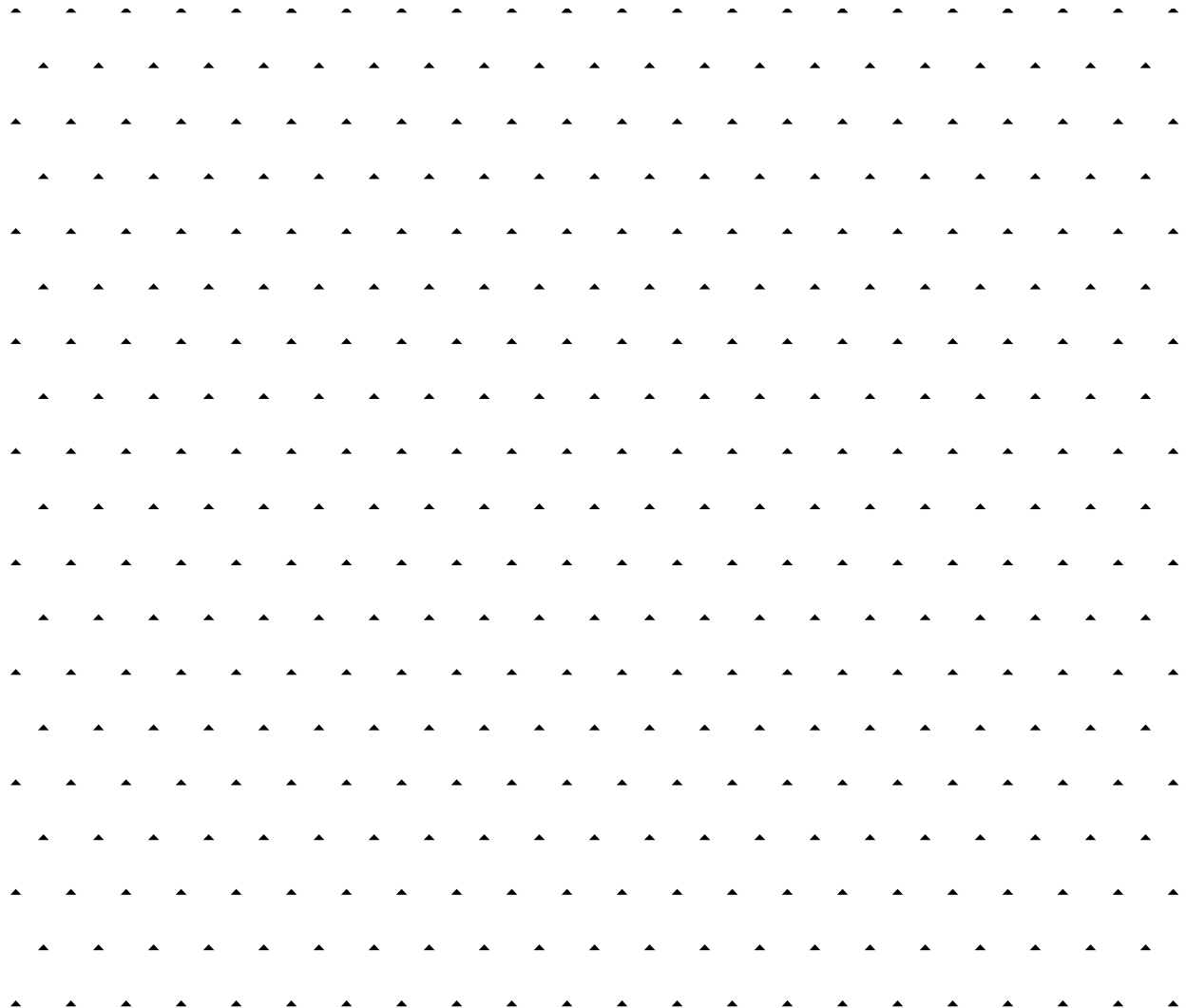


Petition To Amend

Hydrogen Generator Project

Abengoa Mojave Solar Project
NO: 09-AFC-05
12-13-2021



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1 Definitions

Atlantica	Atlantica Sustainable Infrastructure
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
COCs	Conditions of Certifications
GEN-1	General Condition
LORS	Laws, Ordinances, Regulations, and Standards
AMSP	Abengoa Mojave Solar Project
MDAQMD	Mojave Desert Air Quality Management District
PTA	Petition to Amend
PTO	Permit To Operate
TAC	Toxic Air Contaminant

2 Introduction

Atlantica Sustainable Infrastructure (Atlantica or the Applicant) is submitting this petition for a post Certification Amendment of its Abengoa Mojave Solar Project (MSP), Docket 09-AFC-5. Atlantica is proposing to implement a hydrogen generation at MSP. This Petition to Amend (PTA) is filed to make the changes necessary to final design approved by California Energy Commission (CEC) in accordance with California Code of Regulations (CCR) title 20, section 1769 (a)(1).

2.1 Mojave Solar Hydrogen Project Overview

Abengoa Mojave Solar Project is an operating 280 megawatt (MW) concentrated solar project at Hinkley in San Bernardino County, California. The plant is divided in two power blocks (Mojave Alpha and Beta), each one with its own turbine. The electric generators are cooled in an atmosphere of hydrogen that is currently supplied by means of bottle racks, provided externally in a rental basis. The objection of this proposal is to be self-sufficient and reduce the operation cost at AMSP.

Pursuant to 20 CCR Section 1769(a)(1), as revised in September 2019, Atlantica, the Project Owner, is filing this PTA to include installation of the following new equipment and facility at

the AMSP:

1. Hydrogen generation with the use of an electrolyzer

The hydrogen generated on-site will be used for generator cooling, which is currently provided by purchasing hydrogen in compressed gas cylinders, which are stored on-site. Other than adding this component to the project description, only two Conditions of Certification (COCs) require modification to allow for implementation of this project.

The proposed modifications to the COCs are:

COMP-14 post certification changes to the approved plan.

GEN 1 for addition of Hydrogen Unit after issuance of the certificate of occupancy.

Since hydrogen is not a regulated pollutant or toxic air contaminant (TAC), Atlantica does not expect to need a revision of the Mojave Desert Air Quality Management District (MDAQMD) Permit to Operate (PTO) for the AMSP associated with the Hydrogen Project.

No other environmental permits related to water supply, biological resources, waste management, etc. are expected to be needed.

The proposed new Mojave Hydrogen Project components comply with all laws, ordinances, regulations, and standards (LORS) and do not have a significant environmental impact, as further described in this PTA. The proposed revisions to the COCs will not have significant impact on property owners, the public, or any other parties.

3 Information Requirements for Post-Certification Amendments

This Petition contains the information required under the CEC's Siting Regulations for post-certification project modifications [20 CCR Section 1769(a)(1)], including the following:

- A. A complete description of the proposed change, including new language for any conditions of certification that will be affected.
- B. A discussion of the necessity for the proposed change.
- C. An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects.
- D. A discussion of any exemptions from the California Environmental Quality Act (CEQA), of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.

Each of these requirements is addressed in this section.

A. Complete description of the proposed change, including new language for any conditions of certification that will be affected.

A.1 Facility Permitting Background

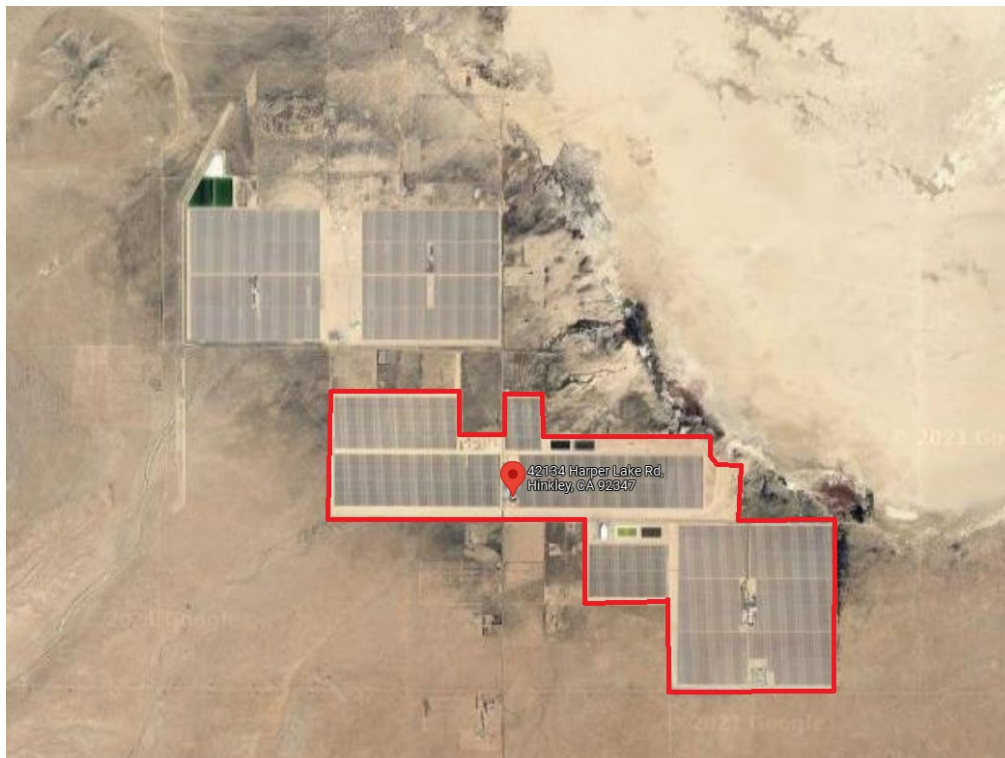
The AMSP, a Concentrated Solar Power Plant, was certified by the CEC with a Final Decision on September 8, 2010 and began commercial operation on December 24, 2014. The facility is located in the City of Hinkley in San Bernardino County, California. An aerial view of the facility and its environment is shown in Figure 3-1. Some of the subsequent amendments made to the COCs in the Final Decision are described below.

In June 27, 2016, AMSP proposed use of evaporators at Evaporation Ponds, SWAT02-15-00 and received approval for installation of the evaporators on March 2, 2017. (SWAT02-16-00)

On February 13, 2020, AMSP submitted the proposal for Carbon Absorption System Improvement, upon CEC approval the modification was completed on February 26, 2021.

On January 28, 2020, AMSP filed a petition (TN231771) for the construction of new warehouse building which was approved on February 13, 2020 and the construction completed on September 24, 2020.

Figure 3-1: Aerial View of the Mojave Solar Project and Surrounding Area



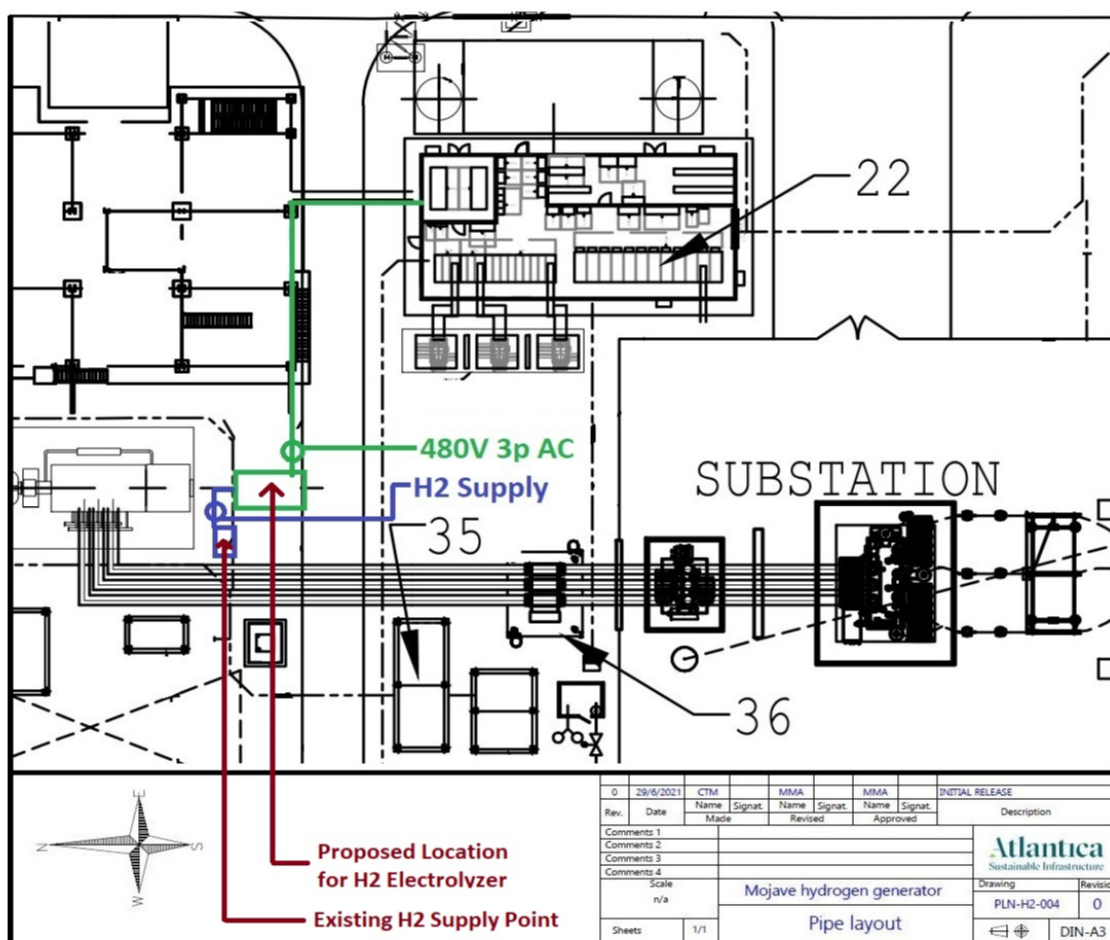
A.2 Proposed Project Description.

Our facility uses two General Electric generators at its Alpha and Beta plants which are cooled using hydrogen gas. This gas is currently supplied by continuous injection from portable bottle racks.

The proposed project includes installation of the hydrogen production system, including an electrolyzer that uses electricity from the plant to decompose demineralized water into hydrogen and oxygen. The gases are then cooled, dried, and purified for use at the two separate outlets. Therefore, only de-mineralized water and electricity are consumed in this process. The hydrogen gas would then be condensed and supplied to the generator by the unit without the need for a storage tank.

The unit is proposed to be installed in the same location as our existing hydrogen storage bottles. A detailed drawing of the location is shown below (please refer to appendix item A "Hazardous Area Plot Plan" for complete drawing).

Figure 3-2: Aerial View Showing the Existing Use of the Proposed Hydrogen Project Components Location



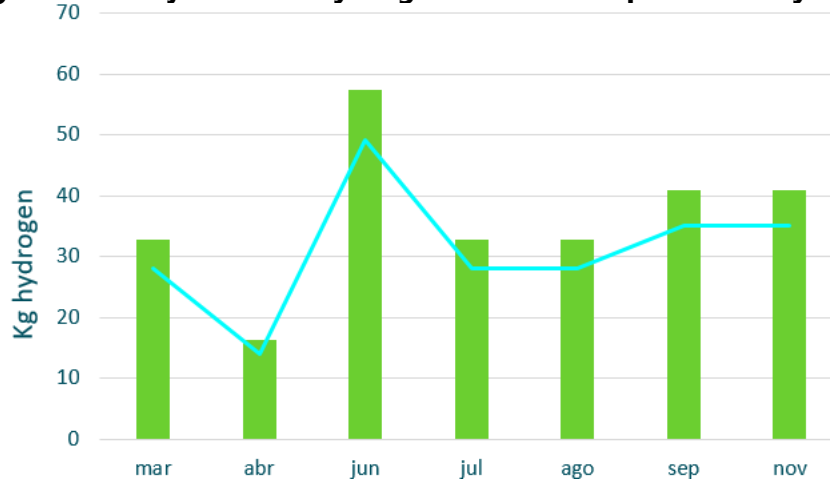
A.2.1 AMSP Hydrogen Consumption

This proposed change will not affect the plant's current hydrogen consumption rate in any way. Gas will be generated by the proposed hydrogen electrolyzer to meet the cooling demand of the unit.

Hydrogen gas consumption for the plant is variable. Historical data shows that the current consumption rate is 32 Kg per month based on values from the last 7 months.

In terms of volumetric flow, the site average hydrogen consumption is 180SCFD, ranging from 100-290SCFD. This is equal to an average of 5Nm³/day and a range of 2.83-8.21Nm³/day.

Figure 3-3: Mojave Solar Hydrogen Gas Consumption History Chart



A.2.2 Hydrogen Production and Integration

The proposed generation system produces hydrogen and oxygen through the electrolysis of de-mineralized water. This process occurs in a containerized unit, in which water is split into Hydrogen and Oxygen gas by a DC current under the effect of a certain catalyst. The hydrogen and the oxygen are released separately.

After leaving the electrolyzer unit, the produced H₂ gas is fed to a chemical dryer to enhance the purity from 99.5% to upwards of 99.95%. After this stage, the gas is fed through a final molecular sieve dryer to removing traces of the electrolyte solution and other impurities. The final design purity of the H₂ will be 99.9995%. The unit consists of a hydrogen generator and a purification system. These components will be used together in a packaged indoor system (see Appendix item C).

The specific point of H₂ entry will be same location as our existing portable bottle system. Complete details are included in Appendix item D.

A.2.3 Project Construction Schedule

Since the current H2 supply contract expires in October 2022 and lead times for the proposed equipment is approximately 6 months, a purchase order shall be placed by March 2022 and commissioning activities performed in September/October same year.

A.3 Proposed Changes to the Conditions of Certification

COMP-14 The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility.

GEN-1 Once the certificate of occupancy has been issued, inform the CPM prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes.

B. A discussion of the necessity for the proposed change.

The aim of this change is to minimize costs for the H2 supply and to avoid reliance on third parties for it. This change will also have a positive environmental impact by generating hydrogen using Solar energy and reducing GHG emission from the production and long-distance transportation.

C. An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects.

A summary of the expected impacts on each of the environmental resource areas is provided in this section.

C.1 Air Quality

Since hydrogen is not a regulated pollutant, no direct criteria pollutant emissions increases are expected from operation of the proposed new hydrogen generation system.

C.2 Biological Resources

The proposed project components will be added within the existing facility footprint and would not impact biological resources.

C.3 Cultural Resources

The proposed project components will be added within the existing facility footprint and would not have an impact on cultural resources.

C.4 Efficiency and Reliability

The proposed project would not have an impact on Efficiency and Reliability of AMSP.

C.5 Geology, and Paleontology

The area where the proposed Project components will be installed is already level and disturbed and hence no substantial changes to the Project footprint are proposed. Therefore, there would be no impact to geologic or paleontological resources.

C.6 GHG Emissions and Energy Use

There would be no impact on GHG emission associated with the electrolyzer since the unit will use generated electricity from the plant.

C.7 Hazardous Materials

Hydrogen is already stored on-site, and the usage amount will remain the same. Therefore, there would be no impact on the amount of stored hazardous materials.

C.8 Land Use

The use of hydrogen for generator cooling is already allowed at PEC and the proposed changes. Therefore, impacts related to land use are not expected.

C.9 Noises and Vibration

According to the manufacturer manual, the Hydrogen unit noise level is less than 70 dBA. Therefore, there would be no impact.

C.10 Public Health

This Petition does not affect any of the findings, conclusions, or conditions of certification in the Public Health section of the Final Decision.

C.11 Socioeconomic Resources

The proposed Project does not require any changes in operations workforce; hence, there will be no socioeconomic impact.

C.12 Soil and Water Resources

Impacts to Soils are not expected. The Hydrogen Unit will use portable demineralized water that was produced in the plant. The water tank is not connected to potable system and does not generate any wastewater discharge.

C.13 Traffic and Transportation

The proposed Project does not require any changes in MPC workforce for plant operation; hence, there will be no traffic or transportation impact due to worker commute. The proposed changes will reduce the quantity of hazardous materials delivered to the Facility since hydrogen will now be produced on-site.

C.14 Transmission Line Safety & Nuisance and System Engineering

The unit will require a piping interconnection on-site, but no changes to the transmission system are required for the proposed project. There are no impacts related to the transmission system.

C.15 Visual Resources

This Petition does not affect any of the findings, conclusions, or conditions of certification in the visual resources section of the Final Decision.

C.16 Waste Management

The proposed Project will not affect the level of solid waste production from the AMSP; hence, there will be less than significant impact.

C.17 Worker Safety and Fire Protection

All required plans such as the Hazardous Materials Business Plan (HMBP) will be updated if needed related to the production and use of hydrogen on-site. As a result of the safety

procedures in place and updated as needed, the proposed project will have a less than significant impact on worker safety and fire protection.

D. A discussion of any exemptions from the California Environmental Quality Act (CEQA), of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.

Exemptions to CEQA have not been identified.

4 Summary and Conclusion

The AMSP Hydrogen Project is proposed to install a Hydrogen generator unit (electrolyzer) to produce the required Hydrogen for cooling the electric generators to be self-sufficient and reduce the operation cost at AMSP.

The installation of the unit is expected to take approximately 1 months after receiving the approvals. Lead time for equipment is current 14 weeks, so a PO will be issued in March 2022.

Implementation of the proposed Project does not introduce any new LORS for operation of the AMSP since hydrogen is already used and stored on-site. There are only two Conditions of Certification (COCs) require modification to allow for implementation of this project; COMP-14 post certification changes to the approved plan, and GEN-1 for addition of Hydrogen Unit after issuance of the certificate of occupancy.

Hydrogen is not a pollutant or TAC and no new or revised environmental permits are needed.

The nearby property owners, residents, or the public should not be impacted by the project.

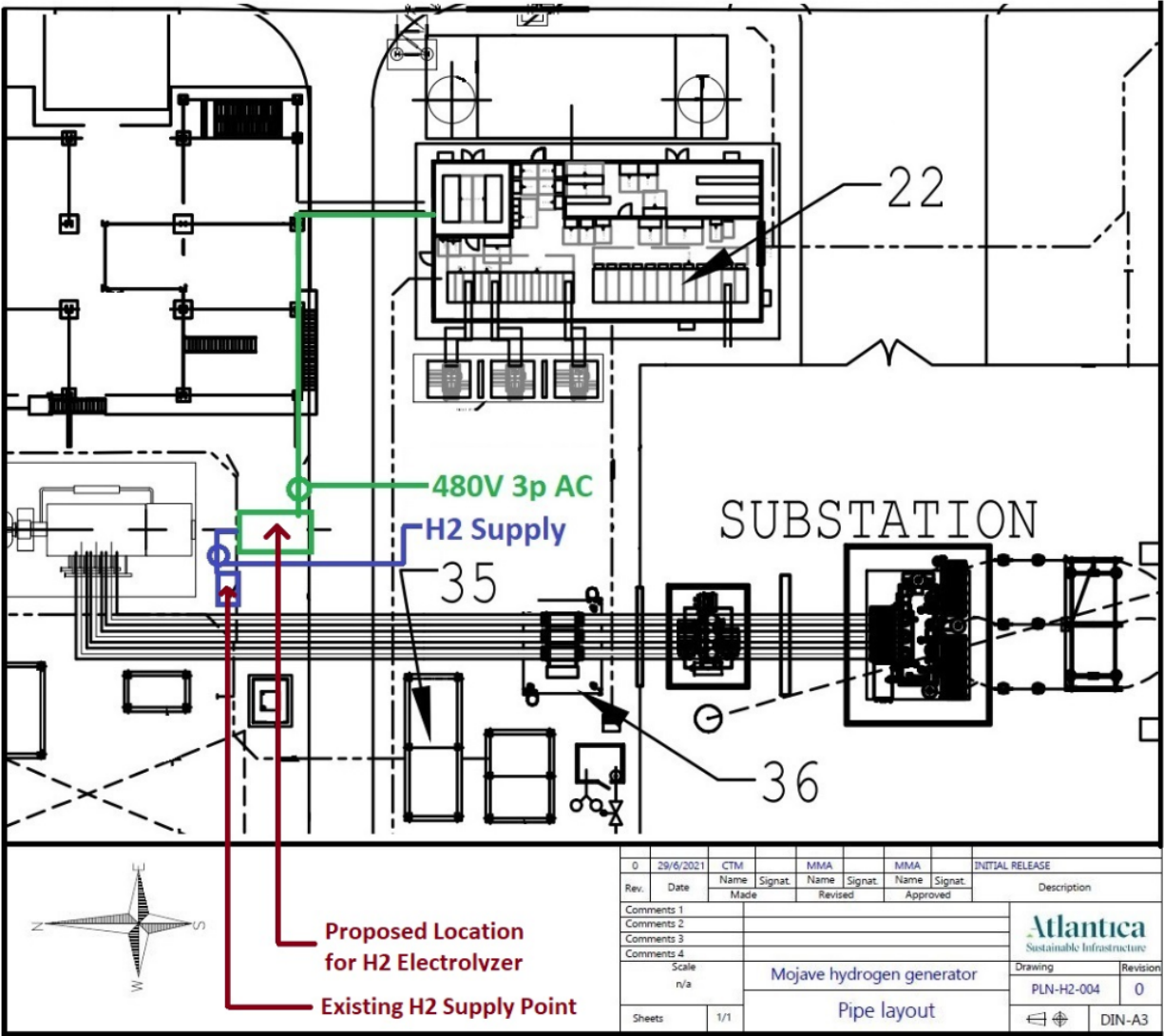
5 References

Abengoa Mojave Solar Project, Final Commission Decision, September 2010, CEC-800-2010-008-CMF, Docket Number 09-AFC-5

6 Appendix

A	Plot Plan Sketch of Device Location
B	Drawing for Device Enclosure
C	Hazardous Area Classification Drawing
D	P&ID Drawing for Tie-In
E	Detailed Wiring Diagram for Device

Appendix A
Plot Plan Sketch of Device Location



Abengoa Mojave Solar Project (09-AFC-5)
Petition to Amend- Hydrogen Generator Project

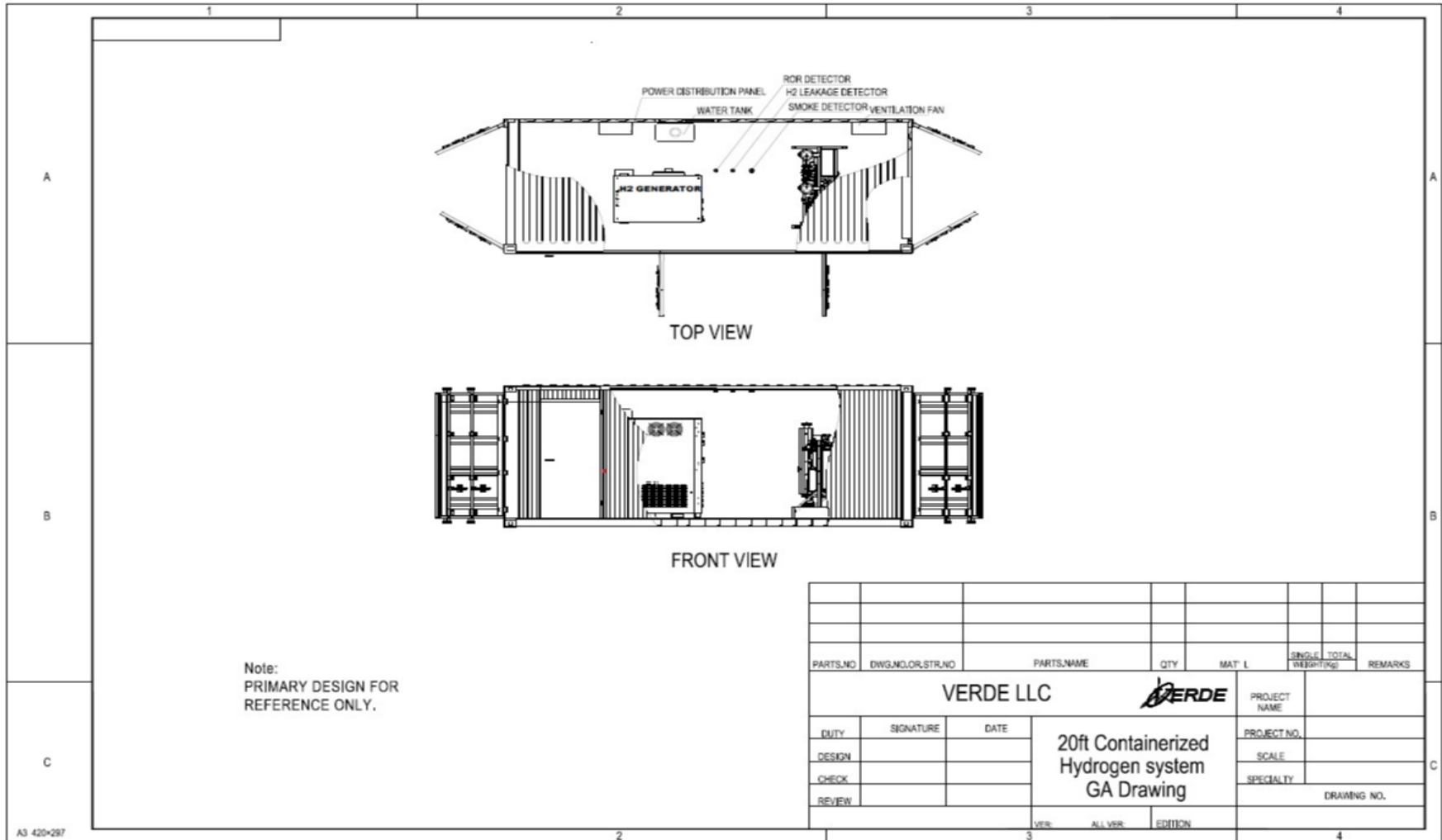


Appendix B

Drawing for Device Enclosure

Abengoa Mojave Solar Project (09-AFC-5)
Petition to Amend- Hydrogen Generator Project

Blueprint of 20 ft containerized hydrogen system GA drawing



Abengoa Mojave Solar Project (09-AFC-5)
Petition to Amend- Hydrogen Generator Project



Appendix C
Hazardous Area Classification Drawing

Abengoa Mojave Solar Project (09-AFC-5)
Petition to Amend- Hydrogen Generator Project



Appendix D
P&ID Drawing for Tie-In

Abengoa Mojave Solar Project (09-AFC-5)
Petition to Amend- Hydrogen Generator Project



Appendix E

Detailed Wiring Diagram for Device



NOTICE OF RECEIPT PETITION FOR POST CERTIFICATION CHANGE MOJAVE SOLAR PROJECT (09-AFC-05C)

On January 13, 2022, Mojave Solar, LLC (project owner) filed a petition for a post certification change (TN#241162) with the California Energy Commission (CEC) for the Mojave Solar Project.

The 250-megawatt (MW) solar thermal generation project was certified by the CEC in August 2006 and began commercial operation in December 2014. The facility is located between Barstow and Kramer Junction, approximately nine miles northwest of Hinkley, in San Bernardino County.

SUMMARY OF PROPOSED CHANGES

The project owner seeks approval to modify its source of hydrogen gas used for cooling its electric generators. The source of hydrogen would be changed from the currently used portable bottle racks, which require regular delivery and exchange, to an on-site hydrogen production system.

DESCRIPTION OF CHANGE

The proposed project includes the installation of the hydrogen production system, including an electrolyzer that uses electricity from the plant to decompose demineralized water into hydrogen and oxygen. The unit is proposed to be installed in the same location as the existing hydrogen storage bottle racks.

For additional information, the CEC's Mojave Solar Project webpage, <https://www.energy.ca.gov/powerplant/solar-thermal/mojave-solar-project-abengoa> has a link to the petition accessible through the webpage in the box labeled "Compliance Proceeding." Click on the "Docket Log" option.

REVIEW PROCESS

This petition is reviewed pursuant to California Code of Regulations, title 20, section 1769. The review process includes an evaluation of the effect the change could have on the environment; the project's compliance with applicable laws, ordinances, regulations, or standards; and whether a change to, or deletion of, any condition of certification adopted by the CEC in the final decision or subsequent amendments is required.

After staff has completed its independent review and analysis of this petition, the assessment will be published for public review and comment. Included in the staff analysis, staff will provide written notice of its intent to either process the proposed changes as a staff-approved project change or schedule it for consideration by the CEC at a regularly scheduled business meeting.

PUBLIC PARTICIPATION

This notice of receipt is being mailed to the CEC's facility mailing list of interested agencies, the public, property owners that requested placement on the mailing list and list serve, and to property owners within 1,000 feet of the facility site and 500 feet of the facility linear features (for example, pipeline). The list serve is an automated CEC 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 webpage to the box labeled "Subscribe," and provide the requested contact information.

Any person may comment on the petition or the staff analysis when publicly available. The CEC encourages the use of its electronic commenting system. To use the CEC's electronic commenting feature, go to the CEC's project webpage, cited above, click on the "Submit e-Comment" link, and follow the instructions in the online form. Be sure to include the facility name in your comments.

Written comments, attachments, and associated contact information (for example, address, phone number, email address) become part of the viewable public record. This information may also become available via any internet search engine.

Written comments may also be mailed to:

California Energy Commission
Docket Unit, MS-4
Docket No. 09-AFC-05C
715 P Street
Sacramento, CA 95814

If you have questions about this notice, please contact Keith Winstead, Office of Compliance Monitoring and Enforcement, Compliance Project Manager, at (916) 208-3849, or via email at Keith.Winstead@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 email to mediaoffice@energy.ca.gov.

Listserv: Mojave Solar Project

Mail List # 7362



**CALIFORNIA
ENERGY COMMISSION**



DATE: May 16, 2022

TO: Interested Parties

FROM: Keith Winstead, Compliance Project Manager

SUBJECT: MOJAVE SOLAR PROJECT (09-AFC-05C)

STAFF ANALYSIS OF POST CERTIFICATION PETITION AND STAFF RECOMMENDATION

MOJAVE SOLAR PROJECT (09-AFC-05C)

On January 13, 2022, the Mojave Solar LLC (project owner), filed a petition for a post certification change (TN#241162) with the California Energy Commission (CEC) for the Mojave Solar Project (MSP).

The 250-megawatt (MW) MSP solar thermal generation project was certified by the CEC on September 8, 2010, and began commercial operation in December 2014. The facility is located between Barstow and Kramer Junction, approximately nine miles northwest of Hinkley, in San Bernardino County.

DESCRIPTION OF PROPOSED CHANGE

The project owner seeks approval for a petition that would allow the project owner to install at MSP a hydrogen generation system, including an electrolyzer that uses electricity from MSP to decompose demineralized water into hydrogen and oxygen. The unit is proposed to be installed in the same location as the MSP's existing hydrogen storage bottles.

The petition is available on the [CEC's project webpage](https://www.energy.ca.gov/powerplant/solar-thermal/mojave-solar-project-abengoa) at <https://www.energy.ca.gov/powerplant/solar-thermal/mojave-solar-project-abengoa>, which 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 \(09-AFC-05C\)"](#) option. If approved, the CEC's Order approving this petition also will be available from the same webpage.

CEC STAFF REVIEW AND CONCLUSIONS

The 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) or (B).

The CEC 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.

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).

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 June 8, 2022, Business Meeting of the CEC.

The petition is available on the [CEC's project webpage](#) at <https://www.energy.ca.gov/powerplant/solar-thermal/mojave-solar-project-abengoa>, which 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 \(01-AFC-2C\)"](#) option. If approved, the CEC's Order approving this petition also will 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 linears and 1,000 feet of the project site. It has also been emailed to the Mojave Solar Project. 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 project 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. Comments also will be accepted during the scheduled business meeting. To use 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 to:

California Energy Commission
Docket Unit, MS-4
Docket No. 09-AFC-05C
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 statement, please contact Keith Winstead, Compliance Project Manager, Office of Compliance, Monitoring, and Enforcement at (916) 208-3849, or via email at Keith.Winstead@energy.ca.gov or Elizabeth.Huber@energy.ca.gov.

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

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

Listserve: Mojave Solar Project

STAFF ANALYSIS OF POST CERTIFICATION AND STAFF RECOMMENDATION MOJAVE SOLAR PROJECT (09-AFC-05C)

On January 13, 2022, the Mojave Solar LLC (project owner), filed a petition for a post certification change (TN#241162) with the California Energy Commission (CEC) for the Mojave Solar Project (MSP).

The 250-megawatt (MW) MSP solar thermal generation project was certified by the CEC on September 8, 2010, and began commercial operation in December 2014. The facility is located between Barstow and Kramer Junction, approximately nine miles northwest of Hinkley, in San Bernardino County.

DESCRIPTION OF PROPOSED CHANGE

The project owner seeks approval for a petition that would allow the project owner to install at MSP a hydrogen generation system, including an electrolyzer that uses electricity from the MSP to decompose demineralized water into hydrogen and oxygen. The unit is proposed to be installed in the same location as the MSP's existing hydrogen storage bottles.

The petition is available on the [CEC's project webpage](https://www.energy.ca.gov/powerplant/solar-thermal/mojave-solar-project-abengoa) at <https://www.energy.ca.gov/powerplant/solar-thermal/mojave-solar-project-abengoa>, which 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 \(09-AFC-05C\)](#)" option. If approved, the CEC's Order approving this petition also will 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 the commission, for consideration and a decision, a proposed change that could otherwise be approved by staff under section 1769(a)(3)(A) or (B).

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).

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. The bases for each of staff's conclusions are provided below the table.

Table 1
Summary of Conclusions for Each Technical Area

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				X	
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.

AIR QUALITY

The proposal includes the installation of the hydrogen production system, including an electrolyzer that uses electricity from the plant to decompose demineralized water into hydrogen and oxygen. The construction would not involve large equipment and would be of small size and short duration. Staff expects the air quality impacts of the proposed hydrogen project construction would be less than significant.

Since hydrogen is not a regulated pollutant, no direct increases of criteria air pollutant and greenhouse gas (GHG) emissions are expected from the operation of the proposed new hydrogen generation system. The proposed changes would have no impact on air quality or GHG emissions, and the proposed changes would continue to conform with the applicable LORS related to air quality and GHGs.

BIOLOGICAL RESOURCES

The construction of the proposed changes would be within the existing MSP property. Installation would take one month and would use the existing workforce at the plant. Installation activities would not occur near any biologically sensitive areas and would be entirely within the existing desert tortoise fencing. Therefore, the proposed changes would have no significant impacts on biological resources and would not result in changes to any biological resources condition of certification for the MSP. The MSP would remain in compliance with all applicable LORS related to biological resources.

CULTURAL RESOURCES

The construction of the proposed changes would be within the existing MSP property footprint in a previously disturbed and leveled area. If cultural resources are encountered during the construction and installation of the onsite hydrogen generators, implementation of Conditions of Certification **CUL-1** through **CUL-7** would mitigate any potentially significant impacts to less than significant. The proposed changes would not result in changes to any cultural resources condition of certification for the MSP, and the MSP would remain in compliance with all applicable LORS related to cultural resources. Conditions of

Certification **CUL-1** through **CUL-7**, applicable to this proposed 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.

EFFICIENCY

The installation of the hydrogen generation system would not affect the steam turbines' heat rate, and the MSP's thermal efficiency would remain unchanged.

FACILITY DESIGN

The on-site hydrogen generation system, which includes an electrolyzer that uses electricity, would be used for cooling the electric generators at the Alpha and Beta plants on the MSP site. The installation 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 Commission Decision in addition to construction compliance oversight by the CEC's delegate chief building official would ensure this compliance.

GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

The proposed change would not result in the disturbance of soil outside the MSP's footprint that has not been previously disturbed. Therefore, there is no possibility that previously undisturbed pre-Holocene soils would be disturbed, and, thus, there would be no impact to geological and paleontological resources.

HAZARDOUS MATERIALS MANAGEMENT

During the installation of the proposed new hydrogen generation system, continued compliance with existing Condition of Certification **WORKER SAFETY-1** ensures the MSP would not have a significant impact on the offsite public or the environment and would continue to comply with all applicable LORS.

LAND USE

The hydrogen generation systems would be installed on disturbed land within the MSP plant property boundary in the same locations as the existing hydrogen storage bottle racks. The use of hydrogen for generator cooling is an existing feature of the facility. The MSP would continue to meet all applicable conditions of certification and LORS. The proposed change 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. Therefore, no impact to land use would occur.

NOISE AND VIBRATION

The construction associated with this petition would be temporary and would occur during daytime hours, which are consistent with local requirements, San Bernardino County Noise

Ordinance, section 83.01.080 (g)(3). 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 Commission Decision.

The hydrogen generation unit would generate a noise level of only 70 dBA in its vicinity. At the nearest residences, located approximately 2,400 feet away, the MSP's overall operational noise level would not increase when this equipment is operating. The MSP would continue to meet operational noise requirements established in the Commission Decision. Therefore, the changes proposed in this petition would create a less-than-significant operational noise impact.

PUBLIC HEALTH

The proposal to implement hydrogen generation at MSP's Alpha and Beta plants includes the installation of the hydrogen production system, including an electrolyzer that uses electricity from the plant to decompose demineralized water into hydrogen and oxygen. The construction would not involve large equipment and would be of small size and short duration. Staff expects the public health impacts of the proposed hydrogen project construction would be less than significant.

The operation of the proposed hydrogen system would have no impact on public health as there would be no emissions. The MSP would continue to conform with the applicable LORS related to public health.

RELIABILITY

The addition of the hydrogen generation unit to the MSP would not impact the MSP's reliability.

SOCIOECONOMICS

The proposed installation of the hydrogen generation systems would take approximately one month to complete and require approximately two workers. The modification would not require any changes in the operations workforce. There are no socioeconomics related LORS or conditions of certification applicable to the change, and there would be less than significant workforce-related impacts on population, housing, and public services.

SOIL AND WATER

The proposed hydrogen generation components would be installed in a previously disturbed area that is already level and, hence, the modification would not include ground disturbance. The water tank would not be connected to the potable system, nor would it generate any wastewater. Therefore, the modification would not have a significant impact on soil and water resources.

TRAFFIC AND TRANSPORTATION

The installation of the hydrogen generation systems would require approximately two truck trips. The unit and its enclosure would arrive on separate trucks during installation. All other parts would be delivered by normal mail carriers, such as FedEx or UPS. The units would be installed in the same locations as the existing hydrogen storage bottle racks. The proposed change would eliminate five or more existing truck trip deliveries per year to the facility since hydrogen would now be produced on-site. The modification would not require any changes in the operations workforce. The proposed change would generate a negligible amount of temporary vehicle trips and would comply with all applicable LORS. There are no transportation conditions of certification in the Commission Decision applicable to the change. The proposed change would not conflict with LORS addressing the circulation system, substantially increase hazards, or result in inadequate emergency access. Therefore, the installation of the hydrogen generation systems would have a less than significant impact to transportation.

TRANSMISSION LINE SAFETY AND NUISANCE

The request to implement a hydrogen generation system at MSP's Alpha and Beta plants would have no impact as there would be no changes to the transmission system. The proposed changes would continue to conform with the applicable LORS.

TRANSMISSION SYSTEM ENGINEERING

The proposed installation of a hydrogen generation system does not include activities with the transmission lines and would not impact the transmission grid. Therefore, there would be no impacts to transmission system engineering. In addition, the proposed changes would comply with applicable LORS and would not require a change to any of the conditions of certification.

VISUAL RESOURCES

The proposed hydrogen generation systems would be installed on disturbed land within the MSP plant boundary in the same location as the existing hydrogen storage bottle racks. Each unit would be enclosed in an approximately 20-foot-long, 8.5-foot-tall, and 8-foot-wide storage container and the change would not be perceptible from the public views of the site. There are no visual resources conditions of certification in the Commission Decision applicable to the change. The MSP would remain in compliance with LORS pertaining to visual resources. The requested change would not have a substantial adverse effect on a scenic vista, scenic resources, or the existing visual character or quality of public views of the MSP site and its surroundings and would not create a new source of substantial light or glare adversely affecting day or nighttime views in the area. Therefore, the installation of the hydrogen generation systems would have no impact to visual resources.

WASTE MANAGEMENT

The proposed change would not result in the creation of any new solid waste streams, and the current quantities of solid waste generated at the facility would not fluctuate outside the requirements currently outlined in the existing conditions of certification.

WORKER SAFETY AND FIRE PROTECTION

During the installation of the proposed new hydrogen generation system, continued compliance with existing Condition of Certification **WORKER SAFETY-1** ensures the proposal would not have a significant impact on worker health and safety and would comply with all applicable LORS.

CalEnviroScreen

Staff reviewed CalEnviroScreen 4.0 data to determine whether the United States census tract where the MSP is located (6071011600) 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 CalEnviroScreen 4.0 overall percentile score for this census tract is 57 and, thus, is not identified as a disadvantaged community¹.

Environmental Justice

Environmental Justice Figure 1 shows 2020 census blocks in the six-mile radius of the MSP 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 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 Barstow Unified School District (in a six-mile radius of the MSP site) and enrolled in the free or reduced-price meal

¹ Source: CalEPA Proposed SB 535 Disadvantaged Communities: October 2021
<https://calepa.ca.gov/envjustice/ghginvest/>

program is larger than those in the reference geography. Thus, the population in the school district 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 MSP site.

Environmental Justice Table 1
Low Income Data within the MSP Area

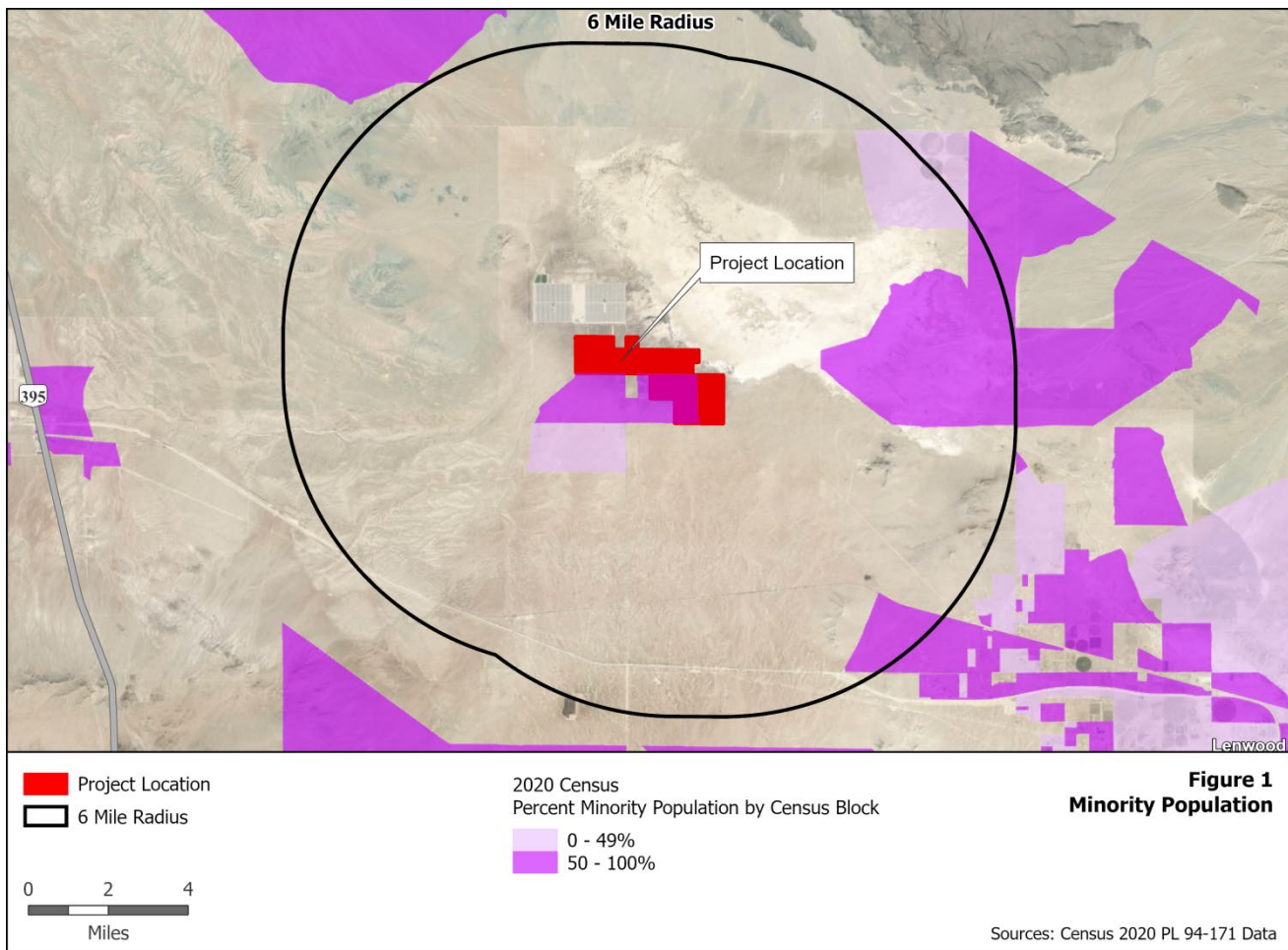
SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced-Price Meals	
Barstow Unified	6,129	4,813	78.5%
REFERENCE GEOGRAPHY			
San Bernardino County	399,356	283,253	70.9%
Source: CDE 2021. California Department of Education, DataQuest, Free or Reduced-Price Meals, District level data for the year 2020-2021, http://dq.cde.ca.gov/dataquest/ .			

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

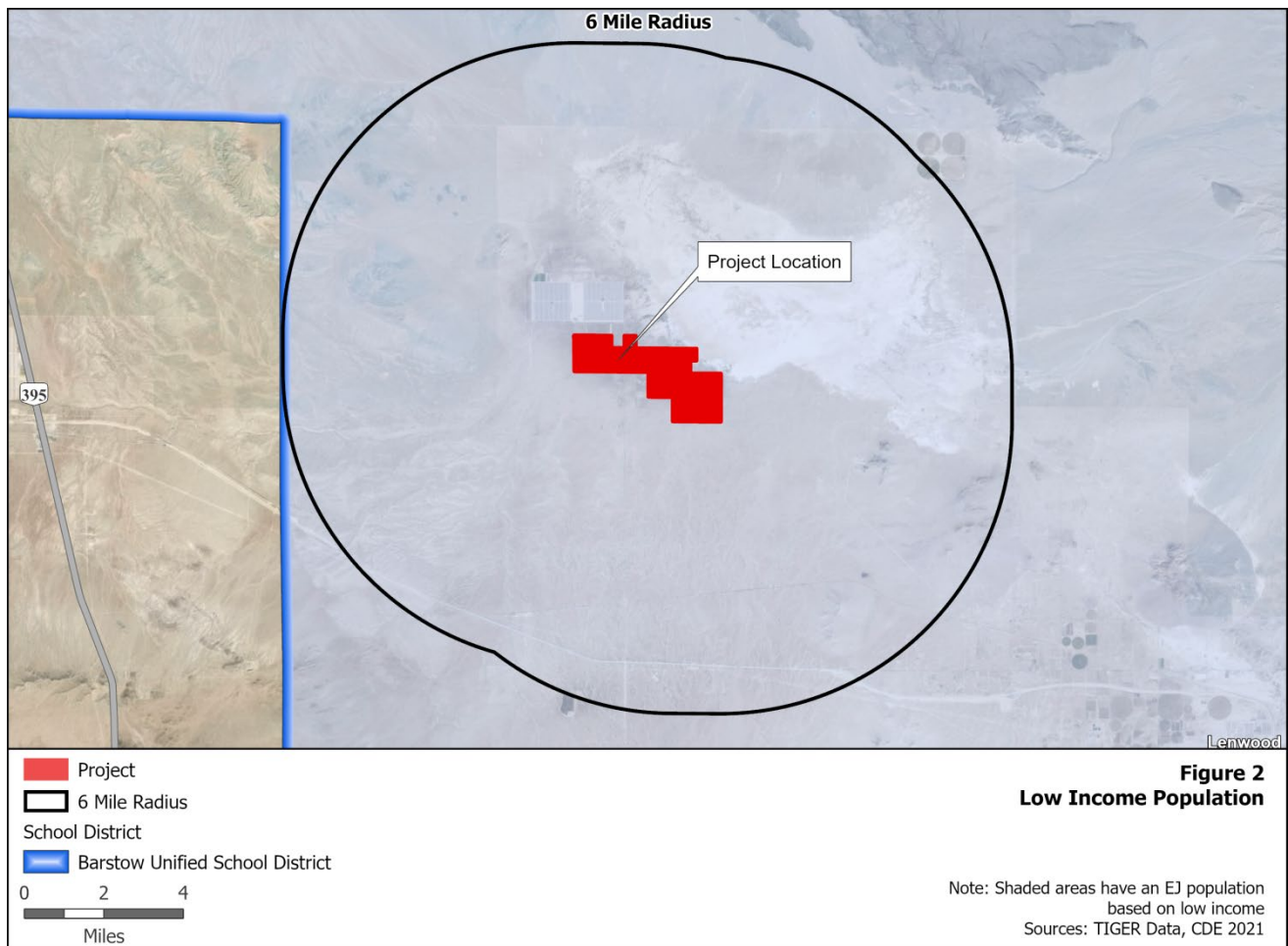
Environmental Justice Conclusions

For this petition, the following technical areas consider impacts to EJ populations: Air Quality, Cultural Resources (indigenous people), Hazardous Materials Management, Noise and Vibration, Public Health, Socioeconomics, and Worker Safety and Fire Protection. For these technical areas, 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**.

Environmental Justice Figure 1: Minority Population



Environmental Justice Figure 2: Low Income Population



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 impact 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 [C]ommission 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 has determined the findings required pursuant to California Code of Regulations, title 20, section 1748(b) do not apply to this petition.

The CEC staff 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.

Master References: Petition and to the original Commission Decision.

PTA

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=241162&DocumentContentId=75007>
Commission Decision

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=58496&DocumentContentId=55657>

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

IN THE MATTER OF:

Mojave Solar Project

DOCKET 09-AFC-05C

**ORDER APPROVING POST
CERTIFICATION PETITION TO AMEND**

I. INTRODUCTION

On January 13, 2022, the Mojave Solar LLC (project owner), filed a petition for a post certification change (TN#241162) with the California Energy Commission (CEC) for the Mojave Solar Project (MSP).

The 250-megawatt (MW) MSP solar thermal generation project was certified by the CEC on September 8, 2010, and began commercial operation in December 2014. The facility is located between Barstow and Kramer Junction, approximately nine miles northwest of Hinkley, in San Bernardino County.

The project owner seeks approval for a petition that would allow the project owner to install at MSP a hydrogen generation system, including an electrolyzer that uses electricity from MSP to decompose demineralized water into hydrogen and oxygen. The unit is proposed to be installed in the same location as the MSP's existing hydrogen storage bottles.

II. BACKGROUND

California Code of Regulations, title 20, section 1769 requires a project owner to petition the CEC for the approval of any change it proposes to the project design, operation, or performance requirements of a certified facility. California Code of Regulations, title 20, section 1769(a)(3)(D) allows staff to submit a petition that could be approved by staff such as this one, to the commission for consideration and a decision.

California Code of Regulations, title 14, section 15162(a) specifies that, when an environmental impact report (EIR) has been certified or a negative declaration adopted for a project, a subsequent EIR does not need to be prepared unless the agency determines one or more of the following: (1) substantial changes are proposed that will require major revisions of the EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; (2) substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions to the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of the

previously identified significant effects; or (3) new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted shows specified significant effects or mitigation measures.

III. STAFF RECOMMENDATION

On May 16, 2022, staff filed their review of the petition and concluded that approving the petition to amend 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; (2) not cause the project to fail to comply with any applicable laws, ordinances, regulations, and standards; 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).

IV. FINDINGS

Pursuant to California Code of Regulations, title 20, section 1769(a)(4), the CEC concurs with staff's recommendation and finds that the petition to amend will: (1) not have a significant effect on the environment ; (2) not cause the project to fail to comply with any applicable laws, ordinances, regulations, and standards; 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. The CEC also concurs with staff's recommendation that 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, the CEC concurs with staff and finds that 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 hereby adopts staff's recommendation and grants the petition allowing for the installation of a hydrogen generation system, including an electrolyzer that uses electricity from MSP to decompose demineralized water into hydrogen and oxygen.

IT IS SO ORDERED.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the CEC held on June 8, 2022.

AYE:

NAY:

ABSENT:

ABSTAIN:

Secretariat