

DOCKETED

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CALIFORNIA ENERGY COMMISSION

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NOTICE OF DETERMINATION POST CERTIFICATION PETITION FOR THE EL SEGUNDO ENERGY CENTER PROJECT (00-AFC-14C)

On August 15, 2017, project owner El Segundo Energy Center, LLC. (petitioner), a wholly owned subsidiary of NRG Energy, Inc. (NRG), submitted the enclosed post certification petition (petition), proposing gas turbine upgrade modifications at the El Segundo Energy Center (ESEC). On September 6, 2017, Energy Commission staff docketed the petition. The ESEC is located on the Pacific coast near the ocean shore, at 301 Vista Del Mar, El Segundo, between Dockweiler State Beach and the city of Manhattan Beach, and approximately two miles south of the Los Angeles International Airport. The project was first certified by the Energy Commission on February 2, 2005. Known then as the El Segundo Redevelopment Project, it had a generating capacity of 630 megawatts (MWs). Subsequent amendments approved on June 30, 2010 and August 9, 2012 respectively, began the project's conversion to a nominal 560-MW rapid response combined-cycle facility using dry cooling and zero liquid discharge technology. The ESEC began producing power on August 1, 2013.

DESCRIPTION OF PROPOSED MODIFICATIONS

This petition requests Energy Commission approval to perform necessary upgrades to gas combustion turbines Units 5 and 7 (modifications). The modifications consist of the installation of enhanced hardware to the combustor and turbine sections of gas turbines Units 5 and 7 as well as optimization of the turbine control logic. These proposed performance upgrades would increase generation and improve efficiency of the turbines. In addition, the performance upgrades include the use of an advanced combustion optimization control system. This petition does not propose any changes to the conditions of certification included in the Energy Commission Final Decision for the ESEC.

The Energy Commission webpage for this facility is <http://www.energy.ca.gov/sitingcases/elsegundo/> and has a link to the amendment petition on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option.

ENERGY COMMISSION STAFF REVIEW

Energy Commission staff reviewed the petition for potential environmental effects and consistency with the Energy Commission Decision and applicable laws, ordinances, regulations, and standards (LORS). Energy Commission staff has determined that the proposed modifications would have no significant adverse impacts and the project would remain in compliance with applicable LORS. Staff's conclusions in each technical area are summarized in **Table 1**, below.

**TABLE 1
 SUMMARY OF STAFF RESPONSES TO PETITION**

TECHNICAL/ENVIRONMENTAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact or LORS Inconsistency*	Process As Amendment	
Air Quality		X	N/A	N/A
Biological Resources	X		N/A	N/A
Cultural Resources	X		N/A	N/A
Efficiency		X	N/A	N/A
Facility Design	X		N/A	N/A
Geological and Paleontological Resources	X		N/A	N/A
Hazardous Materials Management		X	N/A	N/A
Land Use	X		N/A	N/A
Noise and Vibration		X	N/A	N/A
Public Health	X		N/A	N/A
Reliability	X		N/A	N/A
Socioeconomics		X	N/A	N/A
Soil Resources	X		N/A	N/A
Traffic and Transportation		X	N/A	N/A
Transmission Line Safety and Nuisance	X		N/A	N/A
Transmission System Engineering	X		N/A	N/A
Visual Resources		X	N/A	N/A
Waste Management		X	N/A	N/A
Water Resources	X		N/A	N/A
Worker Safety and Fire Protection		X	N/A	N/A

*No Commission approval is necessary where staff determines there is no possibility that the proposed modifications would have a significant effect on the environment, and the modifications would not result in a change in or deletion of a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (Cal. Code Regs., tit. 20, § 1769 (a)(2)).

Staff has determined that the technical or environmental areas of Biological Resources, Cultural Resources, Facility Design, Geological and Paleontological Resources, Land Use, Public Health, Reliability, Soil Resources, Transmission Line Safety and Nuisance, Transmission System Engineering, and Water Resources are not affected by the proposed changes.

For the technical or environmental areas of Air Quality, Efficiency, Hazardous Materials Management, Noise and Vibration, Socioeconomics, Traffic and Transportation, Visual Resources, Waste Management, and Worker Safety and Fire Protection, staff has determined the modified project would continue to comply with applicable LORS and no changes are needed to any conditions of certification to ensure impacts would be less than significant. Staff notes the following for these technical or environmental areas:

AIR QUALITY

Staff concludes that with the implementation of the existing conditions of certification, the modified ESEC would not result in significant air quality related impacts and the modified ESEC would continue to comply with all applicable federal, state, and South Coast Air Quality Management District (SCAQMD) air quality LORS.

EFFICIENCY

The petitioner proposes to make modifications to the natural gas-fueled combustion turbine blades and vanes on the existing combustion turbines Units 5 and 7 that would allow them to maintain higher combustion temperatures than the current operating conditions could tolerate. For each of the two turbines, these modifications include improved cooling and coatings of the turbine stages 1 and 2 blades and vanes, improved coatings on the turbine stage 3 vanes, and improved sealing of the turbine stages. In addition, the performance upgrades include the use of an advanced combustion optimization control system.

The new operating conditions would thereby allow Units 5 and 7 to increase electrical power output by 10-20 MWs depending on ambient temperature conditions, but maintain the same fuel consumption rate as exists, resulting in improved heat rate (in terms of Btu/kWh). Thus, the petition would improve the overall thermal efficiency of each turbine.

HAZARDOUS MATERIALS MANAGEMENT

During the installation of enhanced hardware to the combustor and turbine sections of the gas turbines Units 5 and 7, several hazardous materials would be used onsite. Similar to equipment maintenance activities, these materials would include solvents, gasoline, lubricants, and welding gases that are already included in the annual compliance report under the existing Condition of Certification **HAZ-1**. No extremely hazardous or regulated hazardous materials would be used on site specifically for the installation of the enhanced hardware. Therefore, with petitioner's continued compliance with existing conditions of certification, the proposed modifications would not have a significant effect on the environment and the project would continue to comply with all applicable LORS.

NOISE AND VIBRATION

The proposed modifications would not require operation of any noisy or heavy construction-related equipment and the work would be performed during the day in accordance with Condition of Certification **NOISE-8** in the Final Decision. Operational noise would not be affected.

SOCIOECONOMICS

The proposed modifications would not require extensive workforce and would be scheduled during normal maintenance in spring, 2018. The large workforce in the Los Angeles-Long Beach-Glendale Metropolitan Division is more than sufficient for these modifications. From a socioeconomics standpoint, the proposed modifications would have insignificant workforce-related impacts on housing and community services.

TRAFFIC AND TRANSPORTATION

Construction equipment and workers associated with the proposed modifications would generate approximately 30 total one-way vehicle trips over the course of approximately 2 to 3 weeks. This amount of construction traffic would have a less than significant impact on roadway level of service and intersection delay.

VISUAL RESOURCES

The proposed turbine upgrades would not be visible from any offsite locations. With implementation of the upgrades, the potential for visible plume formation would be lower than the originally proposed and analyzed turbines. There would be no impacts to visual resources.

WASTE MANAGEMENT

Based on the information provided by the project owner, staff concludes the proposed modifications would not result in a change or deletion of a condition adopted by the Energy Commission in its Final Decision. Staff also concludes that the proposed modifications would be in compliance with applicable waste management laws, ordinances, regulations and standards, with the implementation of Condition of Certification **WASTE-3**

WORKER SAFETY AND FIRE PROTECTION

By continuing to comply with the existing conditions of certification, the proposed modifications would not have a significant effect on the environment, and the project would continue to comply with all applicable LORS. Activities to be performed during the installation of the turbine upgrades would comply with worker safety and fire safety requirements already contained in health and safety plans utilized for construction of the main facility per Condition of Certification **WORKER SAFETY-1**.

ENVIRONMENTAL JUSTICE

Environmental Justice Figure 1 shows 2010 census blocks in the six-mile radius of El Segundo Energy Center with a minority population greater than or equal to 50 percent. The population in these census blocks represents an EJ population based on minority population as defined in the United States Environmental Protection Agency's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

Based on California Department of Education data and U.S. Census American Community Survey (ACS) data in **Environmental Justice Table 1** and presented in **Environmental Justice Figure 2**, staff concluded that the percentage of those living in the school districts of Hawthorne Elementary, Inglewood Unified, Lawndale Elementary, and Lennox Elementary (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 a low income population as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

Based on ACS data, staff concluded that when compared with the below-poverty-level population in the reference geography, the city of Manhattan Beach has a lower percent of people living below the poverty level, and thus are not considered an EJ population based on a low income population.

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

SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
El Segundo Unified School District	3,471	12.8%	
Hawthorne Elementary School District	8,689	87%	
Hermosa Beach City Elementary School District	1,430	2.6%	
Inglewood Unified School District	13,162	70.7%	
Lawndale Elementary School District	6,192	78.5%	
Lennox Elementary School District	6,913	94.7%	
Redondo Beach Unified School District	9,529	16.3%	
Torrance Unified School District	23,885	29.5%	
Wiseburn Unified School District	4,129	40.8%	
REFERENCE GEOGRAPHY			
Los Angeles County	1,523,322	67.6%	
GEOGRAPHY IN A SIX-MILE RADIUS	Total Population*	Population Below Poverty Level	Percent Below Poverty Level (%)
	Estimate	Estimate	Estimate
Manhattan Beach	35,518	1,416	4.0
	±69	±357	±1.0
REFERENCE GEOGRAPHY			
Los Angeles County	9,886,133	1,800,265	18.2
	±3,427	±14,598	±0.1
Notes: Population for whom poverty is determined. Staff's analysis of the estimates returned coefficient of variation values of no more than 15, indicating the data is reliable. Sources: CDE 2016. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2015-2016, < http://dq.cde.ca.gov/dataquest/ >. United States Census Bureau, S1701 POVERTY STATUS IN THE PAST 12 MONTHS- 2011 – 2015 American Community Survey 5-Year Estimates, < http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml >.			

Staff has determined that the impacts of the proposed modifications would be less than significant or less than significant with implementation of existing conditions of certification. Therefore, impacts would be less than significant for any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice Figure 1, Figure 2, and Table 1.**

ENERGY COMMISSION STAFF DETERMINATION

Section 1769(a)(2) of Title 20, California Code of Regulations, states, "(w)here staff determines that there is no possibility that the modifications may have a significant effect on the environment, and if the modifications will not result in a change or deletion of a condition adopted by the commission in the final decision or make changes that would cause the project not to comply with any applicable laws, ordinances, regulations, or standards, no commission approval is required...."

Pursuant to that section, Energy Commission staff has determined for this petition that approval by the full Commission is not required and the proposed modifications meet the criteria for approval at the staff level because:

- The modifications will not have any significant effect on the environment;
- Existing conditions of certification are sufficient to cover the proposed modifications without changes to, or deletions of, any conditions of certification; and
- The project as modified will maintain full compliance with applicable LORS.

This Notice of Determination has been mailed to the Energy Commission's facility mail list of interested parties and property owners adjacent to the facility site. It has also been e-mailed to the facility listserv. The listserv is an automated Energy Commission e-mail system by which information about this facility is e-mailed to parties who have subscribed. To subscribe, go to the Energy Commission's webpage for this facility, cited above, scroll down the right side of the project's webpage to the box labeled "Subscribe," and provide the requested contact information.

Any person may file an objection to staff's determination within 14 days of the date of this Notice on the grounds that the project modification does not meet the criteria set forth in section 1769(a)(2). Absent any relevant objections, the amendment petition will be approved 14 days after this Notice is docketed. To use the Energy Commission's electronic commenting feature to object to staff's determination, go to the Energy Commission's webpage for this facility, cited above, click on the "Submit e-Comment" link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the Energy Commission Dockets Unit reviews and approves your comments, and you will receive an e-mail with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 00-AFC-14C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with and approved by the Dockets Unit will be added to the facility Docket Log and be publicly accessible on the Energy Commission's webpage for the facility.

If you have questions about this Notice, please contact Dale Rundquist, Compliance Project Manager, at (916) 651-2072, or by fax to (916) 654-3882, or via e-mail at Dale.Rundquist@energy.ca.gov.

For information on participating in the Energy Commission's review of the petition, call Alana Mathews, Public Adviser, at (916) 654-4489 or (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov.

News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail to mediaoffice@energy.ca.gov.

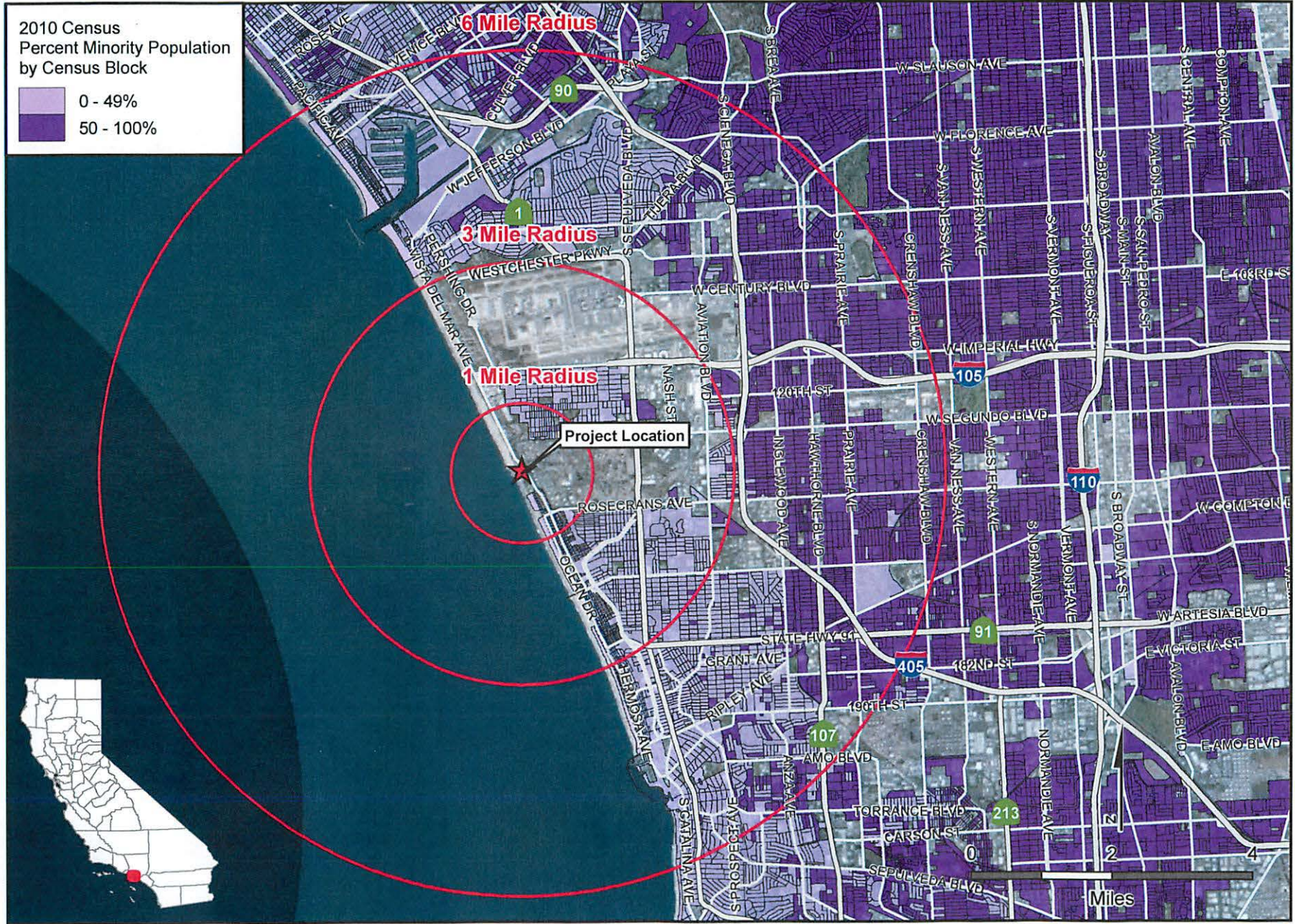
Date: December 6, 2017



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cc: Mail List 7046
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ENVIRONMENTAL JUSTICE - FIGURE 1
 El Segundo Energy Center - Census 2010 Minority Population by Census Block



ENVIRONMENTAL JUSTICE - FIGURE 2

El Segundo Energy Center - Environmental Justice Population Based on Low Income

