifications. It is important to note that certain engines are used less frequently than others, to see its frequency of usage view the farthest right column. In addition, the second farthest right column converts the RPM/HP/RPG into Hz to better understand these locomotives implication in the heightened risk with a battery plant nearby the routes it may take.

ENGINE (system)	Engine Type	Idle Combustion Frequency	Full Power Combustion Frequency	Wheel Frequency @ [MID-LATE 70S TRACK SPEED]	Frequency of Utilization
ES44AC		ABT. 45 HZ	ABT. 105 HZ	ABT. 10 HZ [75 MPH]	-
C44-9W	4-STROKE , V16	ABT. 53 HZ	ABT. 140 HZ	ABT. 9.9 HZ [74 MPH]	-
EMD F125	4-STROKE , V20	ABT. 133 HZ	ABT. 300 HZ	ABT. 10.5 H [75 MPH]	36/45
MPI MP36-3C	2-STROKE , V16	ABT. 85 HZ	ABT. 241 HZ	ABT. 10.5 HZ [79 MPH]	7/45
EMD F59PHR	2-STROKE , V12	ABT. 66 HZ	ABT. 141 HZ	ABT. 11.1 HZ [79 MPH]	2/45
GE P42DC	4-STROKE , V16	ABT. 93 HZ	ABT. 280 HZ	ABT. 10.5 HZ [79 MPH]	if shortage, used as rescue
SC-44 CHARGER	4-STROKE , V16	ABT. 80 HZ	ABT. 240 HZ	ABT. 11.5 HZ [79 MPH]	always unless shortage
<i>Intentionally Left Blank</i>	-	-	-	-	-

Data 221A Details on the formula for finding the frequencies of Utilization and Combustion Frequencies can be found on the spreadsheet linked directly.

Section 4: Cause for Concern

The reason why the data matters is because studies show that the probability of thermal runaway occurring increases substantially with the presence of hertz in the range of 100-300, the exact same amount of hertz these engines operate on. Adding to the severity of the situation, a siding is located right next to the plant with SCRRRA (Metrolink) utilized for storing train sets during off-peak hours. These train sets are not shut off, but instead remain idle.

Section 5: Moss Landing

The moss landing fire is one of the most recent examples of battery plants exploding and causing irreversible damage to its surroundings. The moss landing fire was the fourth reported fire at the site since 2019 and reignited one month after the blaze was put out – common with battery fires. Scientists have found heavy metal contents in the soils sampled up to four miles away from the actual facility. The county of monterrey has released public advisories on the dangers of Hydrogen Fluoride, a chemical emitted into the atmosphere during thermal runaways. In addition, the county advised to keep outside activities to a minimum, especially those that stir up dust. Below is a screenshot of the clean up progress as of May 25th, 2025.

Moss Landing Lithium Ion BESS Debris RemovalLast Modified: 03/10/2025

This website is intended to provide transparent communication on progress of the Moss 300 site clean-up at the Moss Landing Battery Energy Storage System facility. The anticipated steps of the process are listed below. Each step will display the current status and an approximate progress bar. The cleanup and removal processes are being performed by Vistra as the responsible party. The removal of battery modules and debris will be done under oversight and technical assistance by the U.S. Environmental Protection Agency (EPA), and the County of Monterey's Health Department and Housing and Community Development Department (HCD).

Phase One: Battery Hazard Mitigation and Removal - In Progress

Battery De-Linking (Round 1)

Battery Removal and Staging

Emergency Structure Stabilization

Battery De-Linking & Removal (Round 2)

Battery De-energization

Battery Packaging, Transport, & Disposal

Phase Two: Structural Debris Demolition and Removal - Not Started

Structural Debris Removal, Staging, & Sorting

Structural Demolition

Structural Debris Transportation

Phase Three: Clean-up Confirmation - Not Started

Site Cleanup and Restoration

Inspection

There are key differences between Moss Landing and the proposed Compass Energy project, the most important being that the Compass Energy Project is on eroding land, has one entrance, and is next to residential neighborhoods. If a thermal runaway occurs, the consequences will be deadly. 37,000 residents will be evacuated in Laguna Niguel alone.

Section 6: Final Remarks

Admittedly sloppily thrown together, I hope this document proved clear enough reason to cast doubt on the location of this facility. I had the opportunity to speak at the in-person meeting before the California Energy Commission on May 29th, 2025 and was shocked to hear that in the application, Compass Energy included that employees would work remotely because of the dangers with the facility. If Compass Energy is worried about the liability with their employees, why do they cease to care about the thousands of residents that will be living right next to it? The City of San Juan Capistrano has already denied this project. As I said in my speech on the 29th, shame on you all for entertaining this idea. It is a slap in the face to residents and local governments alike. I hope all members of the board, and those who read this know that I am not a part of any organization. I found out about the Meeting on the 29th the night before and because I was already doing a study on the project, I piled this all together on the fly. This issue has united both democrats and republicans, school boards, residents, and more. If that does not tell you this project is objectively terrible, what will? The only people who I heard that day in

support of the project were paid consultants, affiliates of the companies involved, or members of unions who would bid for the project's construction. The chances of thermal runaway are so incredibly high, you will have blood on your hands if anything goes arie. With my letter, the hope is that this plant is NEVER built at the currently proposed location. It should not take a high school student for you to realize this project poses a great danger.

Thanks,
Nate

Additional Clarifications:

¹ Proposed Location of Plant: On the property of **29251 Camino Capistrano, San Juan Capistrano, CA 92675**, Specifically around the coordinates of **(33.535673, -117.677252)**.

² During **off-peak hours** a train set is often **stored in a siding** south of Laguna Niguel/Mission Viejo Station which is **470 feet away from the proposed battery plant**.

Cites:

^{011A} **City of San Juan Capistrano - Battery Energy Storage Location Map View** [Updated: March 2025]

<https://www.sanjuancapistrano.org/430/Battery-Energy-Storage-System-BESS-Overv>

^{021A/B} Nate Leuteritz (**Via Google Earth**) - **Interactive Map: Proximity to Important Areas** [Updated: April 2025]

<https://earth.google.com/earth/d/1SNRzliWkSwhCj6pfYvi0QaT5oIpAe7KD?usp=sharing>

^{221A} Nate Leuteritz (**Via Google Sheets**) - **Spreadsheet: Proximity to Important Areas** [Updated: April 2025]

<https://docs.google.com/spreadsheets/d/17CIRjy2Dn1YnggZ--TNxhwAs7joulj-tg5J0hAcjfro/edit?usp=sharing>

^{SE01} **USDOE** shows Thermal Runaway leads to harmful release of Carbon Monoxide and Hydrogen Fluoride

<https://www.sandia.gov/ess/> - UL 9540A U.S Standards - “Downwind Evacuation Zones 300 Meters” 2024

^{SE02} **EPRI** Guidance on Protecting Equipment Adjacent to Storages [ESS Risk Assessment]

<https://interactive.epri.com/ress-guide/p/1> - ESS System: Residential Storage Guidelines - 2023

^{SE03} **Moss Landing Response: Site Status, Recovery, and Environmental Testing** [Updated: April 2025]

<https://www.mosslandingresponse.com/>

^{Slide.15} **U.S Department of Energy**, Power Degradation Forecasting with Battery Capacity September 2022

<https://www.osti.gov/biblio/2006551> - U.S Department of Energy, September 2022

Slide.16 Defining Thermal Runaway **UL Laboratories** Newsroom, What is Thermal Runaway? August 2021

<https://ul.org/research-updates/what-is-thermal-runaway/> - *Underwriters Laboratories, August 2021*

Slide.17 Impacts of Vibrations on Thermal Runaways | Lithium Ion Battery **Journal of Power Study**, May 2024

<https://www.sciencedirect.com/science/article/abs/pii/S0378775324002258> - Journal of Power Sources, May 2024