

DOCKETED

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Document Title:	Staff Analysis of Post-Certification Petition and Staff Recommendation
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DATE: February 23, 2022

TO: Interested Parties

FROM: John Heiser, Compliance Project Manager

SUBJECT: LOS MEDANOS ENERGY CENTER (98-AFC-01C)

STAFF ANALYSIS OF POST-CERTIFICATION PETITION AND STAFF RECOMMENDATION

LOS MEDANOS ENERGY CENTER (98-AFC-01C)

On March 8, 2021, Los Medanos Energy Center, LLC (project owner) filed a post certification petition for a project change (TN 237030) with the California Energy Commission (CEC) for the Los Medanos Energy Center (LMEC).

LMEC is a nominal 500-megawatt (MW) natural-gas-fired combined cycle energy facility that includes heat recovery steam generator (HRSG) units, steam turbine generator units, transformers, and water treatment and cooling towers. The project was certified by the CEC on August 17, 1999, and the facility began commercial operation in October 2001. The facility, formerly known as Pittsburg District Energy Facility, is in the City of Pittsburg, in eastern Contra Costa County, California.

DESCRIPTION OF PROPOSED CHANGE

The project owner seeks approval for a petition that would allow LMEC to conduct a demonstration phase of transferring approximately 1 percent of the stack gas for carbon dioxide (CO₂) removal. The stack gas flow will be through the flue gas pipe, which will be controlled by a damper installed at the point of interconnection between the pipe and the stack. The flue gas pipe will be supported on a new pipe rack within the LMEC site for a short distance and then will align with existing steam and condensate lines that leave LMEC to support its cogeneration thermal host being developed by San Francisco Bay Aggregates. The pipe from LMEC will run the length of the property (approximately 80 feet) and interconnect to the San Francisco Bay Aggregate pipe at the fence line of the facility and combine it with locally sourced demolished or returned concrete to produce new CO₂-sequestered and upcycled rock products.

The petition is available on the CEC's project webpage at <https://www.energy.ca.gov/powerplant/combined-cycle/los-medanos-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 "Documents for this Proceeding" "Docket Log" option. If approved, the CEC's Order approving this petition will also be available from the same webpage.

CEC STAFF REVIEW AND CONCLUSIONS

CEC staff has reviewed the petition pursuant to California Code of Regulations, title 20, section 1769(a)(3)(D) (Changes in Project Design, Operation, or Performance) in which staff may submit to commission, for consideration and a decision, a proposed change that could otherwise be approved by staff under section 1769(a)(3)(A) or (B).

On February 21, 2022, staff filed its review of the petition and concluded that approving the petition is consistent with California Code of Regulations, title 20, sections 1769(a)(3)(D) and 1769(a)(4)(A) because the proposed change will (1) not have a significant effect on the environment or is exempt from CEQA; (2) not cause the project to fail to comply with any applicable laws, ordinances, regulations, and standards (LORS); and (3) not require a change to or deletion of a condition of certification adopted by the CEC in the final decision or subsequent amendments. Additionally, staff determined the findings required to be made by the CEC pursuant to California Code of Regulations, title 20, section 1769(a)(4)(A), and as specified in California Code of Regulations, title 20, section 1748(b), do not apply.

Lastly, staff concluded the proposed change does not meet the criteria requiring the production of subsequent or supplemental review consistent with California Code of Regulations, title 14, section 15162(a).

Staff has determined that the proposed project change would result in no impacts or less than significant impacts on the environment and the project would remain in compliance with applicable LORS. In addition, the project change would not impact any population, including the environmental justice population as shown in **Environmental Justice Figure 1, Figure 2, and Table 1.**

Staff intends to recommend approval of the petition at the March 9, 2022, Business Meeting of the CEC.

The CEC's webpage for this facility, <https://www.energy.ca.gov/powerplant/combined-cycle/los-medanos-energy-center>, has a link to the LMEC petition to change for the temporary demonstration off site CO2 project (TN#: 237030), and the Staff Analysis of Post-Certification Petition and Staff Recommendation (SA) on the right side of the webpage in the box labeled "Compliance

Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option. If approved, the CEC's Order will be available from the same webpage.

The list serve is an automated CEC email system by which information about this facility is emailed to parties who have subscribed. To subscribe, go to the CEC'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.

This letter has been mailed to the CEC's list of interested parties and property owners adjacent to the facility site. It has also been emailed to the Siting list serve. The list serve is an automated CEC email system by which information about this facility is emailed to parties who have subscribed. To subscribe, go to the [CEC'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 comment on the Staff Analysis. Those who wish to comment on the analysis are asked to submit their comments by March 7, 2022. To use the CEC's electronic commenting feature, go to the [CEC'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 CEC's Docket Unit reviews and approves your comments, and you will receive an email with a link to them.

Written comments may also be mailed to:

California Energy Commission
Docket Unit, MS-4
Docket No. 98-AFC-01C
715 P Street
Sacramento, CA 95814

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 project webpage.

If you have questions about this notice, please contact John Heiser, Compliance Project Manager for the Office of Compliance Monitoring and Enforcement, at (916) 628-5566 or via email at John.Heiser@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.

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

Date: February 23, 2022

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DESCRIPTION OF PROPOSED CHANGE

The project owner seeks approval for a petition that would allow LMEC to conduct a demonstration phase of transferring approximately 1 percent of the stack gas for carbon dioxide (CO₂) removal. The stack gas flow will be through the flue gas pipe, which will be controlled by a damper installed at the point of interconnection between the pipe and the stack. The flue gas pipe will be supported on a new pipe rack within the LMEC site for a short distance and then will align with existing steam and condensate lines that leave LMEC to support its cogeneration thermal host being developed by San Francisco Bay Aggregates. The pipe from LMEC will run the length of the property (approximately 80 feet) and interconnect to the San Francisco Bay Aggregate pipe at the fence line of the facility and combine it with locally sourced demolished or returned concrete to produce new CO₂-sequestered and upcycled rock products.

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On February 21, 2022, staff filed its review of the petition and concluded that approving the petition is consistent with California Code of Regulations, title 20, sections 1769(a)(3)(D) and 1769(a)(4)(A) because the proposed change will (1) not have a significant effect on the environment or is exempt from CEQA; (2) not cause the project to fail to comply with any applicable laws, ordinances, regulations, and standards (LORS); and (3) not require a change to or deletion of a condition of certification adopted by the CEC in the final decision or subsequent amendments. Additionally, staff determined the findings required to be made by the CEC pursuant to California Code of Regulations, title 20, section 1769(a)(4)(A), and as specified in California Code of Regulations, title 20, section 1748(b), do not apply.

Lastly, staff concluded the proposed change does not meet the criteria requiring the production of subsequent or supplemental review consistent with California Code of Regulations, title 14, section 15162(a).

The CEC staff has determined that the proposed project change would result in no impacts or less than significant impacts on the environment and the project would remain in compliance with applicable LORS. In addition, the project change would not impact any population, including the environmental justice population as shown in **Environmental Justice Figure 1, Figure 2, and Table 1.**

Staff's conclusions for all technical and environmental areas are summarized in **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 and Greenhouse Gases			X		X
Biological Resources			X		X
Cultural and Tribal 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

Notes: COCs = conditions of certification; Areas shown in gray are not subject to CEQA consideration or have no applicable LORS the project must comply with.

Air Quality and Greenhouse Gases. During the construction and installation of the new pipe and supporting rack, continued compliance with existing Conditions of Certification **AQ-54** through **AQ-59** in the Commission Decision would ensure that the project change would not have any significant impact on Air Quality and Greenhouse Gases. The project would continue to comply with all applicable LORS.

Biological Resources. Construction activities would not occur in any biologically sensitive areas and there would likely be no impacts to special-status biological resources. However, work would occur near ruderal habitats along the eastern property boundary and protected bird species, such as killdeer, often nest in open gravel areas, such as

those found in the project area. The implementation of Conditions of Certification **BIO-1** through **BIO-3** (Designated Biologist Selection, Duties, and Authority), **BIO-4** (Worker Environmental Awareness Program (WEAP)), and **BIO-5** (Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)) in the Commission Decision would ensure impacts to biological resources would be less than significant and the project would remain in compliance with biological resources-related LORS.

Cultural and Tribal Cultural Resources. There are no known cultural resources within the pipe alignment that could be impacted by the proposed project changes. There were several archaeological discoveries during the original construction of the LMEC, summarized in a monitoring report (Hatoff and Bass 1999). Additionally, several cultural resources discoveries occurred during the construction of a 115-kilovolt transmission line in 2009 (Bastian 2009; LMEC 2008). None of these cultural resources were considered eligible as historical resources under the California Environmental Quality Act.

Conditions of Certification **CUL-1** through **CUL-15**, applicable to this proposed project change, were developed to ensure that, if cultural resources are encountered during construction, adequate measures are in place to mitigate any project-level impacts to less than significant. Minor changes were made to Conditions of Certification **CUL-6** and **CUL-10** in September 2008 to bring the conditions into consistency with then current practice for a previous petition (CEC 2008).

Efficiency and Reliability. The proposed change would not affect the power plant's overall heat rate or its thermal efficiency. The power plant's reliability, or its ability to deliver power to the power grid, would not be affected by the proposed change.

Facility Design. The installation of an 8-inch pipe to transfer stack gas from the LMEC to a carbon capture and utilization facility located on a neighboring property, the San Francisco Bay Aggregates facility, must be in accordance with the 2019 edition of the California Building Standards Code. Implementation of the existing Facility Design conditions of certification adopted in the Decision and construction compliance oversight by the CEC's delegate chief building official would ensure this compliance.

Geology and Paleontological Resources. A delivery pipeline would be installed on an above-ground pipe rack. The construction of the pipe rack would not involve the disturbance of pre-Holocene age soils, and, therefore, there would be no impact to geological hazards or paleontological resources.

Hazardous Materials Management. The installation of the new pipe and supporting rack would not use any extremely hazardous materials, and the use of hazardous materials during construction would comply with all LORS. Therefore, the proposed project change would not have a significant impact on the environment.

Land Use. The impacts to land use would be less than significant. As the new pipeline would be interconnecting to existing structures, the height of the new pipeline and rack would be consistent with the height restrictions in the City of Pittsburg municipal code, Section 18.54.115. Compliance with the City of Pittsburg's property development regulations is ensured by Condition of Certification **LAND-1** in the Decision. Since **LAND-1** was approved, the municipal code number for property development regulations in the IP, IL, and IG zoning districts has changed from 18.54.015 to 18.54.115.

Noise and Vibration. The 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 the implementation of the existing Noise Conditions of Certification in the Decision.

The carbon capture pilot project would not increase noise at nearby residences. 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. During the construction and installation of the new pipe and supporting rack, continued compliance with existing Condition of Certification **Public Health-1** in the Decision would ensure that the project change would not have any significant impact on public health. The project would continue to comply with all applicable LORS.

Socioeconomics. The impacts to socioeconomics would be less than significant. The installation of the new pipe and supporting pipe rack would require a minimal workforce for a short duration. Approximately 10 construction workers would be needed for six weeks. With ample labor supply in Contra Costa County, no population influx would result as no workers from outside of the local area would be needed. Condition of Certification **SOCIO-1** in the Decision regarding local recruitment and procurement would apply to the proposed project change.

Soil and Water Resources. The proposed modification would not involve construction or ground disturbing activities at the LMEC site. Additionally, the modification would not result in an increase in potable or recycled water consumption. Therefore, the proposed modification would not result in adverse impacts on soil and water resources.

Transportation. Impacts to transportation would be less than significant. The installation of the new pipe and supporting pipe rack would cross under 3rd Street. The small number of workers and short duration of the construction would have a negligible impact on transportation. With the implementation of Conditions of Certification **TRANS-1** through **TRANS-5** and **TRANS-8** in the Decision, the impacts to transportation would be less than significant by utilizing existing designated truck routes and obtaining applicable local and state transportation permits.

Transmission Line Safety and Nuisance. The proposed change would not result in an adverse change to the environment. LMEC would continue to comply with existing Conditions of Certification **TLSN-1** through **TLSN-6**, and there are no transmission line safety and nuisance impacts.

Transmission System Engineering. The proposed changes to the project for both onsite and offsite carbon capture would have no impact on the transmission interconnection facilities of LMEC. Compliance with existing Transmission System Engineering conditions would ensure LORS requirements are met and that any changes around existing transmission facilities would not result in an unsafe reduction in line clearances.

Visual Resources. The impacts to visual resources would be less than significant. As the new pipeline would be interconnecting to existing structures, the height of the new pipeline and rack would be visually consistent with existing structures. With the implementation of Conditions of Certification **VIS-1** (surface treatment of project structures) and **VIS-6** (site maintenance) in the Decision, the new pipe and supporting rack would blend in with the surroundings and would be kept in a state of good repair and be clean and well maintained, consistent with the City of Pittsburg's zoning ordinance.

Waste Management. A delivery pipeline would be installed on an above-ground pipe rack and no new waste streams would be created. The amount of construction waste generated would be minimal and within the quantities projected for waste generated by the routine operation of LMEC. The construction waste would also be removed from the site under LMEC's existing waste processes. Therefore, no impact would result from the proposed project change.

Worker Safety and Fire Protection. During the installation of the new pipe and supporting rack, continued compliance with existing Condition of Certification **WORKER SAFETY-1** in the Decision would ensure that the project change would not have a significant impact on the offsite public and would continue to comply with all applicable LORS.

Environmental Justice

Environmental Justice – Figure1 shows 2010 census blocks in the six-mile radius of the LMEC site 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 farthest from a project site. Beyond a six-mile radius, air emissions have either settled out of the air column or mixed with the 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 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, Mt. Diablo Unified, and Pittsburg Unified school districts (which are located 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 districts are in relation to the six-mile radius around the LMEC site.

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

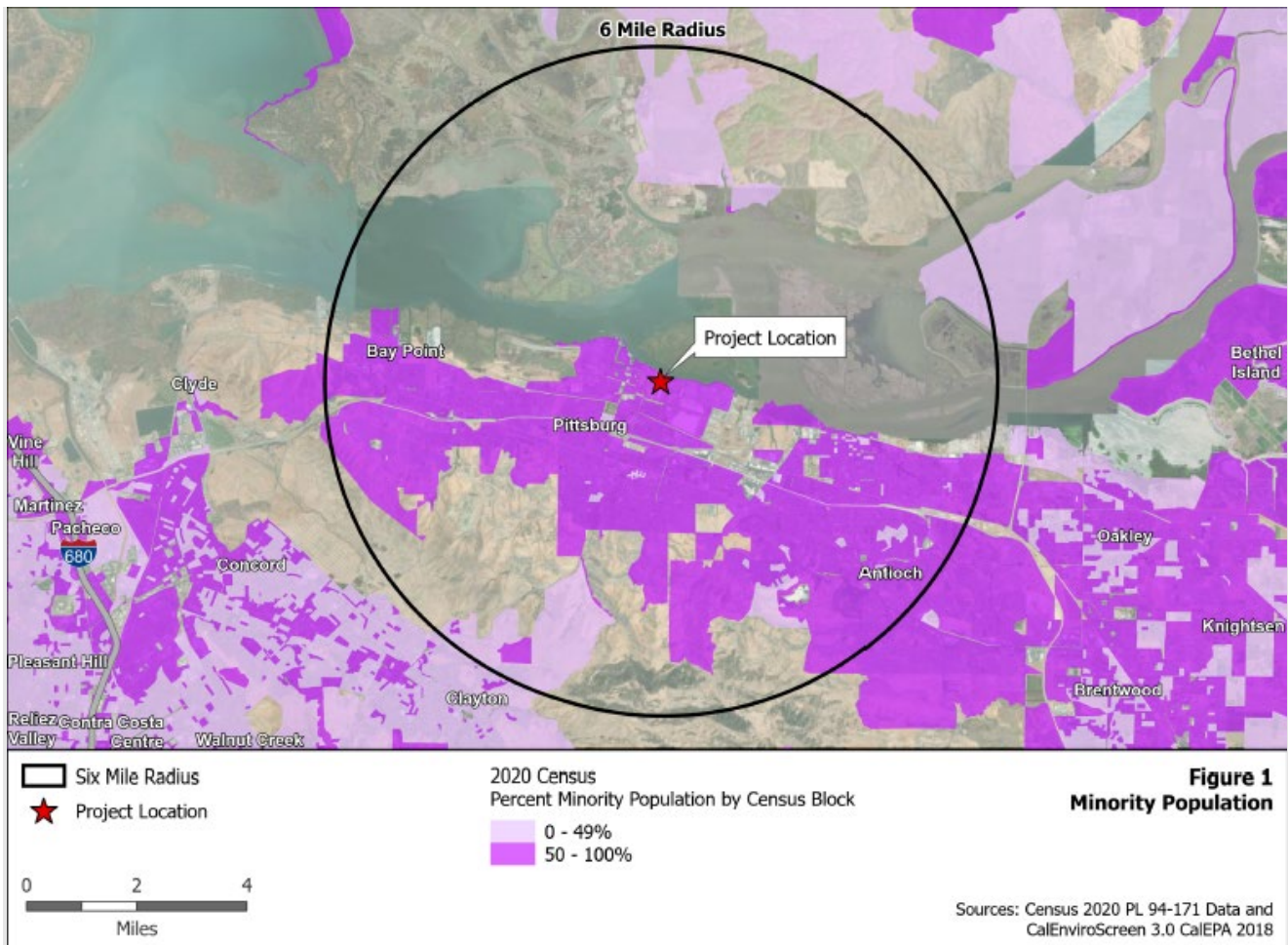
SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced-Price Meals	
Antioch Unified	16,599	11,247	67.8%
Mt. Diablo Unified	29,908	11,823	39.5%
Pittsburg Unified	11,015	8,164	74.1%
REFERENCE GEOGRAPHY			
Contra Costa County	173,021	66,843	38.6%
Source: CDE 2021. California Department of Education, DataQuest, Free or Reduced-Price Meals, District level data for the year 2020-2021, < http://dq.cde.ca.gov/dataquest/ >.			

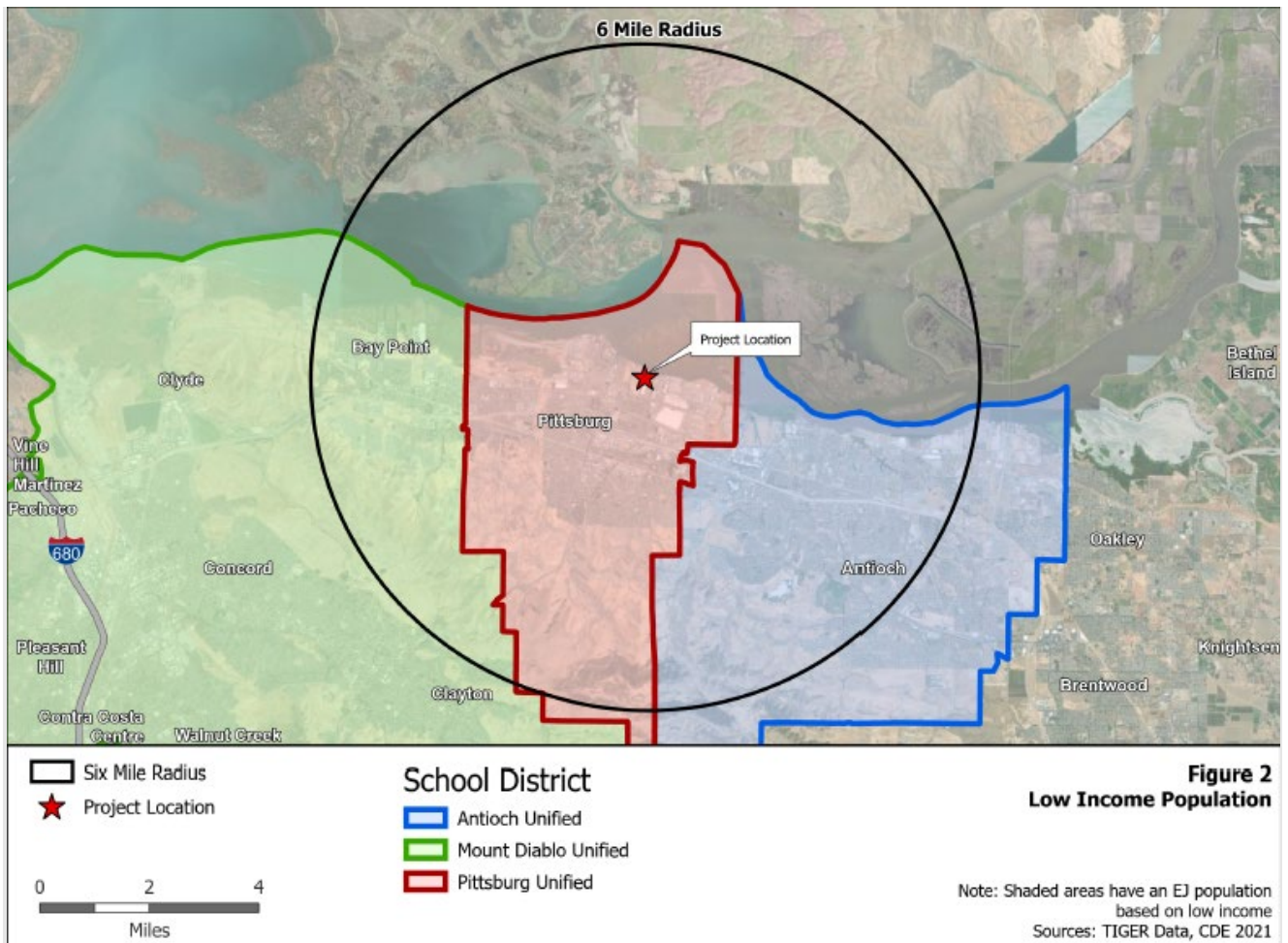
The following technical areas consider impacts to EJ populations: Air Quality, Cultural Resources (indigenous people), Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water Resources, Transportation, Transmission Line Safety and Nuisance, Visual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

Environmental Justice Conclusions

For the technical areas that consider impacts to EJ populations, staff concludes there would be no impacts on the environment or impacts would be less than significant with

the implementation of existing Conditions of Certification, and, thus, would be less than significant on the Environmental Justice population represented in **Environmental Justice – Figure 1, Figure 2, and Table 1.**





CEC STAFF RECOMMENDATIONS AND CONCLUSIONS

CEC staff has reviewed the petition pursuant to California Code of Regulations, title 20, section 1769(a)(3)(D) (Changes in Project Design, Operation, or Performance) in which staff may submit to the commission, for consideration and a decision, a proposed change that could otherwise be approved by staff under section 1769(a)(3)(A), which states, "Staff shall approve the change where staff determines:

- (i) that there is no possibility that the change may have a significant effect on the environment, or the change is exempt from the California Environmental Quality Act,
- (ii) that the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards; and

- (iii) that 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.”

The CEC staff has determined that the proposed project change would result in no impacts or less than significant impacts on the environment and the project would remain in compliance with applicable LORS. Therefore, staff recommends that the CEC approves the petition.

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

REFERENCES

The *tn: 00000* in a reference below indicates the transaction number under which the item is catalogued in the CEC’s Docket Unit. The transaction number allows for quicker location and retrieval of individual items docketed for a case or used for ease of reference and retrieval of exhibits cited in briefs and used at Evidentiary Hearings.

Bastian 2009 –Beverly Bastian. Internal CEC Memo regarding archaeological discoveries at Los Medanos Energy Center on September 16, 2009. September 17, 2009.

Calpine 2021a – Calpine. Los Medanos Energy Center (98-AFC-01C) Petition for Staff Approved Modification to Support San Francisco Bay Aggregates Carbon. TN # 237030. March 8, 2021. Available online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=98-AFC-01C>

Calpine 2021b – Calpine. Los Medanos Energy Center (98-AFC-01C) Petition for Staff Approved Modification to Support San Francisco Bay Aggregates Carbon. Responses to Data Request Set 1.TN 238268. June 17, 2021. Available online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=98-AFC-01C>

CEC 1999 – California Energy Commission Final Decision Los Medanos Energy Center. Adoption Order No. 99-0817-01. August 20, 1999.

CEC 2008 – California Energy Commission. Order Approving the Petition to Add Transmission Line. TN 48013. September 12, 2008.

Hatoff and Bass 1999 – Brian Hatoff and Bryon Bass. Pittsburg District Energy Facility. Cultural Resources Monitoring Program: Report of Findings through 11/02/1999. November, 1999.

LMEC 2008 – Los Medanos Energy Center, LLC. Petition for Amendment. Los Medanos Energy Center to Pittsburg 115-kV Transmission Line. TN 45663. March 17, 2008.

Pittsburg 2010 – City of Pittsburg, California General Plan 2020. Chapter 9.5 Resource Conservation. 2001, revised 2010. Available online at:
<http://www.ci.pittsburg.ca.us/index.aspx?page=228>

