

Frequently Asked Questions

On September 7, 2023, the City of Vacaville hosted a community meeting regarding the proposed Vacaville Menard Battery Energy Storage System (BESS) facility project. Meeting attendees identified many questions about the proposal. While some of the requested information will not be known until a formal proposal is received, City staff worked with project proponents to develop this initial set of answers to questions asked during the meeting.

Overview: Under a 12-month exclusive negotiating rights agreement with the City of Vacaville, Menard Energy Storage, LLC (Menard Energy) is evaluating the feasibility of building a BESS facility at the former Gibson Canyon Creek Wastewater Treatment Plant in north Vacaville. Currently, there are over 500 utility-grade BESS facilities operating throughout California and the United States. These facilities consist of banks of batteries that are housed in fireproof metal containers. These batteries harvest energy from natural sources (sun, wind) and sell it when there is demand. This increases grid reliability and helps meet the nation's and California's clean energy goals.

Menard Energy has not filed a formal application, and the land sale and project have not been approved by the City of Vacaville. If Menard Energy moves forward with a formal proposal, they will be required to file the following applications with the Community Development Department:

- (1) General Plan Amendment;
- (2) Zoning Ordinance Text Amendment;
- (3) Development Agreement;
- (4) Airport Area of Influence Review;
- (5) Conditional Use Permit;
- (6) Design Review; and
- (7) Environmental Assessment.

As part of the development review process, a project would be reviewed for compliance with the California Environmental Quality Act (CEQA) and it is likely a full environmental impact report (EIR) would be prepared. Based on the types of applications that would be required, the City Council would make the final decision on whether to allow battery storage on the site.

Questions about the Facility - General Questions

Q: What is the name of the company that is building this facility?

A: Menard Energy Storage, LLC is a 100% wholly owned subsidiary of AMPYR Energy USA, LLC (<https://www.ampyreenergy.com/>). AMPYR Energy USA is part of the global Ampyr Energy which is a developer and operator of utility-scale solar photovoltaic, wind and battery storage projects worldwide. They have a development portfolio of 12+ gigawatts of generation including 2 gigawatts of battery storage projects across 365+ projects. AMPYR Energy operates in Germany, UK, Netherlands, Australia, and the United States. AMPYR Energy USA, LLC is sponsored in the United States by Hartree Partners who are a global energy and commodities firm headquartered out of New York. Hartree Partners have been in operation since 1997.

In the US, over 28,000 MW in over 500 projects of Lithium-Ion Battery Energy Storage Systems have been deployed for utility-scale storage. The design and construction of these facilities are undertaken by large and very specialized engineering, procurement, and construction companies such as Fluence-Siemens, Blattner, and Powin. While Ampyr would own the facility for long term operations, it would have complete oversight through its own professional staff and hired independent owner's engineers over the entire facility design and construction by these large construction companies. Ampyr staff in the US and its global technology center of excellence has combined experience of more than 500 years in engineering and implementation of energy infrastructure projects including over 12,000 MW of energy projects in various US states.

Q: What does the exclusive negotiating rights (ENRA) agreement between the City and Menard do? What is the date it was entered into?

A: On January 10, 2023, the City Council approved an agreement that allows Menard Energy to evaluate the construction of a battery storage facility at the former Gibson Canyon Creek Wastewater Treatment Plant in north Vacaville. The agreement does not approve a battery storage facility or obligate the City to an approval. Rather, the agreement allows Menard Energy to conduct due diligence about the property and explore, with the City of Vacaville, the potential to purchase or lease the property and develop it with a battery storage facility. Due diligence includes Menard's analysis of the financial feasibility of a battery storage facility, site investigation to examine the site's physical characteristics, and review of other potential site development issues. The ENRA is in place for 12 months with two potential extensions.

Q: After the facility is decommissioned, what is the guarantee that it will be restored back to its original state?

A: The Menard BESS project, if approved by the City of Vacaville and developed, would be subject to substantial terms and conditions of approval which would provide specific requirements about the state of the land when the battery storage use concludes operations.

Q: Why did the City say no to an agreement with Menard in 2020?

A: In August 2020, City staff received a formal proposal from Menard Energy to develop a utility scale battery storage facility on the subject property. In November 2020, the City Council directed staff not to proceed with an agreement to allow Menard to explore the proposed battery

storage facility project on the subject property. Council further directed staff to advise Menard Energy to explore alternative locations for battery storage in industrial areas.

Since that time, Menard Energy explored alternative sites and revised the design of its initial proposal. Menard Energy believes that the Gibson Canyon property is the optimum site for a battery storage facility due to its close proximity to the PG&E Vaca-Dixon Substation and its power source.

Questions about the Facility - Facility Purpose and Design

Q: What would the Menard BESS do?

A: The Menard Battery Energy Storage System, or BESS, consists of rechargeable batteries that can store energy from different sources (solar, wind, and others) and discharge it when needed. By charging during solar and wind production or off-peak hours and delivering energy to the grid during times of peak demand for power, the battery storage project is intended to improve electrical reliability of the energy grid, reduce costs, and help meet California's established goal of 60 percent clean energy generation by 2030 and 100 percent clean energy generation by 2045.

Q: What are the various components of the Menard BESS?

A: Menard Energy has not filed a formal application and the project has not been designed. In order to build the project, Menard Energy would need to file a formal application and go through a two to three year study process to determine if the project is a good fit for Vacaville. The final decision would be based on study outcomes and decided by the Vacaville City Council with input from Vacaville residents and businesses.

Currently, Menard Energy anticipates the Vacaville BESS would be a 300-to-400-megawatt project located at the former Gibson Canyon Creek Wastewater Treatment Plant located in North Vacaville at 7050 Leisure Road. The BESS would be an outdoor enclosure type facility consisting of 150 - 533 fireproof containers containing lithium-ion phosphate batteries (number of containers is dependent on the technology used). These containers supply power to electronic inverters and associated transformers. The transformers would feed a single 34.5kV to 500kV generator step-up unit which connects to the Vaca-Dixon substation.

The project is in the conceptual design phase, so equipment, manufacturers and sources have not been selected. However, the following lists the main components of the project:

- **Lithium iron phosphate batteries.** The number of batteries will depend on the exact technology and manufacturer selected. Lithium Iron Phosphate (LFP) batteries are currently the industry best standard and have proved to be less volatile, less energetic, and widely accepted by finance and insurance industries (<https://batteryuniversity.com/article/bu-205-types-of-lithium-ion>).
- **Fireproof containers for batteries.** All batteries will be contained within metal containers that are divided into various fireproof modules designed to contain and extinguish thermal runaway or fire events within each individual module. For example, see the following link: <https://fluenceenergy.com/gridstack-pro-energy-storage/>.
- **Battery monitoring system and remote operations center.** Each unit's batteries are controlled by a system that is designed to regulate output and discharge power at times of high demand. The system provides critical safety monitoring of battery temperature and voltage and can detect the presence of flame, gas or smoke. If the battery temperature is too high, voltage fluctuates, or if flames, gas, or smoke is detected, the system immediately shuts down the unit and electrically isolates it which prohibits the spread of fire to other containers. Simultaneously, an alert is sent to the remote operations center and a technician visits the site to correct the issue. For a further description of a Battery

Monitoring System see the following link: <https://liiontamer.com/battery-management-system-vs-battery-monitoring-system/>.

- **Fire Alarm Control Panel (FACP).** Completely independent of the battery monitoring system is a fire alarm control panel that monitors gas, flames and smoke and if detected, it sends an emergency call to the Vacaville Fire Station. For a further description of a FACP see the following links: <https://afap.com/what-fire-panel-and-how-does-it-work/> , <https://www.nfpa.org> .

Q: How are the batteries going to be charged?

A: The batteries would harness and store energy generated from the electricity grid. By storing energy, BESS facilities can match supply with demand.

Q: Where will the batteries be manufactured? Where is the lithium for the batteries being sourced?

A: The Menard BESS facility is only in the conceptual design phase and an application has not been filed. Currently, Menard anticipates using lithium-ion phosphate batteries, however, the exact battery and manufacturer has not been selected at this time. There are lithium-ion phosphate battery manufacturers in several countries including the United States, Japan, South Korea, and China.

Q: Will these batteries contain hydrogen cyanide or cobalt?

A: Lithium-ion phosphate batteries do not contain hydrogen cyanide or cobalt.

Q: Will there be any elemental lithium stored at the site?

A: There would be lithium inside the batteries, but additional reserves of lithium will not be stored on site.

Q: What is the maximum amount of batteries by weight that Menard will be allowed to operate at this site?

A: Batteries are not typically measured by weight. The current project size based on discussions with utilities that are interested in purchasing power is 300 to 400 megawatts. One megawatt equals one million watts or 1,000 kilowatts, roughly enough electricity for the instantaneous demand of 750 homes at once. That number fluctuates because electrical demand changes based on the season, the time of day, and other factors.

Q: Would it be possible for Menard Energy to add a liner to the site to capture water runoff?

A: As stated earlier, the project is in the conceptual design phase and a formal application has not been filed. If an application is filed, the project will go through a two to three year study process which includes an analysis of stormwater runoff and containment. The project would be required to adhere to all stormwater pollution prevention requirements as stipulated by the State of California, Solano County and the City of Vacaville. The Applicant has indicated that they will consider the addition of a liner to capture water runoff.

Q: Is there a state or federal entity that regulates these kinds of facilities? Would this facility be subject to external and internal audits for compliance?

A: As with any power facility, Menard is required to adhere to North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) reliability standards. The Federal Energy Regulatory Commission (FERC) has certified NERC as the US electric reliability organization. The NERC CIP standards govern a number of aspects including reliability and security provisions that all power plant operators must comply with. In terms of safety during construction, operations, and maintenance, Cal/OSHA is the main body that oversees and inspects these facilities and does so at their discretion. During all phases of the project, Menard will be subject to internal audits for compliance with all requirements.

Q: What would happen to the microgrid if the battery storage facility was shut down?

A: If a Vacaville City microgrid were to be established, it would be physically tied to PG&E. A shut down of the battery storage facility would make the microgrid dependent on PG&E.

Questions about the Facility - Facility Location

Q: Who owns the land they want to build on? The City or Menard?

A: The City of Vacaville owns the land and has declared it as surplus property. Under the Surplus Land Act, Government Code Section 54200- 54232, surplus property is defined as "land owned by any agency of the state, or any local agency, that is determined to be no longer necessary for the agency's use, except property being held by the agency for the purpose of exchange." On February 25, 2020, the City Council approved Resolution 2020-030 which authorized the City Manager to initiate the marketing of the subject property through the Surplus Land Act (SLA) process.

As part of the process, the City notified State of California Housing and Community Development (HCD) that the property had been designated surplus local land. All local public entities, special districts, and HCD's list of developers were also notified. The City received no letters of interest for the property. Shortly thereafter, the City received formal approval from HCD that the City could sell the property to an end-user of its choosing.

Q: Why was this area of land and this location selected? Can this facility be built further away from housing?

A: Menard Energy believes that the Gibson Canyon property is the optimum site for a battery storage facility because of the following:

- BESS facilities are most productive and efficient if they are located close to the substation they serve. This location is as close to the Vaca-Dixon substation as possible.
- This area of land is considered a brownfield area as it was used for a wastewater treatment facility and pollution prohibits or restricts some land uses. For example, it could not be utilized for human occupation such as a school or homeless shelter.
- The PG&E transmission easements on all sides of this property preclude any future development around the project boundary and ensure there will be no further development than what already exists.
- This location is classified remote by California Fire Code California 2022 Section 1206.8.1.
- There are over 100 similar facilities that have been permitted and safely located in urban areas, dozens are closer than 600 feet to homes and businesses in the US and here in California demonstrating that these facilities can safely co-exist. Please see the included list of similar projects that have been cited at lesser distances. ([Annex 2](#))

Q: Would it be possible to move the facility further towards the Dixon substation and create more buffer between the housing developments and the facility?

A: The nearest residential property line located on Mills Road is 400 feet from the property fence and 600 feet from the southernmost battery unit. The proposed location is as close to the Vaca-Dixon substation as possible.

Q: What other locations were considered for this facility and why didn't they work out?

A: The previous applicant, DG Power, looked at a variety of other sites but Menard was not involved in that effort.

Q: How many feet will this project be from properties on Mills Lane? Fence line to fence line?

A: The Menard facility is in the conceptual design phase. Bulleted below is the distance from a variety of features, as currently configured:

- Nearest home - 600 feet
- Nearest school – 5,000 feet
- Nearest hospital – 5,900 feet
- I-80 – 2,500 feet
- I-505 – 5,400 feet
- Nearest farm – 1,000 feet

Q: Is the Menard facility related to the thousands of acres being bought around Solano County? Is this project affiliated in any way with the 50,000 acres bought around Travis Air Force Base.

A: The Menard BESS is not related to California Forever, which has spent over \$800 million on land between Vacaville, Fairfield, Rio Vista, Suisun City and critically, Travis Air Force Base.

Q: Why would the site be decommissioned after 20 years instead of purchasing new batteries and keeping the plant in operation?

A: Typically, a power purchase agreement with a utility provider is for 20 years. At the end of that period, Menard Energy may consider entering into a new or extended agreement depending on market conditions and community acceptance.

Questions About the Purpose/Benefits

Q: What is the purpose of a battery storage site like this? Level our rates during peak consumption? Help prevent brown/black outs?

A: Battery storage projects harvest power from natural sources (sun, wind), safely store electricity during periods of low demand, and supply electricity during high demand. This increases the reliability and flexibility of the power grid we all depend on and potentially offers lower rates to consumers.

California Senate Bill 100 established a goal of 60 percent clean energy by 2030 and 100 percent clean energy by 2045. California needs to develop renewable energy at five times its average pace to meet these goals and battery storage facilities are part of the renewable energy solution.

Q: Are they basically going to “buy” electricity when it is cheaper and then sell it back to PG&E or we the people at a higher price? What does the “owner” get out of this?

A: Menard Energy's business model allows the company to receive a fixed monthly revenue from the utility provider. The company does not determine or profit from electricity prices offered by the utility to the consumer.

Q: How does the City of Vacaville and residents benefit from the facility?

A: This project has the potential to offer significant fiscal and community benefits to the City of Vacaville and its residents. If the project goes forward there would be financial benefits to the city from land sale, tax revenues and a community benefits package. There would be the addition of Union construction jobs during and a limited number of jobs to support on-site operations. If Menard files a formal project application, the project will require a two to three year study process and the final decision to approve a battery storage facility will be made by the Vacaville City Council with input from Vacaville residents.

Q: What does the City of Vacaville financially gain from having this facility? How will that money be used?

A: Currently, there are three direct financial components that would benefit Vacaville:

- Proceeds from the land sale anticipated to be in about \$9,000,000
- Tax revenue to the City during construction and 20 years of operation is estimated at \$30,000,000 the use of which will be determined by the City and City Council
- Community benefits to be determined as part of the process should the project move forward.

Q: Vacaville does not experience many power outages, so what is the purpose of this facility?

A: The purpose of battery storage facilities is to provide energy stability and resiliency to the grid in the event the demand exceeds what the grid can produce. Grid instability leads to brown outs, black outs, and rolling power outages. Wildfires, flooding, drought, and an aging electricity grid that hasn't kept up with a changing climate and evolving demands from utility customers increases the chance of power outages across California.

Questions About Safety/Emergency Response - Facility Operations

Q: Please explain how the facility will be monitored remotely using computers, etc.? Is the storage facility prepared for a ransomware attack?

A: Each battery unit has its own Battery Monitoring System. These, in turn, communicate with the facility's Energy Management System which is tied to the remote operations center which is manned 24/7. The facility is required to adhere to NERC-CIP standards which (among other things) are specifically designed to prevent cyber-attacks in power plants.

Q: What other controls or manual processes does Menard have in place to ensure safety at their battery site when they aren't able to control it remotely?

A: The Battery Monitoring Systems and the facility Energy Management System operate independently to shut down any units that have abnormal readings (battery voltage or temperature fluctuations, and/or the presence of gas, smoke or fire) and do not require remote operator involvement. If communications fail between the Energy Management System and the remote operations center, the plant will initiate safe shut-down protocols which isolates every battery unit in the plant. Examples of Battery Monitoring Systems and how they work can be found on the following links: <https://liiontamer.com/battery-management-system-vs-battery-monitoring-system/>; <https://novationenergy.com/battery-management-systems/>; <https://batteryuniversity.com/article/bu-908-battery-management-system-bms>

Q: Will the facility's status system be managed by a third-party operator or Menard Energy itself?

A: That decision would be subject to study, evaluation, and design processes during the permitting phase.

Q: How many maintenance technicians will be on site and what will the hours of operation look like? Do they work 24/7 and if so, will the facility be lit up after hours?

A: Menard anticipates 2-4 full-time maintenance technicians on-site 40 hours per week, during daylight hours, Monday through Friday. The exact schedules would be subject to further study and evaluation during the permitting phase.

Q: Will there be human monitoring of the facility or only computer monitoring?

Technicians will be on-site Monday through Friday during normal working hours, which will typically be 7 a.m. to 5 p.m. The system would contain a Battery Monitoring System that would operate 24/7 to detect any abnormalities in the operations of each individual unit. The system provides critical safety monitoring of battery temperature and voltage and can detect the presence of flame, gas, or smoke. If the battery temperature is too high or voltage fluctuates, or if a flame, gas, or smoke is detected, the system immediately shuts down the unit and electrically isolates it which prohibits the spread of fire to other containers. Simultaneously, an alert would be sent to the remote monitoring control center which is staffed by humans 24/7.

Q: Why won't the facility be manned 24 hours a day? What systems are in place to detect an issue?

On-site technicians will perform routine operation and maintenance 5 days a week, Monday through Friday. As with all major power stations, the entire BESS will be automated and has a Battery Monitoring System with backup power in place to detect any anomalies in real time so emergency response actions can be taken. Maintenance staff would be available on-call should the need arise.

Q: What would happen if the computers miss something or goes down?

A: Each battery system has an individual computer that is monitored remotely. If the computer goes down, the remote monitor center will be alerted by an alarm and notification that the unit is not working, and a technician will be dispatched to repair the issue. If all the computers were to go down at once, the system is designed to go into safe shut-down mode and to electrically isolate itself.

Questions About Safety/Emergency Response - Emergency Response

Q: What are the plans for the facility in an emergency such as an explosion, earthquake or fire?

A: The project is in the conceptual design phase and a formal application has not been filed. If a formal application is filed, the project would enter into a two to three year study phase designed to look at a variety of issues including emergency response actions.

As with all industrial facilities, an emergency response plan would be developed in coordination with the City of Vacaville Fire Department. This plan would cover how to safely respond to each of these events and would include training of local fire fighters and first responders.

An explosion and fire would be treated similarly. Actions would be laid out in a facility specific Emergency Response Plan and would include communication with Menard's control center to determine if the facility is empty of people, establish a perimeter containment zone, continued monitoring of the situation, and conducting air quality monitoring. The facility is designed so a fire or other events within one cell will self-extinguish and not propagate to a neighboring unit.

The facility would be designed in accordance with the specific seismic hazard zone for the area which will be determined during the permitting phase.

Q: How will fire fighters respond? What is the response time in case of an emergency?

A: Fire fighters would receive special training on how to respond to any incidents at the facility in accordance with the Emergency Response Plan. A copy of the Emergency Response Plan would be provided to the Vacaville Fire Department and Menard will maintain regular communication with them.

Q: If the entire facility caught fire, would an evacuation be needed and if so, how big an area and for how long?

A: The facility would be designed to prevent a catastrophic event such as this. During the permitting phase, an Emergency Response Plan (ERP) will be developed with the City Fire Department. Depending on the severity of the incident the ERP will dictate the appropriate response, including (if needed) any evacuations.

Q: What would happen if there was a large fire at the facility? Would all the batteries and storage units catch fire?

A: All modern BESS facilities (and this would include Menard) are specifically designed to ensure that this would not happen. In addition to steel and fireproof material separating each module within a unit and separating each unit from the next, the rows of battery units are separated by at least 8 ft distance.

Q: If one of these batteries is to catch fire, what is the containment protocol to keep it from spreading?

A: The facility is in the conceptual design phase. Within each BESS unit are a number of modules. Each module is housed in a stainless-steel containment with fireproof side rated for

both thermal runaway and fire events. Material surrounding each module as well as each unit will have an ASTM E119 fire rating of at least 60 minutes. Each row of units is separated from the next row by at least 8 ft (in accordance with NFPA 855 and FM Global Property Loss Prevention Data Sheet 5-33). The response protocol for an individual cell or module fire is to let it extinguish by itself because if a fire is detected in an individual unit, the system shuts down all power to it which isolates it from the system. This allows the fire to extinguish without interference and not spread from one container to another.

Q: Are the containers that store the batteries able to withstand the 1300-to-1400-degree heat that they will produce?

A: Yes. Each module is housed in a stainless-steel containment with fireproof side rated for both thermal runaway and fire events. Material surrounding each module as well as each unit will have an ASTM E119 fire rating of at least 60 minutes.

Q: Is there a dry chemical used for fire suppression or are the first responders just supposed to let it burn to the ground or out? What is the protocol for cleanup?

A: There is no dry chemical for fire suppression. In the case of a battery fire, the system is designed to quarantine the fire within a module or unit and let the batteries burn out. Any fire is subject to an investigation and once finished, any damaged equipment is disposed of appropriately.

Q: Are City of Vacaville firefighters trained to respond to battery fires? If not, how will training be funded?

A: Menard would pay for specialized training for Vacaville Fire Department staff throughout the life of the project.

Q: How many firefighters does it take to respond to a battery storage fire?

A: The project is in the very early planning phases. As with any industrial facility, a facility-specific Emergency Response Plan would be prepared in coordination with the City of Vacaville Fire Department and PG&E which owns the Vaca-Dixon Substation. Emergency response protocol, including response time and number of responders, would be scoped in this document.

Q: Will firefighters be forced to decide between protecting the battery location or saving farmers land in the event of a large fire?

A: No. There are significant setbacks (distances) between the equipment and the property fence. Vegetation in the entire area would be removed and maintained as a fire break to prevent external wildfires from entering the project and ensuring any fires within the project do not spread.

Additionally, in conjunction with the Vacaville City Fire Department, Menard would prepare an Emergency Response Plan which clearly states individuals are not to enter the facility in the unlikely event of an incident or a wildfire in the surrounding area. The Fire Department would

confirm that no people are present by querying the Menard remote operators and then establish a perimeter to ensure no one enters the site.

Q: Does this facility have a 1,000 foot evacuation zone?

A: There is no required evacuation zone with BESS facilities. In the event an evacuation is needed, the Fire Department is the responsible party for making this decision in accordance with the Emergency Response Plan.

Q: What is the safety history associated with battery storage facilities like the one proposed?

A: To date, there have been 22 fires associated with utility scale lithium-ion BESS facilities out of over 500 operational BESS facilities in the United States since 2012. There have been recent fires – Warwick, New York, Moss Landing, Watsonville, and Valley Center, San Diego, and Melba, Idaho – for which investigations are ongoing. Menard and its consultants are carefully following these incidents and associated investigation. The findings of the investigations will inform Menard’s ultimate design, choice of vendors, and implementation to provide the safest level of operations. Following is a link to a database maintained by Electric Power Research Institute on BESS incidents:

https://storagewiki.epri.com/index.php/BESS_Failure_Event_Database)

Q: This location seems unsafe given the proximity of houses, schools, businesses, and daycares. How can this be considered safe?

A: There are over 100 similar BESS facilities currently operational in urban areas; dozens of them are closer than 600 feet to residential or commercial buildings. View [maps](#) showing the location of these facilities and their proximity to other buildings.

Q: How will residents be notified in the event of an emergency related to the facility?

A: Resident notification would be included in the facility specific Emergency Response Plan and will be prepared in coordination with the City of Vacaville Fire Department and would include input from residents.

Q: What chemicals are released from the batteries if they were to catch fire?

A: The specific chemicals released during a combustion event depends on the manufacturer, however they would be very similar to the following list:

Component	Concentration Details (PPM-parts per million)
Nitrogen Dioxide (NO ₂)	Peak concentration of about 45 PPM for a short duration and an average concentration of 5-10PPM
Volatile Organic Compound (VOC)	Peak of up to 450 for a very short duration, 200 PPM for up to 5mins and generally below 50PPM concentration
Hydrogen Bromide (HBr)	Peak at 16 PPM and on an average below 8PPM

Hydrogen Fluoride (HF)	Peak of up to 600 PPM for a short duration, 300 PPM for up to 5mins and generally below 200PPM concentration
Hydrogen Cyanide (HCN)	Peak of up to 55 PPM for a short duration, 30 PPM for up to 5mins and generally below 10PPM concentration
Hydrogen Chloride (HCl)	Peak at 120PPM and on an average below 40PPM
Sulfuric Acid (H ₂ SO ₄)	Less than 0.5 PPM
Formaldehyde	75 PPM peak for a very short duration, generally below 12 PPM
Ammonia (NH ₃)	25 PPM peak for a very short duration, generally below 10 PPM
Nitric Oxide (NO)	60 PPM peak for a very short duration, on an average below 40 PPM

Q: In the case of a failure and toxic smoke, have there been any studies in prevailing winds for this location? What about smoke plume modeling?

A: Yes. Menard has commissioned a site-specific study with Fire and Risk Alliance, LLC (FRA) (<http://www.fireriskalliance.com/wp/> <https://www.linkedin.com/company/fire-&-risk-alliance-llc>).

- FRA is a nationally recognized leader in fire research, process safety, risk management, emergency services inspecting/testing, Performance Based Design, Fire Modeling, and Battery Energy Storage Systems. They have acted as lead investigators on BESS fire incidents in the US as well as performing actual UL9540A testing on behalf of United Laboratories for several BESS manufacturers. For more information regarding the UL 9540 Codes and Testing see the following link: <https://www.energy-storage.news/video-what-experts-think-you-should-know-about-ul9540-codes-and-standards-for-battery-storage/>.
- FRA performed air dispersion modeling for the proposed Menard BESS project. FRA performed Fire Dynamics Simulator, and computational fluid dynamics modeling of an initiating cabinet pre- and post-combustion event due to thermal runaway led vent gas release from the battery modules.
- The models were developed to analyze gas dispersion and toxicity at site boundary and the nearest community to the proposed site. FRA also performed dispersion modeling of the two (2) scenarios mentioned above and its impact on the surroundings.
- The analysis was performed using the cell, module and unit level gas venting calculations that were based on the UL9540A cell (10 batteries), module (30 batteries) and unit (840 batteries) level tests available for the referenced cabinet product, and these values were used to determine the battery unit release quantities for hazard identification and modeling.
- The study concluded that results for all scenarios show that there are likely no hazards that extend beyond the immediate release location and none that extend beyond the project boundaries.

- This study will be submitted to the City and made available to the public when the formal development applications are filed.

Q: How would flooding affect these battery storage units? This site has had flooding in the past.

A: The site will be designed to appropriately handle storm water. As part of the permitting process hydrology studies will be undertaken to support suitable drainage and designs. Ultimately these plans will have to be approved by the jurisdictional authorities.

Q: This is a fairly new technology. All the other facilities that caught fire were told they were safe by the owners. How can the city properly assess the risk?

A: This project is in the early design phase and a project application has not been filed. If Menard files a project application, the City Planning Department has a two to three year study process to assess if this project, the location, and the operations are a good fit for Vacaville. This process includes multiple opportunities for public input.

Q: Is Menard Energy prepared to accept criminal and or civil liability in the case of a disaster or accident? If there was a crisis or catastrophic event, what is the extent of Menard's liability since they are a limited liability corporation? Is the City responsible should something happen?

A: A project application has not been filed by Menard and the project is in the early conceptual design phase. As such, information is not available to answer this question.

Q: Will Menard Energy have full liability insurance coverage on this facility?

A: Yes.

Q: Mills Lane is not served by Vacaville Fire, but Dixon fire. Why are they not present on this meeting?

A: This property is within the City of Vacaville limits and is served by the Vacaville Fire Department.

Q: How will the city mitigate the risk of the massive natural gas pipeline located nearby?

The pipeline going by the proposed land is a smaller distribution line serving the North Village community and industrial area to the west. The pipeline is buried along the south side of the project boundary, outside the basin and berm area where the batteries would be located, thus the project would not be affected by a pipeline incident, nor would the pipeline be affected by the unlikely event of a battery fire. This issue would be reviewed by City staff and other agency reviewers if a formal development application is filed.

Q: How will water runoff at the facility be handled – both related to possible fire suppression and stormwater. Will run-off be allowed to go into the creek? Will new drainage be added to the already overburdened system? How will this be addressed?

A: If Menard Energy files a formal application, hydrology studies would be undertaken to support suitable drainage and design. A stormwater pollution prevention plan would be prepared.

Q: Are there plans to expand operations once built for something like manufacturing?

A: The project being evaluated is for a BESS facility and there are no plans for expanded operations or manufacturing.

Questions About Menard Energy

Q: What is the name of Menard Energy's parent company? Is Menard a foreign-owned company? What is the country of origin?

A: Menard Energy Storage, LLC is a 100% wholly owned subsidiary of a US entity AMPYR Energy USA, LLC (<https://www.ampyreenergy.com/>).

Q: How long has Menard Energy been in existence and how many projects has it completed? Can you provide information on the company's track record and feedback from other communities the company has worked with?

A: As with all power projects, Menard Energy is a project company designed as a stand-alone entity for this battery storage project. Ampyr Energy USA, LLC acquired Menard Energy, LLC in January of 2023.

Q: Is Menard Energy committed to this project from start to finish?

A: Yes. Menard Energy has stated they believe this is the optimal site for a BESS and remain extremely interested in going through the City of Vacaville process to allow them to construct and operate a facility.

Q: I would like to know where this type of battery storage has been done before? By other companies?

A: There are over 500 operational BESS facilities in the USA, 66 in the State of California. [View](#) a list of these facilities, their size, technology, and location.

Q: Would the executives from Menard honestly be comfortable living within 600 ft of this facility?

A: Menard executives have stated they would live within 600 feet of a BESS as there are dozens of similar facilities that are even closer to homes and businesses in the United States.

Q: What happened to Vistra?

A: The previous applicant, DG Power, brought Vistra to the City as the potential future operator, however, by the time Ampyr Energy USA acquired the project Vistra was no longer involved.

Questions About Community Impact

Q: Will the battery storage facility be considered a hazard zone? Will this impact insurance premiums or the ability to get insurance?

A: A formal application has not been filed and the project is in the conceptual design phase. Thus, there is not enough project information to speculate on impacts on home insurance. Other BESS projects in the United States near residential and commercial areas are not considered hazard zones so there is no reason to believe this one would be. Further research on this issue will be undertaken to provide a more in-depth answer.

Q: We have seen our electric bills triple in the last three years because of actions that PG&E have taken. How do we know that's not going to happen with this project?

A: This project by design provides an alternate and reliable source of power to utility providers which may stabilize or lower rates during periods of high usage. Menard's business model is based on receiving a flat rate for energy from a utility provider and the company is not involved with a utility provider's rate increases or other activities. However, Menard does not have any direct control over rates.

Q: How will the dust around the property be properly mitigated for Vacaville residents?

A: Any site remediation and construction work would be done in accordance with project plans and permits which would include proven methods to control dust such as site watering, covering soil stockpiles, daily site housekeeping and air monitoring, if indicated. Riprap (rocky material) will be placed within the project boundary to minimize vegetation and dust during operations.

Q: Does this facility make noise? How loud and how far would noise travel?

A: BESS facilities do have some humming noise from inverters, unit air conditioners, and the fans on the transformers. However, this noise would not be detectable at the boundary of the site. Any facility built would need to adhere to decibel levels allowed by the City of Vacaville.

Q: Is there a plan to mitigate the sound of this facility with a sound wall?

A: A formal application for the project has not been submitted and the facility has not been designed. Menard anticipates a noise study will be prepared to evaluate noise levels and determine mitigation if needed. If indicated by the study measures to suppress noise will be used including the use of a sound wall.

Q: How will this storage facility impact a school in the area, surrounding farmland?

A: There will be some increased traffic during construction of the project but during operations, with only 2-4 anticipated full-time technicians maintaining the project during daytime hours there should be little to no local traffic issues or other disturbances.

Q: Has the Department of Insurance of the State of California or Realtors Associations been involved in assessing this project?

A: The California Department of Insurance and Realtors Associations have not assessed this project.

Q: Will residents have to sign a Natural Hazards Disclosure report when purchasing a home near the facility?

A: Menard has researched other BESS projects in the US and has not found any documentation that local residents have to acknowledge the presence of a BESS in their neighborhood. Further research will be conducted.

Q: Have any environmental impact studies been commissioned for the location of the proposed plant? Will this plant impact any endangered, or native plants, animals, insects, wildlife, etc.?

A: If Menard Energy moves forward with a formal proposal, they would be required to file the following applications with the Community Development Department:

- (1) General Plan Amendment;
- (2) Zoning Ordinance Text Amendment;
- (3) Development Agreement;
- (4) Airport Area of Influence Review;
- (5) Conditional Use Permit;
- (6) Design Review; and
- (7) Environmental Assessment.

Based on the types of applications that would be required, the City Council would make the final decision about whether to allow battery storage on the site. As part of the development review process, a project would be reviewed for compliance with the California Environmental Quality Act (CEQA). The level of CEQA analysis will be determined by City staff if the project is formally submitted. The CEQA process provides additional ways for community members to participate in the decision-making process.

Q: This site also sits about 10,000 ft away from the runway of the Vacaville airport. How would an aircraft impact/affect this site?

A: If Menard Energy moves forward with a formal proposal, they would be required to file numerous applications with the Community Development Department including an Airport Area of Influence Review. Solano County's Airport Land Use Commission would review the proposed project as part of the development review and environmental review process to ensure that airport operations would not be negatively affected.