

## Seguro Energy Storage Project Frequently Asked Questions

### GENERAL PROJECT QUESTIONS

#### 1. What is the Seguro Energy Storage project?

The proposed Seguro Energy Storage project is a battery energy storage system (BESS) with a capacity of up to 320 megawatts (MW) / 1,280 megawatt-hours (MWh)\*, which is enough stored energy to power approximately 240,000 homes for a duration of four hours. The BESS will feature metal storage enclosures, approximately 8 to 10 feet in height, which will house racks of battery modules equipped with insulation and robust safety monitoring and management systems.

The BESS will connect to the power grid via a new substation that will be built on the project site. That substation will connect to the nearby existing San Diego Gas & Electric (SDG&E) Escondido Substation via an electric transmission line.

This is a standalone BESS project, meaning there are no solar panels, wind turbines, or other generation technologies included in the project.

AES will be the long-term owner and operator of this BESS facility.

*\*Note: The proposed original size for the Seguro BESS was 400 MW / 1600 MWh. The size has been reduced in response to stakeholder and community feedback and project design requirements.*

#### 2. What is battery storage and why is it important?

BESS technology provides a highly flexible energy resource and a critical safety net to the electrical grid operator during periods of high demand. BESS facilities can support entire buildings or the broader electrical grid during extreme weather events and service disruptions or outages. BESS facilities enable us to keep the lights on, keep air-conditioning or heating systems operating, and keep critical equipment such as medical, public services, and business technology online; preventing disruption to essential electrical infrastructure that keeps people safe.

Energy storage also enables electricity to be saved and used at a later time, when and where it is most needed. The flexibility of energy storage systems makes them an effective complement and accelerator for intermittent renewable energy sources. By introducing more flexibility into the electrical grid, energy storage helps integrate more clean, renewable power sources – like solar, wind, and hydropower – and enables more people to rely on and use distributed energy resources, such as rooftop solar and electric vehicles. All these resources, supported by energy storage, contribute to reducing local air pollution and greenhouse gas emissions from our electrical grid.

The flexibility that battery storage provides is also critical to helping the San Diego region meet its decarbonization goals and for California to achieve 100% carbon-free energy by 2045.

### **3. How was the project site location selected?**

The proposed project site is located on 22.5 acres of privately-owned land along County Club Drive in unincorporated San Diego County, near Escondido and San Marcos.

AES evaluated many sites before selecting this proposed project location. As part of the siting process, many factors were considered, including proximity to electricity demand (or “load”), availability of existing electric grid infrastructure and access (rights of way, etc.), potential environmental impacts, cost-effectiveness, and availability of suitable land. This site was also chosen because of its close proximity to the SDG&E Escondido Substation, its size and physical characteristics, the minimal environmental impacts it presents, and its zoning designation per County rules that allow utility infrastructure in this area.

By utilizing land that is near the existing electric grid and energy production infrastructure, as well as other existing energy-intensive industrial uses, this project location also minimizes the need for long, overhead transmission lines.

### **4. Is this project compatible with current zoning/land use rules and what are the key aspects of the project’s permitting process?**

The project site is zoned Agriculture (A70). Section 2704 of San Diego County’s Zoning Code lists both Minor Impact Utilities and Major Impact Utilities as an allowable use in areas zoned A70 upon issuance of a Minor Use Permit or Major Use Permit. The County has determined that battery energy storage falls under these allowable use categories.

The project will be reviewed by all relevant government and regulatory agencies under the California Environmental Quality Act (CEQA). This review process includes various environmental and technical studies.

AES submitted the Seguro Energy Storage project application to San Diego County for a Minor Use Permit in January 2023. Based on public feedback and discussions with the County, AES decided to move forward with a Major Use Permit application, which was submitted in September 2023. The County is in the process of preparing an Environmental Impact Report (EIR) for the project.

As required by CEQA, the EIR will include a full analysis of the project and alternatives. It will also include the sites that were evaluated as part of AES’ site selection process and will detail why those sites were not considered feasible.

The project will meet all of San Diego County’s standards, including for lighting, noise, landscaping, and other project elements, such as setbacks, height limitations and stormwater management. The project will also comply with all environmental requirements and mitigation measures.

## 5. How will you engage the community?

Engaging with the local community and gathering feedback from project stakeholders is an essential part of our project development process.

Our outreach has included:

- Sent multiple mailers to residents and businesses near the project site, beyond minimum notification radius requirements set forth by the County, to provide details about the project and information about how to connect with the project team
- Walked door-to-door to residences nearest to the project site to share information and answer questions
- Provided a project site visit and a formal presentation to the San Dieguito Community Planning Group
- Provided briefings to government officials in San Diego County, cities of Escondido and San Marcos, community and business leaders, and other stakeholders
- Engaged in ongoing meetings with the San Marcos Fire Department and nearby fire agencies
- Provided briefings to executive staff at Palomar Health District
- Established a project information website (<https://www.aes.com/california/project/seguro-energy-storage-project>), email address ([seguroproject@aes.com](mailto:seguroproject@aes.com)), and hotline (**760-546-2228**) to receive and respond to questions and comments

AES will continue to engage with and provide updates to the community throughout the development process. We are hosting a series of community workshops in Spring 2024 to provide the latest project information, answer questions, and receive feedback from the community. Community members will also have the opportunity to provide comments as part of the project's environmental review and permitting process.

## 6. How will this project benefit the local community?

The Seguro Energy Storage project will serve as a critical, cost-effective source of reliable power to support the region's electric grid. It will provide enough stored energy to power about 240,000 homes for a duration of 4 hours.

The project's expected economic benefits include new local tax revenue to support local schools, infrastructure and public services, and the creation of local jobs. There will be more than 450 jobs and more than \$11 million in tax revenue generated during project construction. There will be about 8-10 permanent jobs and almost \$6 million in tax revenue generated annually throughout the operational life of the project.

The project also includes the build-out and dedication of existing trail easements to provide a segment of the proposed trail that will increase pedestrian connectivity and access to future trail segments.

AES is committed to being a good neighbor and partner to the communities where our projects are located, and we support local contractors, community partnerships and programs.

**7. How many employees will be on-site?**

A team of 8-10 operations and maintenance employees will staff the facility. Members of this team will be on-site during regular business hours to monitor equipment and conduct maintenance (including vegetation management), staffed across multiple shifts. This team will also be on call outside of regular business hours to respond to any operational issues. Additionally, the facility will be monitored remotely 24/7 from AES' remote operations control center, which is fully staffed 24/7.

**PROJECT DESIGN / ENVIRONMENTAL REVIEW QUESTIONS**

**8. What measures are you taking to minimize lighting from the facility?**

The facility will be equipped with lighting for safety and security reasons. The project will be designed to meet County requirements, including the San Diego County Lighting Ordinance, and all feasible measures to minimize lighting overcast outside project property boundaries will be implemented accordingly. Lighting will be directed downward, fully shielded, and may consist of low-pressure sodium lamps or narrow-spectrum amber fixtures. AES' design approach includes CCTV cameras and photosensitive lighting, which are off at night unless personnel are present.

**9. How will this project minimize visual impacts?**

A Visual Impact Analysis will be completed as part of the Environmental Impact Report (EIR), which will include visual renderings of the project. Perimeter trees will be maintained to the extent practical. Additional screening options, including a wall consistent with the surrounding character and drought-tolerant and fire-resistant landscaping, will be evaluated upon completion of relevant studies. AES will work with the County to implement appropriate measures to the extent feasible with consideration for nearby neighbors' views at various lighting and elevation levels.

**10. What components of this project generate noise and how will AES approach noise management and mitigation?**

Typically, the most significant source of noise for a project like this comes from the HVAC equipment and inverters, within BESS equipment, and from the transformer, within the project's on-site substation. A noise study will be conducted to ensure County noise requirements, including a strict nighttime noise requirement, are met. As part of this process, various noise mitigation measures, including sound barriers of various types, will be considered. Any mitigation measures deemed necessary per the noise study and California Environmental Quality Act (CEQA) process will be implemented in the project design.

AES limits construction activities to approved daytime hours to minimize impact during the project's construction phase. The project will be designed to meet acceptable ambient noise levels at all points along the property line.

**11. How will AES ensure that water and air quality are not negatively impacted by this project?**

In accordance with local authority requirements, AES will develop and complete several studies, including a Hazard Consequence Analysis, Hazard Mitigation Assessment, detailed air quality and greenhouse gas analyses to determine potential impact, a stormwater quality management plan, a hydrology study, extensive equipment testing, and a robust maintenance plan. The current design proposes the installation of on-site detention basins to collect, treat and store stormwater. The project will adhere to all air quality and stormwater regulations during construction and operations.

**12. What studies and processes will be performed related to other environmental impacts of this project?**

An Environmental Impact Report (EIR) will be prepared as part of the project's California Environmental Quality Act (CEQA) compliance. This will include numerous technical studies to understand potential impacts and mitigation measures related to the natural environment and the surrounding community. The studies that will be completed as part of the EIR include, but are not limited to, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, paleontological resources and wildfire.

**13. How will you prevent flooding and runoff during rains?**

The site has been designed to ensure that stormwater is collected on the property instead of flowing to neighboring properties, in compliance with all state and local regulations. The site will be graded so that stormwater flows into storm drains that empty into pond-like detention basins on the property. In addition to AES' observation of relevant requirements and best practices related to stormwater management, we take a prudent design approach to ensure the safe operation and preservation of our projects, which are typically very time- and capital-intensive to develop and build.

**14. What types of industrial toxins or hazardous materials will be kept on-site? How will the surrounding environment be protected from industrial pollution?**

As part of the Environmental Impact Report (EIR) preparation required for California Environmental Quality Act (CEQA) compliance, third-party experts are preparing a Hazard Consequence Analysis (HCA). The HCA provides a detailed study of all possible hazards presented by the proposed project. AES will use the results of this analysis to adjust the design of the project to mitigate those potential hazards.

## SAFETY QUESTIONS

### **15. How will you prevent the battery modules from starting a fire?**

Fires and “thermal runaway” events are very unlikely under the most current federal, state, and local standards that support the safe design, planning, and operations of BESS facilities. The project will comply with the latest and most rigorous design and safety standards for BESS systems. The project design will also be National Fire Protection Association (NFPA) compliant.

AES will develop and complete an Emergency Response Plan, a Hazard Consequence Analysis, an arc flash risk assessment, equipment testing, and a maintenance plan as part of the preparation and permitting process for this project. These steps will help to identify the most effective strategies to prevent and respond to any potential hazards, including fire safety hazards. As part of this emergency management preparation, local fire and EMS personnel will be trained on the equipment and emergency response protocols.

The BESS facility will be staffed by a team of operations and maintenance professionals who will be onsite during regular business hours and on call outside of regular business hours. The facility will also be remotely monitored 24/7 from AES’ remote operations control center.

### **16. How much of a concern is fire risk or thermal runaway?**

Safety is always the top priority for AES. AES’ approach to mitigating risk always begins with preventing the hazard from occurring in the first place, which is done through establishing rigorous codes and standards for energy storage systems. AES participates on industry technical committees such as the NFPA 855 on Energy Storage Systems, which establishes standards for mitigating hazards associated with energy storage systems, continually improving industry safety best practices.

AES implements a multitude of risk management layers in our system designs: the battery management system maintains nominal operations and separates a battery string from hazards when necessary; site SCADA systems identify hazardous conditions and can automatically stop the system and alert response personnel; and non-battery fires that may result in a battery fire are managed using the same measures as non-battery sites (fire-resistant construction, defensive posturing, and material-specific suppression). If a thermal runaway event or battery fire were to take place, the enclosures planned for this site are designed to release fire suppressant in large concentrations directly into the initiating cell, removing heat and preventing thermal runaway throughout the enclosure.

The AES energy storage solution integrates battery modules inside steel containers that are equipped with fire-rated insulation and several redundant layers of hazard controls, including passive and active measures that both inhibit and (when necessary) suppress hazardous conditions. The UL 9540 certification addresses safety and requires UL 9540a test results to be available for review. The 9540a tests of this system indicate adequate prevention of thermal runaway. The Seguro BESS is required to achieve UL

9540 certification prior to site commercial operation. AES will build a BESS facility that meets or exceeds all safety requirements and standards.

**17. Should patients and staff at Palomar Medical Center be worried about toxic fumes from a potential fire at the BESS facility?**

The design of the Seguro project will ensure that if a battery module fails, that failure is contained within the module and cannot cause an ignition, explosion, or spread of fire to nearby equipment. In the rare case that a thermal event or fire did occur, it would be managed without endangering the broader community. A study for the New York State Energy Research & Development Authority (NYSERDA) showed that the average level of toxicity of battery fires is similar to that of plastics fires involving materials such as sofas, mattresses, or office furniture. During a BESS battery fire, only trace amounts of chemicals are detected in sampling around the event, and overall air quality remains at safe levels.

The Palomar Medical Center is approximately 1,600 feet away from the proposed project; therefore, toxic fumes from an incident at the project site do not present a significant risk to the hospital. In addition, the hospital already maintains a comprehensive Emergency Management Program (EMP) based on a Hazard Vulnerability Analysis that is reviewed and updated at least once a year as part of the hospital's normal operations. The hospital's existing EMP addresses risks from wildfires and hazardous material emissions, among others, and Palomar Health is confident in its ability to safely respond to these risks. If any additions or updates to the EMP need to be made in connection with the Seguro Energy Storage project, they will be made well before the proposed facility begins operations.

Palomar Medical Center Escondido is already situated near several facilities that present similar or greater risks, and these risks have been incorporated into the hospital's existing EMP, as applicable. These facilities include a battery energy storage system (BESS) installed at the SDG&E Escondido Substation, less than 1,700 feet to the northeast of the hospital; a 580-megawatt gas-fired power plant, less than 1,200 feet to the southeast of the hospital; and numerous large industrial facilities in the vicinity of Auto Park Way and West Mission Road.

**18. How would neighbors evacuate or safely shelter in place in the event of an incident at the BESS facility?**

It is unlikely that a fire or thermal runaway incident at the BESS facility would require a shelter-in-place or evacuation order. In the unlikely event of a fire or thermal runaway incident, the facility's design will keep flames within the container and any toxic vapors within a safe distance from humans or livestock. Typically, shelter-in-place or evacuation orders are issued at the discretion of local fire authorities out of an abundance of caution. The logistics of any potential shelter-in-place or evacuation orders will be determined through analyses and plans that are currently being developed.

Unobstructed access via Milpas Drive, which crosses the approximate center of the project site from east to west, will be preserved to allow residents and first responders to enter and evacuate. The roadway will also be improved to allow residents and first

responders to move along Milpas Drive more efficiently. Additionally, an alternative access route will be added, connecting Milpas Drive and the portion of Country Club Drive that runs parallel to Milpas Drive, to the north of the facility, so that residents and first responders will have more than one access route. Both this second access route and the existing Huston Ranch Road to the south of the project site will also be improved to support more efficient ingress/egress and regular access by residents.

**19. What is the decommissioning plan for the project's end of life? Will materials be recycled?**

When a project reaches the end of its life, the project owner (AES) is responsible for executing the approved decommissioning plan, which includes abiding by all local and state decommissioning requirements. This involves the removal, recycling, and/or responsible disposal of all equipment and other structures associated with the project, as applicable. The land surface within the project site area will be sensitively restored to pre-project conditions to enable a return to agricultural or other uses consistent with the land-use policies at the time. Through our supply chain process, we identify and prioritize equipment manufacturers that align with our environmental, safety and human rights commitments. Some of these commitments include buying equipment from manufacturers whose supply chains and suppliers comply with a national recycling program. We also seek to buy high-efficiency products, which reduce the total volume of raw materials and parts required for each project.

**20. Once the project is operational, can't AES abandon or sell it to someone else?**

AES is a Fortune 500, financially strong global company and a leader in developing clean energy solutions. We've been powering California and supporting the state's grid reliability needs for more than three decades. AES will be the long-term owner and operator of the facility.

**21. If you don't yet know the exact type of battery that will be used, how do you know it will be safe?**

The battery modules are just one component of the larger system. The design of the system is what ensures safe operation, regardless of the specific type of battery technology that is ultimately selected. The critical determinant of a project's safety are the criteria for its design standards and safety features; these criteria remain the same, even though the battery modules might differ slightly depending on vendor or product line availability when components are procured.

As previously mentioned, the project design will be NFPA 855-compliant, and all project components will be independently tested and certified to several industry standards (UL 1642, UL 1973, UL 9540). The UL 9540 certification addresses safety and requires UL 9540a test results of this system, which indicate adequate prevention of thermal runaway, to be available for review. The Seguro Energy Storage system is required to achieve UL 9540 certification prior to site commercial operation. The project will be designed to meet or exceed these rigorous safety standards.



**22. When and how will the batteries be charged and discharged?**

The batteries will be charged through the transmission lines connecting the facility to the electric grid. Being connected to the electric grid means the batteries can be charged by a wide range of energy resources, ranging from rooftop solar panels to large wind turbines. As this is a standalone battery energy storage system (BESS), not a hybrid BESS with onsite power generation, we anticipate it will draw mostly renewable power during daytime hours when the California grid has surplus renewable power generation, thereby enabling that power to be harvested (rather than wasted) for later use. After solar generation dips with the sunset, usually between 4:00 and 9:00 pm, we anticipate this BESS discharging its stored power to support the evening energy demand spike.

**23. Why should we trust that this project will be safe when there have been multiple incidents at battery energy storage facilities?**

As a technology, battery storage has evolved rapidly over the past decade and even more so in the past few years. Below is a table that shows the key differences between earlier and today’s BESS systems.

	<b>Earlier BESS Design</b>	<b>Current, Advanced BESS Design</b>
<b>Enclosure Type</b>	Walk-in design	Non-walk-in (electrical equipment)
<b>Battery Management System Protection</b>	Yes	Yes
<b>Gas Detection &amp; Explosion Prevention</b>	No	Gas detection, ventilation, deflagration panels
<b>Smoke &amp; Heat Detection</b>	Yes	Yes
<b>Fire Suppression</b>	Non-targeted clean agent or sprinkler system	Targeted suppression at the module level (clean agent, aerosol, water, etc.)
<b>NFPA 855 Compliant</b>	No	Yes
<b>UL9540A Tested</b>	No	Yes

AES has been operating a global fleet of battery energy storage systems (BESS) for more than 15 years. Fire incidents at energy storage facilities are rare occurrences and remain isolated. Earlier fires or thermal events have reshaped the energy storage industry’s approach to BESS system design and safety. Lessons learned have resulted in the adoption of UL9540 and NFPA 855 standards, in addition to design changes to AES’ energy storage solutions. We understand the technical and safety management of thermal hazards at a much greater level of detail today. The energy storage technology planned for the Seguro project will look and operate very differently from the technology used just a few years ago, as AES continues to incorporate the most advanced technology and safety standards into our BESS facilities.

**24. How can fires at BESS facilities be unlikely when there have been dozens of incidents in recent years?**

Design codes and safety standards have come a long way since the first utility-scale BESS projects were built, and they continue to be updated and improved in response to real-world incidents. The current standard, NFPA 855, was most recently updated in 2023. AES is designing the Seguro Energy Storage project to meet all of the latest codes and standards applicable to this jurisdiction.

According to research from the Electric Power Research Institute (EPRI), which collects and analyzes data about BESS fires, “the technology’s overall safety record is strong and improving.” There were about the same number of fires in 2023 as there were in 2019, even as global battery storage deployments have increased 20-fold.

Additionally, we are not aware of any examples of fire spreading off-site from a utility-scale battery storage facility.

**25. Will nearby schools and childcare facilities be safe in the event of a fire or other incident at Seguro?**

The project will comply with the latest and most rigorous design and safety standards for BESS systems. AES is required to develop various plans as part of the preparation and permitting process for the Seguro project, which will help to identify the most effective strategies to prevent and respond to any potential hazards, including fire safety hazards. As part of the emergency management preparation for the project, appropriate local fire and EMS personnel will be trained on the equipment and emergency response protocols. Please refer to the previous safety questions for additional information.

**26. If a battery module does catch fire, how long will it take to burn out?**

AES will conduct UL9540a testing on the equipment proposed for the project. UL9540a is a test method for evaluating thermal runaway fire propagation in a battery energy storage system. As part of the UL9540a testing, a series of burn tests must be completed at the cell, module, and unit level to collect data to show that the types of battery modules used in the project design meet or exceed safety requirements, with burn time being one component of that analysis. If a battery module does not meet UL9540a test criteria, it cannot and will not be UL certified nor will it be part of the Seguro project’s design.

The Seguro Energy Storage project is designed to not only prevent fire from spreading from one battery module to another, but also to prevent fire spreading between groups of battery modules due to its containerized layout. In addition, the project is divided into two sub-sites to the north and south of Milpas Drive. Each sub-site is fully enclosed by a barrier wall made of fire-resistant materials, which serves to further minimize the risk of any fire spread.

**27. Would it not be safer and more effective to install batteries in people's homes rather than concentrating so many of them in one place?**

BESS systems like the Seguro Energy Storage project are subject to much more comprehensive safety and environmental regulations and standards than batteries installed as part of home storage systems, which lack safety features like advanced battery management systems, dedicated operations and maintenance staff, and multi-layered fire suppression common to larger facilities. While it is beneficial for those who can afford to do so to consider residential solar and storage systems, there is a demonstrated need for larger BESS projects to provide the scale and cost efficiencies to support a reliable electric grid as California works towards its goals of 100% carbon-free energy by 2045.

**OTHER QUESTIONS**

**28. Will this project impact the resale value of neighboring homes?**

Home values are shaped by a variety of macroeconomic and local factors. There is no evidence we're aware of that suggests that battery energy storage system (BESS) projects have any impact on the resale value of neighboring homes. Homes near the proposed Seguro Energy Storage project site have recently sold above the original asking price since the project was publicly announced. Local property values already take into account existing commercial and industrial sites nearby.

**29. Will this project impact nearby residents' ability to get homeowners insurance? Will it cause our rates to go up?**

The property insurance market in California is complex and constantly evolving, and a variety of factors are affecting the cost and availability of insurance all over California. There is no evidence we're aware of that suggests battery energy storage projects have any impact on the cost or availability of property insurance on neighboring properties.

As a matter of policy, AES obtains insurance through the commercial market for projects like Seguro Energy Storage. AES can only obtain this insurance by meeting insurance brokerage guidelines and requirements. For example, insurance brokers will require the project to meet the latest safety standards such as NFPA 855, conduct UL9540a burn testing, and meet specific design criteria like equipment spacing. The safety features of the project design – including containerized systems, equipment spacing, gas/smoke detection equipment, fire hydrants, fire-resistant construction materials, improved brush management, and walls designed to stop wildfire from advancing through the site – may actually serve to improve the overall fire safety of the neighborhood and thus improve the cost or availability of insurance for nearby property owners.

**30. How does AES approach sourcing lithium and the other raw materials required for its projects?**

AES is deliberate and thoughtful in selecting our suppliers and contractors, who we see as partners in helping us build safe, reliable and sustainable projects. We hold them to



*Last updated 3/19/24*

the same high ethical standards that we have for ourselves, and through our supplier relationships, we work to promote acceptable working conditions and environmentally responsible management. AES' Supplier Code of Conduct defines the basic requirements and expectations applicable to all suppliers, contractors, consultants and third-party intermediaries of the company and its affiliates. This Supplier Code of Conduct is incorporated into our contracts with suppliers, who are responsible for ensuring that all subcontractors are in compliance, as well.