FREQUENTLY ASKED QUESTIONS

Last updated: August 6, 2024

When will the construction work start for the BESS equipment?

Currently, the plan is to obtain all permits for the Battery Energy Storage System (BESS) equipment and layout from the AUC and Kneehill County by spring of 2025. Then the installation work for the facility will begin by summer. The main construction work for the site should only last about 3 months.

How will you keep the construction site safe from theft or vandalism?

The existing Kneehill Solar Facility, which is the host area of the BESS equipment, already has a secure fence surrounding the entire site and has signage to keep intruders and unauthorized people away. The site also has security cameras at the site that are remotely accessible to monitor activity on site. Finally, there is also safety lighting around the switching station (where the BESS equipment location will be) to deter any intruders.

I'm concerned about noise and dust with construction, will there be a lot of traffic?

All construction work for the BESS project will be carried out in compliance with the county standards for speed limits on roads (to reduce dust) and for the daily work hours to limit the construction noise at night. We estimate that there will be about 30 or 40 heavy truck loads of equipment to the site over the course of construction, which will last about 3 months, so the impacts, if any, won't last long.

Are Battery Energy Storage Systems (BESS) safe?

Lithium-ion batteries are used across society in everyday items such as mobile phones and electric cars. This type of chemistry is the dominant storage technology today and is generally considered safe for a variety of uses and applications. Under normal operating conditions the battery cells operate safely, are cooled continuously and are monitored by computer 24/7 and pose no risks to the public. That said, as with all large electrical facilities, some risks do exist. In rare instances, when not operating normally, a battery cell could overheat. In such an event, there is an automatic electrical disconnect that shuts off and isolates the battery cells from the rest of the system.

What is Capstone doing to make sure this site is BESS Project is safe?

We are taking specific measures with this facility to manage and mitigate the risks to facility equipment and to the surrounding area and community, such as: (1) installing system monitoring (Supervisory Control and Data Acquisition (SCADA) system providing real-time monitoring of all parameters for the site), (2) having a liquid and air cooling system to control heat and humidity of the electrical components of the battery system on site, (3) ensuring maximum design spacing (of more than seven meters) to isolate battery containers apart from each other to limit any fire-spreading risk, and (4) engaging with the appropriate authorities at the county with respect to emergency response planning, to have a clear communication and protocol in place in the unlikely event of a fire. Furthermore, a qualified EPC contractor will be responsible for completing testing during commissioning of the BESS Equipment to ensure that adequate safety measures are in place to mitigate the risk of a fire on site.

I heard that there was a big BESS fire in Australia, are you using the same type of batteries?

No. This site is not using the same model or chemistry of battery as is being used at the Victora Big Battery (VBB) site, which did have an accidental fire event in 2021. For that site, they used a different Lithium-ion chemistry that results in those batteries having more energy density, but in turn they also have a lower temperature threshold where a fire can be initiated. Those batteries also have a higher fire temperature while burning, so overall, our BESS site will be safer than that site with lower fire risk. Even with the higher-risk chemistry that they use at the VBB, that fire only burned for a few hours and resulted in only 2 out of the 212 total battery (Megapacks) being damaged by the fire before the fire burned itself out. This represents less than 1% of the total batteries in that project[1], and nobody was harmed with that fire.

Are there any gases released from a BESS fire?

Some chemicals are released from the burning of the Lithium-ion battery cells, but generally, they are in very low quantities. The most common gases are carbon dioxide and carbon monoxide which are common in other types of fire events and industries and generally pose little risk. One gas of concern which may be released in low quantities from a BESS fire is hydrogen fluoride. Capstone commissioned an expert assessment of the potential emissions of carbon monoxide and hydrogen fluoride from a 'worst-case scenario' BESS fire at the project, and the results confirm that the gases released are not in major quantities and pose an insignificant risk to people outside of the fence line of the Project. The report is available on the Project website for the public to see.

Is there any risk for water to be contaminated by the BESS Project?

No. Due to the sturdy crystal structure in the LFP batteries, they will not break down during charging/ discharging, and therefore, will not cause any leakage. As well, in the unlikely event of a BESS fire, the response protocol is to let the BESS fire burn itself out, and no water is directly applied to the fire. Therefore, there is no risk for any water to be contaminated from a BESS fire with chemicals. Water may be used in some cases to cool and saturate adjacent land around the BESS system on fire to isolate the fire. In such a case, some limited amounts of water would be put on the ground and could absorb small amount of gases released by the fire, but the higher emission gases released (carbon monoxide and carbon dioxide) are not very water soluble and will not be absorbed by the water in any material amounts.

[1] https://victorianbigbattery.com.au/wp-content/uploads/2023/10/VBB-Fire-Independent-Report-of-Technical-Findings.pdf