

**DOCKETED**

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<b>Document Title:</b>	STATEMENT OF STAFF APPROVAL OF PROPOSED CHANGE MARSH LANDING GENERATING STATION
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## **STATEMENT OF STAFF APPROVAL OF PROPOSED CHANGE MARSH LANDING GENERATING STATION (08-AFC-03C)**

On March 5, 2021, NRG Marsh Landing, LLC, (project owner), filed a Post-Certification Petition for a project change at the Marsh Landing Generating Station (MLGS). The 760-megawatt project was certified by the California Energy Commission (CEC) on August 25, 2010 and began commercial operation on May 1, 2013. The MLGS is located in the City of Antioch, California.

### **DESCRIPTION OF PROPOSED CHANGE**

The project owner is seeking approval to modify the previously approved (TN 227318) Battery Energy Storage System (BESS) by modifying its design, technology, and battery chemistry. As described in the BESS Capacity and Output Increase Petition (TN 237000-1), the modified BESS would use a lithium ferrous phosphate (LFP) battery chemistry for improved reliability and capacity requirements. The modified BESS would have an additional output of 11.5 megawatt (MW) and 10.5 megawatt hours (MWh). This is an increase from the approved battery capacity of 7 MW and 3.6 MWh, which was later revised to 7 MW and 5.48 MWh.

As previously approved the BESS and associated equipment are designed to start the gas turbines and to restart the power plant in the event of a grid blackout to support the California Independent System Operator's directed restoration of the electrical grid in response to an emergency condition (also known as "black start" capability).

The BESS black start service will:

- maintain frequency and voltage through the system restoration process;
- provide reactive power capability;
- safely shutdown MLGS Units 3 and 4 in a grid emergency load rejection event;
- run back to full-speed no-load (FSNL) from full or part load;
- carry units down to High Speed Turning Gear for immediate restart; and
- start Unit 3 and/or Unit 4 to restore power to MLGS in island mode.

The current petition does not change these services and is limited to changes in battery chemistry, capacity, and output from those described in the original Black Start Capability Enhancement Petition (TN 223052).

The petition is available on the CEC's MLGS webpage at <https://ww2.energy.ca.gov/sitingcases/marshlanding/>.

## **CEC STAFF REVIEW AND CONCLUSIONS**

Title 20, California Code of Regulations, section 1769 states that a project owner shall petition the commission for approval of any change it proposes to the project design, operation, or performance requirements of a certified facility.

CEC technical staff reviewed the petition for potential environmental effects and consistency with applicable laws, ordinances, regulations, and standards (LORS). Staff has determined that the technical or environmental areas of Efficiency and Reliability, Geological and Paleontological Resources, Soil and Water Resources, Transmission Line Safety and Nuisance, Transmission System Engineering, and Waste Management are not affected by the proposed changes.

For the technical areas of Air Quality, Biological Resources, Cultural Resources, Facility Design, Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Traffic and Transportation, Visual Resources, and Worker Safety and Fire Protection, staff has determined the project would continue to comply with applicable LORS, would not result in any significant adverse environmental impacts, and would not require a change to any conditions of certification.

Staff notes the following for these technical areas affected by the proposed change:

- **AIR QUALITY**

The proposed changes to the BESS would not change the air quality analysis or conditions of certification adopted for the original Black Start Capability Enhancement Petition. The project owner estimated that potential construction emissions for the BESS Capacity and Output Increase Petition would be less than those estimated for the original Black Start Capability Enhancement Petition (TN 237346). BESS commissioning, testing, and black start operations of Units 3 and 4 would remain unchanged with the proposed changes to the BESS. With the implementation of the conditions of certification from the original Commission Decision (Decision) and subsequent amendments including the original Black Start Capability Enhancement Petition, potential air quality impacts associated with the BESS Capacity and Output Increase Petition are expected to be less than significant.

- **BIOLOGICAL RESOURCES**

The proposed changes to the BESS include a refinement of its layout to accommodate the new BESS manufacturer and configuration. The modified BESS would still be east of Unit 4 and construction staging and parking would be on both

paved and unpaved portions of the MLGS property. There would be no new emission sources or increase in the annual emissions from MLGS. As previously analyzed, most construction activities would not occur near biologically sensitive areas; however, potential impacts to wildlife could occur if excavations are left open overnight without being backfilled or provided with escape ramps. Implementation of Conditions of Certification **BIO-1** through **BIO-7** in the Decision would ensure impacts to biological resources would be less than significant, and the project would continue to comply with LORS.

- **CULTURAL RESOURCES**

During construction of the MLGS seven archaeological discoveries occurred. Conditions of Certification **CUL-1** through **CUL-8** were sufficient to reduce construction impacts to less than significant and remain adequate for the proposed changes to the BESS. Monitoring of ground disturbing activities under **CUL-6** is needed.

- **FACILITY DESIGN**

The BESS must be designed in accordance with the 2019 edition of the California Building Code. Implementation of existing Facility Design conditions of certification adopted in the CEC's Final Commission Decision and construction compliance oversight by the CEC's delegate chief building official would ensure this compliance.

- **HAZARDOUS MATERIALS MANAGEMENT**

The selection of the lithium phosphate batteries and the increased megawatt capacity would not bring any changes to the hazardous materials used during the operation of MLGS. The use, handling, storage, and transportation of the lithium phosphate batteries would comply with all current LORS. Therefore, the potential hazardous materials impacts would be less than significant with the continued implementation of the Conditions of Certification **HAZ-1**, **HAZ-2**, and **HAZ-6** adopted in the Final Decision.

- **LAND USE**

The project modifications would be confined to the 27-acre project site. The new BESS layout would increase slightly from 60 feet by 170 feet to 60 feet by 240 feet in the same north-south orientation in the same footprint, east of Unit 4. The size of the BESS enclosures would remain similar. The project would remain consistent with the City of Antioch's land use designation and zoning designation for the project site. There were no conditions of certification for land use in the Decision or subsequent amendments and no conditions of certification would be necessary for the proposed modification. The project modifications would not disrupt or divide an established community; would not conflict with the established uses of the area; would be consistent with existing zoning and applicable land use plans, policies, and

regulations; and would not affect farmlands. Therefore, potential land use impacts associated with project modifications would be less than significant.

- **NOISE AND VIBRATION**

Construction associated with this petition would be temporary and would occur during daytime hours that are consistent with the local ordinance (Contra Costa County General Plan). Any noise generated during these activities would result in a less-than-significant impact with implementation of the existing Noise conditions of certification in the Decision.

The project modifications, which include changing the battery model and capacity, would not result in significant changes to the noise emissions during operations. The primary sources of noise would be from the ventilation fans and the battery storage module HVAC systems. The batteries and inverters make very little noise and are fully enclosed. Furthermore, the project would continue to meet operational noise requirements established in the Decision. Therefore, the changes in this petition would create a less-than-significant impact due to operational noise.

- **PUBLIC HEALTH**

There would be no new sources of emissions added to the project. Emissions estimated during commissioning, annual testing, and black start operations would remain unchanged with the proposed modifications of the BESS. With the implementation of the conditions of certification from the original Commission Decision and subsequent amendments including the original Black Start Capability Enhancement Petition, potential public health impacts associated with the BESS Capacity and Output Increase Petition are expected to be less than significant.

- **SOCIOECONOMICS**

Potential socioeconomic impacts associated with the project modifications would be less than significant. The proposed modification would not require a large construction workforce and no new operations workers. The temporary construction activities are estimated to take four to five months. The estimated construction workforce would average 15 to 20 workers, with an expected maximum of 30 workers. The ample labor supply in the local area would meet the needs of the proposed modification. Thus, the project modification would not induce substantial population growth; displace people or housing; or result in physical impacts associated with new or altered government facilities.

The Antioch Unified School District (AUSD) has a school development impact fee that is based on the square footage of covered and enclosed space. In compliance with Condition of Certification **SOCIO-1** from the Decision, the project owner would pay an estimated \$716 one-time statutory school development fee to the AUSD.

- **TRAFFIC AND TRANSPORTATION**

There would be no substantial increases in vehicle trips during construction and no increase during operations. Up to 100 truck trips of imported fill would supplement the available onsite fill. The temporary construction activities are estimated to be four to five months. The estimated construction workforce would average 15 to 20 workers, with an expected maximum of 30 workers. Construction traffic, traffic management, and parking remain unchanged from the previous approval. Operations and maintenance of MLGS and the BESS remain unchanged.

Delivery of heavy equipment and the battery storage components would be scheduled during off-peak hours and heavy haul permits from the Contra Costa County Public Works Department and the City of Antioch Engineering Department would be obtained as required. With implementation of Condition of Certification **TRANS-1** (Traffic Control Plan) from the Commission Decision, the project modifications would not conflict with local plans or ordinances addressing circulation; cause a significant increase in vehicle miles travelled in the area; and would not result in a substantial increase in hazards or inadequate emergency access. Therefore, potential transportation impacts associated with project modifications would be less than significant.

- **VISUAL RESOURCES**

The battery modules would be enclosed in approximately 33 Fluence Cubes. While the footprint of the new BESS layout within the existing project site would increase slightly, the size of the BESS enclosures would be similar, and the appearance would be improved compared to the previously approved cargo-container style enclosures. The BESS, located east of Unit 4 near the center of the project site, would not be a visually dominant component as compared to the substantial size of the four existing gas turbine power blocks. With implementation of Conditions of Certification **VIS-1** (surface treatment of project structures) and **VIS-3** (exterior lighting), the project modifications would not have a substantial adverse effect on a scenic vista or resources, degrade the existing visual character of the site, or create a new source of substantial light or glare. Therefore, potential visual resources impacts associated with the project modifications would be less than significant.

- **WORKER SAFETY AND FIRE PROTECTION**

The selection of the lithium phosphate batteries and the increased megawatt capacity would not impact worker safety and fire protection. The continued implementation of **WORKER SAFETY-8** would ensure that proposed changes would have a less than significant impact on worker health and safety and would comply with all applicable LORS.

Staff's conclusions for each technical or environmental area are summarized in the Table 1 below.

**Table 1**  
**Summary of Impacts to Each Technical Area**

Technical Areas Reviewed	Technical Area Not Affected	CEQA			Conforms with applicable LORS	Revised or New Conditions of Certification requested or recommended
		Potentially significant impact	Less than significant impact with mitigation	Less than significant impact		
Air Quality				X	X	
Biological Resources				X	X	
Cultural Resources				X	X	
Efficiency and Reliability	X					
Facility Design				N/A	X	
Geological and Paleontological Resources	X					
Hazardous Materials Management				X	X	
Land Use				X	X	
Noise and Vibration				X	X	
Public Health				X	X	
Socioeconomics				X	X	
Soil and Water Resources	X					
Traffic and Transportation				X	X	
Transmission Line Safety and Nuisance	X					
Transmission System Engineering	X					
Visual Resources				X	X	
Waste Management	X					
Worker Safety and Fire Protection				X	X	

## Environmental Justice

**Environmental Justice – Figure 1** shows 2010 census blocks in the six-mile radius of the MLGS with a minority population greater than or equal to 50 percent. The population in these census blocks represents an environmental justice (EJ) population based on race and ethnicity as defined in the United States Environmental Protection Agency’s *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*. Staff conservatively obtains demographic data within a six-mile radius around a project site based on the parameters for dispersion modeling used in staff’s air quality analysis. Air quality impacts are generally the type of project impacts that extend the furthest from a project site. Beyond a six-mile radius, air emissions have either settled out of the air column or mixed with surrounding air to the extent the potential impacts are less than significant. The area of potential impacts would not extend this far from the project site for most other technical areas included in staff’s EJ analysis.

Based on California Department of Education data in the **Environmental Justice – Table 1**, staff concluded that the percentage of those living in the Antioch Unified, Oakley Union, and Pittsburg Unified school districts (in a six-mile radius of the project site) and enrolled in the free or reduced price meal program is larger than those in the reference geography, and thus are considered an EJ population based on low income as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

**Environmental Justice – Figure 2** shows where the boundaries of the school district are in relation to the six-mile radius around the MLGS site.

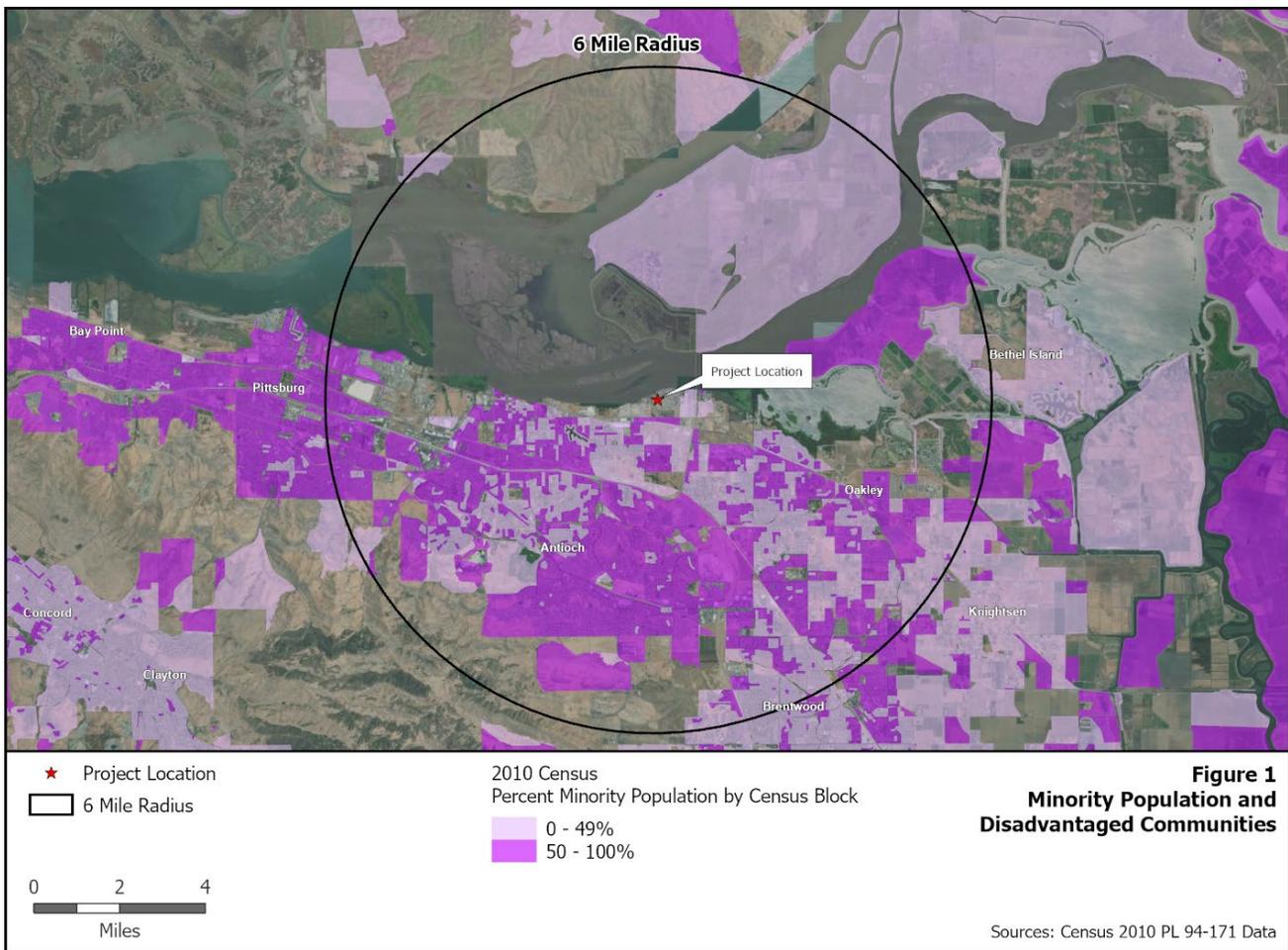
**Environmental Justice – Table 1  
 Low Income Data within the Project Area**

SCHOOL DISTRICT IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
Antioch Unified	16,599	11,247	67.8%
Brentwood Union Elementary	9,023	2,112	23.4%
Oakley Union Elementary	4,939	2,054	41.6%
Pittsburg Unified	11,015	8,164	74.1%
REFERENCE GEOGRAPHY			
Contra Costa County	173,021	66,843	38.6%
<b>Source:</b> CDE 2021. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2020-2021, < <a href="http://dq.cde.ca.gov/dataquest/">http://dq.cde.ca.gov/dataquest/</a> >.			

The following technical areas (if affected) consider impacts to EJ populations: Air Quality, Cultural Resources (indigenous people), Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, Waste Management, and Worker Safety and Fire Protection.

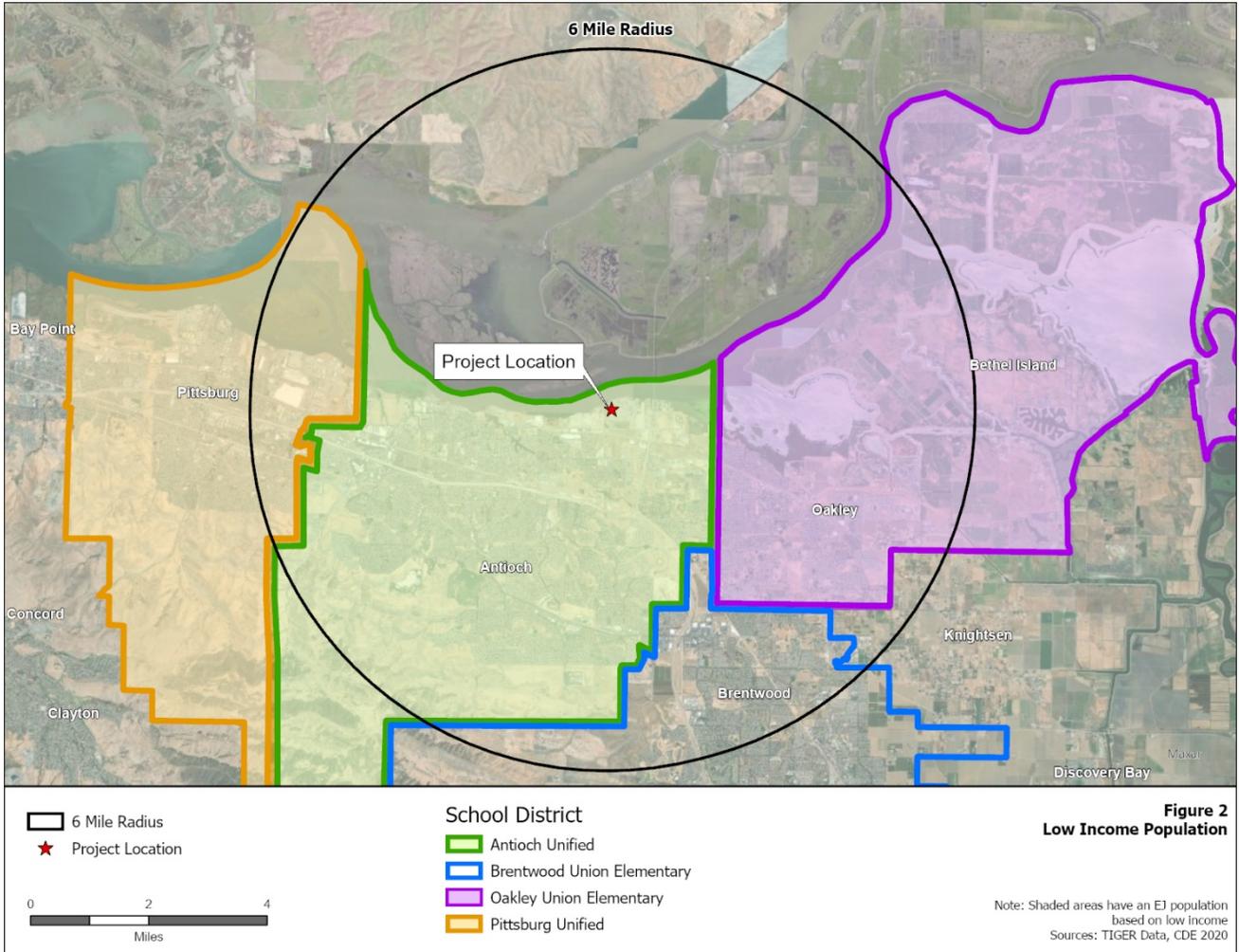
### Environmental Justice Conclusions

For the technical areas in the preceding paragraph that are affected by the proposed project changes, staff concludes that impacts would be less than significant, and thus would be less than significant on the EJ population represented in Environmental Justice – Figure 1, Figure 2, and Table 1.



**Figure 1**  
**Minority Population and Disadvantaged Communities**

Sources: Census 2010 PL 94-171 Data



## **CEC STAFF DETERMINATION**

Pursuant to Title 20, California Code of Regulations, section 1769(a)(3)(A), CEC staff has determined for this petition that approval by the Commission at a noticed business meeting or hearing is not required and the proposed changes meet the criteria for approval by staff because:

- i. there is no possibility that the change may have a significant impact on the environment, or the change is exempt from the California Environmental Quality Act;
- ii. the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards; and
- iii. the change will not require a change to, or deletion of a condition of certification adopted by the commission in the final decision or subsequent amendments.

Staff also concludes that the proposed changes do not meet the criteria requiring production of subsequent or supplemental review as specified in Title 14, California Code of Regulations, section 15162(a).

## **WRITTEN COMMENTS**

This Statement of Staff Approval of the proposed project changes has been filed in the docket for this project. Pursuant to section 1769(a)(3)(C), any person may file an objection to staff's determination within 14 days of the filing of this statement on the grounds that the project change does not meet the criteria set forth in sections 1769(a)(3)(A) and (B). Absent any objections as specified in 1769(a)(3)(C), this petition will be approved 14 days after this statement is filed.

Written comments or objections to staff's determination may be submitted using the CEC's e-Commenting feature, as follows: Go to the CEC's project webpage and click on either the "Comment on this Proceeding," or "Submit e-Comment" link. When your comments are filed, you will receive an email with a link to them.

Written comments or objections may also be mailed to:

California Energy Commission  
Docket Unit, MS-4  
Docket No. 08-AFC-03C  
1516 Ninth Street  
Sacramento, CA 95814-5512

All comments and materials filed with the Docket Unit will be added to the facility Docket Log and be publicly accessible on the CEC's webpage for the facility.

If you have questions about this statement, please contact Keith Winstead, Compliance Project Manager, Office of Compliance, Monitoring, and Enforcement at (916) 208-3849 776-0609, or via e-mail at [Keith.Winstead@energy.ca.gov](mailto:Keith.Winstead@energy.ca.gov) or [Elizabeth.Huber@energy.ca.gov](mailto:Elizabeth.Huber@energy.ca.gov).

For information on public participation, please contact the Public Advisor, at (916) 654-4489 or (800) 822-6228 (toll-free in California) or send your email to [publicadvisor@energy.ca.gov](mailto:publicadvisor@energy.ca.gov).

News media inquiries should be directed to the CEC Media Office at (916) 654-4989, or by email at [mediaoffice@energy.ca.gov](mailto:mediaoffice@energy.ca.gov).

List Serve: Marsh Landing Generating Station