DOCKETED	
Docket Number:	13-AFC-01C
Project Title:	Alamitos Energy Center - Compliance
TN #:	249056
Document Title:	Alamitos Energy Center Staff Analysis
Description:	CEC Staff Analysis of Petition to Amend the Final Commission Decision
Filer:	susan fleming
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	3/7/2023 12:58:23 PM
Docketed Date:	3/7/2023

CALIFORNIA
ENERGY COMMISSION

DATE: March 7, 2023

TO: Interested Parties

FROM: Joseph Douglas, Compliance Project Manager

SUBJECT: **Alamitos Energy Center (13-AFC-01C)**

CEC Staff Analysis of Petition to Amend the Final Commission Decision

On August 27, 2022, AES Alamitos Energy, LLC the project owner, filed a post certification petition with the California Energy Commission (CEC) requesting to amend the Alamitos Energy Center (AEC) Final Commission Decision (Decision). The project owner is seeking approval to install two identical 1,112 brake horsepower emergency diesel-fired internal combustion engine (ICE) generators.

The AEC was certified by the CEC in April 2017 as a 1,040-megawatt (MW) power plant project, with a 640 MW combined-cycle, natural gas-fired power block, and two simple cycle gas-fired turbines that would produce 400 MW. To date, the simple-cycle turbines have not been built. The 640 MW combined-cycle portion of the project began operation in February 2020. The facility is located at 690 North Studebaker Road in the City of Long Beach, Los Angeles County.

Description of Proposed Change

1. An amendment to the Decision for the AEC to change the project description to include the installation of two identical 1,112 brake horsepower emergency diesel-fired ICE generators to provide emergency power supply to critical plant equipment in the combined cycle gas turbine power block during the gas turbine shutdown periods in the event of electrical emergency. The engines of these ICE generators are certified by the U.S. Environmental Protection Agency as Tier 2 and equipped with California Air Resources Board-verified Level 3 diesel particulate filters.
2. The ICE generators will only be operated for backup and emergency uses, with periodic maintenance and testing runs to maintain operational readiness. Operation of the ICE generators will be limited to 50 hours per year for maintenance and testing, and up to a maximum of 200 total hours per year.

3. The proposed change will not require any significant earth-moving activities or operational changes beyond revising the existing air quality operational permits. The modification will also not impact operations of the existing AEC equipment.

CEC Staff Review and Conclusions

California Code of Regulations, title 20, section 1769 requires a project owner to petition the CEC for the approval of any change the project owner proposes to the project, design, operation, or performance requirements of a certified facility.

Consistent with California Code of Regulations, title 20, section 1769, the CEC staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. Based on staff's analysis, contained below, the CEC staff (staff) has concluded that the proposed changes to the AEC would not have a significant effect on the environment, or cause the project to fail to comply with any applicable LORS, with implementation of existing conditions of certification (COC) as adopted in the Decision or previous amendments to that decision, and adoption of new or modified COCs in the area of Air Quality. Consistent with California Code of Regulations, title 20, section 1769(a)(4), staff is bringing this petition to the Commission for approval.

Staff recommends the addition of new COCs **AQ-EG1** through **AQ-EG10** for consistency with the new Authority to Construct permit issued by the South Coast Air Quality Management District (SCAQMD) to make the effect on the environment less than significant.

Staff also concludes that none of the findings specified in California Code of Regulations, title 20, section 1748(b) apply to the proposed change.

This project change does not meet any of the criteria set forth in Public Resources Code section 21166, or its implementing regulations, California Code of Regulations, title 14, section 15162, that would trigger preparation of a subsequent or supplemental environmental document.

Staff concludes that, with the adoption of the recommendations in the analysis below, AEC would remain in compliance with applicable LORS, and the proposed changes to AEC would not result in any significant adverse direct, indirect, or cumulative impacts to the environment.

Staff intends to recommend approval of the petition at the April 12, 2023 CEC Business Meeting.

The CEC's project webpage, https://www.energy.ca.gov/powerplant/combined-cycle/alamitos-energy-center, has a link to the petition and the Staff Analysis on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Docket Log (01-AFC-18C)" option. If approved, the CEC's Order approving this petition will also be available from the same webpage.

This letter has been mailed to the CEC's list of interested parties and property owners of all parcels within 500 feet of any affected project linear facilities and 1,000 feet of the project site. It has also been emailed to the AEC subscription list. The list is an automated the CEC email system by which information about this facility is emailed to parties who have subscribed. To subscribe, go to the CEC's project webpage, 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 comment on the Staff Analysis. Those who wish to submit comments on the analysis prior to the CEC Business Meeting may do so by using the CEC's electronic commenting feature. 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 may also be mailed or hand-delivered to:

California Energy Commission
Docket Unit, MS-4
Docket No. 13-AFC-01C
715 P Street
Sacramento, CA 95814-5512

Comments will also be accepted during the scheduled business meeting. All comments and materials filed with the Dockets Unit will be added to the facility Docket Log and become publicly accessible on the CEC's project webpage.

If you have questions about this notice, please contact Compliance Project Manager Joseph Douglas, Compliance Monitoring and Enforcement Unit, Safety and Reliability Branch, at (916) 956-9527 or via e-mail at joseph.douglas@energy.ca.gov.

For information on public participation, please contact the CEC's Office of Public Advisor, Energy Equity, and Tribal Affairs at (916) 957-7910 or email at publicadvisor@energy.ca.gov.

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

Mail List: 7503
Listserv: Alamitos Energy Center

ALAMITOS ENERGY CENTER (13-AFC-01C)
Petition to Amend Commission Decision
EXECUTIVE SUMMARY

Joseph Douglas

INTRODUCTION

On August 27, 2022, AES Alamitos Energy, LLC (project owner), filed a post certification petition (TN#245715) with the California Energy Commission (CEC) requesting to amend the Alamitos Energy Center (AEC) Final Commission Decision (Decision). The project owner is seeking approval to install two identical 1,112 brake horsepower emergency diesel-fired internal combustion engine (ICE) generators. The CEC staff (staff) has completed its review of all materials received.

The AEC was certified by the CEC in April 2017 as a 1,040-megawatt (MW) power plant project, with a 640 MW combined-cycle, natural gas-fired power block, and two simple cycle gas-fired turbines that would produce 400 MW. To date, the simple-cycle turbines have not been built. The 640 MW combined cycle portion of the project began operation in February 2020. The facility is located at 690 North Studebaker Road in the City of Long Beach, Los Angeles County.

Staff is supplementing the existing staff assessment to account for additional mitigation conditions of certification (COCs) for air quality.

DESCRIPTION OF PROPOSED CHANGE(S)

The project owner is seeking approval to:

1. An amendment to the Decision for the AEC to change the project description to include the installation of two identical 1,112 brake horsepower emergency diesel-fired internal combustion engine (ICE) generators to provide emergency power supply to critical plant equipment in the combined cycle gas turbine power block during the gas turbine shutdown periods in the event of electrical emergency. The engines of these ICE generators are certified by the U.S. Environmental Protection Agency as Tier 2 and equipped with California Air Resources Board-verified Level 3 diesel particulate filters.
2. The ICE generators will only be operated for backup and emergency uses, with periodic maintenance and testing runs to maintain operational readiness. Operation of the ICE generators will be limited to 50 hours per year for maintenance and testing, and up to a maximum of 200 total hours per year.
3. The proposed change will not require any significant earth-moving activities or operational changes beyond revising the existing air quality operational permits. The modification will also not impact operations of the existing AEC equipment.

The purpose of the CEC's review process is to assess whether the project changes proposed in the petition would have a significant impact on the environment or cause the project to not comply with applicable laws, ordinances, regulations, and standards (Cal. Code Regs., tit. 20, § 1769).

NECESSITY FOR THE PROPOSED CHANGE(S)

As stated in the petition, the primary purpose and need for this amendment is to provide power supply to critical plant equipment in the combined cycle gas turbine (CCGT) power block during the gas turbine shutdown periods in the event of an electrical emergency. Therefore, the change to install these two generators is necessary to maintain CCGT power block operations in the event of a loss of grid power.

CEC STAFF REVIEW AND CONCLUSION

California Code of Regulations, title 20, section 1769 requires a project owner to petition the CEC for the approval of any change the project owner proposes to the project, design, operation, or performance requirements of a certified facility.

Consistent with California Code of Regulations, title 20, section 1769, the staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. Based on staff's analysis, contained below, staff concludes that the proposed changes to the AEC would not have a significant effect on the environment, or cause the project to fail to comply with any applicable LORS, with the implementation of existing COCs as adopted in the Decision or previous amendments to that decision, and adoption of new or modified COCs in the area of Air Quality.

For the changes to the Air Quality COCs in the Decision and consistent with California Code of Regulations, title 20, section 1769(a)(3)(B), staff has determined the modified AEC (1) would not have a significant effect on the environment, (2) would continue to comply with the applicable LORS, and (3) would increase a daily, quarterly, annual, or other emission limit. Staff recommends the addition of new air quality COCs **AQ-EG1** through **AQ-EG10** for consistency with the new Authority to Construct permit issued by the South Coast Air Quality Management District (SCAQMD) to make the effect on the environment less than significant.

ENVIRONMENTAL SETTING

The project modification would be located on relatively flat land in a highly developed urban area. The 71-acre site is bordered by a Southern California Edison switchyard and State Route 22 to the north, the San Gabriel River and Los Angeles Department of Water and Power Haynes Generating Station to the east, the former Plains West Coast Terminals petroleum storage facility and undeveloped property to the south, and the Los Cerritos channel, Aerosol-generating Systems (AGS) cooling water canals, Synergy Oil & Gas oil production field, and residences to the west.

The installation of the two emergency diesel backup generators would require a maximum of 20 workers. Construction would be staggered, requiring 6 to 8 weeks for site preparation, including foundations and 2 to 3 weeks for installation of the generators.

Vehicle trips generated by the installation of the two emergency generators would consist of a maximum of 20 construction workers who would commute to and from the site, and a maximum of 30 trips a day for the delivery of construction materials and equipment.

STAFF'S ASSESSMENT OF THE PROPOSED PETITION

Staff's assessment of the proposed changes considered the potential impacts to the population within the disadvantaged community, including the environmental justice population within a six-mile radius of AEC.

Staff reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff's conclusions for all technical and environmental areas are summarized in **Executive Summary Table 1.**

Executive Summary Table 1
Summary of Conclusions for all Technical and Environmental Areas

Technical Areas Reviewed	CEQA				Conforms with applicable LORS
	Potentially Significant Impact	Less Than Significant Impact with Mitigation (with Revised or New COCs)	Less Than Significant Impact (with or without Existing COCs)	No Impact	
Air Quality		X			X
Biological Resources			X		X
Cultural Resources			X		X
Efficiency				X	
Facility Design					X
Geological and Paleontological Resources			X		X
Hazardous Materials Management			X		X
Land Use			X		X
Noise and Vibration			X		X
Public Health			X		X
Reliability					
Socioeconomics			X		
Soil and Water Resources			X		X
Traffic and Transportation			X		X
Transmission Line Safety and Nuisance				X	X
Transmission System Engineering					X
Visual Resources			X		X
Waste Management			X		X
Worker Safety and Fire Protection			X		X

Areas shown in gray are not subject to CEQA consideration or have no applicable LORS the project must comply with.

For the technical area of Air Quality, staff has proposed new COCs. With the addition of COCs **AQ-EG1** through **AQ-EG10**, the project would continue to comply with all applicable LORS. The proposed project change would not result in significant impacts to ambient air quality, public health, or greenhouse gas emissions. The details of the proposed additional COCs can be found under the Air Quality section in this Staff Analysis.

For the remaining environmental and technical areas, staff has determined that the modified project would continue to comply with applicable LORS, and the project change would not result in any significant adverse environmental impacts or require a change to any COCs.

The basis for each of staff's conclusions are provided below:

AIR QUALITY

The proposed installation of two new emergency standby electrical gensets would result in an increase in emissions. In this analysis, staff demonstrates that the air quality, public health, and greenhouse gas impacts of the proposed emergency standby electrical gensets would be less than significant.

Please see the Air Quality section of this document.

BIOLOGICAL RESOURCES

The proposed diesel-fired generators would increase the nitrogen oxides (NOx) emissions by less than 0.5 percent above the licensed annual emissions of 153.08 tons per year. NOx contributes to nitrogen deposition and can have negative impacts on plant communities. However, the increase of NOx resulting from the changes proposed in the petition are minimal to the overestimation accounted for in the Decision for the AEC. Therefore, the proposed modifications would have less than significant impacts on biological resources and comply with all LORS.

CULTURAL RESOURCES

The project owner indicates that the deepest excavation proposed is about 3 feet below the current grade. The AEC project site is covered with fill sediments; near the proposed backup generators, fill reaches depths up to 8 feet below the current grade. Earth-disturbing construction activities are most likely to encounter buried cultural resources within native (non-fill) soils and sediments, although cultural resources can sometimes occur within fill. During construction of the AEC, ground disturbance unearthed 17 buried cultural resources. The AEC license contains eight COCs for cultural resources (**CUL-1** through **CUL-8**). These COCs include contingencies for the identification, evaluation, and mitigation of inadvertent impacts on buried cultural resources. Staff concludes that implementation of the existing cultural resources COCs would reduce any impacts resulting from inadvertent, construction-phase discoveries of cultural resources to a less-than-significant level.

Staff consulted the City of Long Beach's General Plan, Southeast Area Specific Plan, and other local authorities to determine whether LORS applicable to the amended AEC facility have changed as regards cultural resources. No cultural resources LORS applicable to the AEC facility have changed since the Commission Decision was published in 2017.

EFFICENCY

This petition to amend would not impact the thermal efficiency of the power plant.

FACILITY DESIGN

The modifications would include the installation of two Perkins 750-kilowatt (kW) Tier 2 diesel-fired emergency standby electric generators (gensets), each equipped with a diesel particulate filter. The gensets would be located at the existing AEC site and would be used to power critical plant equipment in the combined cycle gas turbine power block in the event of a grid power loss. These modifications must be in accordance with the 2022 edition of the CBSC. Implementations of the existing Facility Design COCs adopted in the Decision and construction compliance oversight by the CEC's DCBO would ensure this compliance.

GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

The proposed modification would require only minor ground disturbance/excavations for the foundation installations within previously disturbed soil and no additional geologic resources or geologic hazards have been identified in the project area. The modification would conform to applicable LORS related to geological and paleontological resources and does not require changes to the existing COCs related to geological and paleontological resources. Therefore, with compliance with the applicable LORS and existing COCs, impacts of the modification to geological or paleontological resources would be less than significant.

HAZARDOUS MATERIALS MANAGEMENT

The proposed installation of two new emergency diesel-fired internal combustion engine generators to provide emergency power to critical plant equipment would not use extremely hazardous materials during construction. The only hazardous materials used during the construction phase would be paints, cleaners, solvents, gasoline, motor oil, welding gases and lubricants and their use would be in compliance with LORS. When not in use, any hazardous materials would be stored in designated construction areas in compliance with LORS. Therefore, the proposed project modification would not have a significant impact on the offsite public or the environment.

LAND USE

The proposed modifications are minor changes that would occur onsite in support of the main use. The modifications would not physically divide an established community or cause a significant environmental impact due to a conflict with LORS adopted for the purpose of avoiding or mitigating an environmental effect. Further, the change would not result in the conversion of Farmland or forest land or conflicts with agricultural operations. There are no land use related COCs applicable to the change in the Decision. Therefore, impacts to land use would be less than significant.

NOISE AND VIBRATION

The installation activities associated with this petition to amend would be temporary and would occur during daytime hours. Any noise generated during these activities would be temporary, intermittent, and consistent with the local noise ordinance (City of Long Beach Section 8.80.202). The nearest sensitive receptors (residences) are approximately 1,300 feet west of the genset located near the CCGT. This work would result in a less-than-significant impact with implementation of the existing Noise COCs in the Decision.

The gensets would only operate up to 50 hours per year for maintenance and testing purposes. The gensets would be located near the CCGTs and would be surrounded by plant equipment. Since the nearest sensitive receptors (residences) to the genset are approximately 1,300 feet, they would not be affected by operational noise as the result of this petition to amend.

PUBLIC HEALTH

The public health impacts during construction would be less than significant due to limited construction activities and lack of nearby receptors.

Rule 1401 specifies limits for maximum individual cancer risk (MICR), acute hazard index, chronic hazard index (HIC) and cancer burden from new permit units, relocations, or modifications to existing permits which emit toxic air contaminants. Emergency engines are exempt as per section (g)(l)(F) of the rule. However, for the purpose of determining public notice requirement of Rule 212 (c)(3)(A)(i), MICR and hazard index resulting from toxic emissions were calculated.

The Tier 2 Risk Analysis indicated that the residential and commercial MICR's were less than one in a million meeting the rule's requirements. In addition, the HIC's were less than one meeting the rule's requirements and the significance thresholds. Therefore, it is expected the facility would not significantly impact receptors.

Therefore, the public health impacts from operation of the proposed engine would be less than significant.

RELIABILITY

The installation of the gensets would allow the critical equipment of the CCGT power block at the AEC to continue to operate during grid power loss. This would allow continuous power generation by AEC. Without this backup power, the facility would shut down and AEC would not be able to provide power to the grid. When the facility was originally permitted, there were few power interruptions to the facility. However, the interruptions have become more frequent. These backup gensets would help AEC restore its reliability to when the project first became operational and would increase grid reliability.

SOCIOECONOMICS

The installation of two emergency diesel backup generators would require a maximum of 20 workers. Construction would be staggered, requiring 6 to 8 weeks for site preparation including foundations and 2 to 3 weeks for installation of the generators. There would be no changes to AEC's existing operations. No Socioeconomic COCs would apply to the proposed modification. There would be less than significant workforce related impacts on population, housing, and public services.

SOIL AND WATER RESOURCES

This petition proposes the installation of two diesel-fired generators to provide emergency back-up power. According to the petition, the proposed modification would only result in minimal ground disturbance to construct the foundations for the generators and therefore there would be no impacts to soil and water resources. The modification conforms to applicable LORS related to soil and water resources and changes to the existing COCs are not required. Therefore, the impacts of the modification to soil and water resources would be less than significant.

TRAFFIC AND TRANSPORTATION

Vehicle trips generated by the installation of the two emergency generators would consist of a maximum of 20 construction workers who would commute to and from the site, and a maximum of 30 trips a day for the delivery of construction materials and equipment. A mobile crane would be required for five days for the placement of the two emergency generators on their foundation. A construction worker parking and laydown area would be located onsite. The minimal number of truck trips required for the project modification would generate a negligible number of vehicle trips. The temporary construction activities are estimated to take four months total to complete. Operations and maintenance of the AES would remain unchanged.

Installation and operation of the emergency generators would comply with COCs **TRANS-1** "Roadway Use Permits and Regulations", **TRANS-2** "Traffic Control Plan, Heavy Haul Plan, and Parking/Staging Plan", **TRANS-5** "Encroachment into the

Public Rights-of-Way," including scheduling deliveries of heavy equipment during off-peak hours and obtaining heavy haul permits from the applicable jurisdictions, as required, and **TRANS-6** "Notification of FAA for Construction Equipment Exceeding 132 feet Above Ground Level (AGL)," as applicable. Other transportation COCs were completed as part of the original project construction or would not be applicable to this project change.

The project change 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 would be less than significant.

TRANSMISSION LINE SAFETY AND NUISANCE

The proposal to install two identical emergency diesel-fired ICE generators to provide emergency power to critical plant equipment does not include activities that would affect the transmission lines. Therefore, there will be no impacts to Transmission Line Safety and Nuisance. In addition, the project will comply with applicable LORS, and will not require a change to any of the COCs.

TRANSMISSION SYSTEM ENGINEERING

The proposal to install two identical emergency diesel-fired ICE generators to provide emergency power to critical plant equipment does not including activities with the transmission lines and would not impact the transmission grid. Therefore, there will be no impacts to Transmission System Engineering. In addition, the project will comply with applicable LORS, and will not require a change to any of the COCs.

VISUAL RESOURCES

The project modification would be located on relatively flat land in a highly developed urban area. The 71-acre site is bordered by a Southern California Edison switchyard and State Route 22 to the north, the San Gabriel River and Los Angeles Department of Water and Power Haynes Generating Station to the east, the former Plains West Coast Terminals petroleum storage facility and undeveloped property to the south, and the Los Cerritos channel, AGS cooling water canals, Synergy Oil & Gas oil production field, and residences to the west.

There is no scenic vista or scenic resource as defined and discussed in the Visual Resources section in the Decision and as shown on aerial and surface imagery (Google Earth, Google Maps). The modifications would not have a substantial adverse effect on a scenic vista or substantially damage scenic resources.

The project is in an "urbanized area" as defined in Public Resources Code section 21071. The project would continue to conform with applicable city zoning and other regulations governing scenic quality, as explained in the Visual Resources section in the Decision. The modifications would be concordant with the physical appearance of existing development in the surrounding area as viewed from publicly accessible vantage points in the vicinity.

The modifications include new outdoor lighting. Light fixtures are to be shielded and directed away from residential areas and public streets. New lighting would not create a new source of substantial light, glare, or reflectance that would adversely affect day or nighttime views in the area with the implementation of existing COCs **VIS-1**, **VIS-2**, and **VIS-4** related to lighting management, as applicable.

The modifications would have a less than significant effect with the implementation of the adopted conditions of certification for visual resources.

WASTE MANAGEMENT

AES Alamitos Energy, LLC is proposing to modify the AEC by installing two 1,112 brake-horsepower (bhp) emergency diesel-fired ICE generators to provide emergency power supply to critical plant equipment in the combined cycle power block during electrical emergencies.

The modification would not require changes to the waste management setting described in the Decision and subsequent amendments. The proposed installation would not result in an increase in waste generation at the site. Also, the modification would conform to applicable LORS and would not require changes to the existing COCs related to waste management. Therefore, with compliance with the applicable LORS and existing COCs the impacts of the modification to waste management would be less than significant.

WORKER SAFETY AND FIRE PROTECTION

During the installation of the proposed the two new emergency diesel-fired ICE generators, continued compliance with existing condition of certification **WORKER SAFTEY-1** would ensure that the project modification would not have a significant impact on worker health and safety and would comply with all applicable LORS.

ENVIRONMENTAL JUSTICE

CALENVIROSCREEN

Staff reviewed CalEnviroScreen 4.0 data to determine whether the United States census tract where the Alamitos Energy Center is located (6037980007) is identified as a disadvantaged community. This science-based mapping tool is used by the California Environmental Protection Agency (CalEPA) to identify disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria pursuant to Health and Safety Code section 39711 as enacted by Senate Bill 535 (De León, Chapter 830, Statutes of 2012). The project is located in a census tract that does not have an overall score due to unavailable or unreliable population data. However,

the census tract scored in the highest 5 percent on CalEnviroScreen's Pollution Burden composite score and, thus, is identified as a disadvantaged community[1].

ENVIROMENTAL JUSTICE

Environmental Justice Figure 1 shows 2020 census blocks in the six-mile radius of the Alamitos Energy Center 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 Ocean View, Garden Grove Unified, and Westminster 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. Thus, it is 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 Alamitos Energy Center site.

[1] The four categories of geographic areas identified by CalEPA as disadvantaged are: 1) Census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0, 2) Census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps, but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative pollution burden scores, 3) Census tracts identified in the 2017 DAC designation, regardless of their scores in CalEnviroScreen 4.0, and 4) Lands under the control of federally recognized Tribes. Source: CalEPA Final Designation of Disadvantaged Communities: May 2022 https://calepa.ca.gov/envjustice/ghginvest/

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

SACRAMENTO COUNTY SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
Cypress Elementary	3,414	1,474	43.2%
Garden Grove Unified	38,560	27,677	71.8%
Los Alamitos Unified	9,133	1,467	16.1%
Ocean View	6,942	3,959	57.0%
Westminster	8,203	6,189	75.4%
REFERENCE GEOGRAPHY			
Orange County	448,729	208,756	46.5%
SAN JOAQUIN COUNTY SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
ABC Unified	18,889	10,596	56.1%
Long Beach Unified	67,573	36,356	53.8%
REFERENCE GEOGRAPHY			
Los Angeles County	1,336,558	898,036	67.2%
Source: CDE 2022. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2021-2022, http://dq.cde.ca.gov/dataquest/.			

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.

Figure 1

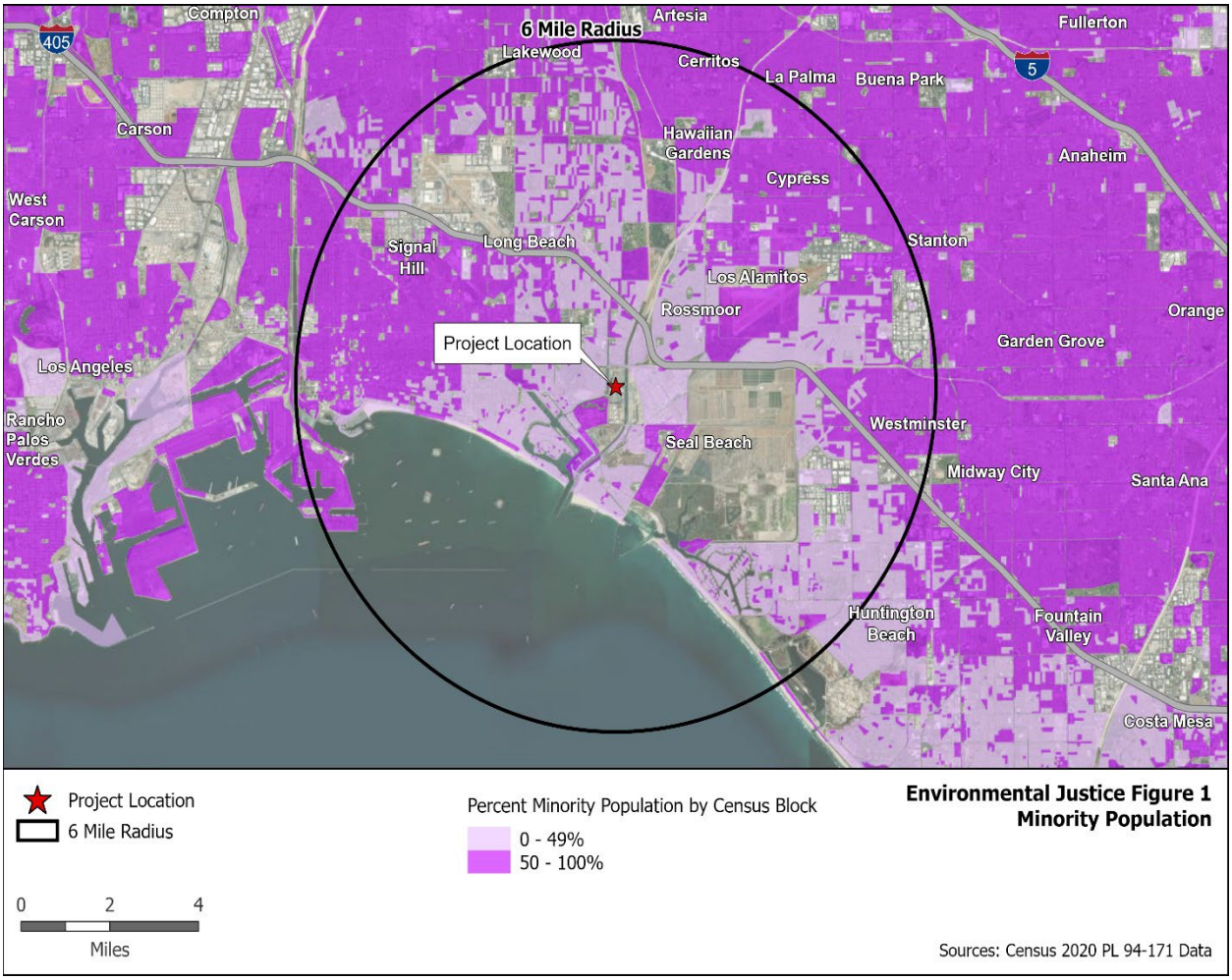
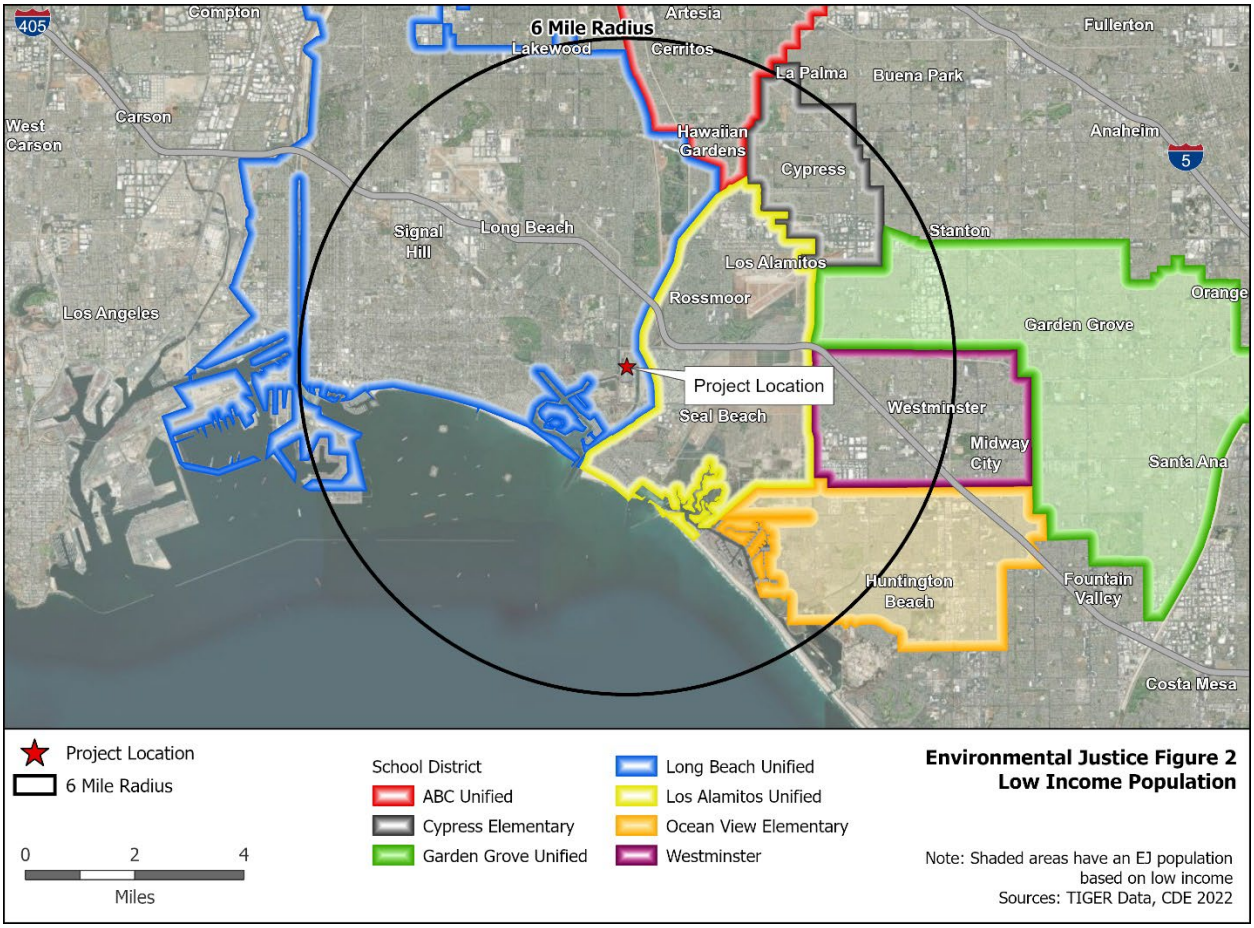

Compton
405
6 Mile Radius
Artesia
Fullerton
Lakewood
Cerritos
La Palma
Buena Park
5
Carson
Hawaiian Gardens
Anaheim
Cypress
West Carson
Signal Hill
Long Beach
Stanton
Los Alamitos
Rossmoor
Orange
Project Location
Garden Grove
Los Angeles
Rancho Palos Verdes
Westminster
Seal Beach
Midway City
Santa Ana
Huntington Beach
Fountain Valley
Costa Mesa
Project Location
6 Mile Radius
0 2 4
Miles
Percent Minority Population by Census Block
0 - 49%
50 - 100%
Environmental Justice Figure 1
Minority Population
Sources: Census 2020 PL 94-171 Data

Figure 2



Environmental Justice Conclusions

For this petition, the following technical areas consider impacts to EJ populations: 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.

For these technical areas, the CEC 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**.

In the Air Quality analysis, staff proposes new COCs to mitigate potentially significant impacts on the environment. Staff has determined that by adopting the proposed new COCs **AQ-EG1** through **AQ-EG10**, the proposed project changes would not cause significant impacts for any population in the project's six-mile radius, including the EJ population. Impacts to the EJ population are less than significant.

CEC STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff has reviewed the petition pursuant to California Code of Regulations, title 20, section 1769. Consistent with subdivision (a)(4), staff recommends the Commission approve the petition and adopt staff's proposed new and modified conditions of certification.

Consistent with California Code of Regulations, title 20, section 1769, staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff concludes that the proposed changes to the AEC would not have a significant effect on the environment or cause the project to fail to comply with any applicable LORS, with the implementation of COCs as adopted in the Decision or previous amendments to that decision, and adoption of new or modified COCs in the area Air Quality. For the changes to the Air Quality COCs in the Decision and consistent with California Code of Regulations, title 20, section 1769(a)(3)(B), in addition to the conclusions made above, staff concludes the modified AEC would increase a daily, quarterly, annual, or other emission limit, but with the addition of new COCs **AQ-EG1** through **AQ-EG10** for consistency with the new Authority to Construct permit issued by the SCAQMD, the effect on the environment would be less than significant.

Staff also concludes the findings specified in California Code of Regulations, title 20, section 1748(b) do not apply to the proposed changes.

This project change does not meet any of the criteria set forth in Public Resources Code section 21166, or its implementing regulations, California Code of Regulations, title 14, section 15162, that would trigger preparation of a subsequent or supplemental environmental document.

Alamitos Energy Center (13-AFC-01C)
Petition to Amend Commission Decision AIR QUALITY, PUBLIC HEALTH, AND GREENHOUSE GASES
Winston Potts, M.S., P.E.

INTRODUCTION AND SUMMARY

On August 27, 2022, the project owner submitted a petition to amend the CEC license for the AEC. The project owner proposes to install two emergency standby electrical generators (genset) to provide emergency power supply to critical plant equipment in the combined cycle gas turbine (CCGT) power block during the gas turbine shutdown periods in the event of electrical emergency.

The existing AEC is a 1,040-megawatt natural gas-fired, combined cycle power plant located in Long Beach, California. The power plant consists of two General Electric (GE) Model 7FA.05 combustion turbines in a combined cycle configuration and four GE Model LMS100-PB combustion turbines in a simple cycle configuration. The AEC's CCGTs began commercial operation in February 2020. Construction of the SCGTs has yet to commence and is contingent on securing a power purchase agreement. The project owner proposes to install two emergency standby electrical gensets at the power plant to maintain CCGT power block operations when grid power is interrupted.

A Permit to Construct (PTC)/Permit to Operate (PTO) for these two emergency ICE generators was approved by SCAQMD on August 2, 2022. Staff reviewed the project owner's petition and the associated SCAQMD analysis.

The proposed installation of two new emergency standby electrical gensets would result in an increase in emissions. In this analysis, staff demonstrates that the air quality, public health, and greenhouse gas impacts of the proposed emergency standby electrical gensets would be less than significant.

To incorporate the new District PTC/PTO conditions for the proposed emergency standby electrical gensets into the CEC license, staff proposes to add new Conditions of Certification **AQ-EG1** through **AQ-EG10**.

The modified project would comply with all LORS. Air quality, public health, and greenhouse gas impacts from the evaluated changes would be less than significant, including impacts to environmental justice populations. Therefore, there are no air quality, public health, or greenhouse gas environmental justice issues related to the evaluated facility modifications and no minority or low-income populations would be significantly or adversely impacted.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

Staff reviewed the petition and the SCAQMD evaluation for consistency with all federal, state, and SCAQMD LORS. The SCAQMD issued a PTC/PTO on August 2, 2022,

demonstrating that the proposed emergency standby electrical genset would comply with all applicable LORS.

Air Quality Table 1 includes a summary of the air quality LORS relevant to the proposed emergency standby electrical genset. The proposed new Conditions of Certification **AQ-EG1** through **AQ-EG10** would ensure that the proposed emergency standby electrical gensets would comply with all LORS.

Air Quality Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable LORS	Description	Compliance
State	**California Air Resources Board**	
California Health & Safety Code 42301.6 (School Notice)	It requires public notification prior to approving an application for permit to construct or modify a source that emits hazardous air emissions if the source is located within 1,000 feet of the outer boundary of a school.	The proposed emergency standby electrical genset would not be located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.
Title 17 California Code of Regulations (CCR), Section 93115 – Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines	§ 93115.5(a): Emergency engine(s) must be fired on California Air Resources Board (CARB) certified diesel fuel, or an approved alternative diesel fuel.	The applicant has proposed the use of CARB certified diesel fuel, which is required in PTO condition B61.2. Staff proposes to add the condition as **AQ-EG4**.
	§ 93115.6(a)(1): Engines, with a particulate matter of 10 micrometers or less in diameter (PM10) emissions rate greater than 0.01 gram per brake horsepower-hour (g/bhp-hr) and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM.	The proposed engine would not be located within 500 feet of a school. Therefore, the requirement does not apply to the proposed engine.
	§ 93115.6(a)(3)(A)1: The engine(s) must meet the emission standards in Table 1 of the ATCM for the specific power rating and model year of the proposed engine.	The applicant has proposed the use of an engine that is certified to the latest United States Environmental Protection Agency (U.S. EPA) Tier 2 Certification standards for the applicable horsepower range, which would guarantee compliance with the emission standards of the ATCM. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.
	§ 93115.6(a)(3)(A)1: The engine may not be operated more than 50 hours per year for maintenance and testing purposes unless the PM emissions are less than or equal to 0.01 g/bhp-hr, then	PM emissions from the proposed engine are certified at 0.15 g/bhp-hr. Therefore, the engine would be allowed to operate up to 50 hours for maintenance and testing

Applicable LORS	Description	Compliance
	the engine may be allowed to operate up to 100 hours per year, according to § 93115.6(a)(3)(A)2.	purposes. SCAQMD PTO condition H23.9 would limit PM emissions to 0.15 g/bhp-hr. SCAQMD PTO condition C1.8 would limit maintenance and testing to 50 hours per calendar year. Staff proposes to add these conditions as **AQ-EG8** and **AQ-EG10**.
	§ 93115.10(d)(1): A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed upon engine installation, or by no later than January 1, 2005, on all engines subject to all or part of the requirements of sections 93115.6, 93115.7, or 93115.8(a) unless the District determines on a case-by-case basis that a non-resettable hour meter with a minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.	SCAQMD PTO condition D12.18 would require the installation of a non-resettable hour meter with a minimum display capability of 9,999 hours. Staff proposes to add the condition as **AQ-EG3**.
	§ 93115.10 (f): An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.	SCAQMD PTO condition K67.9 would require the project owner to maintain monthly records of emergency and non-emergency operation for a minimum of 5 calendar years prior to the current year. Staff proposes to add the condition as **AQ-EG7**.
Local	**South Coast Air Quality Management District**	
Regulation XIII– New Source Review	This regulation sets forth pre-construction review requirements for new, modified, or relocated facilities to ensure that the operation of such facilities does not interfere with progress in attainment of the National Ambient Air Quality Standards (NAAQS). The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.	The facility is an existing Major Source. Major sources of non-attainment pollutants are subject to LAER requirements in BACT determinations which include the installation of diesel engines meeting Tier 2 requirements with DPF aftertreatment. Offsets are not required because the diesel gensets are exempt. Public noticing is not required under Rule 212. The District PTO includes conditions B61.2, E193.17, and H23.9 to limit the emissions to a level at or below the emissions associated with the maximum design capacity. Staff proposes to add these conditions as **AQ-EG4**, **AQ-EG5**, and **AQ-EG10**.

Applicable LORS	Description	Compliance
		Source testing, monitoring, or reporting would not be required to demonstration compliance with Regulation XIII. Yorke Engineering performed an Air Quality Impact Analysis (AQIA) and concluded the proposed engine would not cause a violation of an air quality standard for attainment pollutants NOx, carbon monoxide (CO), sulfur oxides (SOx) or contribute significantly to the existing violation of the nonattainment pollutants PM10 or particulate matter of 2.5 micrometers and smaller in diameter (PM2.5).
Regulation XVII– Prevention of Significant Deterioration (PSD)	This rule applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment.	The facility is an existing Major Source for PSD. BACT will be installed meeting the requirement of Rule 1701. However, the project potential to emit, by itself, will not exceed any PSD major source Significant Emission Increase. Therefore, Regulation XVII is not applicable and no further discussion is required.
Regulation IX – Standards of Performance for New Stationary Sources (NSPS)	This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines requirements for Major Sources; SCAQMD PTO conditions D12.18, B61.2, E193.17, and K67.9 would ensure compliance. Staff proposes to add these conditions as **AQ-EG3, AQ-EG4, AQ-EG5,** and **AQ-EG7**.
Regulation X – National Emission Standards for Hazardous Air Pollutants (NESHAP)	This rule incorporates the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40 CFR and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40 CFR.	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE) requirements for non-Major Sources. Since these new engines are located at an area source, the engines are required to meet 40 CFR Part 60 Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Therefore, compliance with this subpart is met.
Regulation IV – Prohibitions	This rule states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more	SCAQMD's rule would limit visible emissions. Visible emissions are not expected from a well-maintained and

Applicable LORS	Description	Compliance
Rule 401 Visible Emissions	than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1.	properly operated equipment. Compliance is expected.
Regulation IV – Prohibitions Rule 402 Nuisance	This rule states that no air contaminant shall be released into the atmosphere which causes a public nuisance.	Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained.
Regulation IV – Prohibitions Rule 404 Particulate Matter Concentration	This rule prohibits discharge of particulate matter into the atmosphere from any single source operation in excess of the concentration at standard conditions specified in the table contained in the rule.	Based on the district's calculated exhaust flow rate, the particulate emissions would be less than 0.141 gr/dscf which is in compliance.
Regulation XIV – Toxics and Other Non-Criteria Pollutants Rule 1470 Requirements for Stationary Diesel-Fueled Internal Combustion Engines	This rule applies to anyone who owns or operates a stationary compression ignition engine.	To ensure compliance with Rule 1470, SCAQMD requires the use of low-sulfur diesel fuel, limits operation, describes criteria for operation the engine during rotating outages, limits testing and maintenance to 50 hours per year, sets limits on emissions, specifies requirements for cleaning DPFs, requires proper maintenance, monitoring including a non-totalizing hour meter, and record keeping of the proposed engine in PTO conditions B61.2, C1.8, C1.9, E116.1, E193.17, E193.18, H23.9, K67.9, and D12.18. Staff proposes to add these conditions as **AQ-EG1** through **AQ-EG10**.
Regulation IV – Prohibitions Rule 431.2 Sulfur Content of Liquid Fuels	This rule requires operators to purchase only diesel fuel that contains 15 ppm or less sulfur by weight.	SCAQMD PTO condition B61.2 requires the use of diesel fuel with no more than 15.0 ppm sulfur by weight. Staff proposes to add the condition as **AQ-EG4**.
Regulation XIV – Toxics and Other Non-Criteria Pollutants Rule 1401 New Source Review of Toxic Air Contaminants	This rule specifies limits for maximum individual cancer risk (MICR), acute hazard index (HIA), chronic hazard index (HIC) and cancer burden (CB) from new permit units, relocations, or modifications to existing permits which emit toxic air contaminants. Emergency engines are exempt as per section (g)(l)(F).	A Tier 2 Risk Analysis was performed indicating that the residential and commercial MICR's were less than one in a million meeting the rule's requirements. In addition, the HIC's were less than one meeting the rule's requirements and the significance thresholds. It is expected the facility would not significantly impact receptors. SCAQMD PTO conditions E193.18, C1.8, and C1.9, H23.9 would ensure compliance with the rule . Staff

Applicable LORS	Description	Compliance
		proposes to add the conditions as, **AQ-EG2**, **AQ-EG8**, **AQ-EG9**, and **AQ-EG10**.

ANALYSIS

The project owner is proposing to install two 1,112 bhp Perkins Model 2806C-E18TTAG7 Tier 2 certified diesel-fired emergency standby internal combustion (IC) engines powering electrical generators. Accompanying diesel storage tanks would also be installed.

Air Quality

Construction

The proposed change would require minor land disturbance in order to install the emergency generator. A concrete pad would be poured to hold the generator and the accompanying diesel storage tank. Staff expects the emissions and impacts during construction would be less than significant with existing Conditions of Certification **AQ-SC3** through **AQ-SC5**.

Operation

The proposed 1,112 bhp Perkins Model 2806C-E18TTAG7 engines would meet Tier 2 emission standards. The South Coast AQMD is in the process of updating major source NOx BACT/LAER requirements for IC engines. At this moment the requirement is the same as the EPA Tier 2 requirements with DPF described. Furthermore, a Tier 2 certification level satisfies the stationary ATCM requirement for emergency standby IC engines rated greater than 750 bhp (SCAQMD 2022).

Air Quality Table 2 shows the maximum hourly, daily, and annual emissions estimated for the proposed engines. The maximum hourly emissions are based on emission factors and rating of the engine. The maximum daily emissions are estimated based on 5 hours of operation per month. The maximum annual emissions are based on 50 hours of operation per year.

Air Quality Table 2
Maximum Hourly, Daily, and Annual Emissions for a Single Engine

Pollutant	Controlled Emissions Factor (g/bhp-hr)	Rating (bhp)	Maximum Hourly Emissions (lbs/hr)	Maximum Daily Emissions (lbs/day)	Maximum Annual Emissions (lbs/yr)
NOx	3.84	1,112	9.41	1.57	470.69
SOx	0.0049	1,112	0.012	0.002	0.61
PM10	0.02[a]	1,112	0.049[a]	0.0.049[a]	2.45[a]
CO	0.16	1,112	0.392	0.0653	19.61
VOC	0.2	1,112	0.49	0.082	24.51

Sources: SCAQMD 2022 and CEC staff analysis.
a. The engines would meet the CARB ATCM standard of 0.02 g/bhp-hr. However, the application (TN 245714) shows that the PM10 emission rate could be as low as 0.003 g/bhp-hr.

Under Rule 1303 (BACT Requirements), modeling is required for every new or modified source to determine whether it does not significantly affect the ambient air at the receptor location. Per Rule 1304, emergency equipment not operated more than 200 hours per year are exempt from modeling and offset requirements. This exemption also holds true under Rule 2005, New Source Review for RECLAIM. Under District rules, an Air Quality Impact Analysis (AQIA) and associated modeling is not required. The SCAMQD engineering evaluation also identified that the facility holds sufficient RECLAIM Trading Credits (RTCs) to offset the NOx emission increase of 470.69 lbs/year per engine (941.38 lb/year total) satisfying Rule 2005.

However, staff felt that an AQIA was needed to complete the air quality analysis. In September 2022, staff notified AES that under CEQA, a demonstration that operation of the engines will not cause significant impacts is required along with compliance with all applicable state and federal AAQS.

On behalf of AES, Yorke Engineering, LLC has prepared an AQIA in response to this requirement. The analysis showed that operation of the engines is not expected to cause a violation or make worse an existing violation of state or federal AAQS.

Yorke Engineering performed an AQIA evaluating the impacts of the proposed engines against all applicable AAQS, including short-term and annual standards. Staff received a report including emissions calculations, the dispersion modeling with assumptions, and the results of the AQIA. Yorke Engineering calculated hourly, 8-hour, daily, and annual emissions to model the short-term and annual impacts of the proposed engines. These emissions are shown in **Air Quality Table 2**.

Air Quality Table 3 shows the maximum impacts of the proposed engines compared with limiting standards. The project impact column shows the worst-case impacts of the project from modeling. The background column shows the highest (or three-year

averages for the federal 24-hour PM2.5, federal 1-hour SO_2, and federal 1-hour NO_2 standards) of the background concentrations from the last three years of representative data (2018-2020). The background PM10 concentrations are shown in **bold** because they already exceeded the corresponding limiting standards. The limiting standard column combines California Ambient Air Quality Standard (CAAQS) and National Ambient Air Quality Standard (NAAQS), whichever is more stringent.

Air Quality Table 3
Maximum Ambient Air Quality Impacts during Operation

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10 (µg/m^3)	24-hour	0.4 [a]	**84.0**	**84.4**	50	**168%**
	Annual	0.0005 [a]	**32.3**	**32.3**	20	**162%**
PM2.5 (µg/m^3)	24-hour	0.4 [a, b]	26.3	26.7	35	75%
	Annual	0.0005 [a]	11.38	11.38	12	95%
CO (ppm)	1-hour	0.008	4.7	4.7	20	24%
	8-hour	0.005	2.1	2.1	9	23%
NO_2 (ppb) [c]	State 1-hour [d]	69.63	85.3	154.9	180	86%
	Federal 1-hour [e]	39.7	58.4	98.1	100	98%
	Annual	0.05	17.3	17.4	30	58%
SO_2 (ppb)	State 1-hour	0.11	10.5	10.6	250	4%
	Federal 1-hour	0.11	8.8	8.9	75	12%
	24-hour	0.04	2.2	2.2	40	6%
	Annual	4.2E-05	0.7	0.7	30	2%

Sources: CARB 2022a, CARB 2022b, Yorke 2022 with modeling files, U.S. EPA 2011, U.S. EPA 2022
Notes: Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.

a. Staff adjusted the PM modeled impacts based on the ATCM standard emission rate of 0.02 g/bhp-hr shown in Air Quality Table 2 above.
b. To compute the total impacts for the 24-hour PM2.5 NAAQS, staff conservatively combined the maximum modeled 24-hour PM2.5 impacts to the three-year average of 98th percentile PM2.5 background.
c. The 1-hour NO_2 impacts are evaluated using the U.S. EPA Tier 3 Plume Volume Ratio Method (PVMRM) method with an In-Stack NO_2/NOx ratio of 0.1 and an Equilibrium ratio of 0.9.
d. For the 1-hour NO_2 CAAQS impact analysis, the modeled maximum project impacts are combined with maximum hourly background NO_2 data from the South Coastal Los Angeles County 3 and 4 monitoring stations during 2018-2020 to estimate the total impacts.
e. For the 1-hour NO_2 NAAQS impact analysis, the modeled five-year average of 98th percentile daily maximum 1-hour impacts are combined with the three-year average of 98th percentile daily maximum 1-hour background NO_2 data from the South Coastal Los Angeles County 3 and 4 monitoring stations during 2018-2020 to estimate the total impacts.

The background data shown in **Air Quality Table 3** are from multiple stations since not all pollutants are measured at a single location. The CO, NO_2, PM10 and SO_2 background data are from the South Coastal Los Angeles County 3 (EPA ID 06-037-4006) station, which is about 7.2 miles northwest of the proposed gensets location in

Long Beach. The PM2.5 and SO_2 background data are from the South Coastal Los Angeles County 2 station (06-037-4004), which is about 4.6 miles northwest of the proposed gensets location in South Long Beach. There was no CO background data in 2020. In 2020, the NO_2 background data are from South Coastal Los Angeles County 4 station (EPA ID 06-037-4009), which is about 4.3 miles northwest of the proposed gensets location.

For the 1-hour NO_2 CAAQS, Yorke Engineering performed an analysis using the U.S. EPA Tier 3 Plume Volume Molar Ratio Method (PVMRM). The PVMRM option requires values for two parameters: (1) the Equilibrium NO_2/NOx Ratio; and (2) the In-Stack NO_2/NOx Ratio. The recommended defaults for these two parameters are 0.9 and 0.5, respectively. The U.S. EPA maintains a file[1] with In-Stack NO_2/NOx Ratios for certain equipment/fuel combinations. Based on review of the U.S. EPA file, Yorke Engineering uses a value of 0.1 for the In-Stack NO_2/NOx Ratio. For the 1-hour NO_2 CAAQS impact analysis, the modeled maximum project impacts are combined with maximum hourly background NO_2 data from the South Coastal Los Angeles County 3 and 4 monitoring stations during 2018-2020 to estimate the total impacts. For the 1-hour NO_2 NAAQS impact analysis, the modeled five-year average of 98th percentile daily maximum 1-hour impacts are combined with the three-year average of 98th percentile daily maximum 1-hour background NO_2 data from the South Coastal Los Angeles County 3 and 4 monitoring stations during 2018-2020 to estimate the total impacts.

Air Quality Table 3 shows that the proposed engine would not cause exceedances of the PM2.5, CO, NO_2, or SO_2 standards. **Air Quality Table 3** also shows that the existing PM10 background concentrations are already above the limiting standards. The proposed engines would, therefore, contribute to existing exceedances of the PM10 standards. However, the modeled PM10 project impacts are below the U.S. EPA PM10 Significant Impact Levels (SILs) of 5 $\mu g/m^3$ for 24-hour impacts and 1 $\mu g/m^3$ for annual impacts. The modeled PM2.5 project impacts are below the U.S. EPA PM2.5 SILs of 1.2 $\mu g/m^3$ for 24-hour impacts and 0.2 $\mu g/m^3$ for annual impacts. In addition, the modeled PM2.5 project impacts are also below SCAQMD's Rule 1303 Significant Change Thresholds of 2.5 $\mu g/m^3$ for 24-hour impacts and 1.0 $\mu g/m^3$ for annual impacts. Therefore, the proposed engines would not contribute significantly to the existing violation of the nonattainment pollutant PM10.

Public Health

Staff expects the public health impacts during construction would be less than significant due to limited construction activities and lack of nearby receptors.

Rule 1401 specifies limits for maximum individual cancer risk (MICR), acute hazard index (HIA), chronic hazard index (HIC) and cancer burden (CB) from new permit units, relocations, or modifications to existing permits which emit toxic air contaminants. Emergency engines are exempt as per section (g)(l)(F) of the rule. However, for the purpose of determining public notice requirement of Rule 212 (c)(3)(A)(i), MICR and hazard index (HI) resulting from toxic emissions were calculated.

The Tier 2 Risk Analysis indicated that the residential and commercial MICR's were less than one in a million meeting the rule's requirements. In addition, the HIC's were less than one meeting the rule's requirements and the significance thresholds. Therefore, it is expected the facility would not significantly impact receptors.

Staff expects the public health impacts from operation of the proposed engine would be less than significant.

Greenhouse Gases

Staff expects the greenhouse gas (GHG) emissions and impacts during construction would be less than significant due to limited construction activities.

SCAQMD Rule 1714 references the applicable version of 40 CFR Part 52.21 – Prevention of Significant Deterioration (PSD). Beginning January 2, 2011, the pollutant GHG shall be subject to regulation if the source is otherwise subject to PSD (for another regulated NSR pollutant) and the source has a GHG potential to emit (PTE) equal to or greater than 75,000 tons per year (tpy) carbon dioxide equivalent (CO_2e). Beginning July 1, 2011, in addition to the above provisions, the pollutant GHGs shall also be subject to regulation if the GHG PTE from the new source would be equal to or greater than 100,000 tpy CO_2e basis and equal to or greater than the applicable major source threshold on a mass basis.

The project owner estimated that the GHG emissions of the proposed emergency standby electrical gensets would be about 64 tpy of CO_2e, which is equivalent to about 58 $MTCO_2e/yr$, assuming 50 hours of maintenance and testing per year (CEC 2022). Therefore, the proposed emergency standby electrical gensets would not be subject to PSD for GHG.

Additionally, GHG emission increases do not exceed SCAQMD's Significance Thresholds of 10,000 MT/yr CO2eq implying less than significant GHG impacts. GHG impacts of the proposed emergency standby electrical gensets would be less than significant.

Proposed Changes to the Conditions of Certification

The SCAQMD has issued a PTC/PTO for the proposed emergency standby electrical gensets. To incorporate the new District PTC conditions, staff proposes to add Conditions of Certification **AQ-EG1** through **AQ-EG10**.

CONCLUSIONS AND RECOMMENDATIONS

Staff recommends approval of the proposed installation of the proposed emergency standby electrical gensets. With the addition of Air Quality Conditions of Certification **AQ-EG1** through **AQ-EG10**, the project would continue to comply with all applicable LORS. The proposed emergency standby electrical gensets would not result in significant impacts to ambient air quality, public health, or greenhouse gases.

AMENDED CONDITIONS OF CERTIFICATION

The modifications to the Air Quality conditions of certification are included below. **Bold underline** indicates new language. ~~Strikethrough~~ indicates deleted language.

EQUIPMENT DESCRIPTION:

TWO 1,112 BHP (INTERMITTENT) PERKINS MODEL 2806C-E18TTAG7 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINES POWERING ELECTRICAL GENERATORS

AQ-EG1 Notwithstanding the requirements of Section E conditions of the SCAMQD permit, the permit to construct shall expire if construction to the equipment is not complete within one year from the date of the issuance of this permit, unless an extension is granted in writing by the South Coast AQMD. [District Rule 205]

Verification: The project owner shall submit the request one month prior to that date.

AQ-EG2 The operator shall comply with the terms and conditions set forth below:

This engine shall not be operated unless its exhaust is vented to the diesel exhaust after-treatment system which is in full operation and in good operating condition at all times.

The equipment shall comply with the CARB Executive Order DE-14-005-07.

Removal of the diesel particulate filter's filter media for cleaning may only occur under the following conditions:
A. The internal combustion engine shall not be operated for maintenance and testing or any other non-emergency use while the diesel particulate filter media is removed; and
B. The diesel particulate filter media shall be returned and re-installed within 10 working days from the date of removal; and

C. The owner or operator shall maintain records indicating the date(s) the diesel particulate filter media was removed for cleaning and the date(s) the filter media was re-installed. Records shall be retained for a minimum period of three years. [District Rules 1470 and 2005]

Verification: The project owner shall make the records available for inspection by representatives of the District, CARB, and the CEC upon request.

AQ-EG3 This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 1110.2, 40 CFR60 Subpart IIII and 17 CCR 93115]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the CEC upon request.

AQ-EG4 Only CARB certified diesel fuel containing not more than 15.0 ppm sulfur by weight is to be used. [District Rule 431.2, 40 CFR60 Subpart IIII and 17 CCR 93115]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the CEC upon request.

AQ-EG5 The operator shall operate and maintain this equipment according to the following requirements:

The operator shall comply with the emission standards specified in 40 CFR 60.4205(b) by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b), as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission related specifications.

The operator shall operate and maintain the engine and control device according to the manufacturer's written emission-related instructions (or procedures developed by the operator that are approved by the engine manufacturer). [40 CFR60 Subpart IIII]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the CEC upon request.

AQ-EG6 This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to do so by the utility or the grid operator. [District Rule 1470]

Verification: The project owner shall submit to the District and CPM engine operation procedures and data demonstrating compliance with this condition as part of the quarterly operation reports specified in Condition AQ-SC7.

AQ-EG7 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

The operator shall keep records of any corrective action taken after the backpressure monitor has notified the operator that the backpressure limit of the engine is approached.

An engine operating log listing on a monthly basis the emergency use hours of operation, maintenance and testing hours of operation, and any other hours of use with a description of the reason for operation. Additionally, each time the engine is started manually, the log shall include the date of operation and the timer reading in hours at the beginning and end of operation.

The log shall be kept for a minimum of five calendar years prior to the current year and made available to District personnel upon request. The total hours of operation for the previous calendar year shall be recorded sometime during the first 15 days of January of each year. [17 CCR 93115 and 40CFR 60 Subpart IIII]

Verification: The log shall be made available for inspection by staff of the Air District, ARB and CEC upon request.

AQ-EG8 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

The 200 hours per year shall include no more than 50 hours in any one year for maintenance and testing purposes.
The operation of the engine beyond the 50 hr/yr allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.
Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect. [District Rules 1470 and 17 CCR 93115]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation reports specified in Condition AQ-SC7.

AQ-EG9 The Operator shall limit the maintenance testing to no more than 5 hour(s) in any one month. [Rule 1304]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation reports specified in Condition AQ-SC7.

AQ-EG10 This equipment is subject to the applicable requirements of the following SCAMQD rules or regulations:

Sulfur: District Rule 431.2

PM: District Rule 1470

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation reports specified in Condition AQ-SC7.

REFERENCES

CARB 2022a – California Air Resources Board (CARB). Air Quality Data (PST) Query Tool. Available online at: https://www.arb.ca.gov/aqmis2/aqdselect.php?tab=hourly.

CARB 2022b – California Air Resources Board (CARB). Air Quality Data Statistics Top 4 Summary. Available online at: https://www.arb.ca.gov/adam/topfour/topfour1.php.

CEC 2022 – California Energy Commission (CEC). Alamitos Energy Center - Petition to Amend for Emergency ICE Generators, docketed August 27, 2022 (TN 245714).

SCAQMD 2022 – South Coast Air Quality Management District (SCAQMD). Title V Significant Permit Revision, AES Alamitos, ID 115394, Rev. 40, dated August 10, 2022.

Yorke 2022 – Yorke Engineering, LLC. Air Quality Impact Analysis prepared for AES Alamitos, LLC dated December 2022 (TN 248466).

U.S. EPA 2011 – United States Environmental Protection Agency (U.S. EPA). Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard. March 2011. Available online at: https://www.epa.gov/sites/default/files/2015-07/documents/appwno2_2.pdf.

U.S. EPA 2022 – United States Environmental Protection Agency (U.S. EPA). Outdoor Air Quality Data, Monitor Values Report. Available online at: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report