



## **Alamitos Energy Center (AEC)**

### FREQUENTLY ASKED QUESTIONS

#### **What is the AEC?**

The Alamitos Energy Center (AEC) is a new combined-cycle and simple-cycle power plant using natural gas turbines. It will replace the existing AES Alamitos generating station on Studebaker Road in Long Beach, which still uses 1950s era steam generators. The modernized AEC, which will be smaller and much lower-profile, will remain entirely within the existing boundaries of the current power plant.

The AEC will have a generating capacity of 1,040 megawatts (MW), but will use 50% less fuel to deliver the same electrical service as the existing plant. It will have two gas turbine power blocks, with Power Block 1 (640 MW) consisting of two natural-gas-fired combustion turbine generators (CTG) in a combined-cycle configuration and Power Block 2 (400 MW) consisting of four simple-cycle CTGs.

The modernization project will also include a battery energy storage system. This 300 MW of green energy storage will allow the state to “set-aside” renewable energy for use during peak times and reduce our reliance on fossil fuels. The battery storage systems will be housed in corporate-looking, two story buildings that have no emissions, use no water and make minimal noise.

#### **Why is this project needed?**

The new, modernized AEC will help close the energy gap left by the permanent closure of the San Onofre Nuclear Generating Station (SONGS) and the retirement of older, less efficient plants that currently use once-through ocean water cooling (OTC) — which California is phasing out — including the units at AES Alamitos. This will help meet the demand for new generation, to serve both peak and intermediate loads, in the heart of Western Los Angeles’ critical local electrical reliability area.

In addition, the changing needs of the electrical system requires modern and flexible generating technology that can respond quickly to fluctuating electrical loads as we depend more on intermittent renewable energy — such as wind and solar — to meet our electricity demands.

#### **How will the new plant cool the turbines?**

The new AEC plant will use state-of-the-art equipment that moves air to cool the steam in the combined cycle system. This type of cooling system is known as an “air-cooled condenser” and functions similarly to the radiator and circulation fans in your car.

### **When will construction begin? How long will it last?**

Construction activities will begin in May 2017 and take place in several phases. The first phase will be site-preparation work within the existing plant — to make room for the new, improved natural-gas-fired plant. This will include the removal of a few earthen berms and a building that formerly housed a small generating unit.

Construction of the actual AEC will begin in July 2017, starting with construction of the first power block, Power Block 1. This work will be completed in 2020.

Construction of Power Block 2 will begin in mid- to late 2020, and will be completed in late 2022.

Demolition work on the existing steam generators will begin in 2021.

Please note: We currently have a contract in place with Southern California Edison to sell 640 MW of power that will be generated at the AEC. We do not yet have a Power Purchase Agreement (PPA) with Southern California Edison for Block 2. If we do not secure a PPA for Power Block 2, it will not be constructed.

### **Who approved the AEC?**

The California Energy Commission (CEC), which is the state regulatory agency that has jurisdiction over the development and construction of large electric generating projects, approved the AEC on April 12, 2017. The South Coast Air Quality Management District (SCAQMD) issued the final permit to construct on April 18, 2017.

### **What days and hours will construction work take place?**

Construction hours will be limited to Monday through Friday, 7 a.m. to 7 p.m. and Saturdays from 9 a.m. to 6 p.m.

### **Will construction create dust?**

All new construction work will take place within the property boundaries. Fugitive dust that could occur from these activities will be minimized by implementing dust control measures, including watering of exposed dirt; truck and vehicle tire cleaning; and covering stockpiled material. AES and its contractors will take all necessary and reasonable steps to minimize fugitive dust related to construction activities.

### **How much noise will there be during construction?**

While sound from construction-related activities is unavoidable, AES and its contractors will take all reasonable steps to minimize this impact, including limiting construction hours to Monday through Friday, 7 a.m. to 7 p.m. and Saturday, 9 a.m. to 6 p.m.

Construction noise levels vary depending on the nature of the construction activity. Through all phases of construction, AES and its contractors will implement best practices for minimizing noise levels to the extent possible.

### **Will traffic be affected by the construction work?**

During construction of the new AEC, there may be short periods of traffic impacts during construction start and end shifts. The number of construction workers will vary throughout the construction process, with most workers starting in early 2018, as the new plant is raised. This phase will last about 18 months. Other construction activities, such as equipment deliveries, will have minimal effect on traffic flows. Temporary lane closures may be necessary for large or heavy truck load deliveries, and will be limited to night time hours to minimize traffic impacts.

AES and its contractors will take all reasonable steps to minimize this impact and comply with local traffic regulations. To the extent possible, activities will be scheduled to minimize any impact on traffic.

### **Why is the AEC project good for Long Beach?**

The new AEC will not only be cleaner and more responsive to California's energy needs, but will provide many benefits to the community and the environment. Most noticeably, the new plant will be shorter and sleeker, reducing visual impact and improving its appearance for local neighbors. Currently, the tallest structure at the existing plant is about 214' — whereas the tallest structure on the AEC will be 150'.

The project will also create jobs and help boost the local economy. During construction, the project will result in about \$130 million in local purchases, 4.7 million hours of construction-related work and a payroll of over \$400 million — much of which will be spent in the local community. Once the project is completed, it will contribute over \$8 million annually to the local economy while also generating tax revenue to help pay for local services, like police and fire.

In addition, the modernized plant will use 70 percent less fresh water and completely eliminate the use of ocean water for once-through cooling (OTC). It will also be able to start in about 10 minutes, compared to the 10 to 36 *hours* it takes to start the existing steam generators. Combined with the much higher efficiency of the new generating technology, the AEC will use 50% less fuel to deliver the same electrical service and cut emission rates nearly in half, while increasing operating flexibility — enabling integration of more renewable energy. That's great for Long Beach, and all of California.

### **Will the AEC project create local jobs?**

Yes, the modernization project will create 4.7 million of hours of construction-related work while being built. Kiewit Power Contractors has been awarded a contract by AES to build the AEC.

### **Will there be any interruption in our electricity services while the new power plant is being built?**

AES Alamitos is an important source of clean, reliable electricity to the LA Basin. For this reason, the existing plant will continue to meet its electricity obligations while the new plant is being built. The construction sequence was specifically designed to ensure that we continue to provide clean, reliable electricity throughout construction.

### **How will I receive updates about the project?**

AES and its contractor will provide periodic updates by email and the U.S. Postal Service — as well as community meetings. You are more than welcome to contact us at any time with your questions or concerns. We have established a construction-related hotline at 888-592-9931. Please also sign up to receive our email updates by visiting our website at [www.RenewAESAlamitos.com](http://www.RenewAESAlamitos.com).

### **What will the project look like after it is completed?**

"Current vs. Proposed" visual simulations of the modernized plant can be found on our project website, at [www.RenewAESAlamitos.com](http://www.RenewAESAlamitos.com).

### **How much will the project cost and how will it be funded?**

No taxpayer money will be directed toward this project. Instead, the AEC is a private company investment funded through electricity sales over the next 20 years.

## **How Do I Get More Information?**

We're here to answer your questions. Should you have additional questions or concerns, please call us or visit our website:

**[www.RenewAESAlamitos.com](http://www.RenewAESAlamitos.com)**

**(888) 592-9931**

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