California Energy Commission
January 21, 2025 Business Meeting
Backup Materials for PSGM3, LLC

The following backup materials for the above-referenced agenda item are available in this PDF packet as listed below:

1. Proposed Resolution
2. Grant Request Form
3. Links to Supporting Environmental Documents
4. EIR Addendum
5. Statement of Overriding Considerations
6. Scope of Work

[PROPOSED]

RESOLUTION NO: [25-0121-08]

STATE OF CALIFORNIA

STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Electrified Steel Mill Long Duration Energy Storage Demonstration

WHEREAS, the State Energy Resources Conservation and Development Commission (Energy Commission) is considering proposed agreement LDS-24-002 with PSGM3, LLC (PSG) for a $14,000,000 grant, with $4,800,000 available now, to fund the deployment of a 32 MWh non-lithium-ion long-duration energy storage system (LDES Addition) serving PSG's planned zero process emission steel mill near Mojave (Micro Mill Project). The LDES Addition will be connected to a microgrid and solar photovoltaic system. It will optimize the use of on-site solar energy, support critical operations during outages, and contribute to the overall energy management strategy of the facility;

WHEREAS, Kern County (County) is the California Environmental Quality Act (CEQA) Lead Agency for PSG's Micro Mill Project and the Energy Commission is a Responsible Agency considering the proposed agreement;

WHEREAS, the County certified the Final Environmental Impact Report for the Mojave Micro Mill Project (EIR) on March 19, 2024, concurrent with approval of the project, including approval of General Plan Amendment No. 3, Map No. 213; Zone Change Case No. 62, Map No.213; Conditional Use Permit Nos. 71 and 72, Map No. 213; Precise Development Plan No. 3, Map 213; Zone Variance Nos. 24 and 25, Map No. 213, and Resolutions associated therewith, copies of which are on file with the Energy Commission;

WHEREAS, along with the EIR, the County adopted mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP), Findings of Fact pursuant to CEQA Guidelines Section 15091, and a Statement of Overriding Considerations pursuant to Section 15093, and filed a Notice of Determination (NOD) for the project approval with the State Clearinghouse (SCH# 2022100646) and the County Clerk's office on March 21, 2024 (collectively, the County CEQA Documents), copies of which are on file with the Energy Commission;

WHEREAS, the County approved Minor Modification No.1 to Precise Development Plan No. 3, Map No. 213 on December 9, 2024 (as amended, PD Plan) to include, among other things, the construction of the LDES Addition, a copy of which is on file with the Energy Commission;

WHEREAS, the Energy Commission has prepared that certain Addendum to the Mojave Micro Mill Project Final Environmental Impact Report for the Addition of a

[PROPOSED]

Long-Duration Battery Storage System (EIR Addendum) focused on the LDES Addition, in accordance with Section 15164 that requires a lead agency or responsible agency to prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 have occurred, a copy of which EIR Addendum is on file with the Energy Commission;

WHEREAS, the Energy Commission has prepared that certain Statement of Overriding Considerations for Electrified Steel Mill Long Duration Energy Storage Demonstration in accordance with Section 15093 for unavoidable significant effects on the environment, including aesthetics, air quality, biological resources, noise and wildfire;

WHEREAS, the Energy Commission has reviewed and considered the County CEQA Documents, the PD Plan, Resolutions approving the Micro Mill Project, and other County documents approving the Micro Mill Project, the findings contained therein, and the EIR Addendum and the Energy Commission's findings that are contained therein; and

WHEREAS, prior to acting on the agreement LDS-24-002, the Energy Commission desires to make certain findings pursuant to the CEQA Guidelines Section 15096.

NOW, THEREFORE, BE IT RESOLVED, that the Energy Commission approves and adopts the EIR Addendum and the Statement of Overriding Considerations, and its findings contained therein;

FURTHER RESOLVED, that the Energy Commission finds that the information presented in the EIR Addendum demonstrates the mitigation requirements identified in the EIR remain substantively unchanged by the modification of the Micro Mill Project to include the LDES Addition, that changes and alterations have been required in the project through the MMRP which avoid or substantially lessen the significant environmental effects as identified in the EIR to the extent feasible and that work under the project presents no new or substantially more severe environmental impacts beyond those already considered and mitigated;

FURTHER RESOLVED, that the Energy Commission has not identified any feasible alternative or additional feasible mitigation measures within its power that would substantially lessen or avoid any significant effect the project would have on the environment;

FURTHER RESOLVED, that the Energy Commission adopts the County's MMRP to the extent relevant to the LDES Addition;

FURTHER RESOLVED, that none of the circumstances within CEQA Guidelines Section 15162 are present and there have been no substantial project changes and no substantial changes in the project circumstances that would require major revisions to the EIR, either due to the involvement of new significant environmental effects or to an

increase in the severity of previously identified significant impacts, and there is no new information of substantial importance that would change the conclusion set forth in the EIR;

FURTHER RESOLVED, that the Energy Commission has reviewed and considered the County CEQA Documents, the County's documents approving the Micro Mill Project, and the EIR Addendum and finds that these documents are adequate for its use as the decision-making body for its consideration of LDS-24-002;

FURTHER RESOLVED, that the Energy Commission approves LDS-24-002; and

FURTHER RESOLVED, that this document authorizes the Executive Director or his or her designee to execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the California Energy Commission held on January 21, 2025.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

_____
Kristine Banaag
Secretariat

STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

CEC-270 (Revised 01/2024)

GRANT REQUEST FORM (GRF)

A. New Agreement Number

IMPORTANT: New Agreement # to be completed by Contracts, Grants, and Loans Office.

New Agreement Number: LDS-24-002

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Caitlin Planchard
3. MS-:None
4. Phone Number: 916-637-8128

C. Recipient's Information

1. Recipient's Legal Name: PSGM3, LLC
2. Federal ID Number: 85-3910550

D. Title of Project

Title of project: Electrified Steel Mill Long Duration Energy Storage Demonstration

E. Term and Amount

1. Start Date: 2/3/2025
2. End Date: 3/31/2029
3. Amount: $14,000,000.00

F. Business Meeting Information

1. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 01/21/2025
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Caitlin Planchard
5. Time Needed for Business Meeting: 5 minutes.
6. The email subscription topic is: Long Duration Energy Storage (LDES)

Agenda Item Subject and Description:

PSGM3, LLC.
Proposed resolution adopting CEQA findings for PSGM3, LLC's (PSG) Electrified Steel Mill Long Duration Energy Storage Demonstration, and approving agreement LDS-24-002 with PSG. (LDES funding) Contact: Caitlin Planchard (Staff Presentation: 5 minutes)

a. CEQA. Findings that, based on the lead agency Kern County's certified Environmental Impact Report (EIR) on March 19, 2024, adopted Mitigation, Monitoring and Reporting Program, adopted Statement of Overriding Consideration, Resolution No. 8-24, approved modification to Precise Development Plan No. 3, Map 213, and an addendum prepared by the CEC, work under the project presents no new or substantially more severe environmental impacts beyond those already considered and mitigated, and adopting a statement of overriding considerations.

b. PSG's Electrified Steel Mill Long Duration Energy Storage Demonstration. Proposed approval of agreement LDS-24-002 with PSGM3, LLC (PSG) for a grant of up to $14,000,000, with $4,800,000 available now, to fund the deployment of a 32MWh non-lithium-ion long-duration energy storage (LDES) system serving PSG's planned $630,000,000 first-of-its-kind zero process emission steel

mill near Mojave. The LDES system will be connected to a microgrid and solar photovoltaic system. It will optimize the use of on-site solar energy, support critical operations during outages, and contribute to the overall energy management strategy of the facility.

G. California Environmental Quality Act (CEQA) Compliance

1. **Is Agreement considered a "Project" under CEQA?**
   Yes

   If yes, skip to question 2.

2. **If Agreement is considered a "Project" under CEQA answer the following questions.**
   a) Agreement **IS** exempt?

   No

   Statutory Exemption?
   No

   If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

   PRC section number: None

   CCR section number: None

   Categorical Exemption?
   No

   If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

   CCR section number:

   Common Sense Exemption? 14 CCR 15061 (b) (3)
   No

   If yes, explain reason why Agreement is exempt under the above section. If no, enter "Not applicable" and go to the next section.

   b) Agreement **IS NOT** exempt.
   IMPORTANT: consult with the legal office to determine next steps.

   Yes

   If yes, answer yes or no to all that applies. If no, list all as "no" and "None" as "yes".

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	Yes
Statement of Overriding Considerations	Yes
None	No

H. Is this project considered "Infrastructure"?

No

I. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter "No subcontractors to report" and "0" to funds. **Delete** any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
Eos Energy Storage LLC	$ 60,384	**$** 0
Hatch Associates Consultants, Inc. (Match only)	$ 0	**$** 4,350,599
R.E. WARNER & ASSOCIATES INC.(Match only)	$ 0	**$** 250,000

J. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter "No vendors or sellers to report" and "0" to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Eos Energy Storage LLC	$ 11,987,520	$ 0
TBD (Inverters)	$ 1,490,096	$ 0
TBD (Transformer)	$ 319,000	$ 0
TBD (Circuit Breaker)	$ 55,000	$ 0
TBD (Misc. Equipment)	$ 88,000	$ 0

K. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

Key Partner Legal Company Name
No key partners to report

L. Budget Information

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
GGRF	23-24	303.201	$ 4,800,000
GGRF	25-26	000	$ 9,200,000

TOTAL Amount: $ 14,000,000

R&D Program Area: Admin: ETSI

Explanation for “Other” selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

M. Recipient’s Contact Information

1. Recipient’s Administrator/Officer

Name: Andrae MacArthur

Address: 4805 Murphy Canyon Rd

City, State, Zip: San Diego, CA 92123-4324

Phone: 858-251-1189

E-Mail: a.good@pacificsteelgroup.com

3. Recipient’s Project Manager

Name: Sam Harper

Address: 9002 Six Pines Dr

City, State, Zip: Shenandoah, TX 77380-4271

Phone: 214-463-9423

E-Mail: Sam@harper.energy

N. Selection Process Used

There are three types of selection process. List the one used for this GRF.

Selection Process	Additional Information
Competitive Solicitation #	Not applicable
First Come First Served Solicitation #	Not applicable

Other	This noncompetitive award is authorized under Public Resources Code Sec. 25643(d)(3) because the cost to the state is reasonable and because (1) the expertise, service, and product are unique, and (2) it is in the best interest of the state to do so. Recipient will demonstrate electrification in industrial applications through a first of its kind zero process emissions steel mill supported by LDES technologies. CEC has a unique opportunity to contribute and add value to the steel mill's energy infrastructure with LDES technologies. The project will be a major contribution to California's economy and electrification and clean energy goals.

O. Attached Items

1. List all items that should be attached to this GRF by entering "Yes" or "No".

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	Yes

Approved By

Individuals who approve this form must enter their full name and approval date in the MS Word version.

Agreement Manager:

Approval Date:

Branch Manager:

Approval Date:

Director:

Approval Date:

Links to Supporting Environmental Documents

1. Kern County's Final Environmental Impact Report for the Mojave Micro Mill Project (EIR) (SCH# 2022100646): https://kernplanning.com/environmental-doc/mojave-micro-mill-project/
2. Kern County's Mojave Micro Mill Project approvals including Resolutions, CEQA findings, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program: https://psbweb.kerncounty.com/UtilityPages/Planning/StaffReports/BOSHearings/StaffReport/2024/031924_Mojave_Micro_Mill_Project_PSGM3_Holdings_Corp_by_Pacific_Seel_Group.pdf
3. Kern County's Notice of Determination for the Mojave Micro Mill Project: https://ceqanet.opr.ca.gov/2022100646/4/Attachment/EgjtnI
4. Minor Modification 1 to Precise Development Plan No. 3, Map. 213: 2024-12-09 PD 3 Map 213 - Modification 1.pdf

ADDENDUM

to the

Mojave Micro Mill Project
Final Environmental Impact Report
SCH # 2022100646

for the

Addition of a Long-Duration Battery Storage System

Prepared for

California Energy Commission

Submitted by

Aspen environmental group

January 2024

Table of Contents

LIST OF FIGURES

1. Introduction

The Final Environmental Impact Report (EIR) for the Mojave Micro Mill Project (Micro Mill Project) proposed by PSGM3 LLC (Pacific Steel Group, or PSG) was certified by the Kern County Board of Supervisors on March 19, 2024, concurrent with approval of the project. A Notice of Determination for the project approval was filed with the State Clearinghouse (SCH# 2022100646) and the Kern County Clerk's office on March 21, 2024.

The micro mill facility and associated infrastructure evaluated in the EIR will produce rebar from recycled scrap metal (e.g., shredded automobiles, appliances, structural and sheet metal, and other pre-processed steel bundles). The project will include an approximate 489,200 square-foot steel mill facility with an additional 61,721 square feet of accessory buildings and structures, for a total of 550,921 square feet. The project will include an approximate 63-acre accessory solar array on 174 total acres at the project site. Outdoor storage for scrap materials and staging is also included as part of the project. In total, the mill would be made up of 13 attached and detached buildings and 7 ancillary structures.

After certification of the EIR and approval of the project by Kern County, PSG submitted Minor Modification No. 1 to the Precise Development Plan No. 3, Map 213. This modification was made to include two separate battery energy storage system (BESS) facilities within the solar field as part of the project. These storage systems include an approximate 4 megawatt (MW), 32-megawatt hours (MWh) of non-lithium battery installation located on 28,000 square feet (sq. ft) and a separate 94 MWh lithium-ion battery installation located on 20,000 sq. ft. area 300 feet south of the non-lithium battery installation. On December 9, 2024, Kern County approved the Minor Modification No. 1 and determined that this modification continues to comply with the approved Micro Mill Project and additional evaluation by Kern County was not required.

The CEC, as responsible agency, is considering a discretionary action to award PSG grant funding for the 4 MW, 32 MWh non-lithium battery storage system (LDES facility) as part of the CEC's Long Duration Energy Storage (LDES) program (Public Resources Code section 25641). Development of the Micro Mill Project, including installation of either BESS facilities, is not subject to regulatory approval by the California Energy Commission (Commission, or CEC). The project's LDES facility would consist of non-lithium batteries and associated infrastructure installed where PSG now plans a non-lithium BESS, as described in Minor Modification No. 1. Awarding grant funding in support of the LDES facility is a discretionary action on the part of the Commission and subject to CEQA. As part of the CEC's LDES program, the CEC is prohibited from funding lithium battery energy storage systems (PRC section 25642(b)(2)(B)) and the CEC has no role in reviewing or approving the lithium BESS.

As a responsible agency, the CEC has the responsibility for mitigating and avoiding only the direct and indirect environmental effects of those parts of the project which it decides to finance. To comply with the requirements of CEQA for the funding, the Commission, as a responsible agency, has prepared this addendum to the previously certified EIR for

the Mojave Micro Mill Project (SCH #2022100646) focused on the LDES facility it is considering funding. The addendum has been prepared in accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15164 that require a lead agency or responsible agency to prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in CEQA Guidelines Section 15162 have occurred. In accordance with CEQA Guidelines Section 15162, changes to the approved project addressed in this addendum would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects, as described herein. Since the initial project approval, the engineering design for the project has proceeded, establishing a more refined concept for the physical and procedural aspects of certain components of the approved project than was available at the time of the preparation and consideration of the Certified EIR.

In deciding whether a subsequent or supplemental EIR is necessary, or if an addendum is appropriate, the standard of review is whether the record as a whole contains substantial evidence to support a determination that the changes in the project or its circumstances are substantial enough to make major modifications to the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects (see CEQA Guidelines § 15162). If the project would not cause new or more severe impacts, the lead agency or responsible agency may prepare an addendum (see CEQA Guidelines § 15164).

The County-approved Micro Mill Project, including the two BESS facilities, can proceed without Commission approval. For purposes of evaluating the LDES (non-lithium BESS) element of the project, the lithium-ion BESS facility is only considered as part of the cumulative project scenario, because it does not require Commission approval and the Commission is not considering funding the lithium-ion BESS facility.

The Commission has determined that the implementation of the project revisions under Minor Modification No. 1 (i.e., the addition of the LDES facility) requires clarifications to the EIR that warrant preparation of an addendum to the original EIR. The information presented in this addendum demonstrates that the impacts and mitigation requirements identified in the March 2024 EIR remain substantively unchanged by the modification of the project to include a non-lithium BESS to provide LDES capabilities. This addendum supports the finding that the zinc hybrid BESS addition (herein called the LDES Addition) does not raise any new issues and any associated impacts do not exceed the level of impacts identified in the 2024 EIR.

The following sections provide additional detail regarding the modifications and findings.

2. Background

The Certified EIR found the Micro Mill Project to have **less than significant** impacts (both project and cumulative) to agricultural and forestry, greenhouse gas emissions, mineral resources, and recreation. The EIR found that the project would have **less than significant but mitigable environmental impacts** to biological resources (project only), cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services, transportation and traffic, tribal cultural resources, utilities and service systems, and wildfire (project only). The EIR also found that some project and cumulative impacts to aesthetics, air quality, and noise would remain **significant and unavoidable even with mitigation**, as would the cumulative impacts to biological resources and wildfire.

As noted in the EIR, California Senate Bill (SB) 350 requires California utilities to ensure that 50 percent of energy supplied to their customers is generated from renewable sources by December 31, 2030. In support of this law and other California requirements for use of renewable energy, the project developers planned to develop approximately 63 acres of solar arrays at its proposed state-of-the-art zero process carbon emissions steel recycling reinforcing bar mill. However, to provide renewable power during periods when sunlight is unavailable, the project is proposing under Minor Modification No.1 to install two utility-scale BESS facilities. The two systems would be separated by approximately 300 feet of graveled area and would be installed within the former solar field on the project property. The proposed BESS facilities would contain two types of batteries: a zinc hybrid-based BESS that would provide long-duration energy storage, and a lithium-ion-based BESS facility. The zinc hybrid LDES addition is the subject of a possible CEC grant and is addressed in this addendum. The addendum considers the lithium-ion-based BESS as part of the cumulative impact scenario.

Together the two BESS storage systems would require about 4.26 acres of the previously planned 63 acres of solar arrays, leaving 58.74 acres of solar arrays. The non-lithium LDES Addition would be implemented in two phases. When fully installed it would provide 4 megawatts (MW) of power with a storage capacity of 32 MWh. When fully charged, the system can discharge power continuously for 8 hours. The separate lithium-ion BESS would be constructed in a single phase and would provide 94 MWh of electricity. The lithium-ion BESS is part of the County-approved project and is not subject to a CEC discretionary action.

The BESS additions to the Micro Mill Project would be subject to all General Practices listed for environmental protection in the EIR (refer to EIR Section 1.2.1), as well as subject to the adopted Mitigation Monitoring and Reporting Program, approved as part of the Final EIR. All permits and authorizations required for the Mojave Micro Mill Project activities on federal, state, and unincorporated lands would also apply to the BESS modifications.

As stated in CEQA Guidelines Section 15150(a), an EIR may incorporate by reference all, or portions of, another document that has been made part of the public record. This

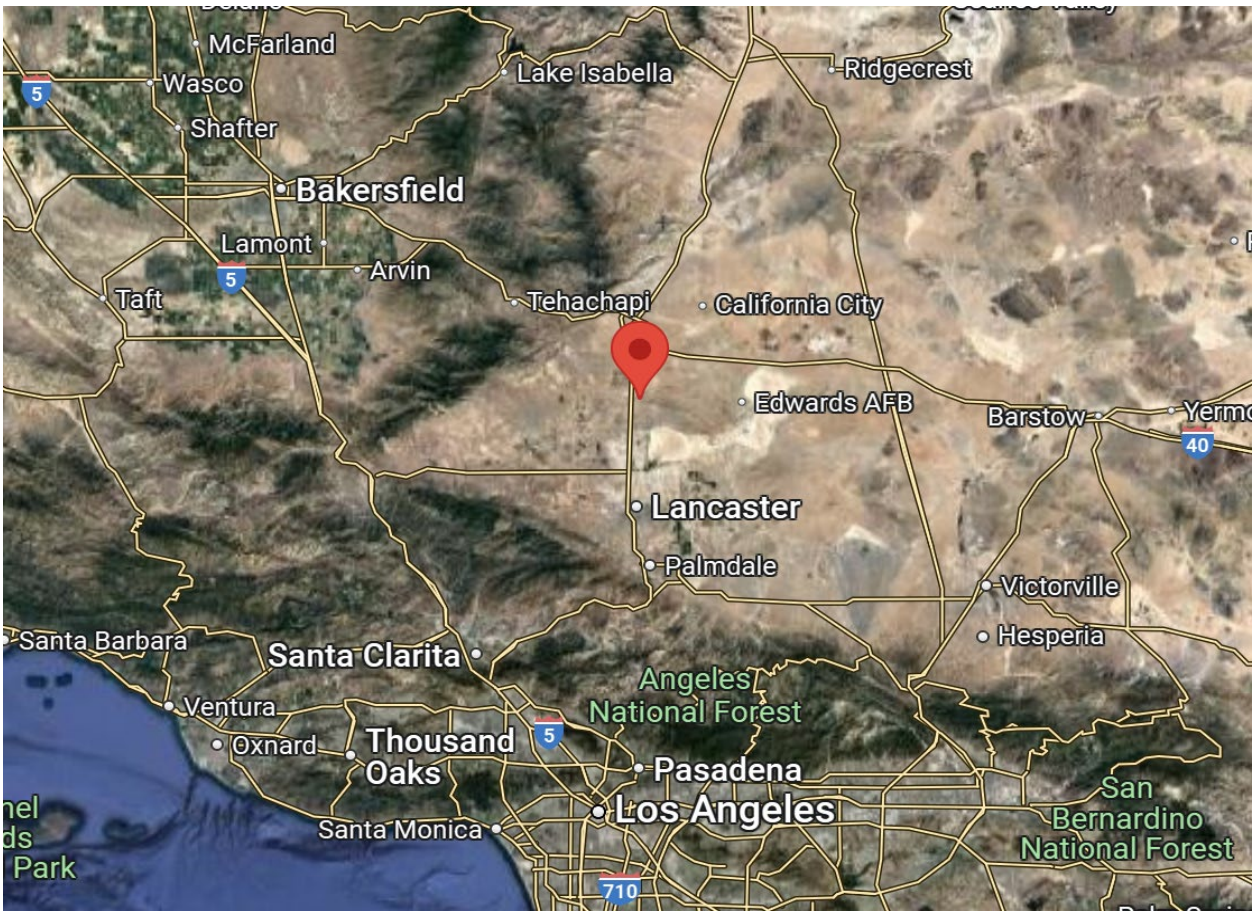
approach is suitable for public agencies to reduce delay and paperwork (CEQA Guidelines Section 15006(t)). All documents pertaining to the approval and adoption of the Mojave Micro Mill Project are hereby incorporated by reference and made a part hereof.

3. Description of Proposed LDES System

Pacific Steel Group (PSG) proposes to install both a utility-scale LDES Addition and a utility-scale lithium-ion battery system at its planned state-of-the-art zero process carbon emissions steel recycling reinforcing bar mill (Micro Mill) near Mojave, California. (**See Figure 3-1, Regional Location Map**). The LDES Addition would be implemented in two phases, in total it would provide 4 MWs of power with a storage capacity of 32 MWh. When fully charged, the system could discharge power continuously for 8 hours. It would be connected to the grid through PSG's 66-kV substation on the property.

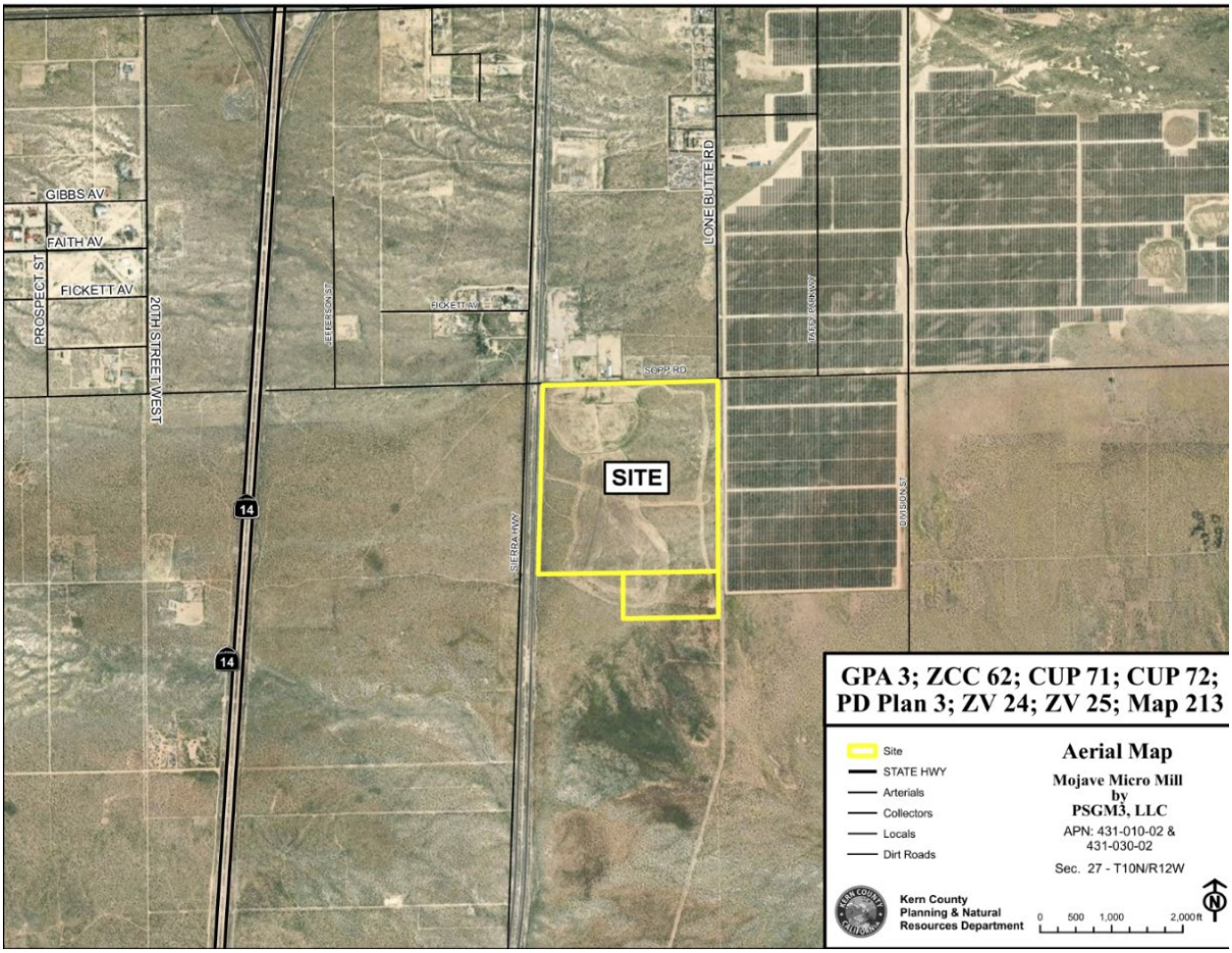
The Micro Mill Project site is located in unincorporated southeastern Kern County, California, in the Mojave Desert. The site is located approximately 57 miles southeast of the City of Bakersfield, 4 miles north of the community of Rosamond, and 8 miles south of Mojave. The Mill project would be developed on two parcels (Assessor's Parcel Number [APN] 431-010-02 and 431-030-02) totaling approximately 174 acres located at 506 Sopp Road, Mojave, California, adjacent to the east side of Sierra Highway. Within the site, 63 acres are to be used for onsite renewable energy generation and energy storage. (**See Figure 3-2, Project Site**). Sierra Highway provides access to the project site, including the LDES facility location.

Figure 3-1. Regional Location Map



Source: PSG

Figure 3-2. Project Site



Source: PSG

The LDES Addition consists of zinc hybrid battery technology with the ability to store and discharge energy efficiently over long durations. The operating temperature range is between -20°C to 50°C (-4°F to 122°F). The electrolyte in the batteries is below pH 2, making it mildly acidic. Multiple batteries will be contained in units similar to a standard shipping container. During the operation, the battery system will generate heat. The heat will be expelled from containment units using fans. Like most aqueous batteries, zinc hybrid batteries create a small amount of hydrogen while charging. Fans attached to the container force fresh air into the unit. The air is vented through side airways that exhaust the heat to the outside, where the non-toxic hydrogen gas promptly disperses. Monitors in the battery containers include spill sensors, hydrogen sensors, and fire sensors.

The potential LDES zinc hybrid battery technologies to be used have passed UL 1973, UL 9540, and UL 9540A certifications, and are currently in the process of passing additional certifications related to safety and performance standards. In addition, they will be operated in conformance with 2022 California Fire Code, Title 24, Part 9, and the National Fire Protection Association (NFPA) Standard 855 for energy storage systems. As such, there is no increase in fire risk as a result of the operation of the zinc hybrid battery technology.

The proposed lithium-ion BESS is considered in this addendum only as a potential cumulative impact.

PSG will evaluate competitive commercial offerings from several zinc hybrid-based LDES supplier technologies for final implementation including:

- Eos (Energy Cube), Edison, New Jersey, USA
- Primus Power Solutions (Energy Pod 2), Hayward, California, USA
- Lockheed Martin Corp (Gridstar), Bethesda, Maryland, USA

The selected LDES technology (Eos Z3, or similar), is built from individual cells housed within a battery module that contains about 20 cells. Each cell within a battery module contains two electrodes, which facilitate the electrochemical reactions needed for storing and discharging electricity. These cells are filled with a saltwater-based, non-flammable acidic electrolyte, ensuring both safety and efficiency in operation. An individual battery module measures approximately 7.3 inches high, 12.4 inches deep, and 14.7 inches wide. Approximately 672 modules are housed together in a modified shipping container. Each container covers a maximum area of 340 square feet and has an energy capacity of approximately 600 kWh. Each modified shipping container is equal to or less in size than a standard shipping container with maximum dimensions of 8.5 feet high, 8.5 feet wide, and 40 feet long.

The LDES BESS system will include power conversion capability designed to allow enabling dynamic charge rates and quicker discharge to meet the operational needs of the steel production facility. This flexibility allows the system to meet varying operational demands and optimize performance according to the specific needs of the Micro Mill and to fully use on-site generated solar energy. The system is sized to capture the highest anticipated daily surplus solar energy in excess of the steel mill's real time electricity requirements. However, the solar and BESS facilities will be connected to the Southern California Edison (SCE) electrical grid to provide operational flexibility.

The ratio of discharged to charged energy over the course of one full cycle (i.e., round-trip efficiency) is approximately 80 percent. This round-trip efficiency considers losses from power conversion and auxiliary loads at full power at standard environmental operating conditions (-20°C to 50°C; -4°F to 122°F). The battery chemistry is extremely stable. The stability of the battery reaction means that the possibility of thermal runaway is very low. The primary loss of energy is due to power conversion losses.

The LDES technology is designed to operate quietly, creating noise levels of approximately 75 decibels (dBA) measured at one meter from the fan. This is achieved through an exterior venting design that ensures sufficient airflow to dissipate waste heat using ventilation fans and side airways. (Murdock, 2023).

The LDES Addition would be located within the western solar fields in the Mill project site and would cover an approximate 28,000 square-foot rectangle. The LDES units comprising the non-lithium BESS would be located north of the 20,000 square-foot area used for the lithium-ion BESS. Both BESS areas would be approximately 300 feet west of the

PSG plant substation, more than 300 feet east of Sierra Highway, and about 300 feet away from each other. They would require minor trenching to connect the battery containers to the substation. (**see Figure 3-3, Site Plan and Figure 3-4, Detailed View of Proposed Battery System Location**).

The LDES Addition site would be surfaced with gravel. Each container would be installed on concrete foundations (footings). Up to 58 of these 46,000-pound (wet weight) modified shipping containers would be installed. Each LDES shipping container would be mounted on concrete footings about 12-inches aboveground and 24 inches subsurface, with a minimum of four footings per container. The containers themselves would be spaced for ventilation and maintenance access.

Figure 3-3. Site Plan

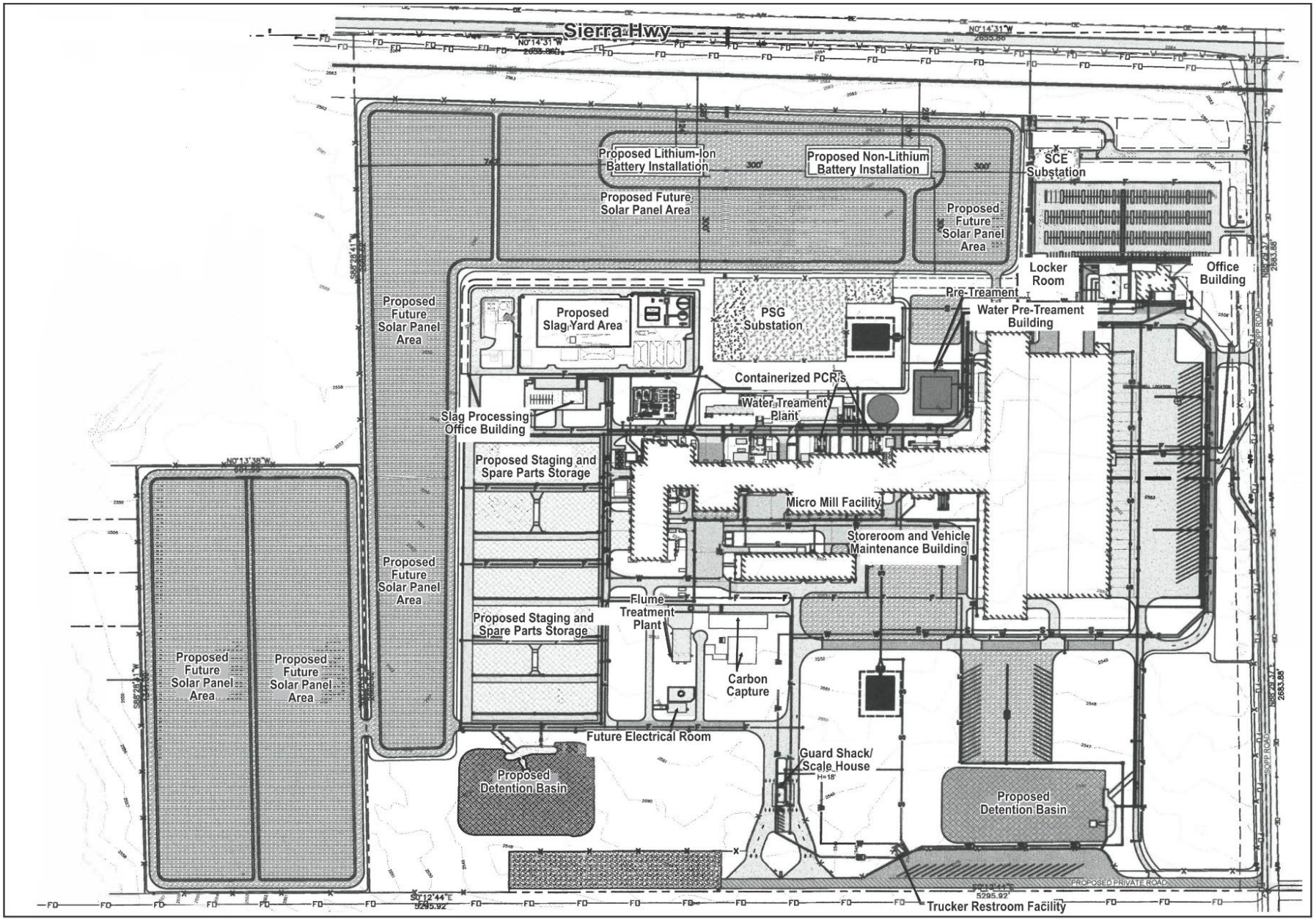
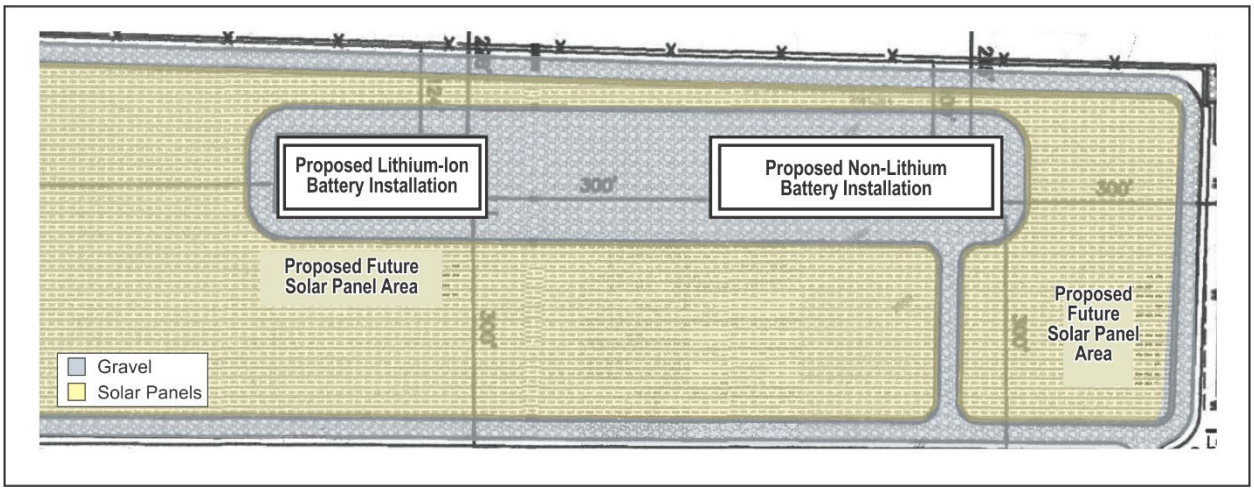


Figure 3-4. Detailed View of Proposed Battery System Locations



The zinc hybrid-based LDES Addition would be implemented in two phases. Phase 1 involves deploying 16 zinc hybrid-based batteries to support the steel mill's construction and commissioning. Solar panels would be installed as well to provide construction power. The LDES Addition would provide essential energy storage and manage power demands during the early stages of the Micro Mill Project. This phase would ensure the mill can complete the construction and commissioning stages even before all solar panels and battery storage facilities are in place. Phase 1 is expected to be completed in the Fall 2026.

Phase 2 of LDES Addition installation would begin in January 2027. This phase involves deployment of an additional 42 zinc hybrid-based battery containers (for a total of 58 containers) and installation of additional solar panels. Phase 2 is anticipated to be completed in the second quarter of 2027.

The LDES Addition will receive regular maintenance and undergo annual testing procedures to ensure its reliability and performance. PSG staff will be on-site to oversee construction, commissioning, and ongoing operations.

3.1. Project Location

The Micro Mill Project site is in unincorporated southeastern Kern County, in the Mojave Desert. It is approximately 57 miles southeast of the City of Bakersfield, approximately 4 miles north of the community of Rosamond and 8 miles south of Mojave. (**See Figure 3-2, Project Site**).

The Micro Mill site can be accessed via Sierra Highway. Surrounding land uses include undeveloped areas, rural residences, and agricultural land.

3.2. LDES Project Objectives

The proposed zinc hybrid-based BESS is designed to support the CEC's LDES program goals by achieving the following project objectives:

- Deploy a 4-MW/32-MWh energy storage system to support the dynamic electricity requirements of PSG's innovative zero process emissions steel mill throughout construction, commissioning, and operations.
- Increase the scale of LDES technology deployments to support California's clean energy objectives and inform future deployments.
- Demonstrate the performance of LDES technology in energy-intensive heavy manufacturing with high cycling and performance requirements.
- Increase knowledge about how LDES technology can support a cost-effective zero-carbon renewable energy storage solution to meet the challenges to:
  - Integrate and fully use on-site solar energy in manufacturing, with cyclical operations in export-constrained grid areas;
  - Provide operational energy management for plant operations in response to price signals based on energy grid scarcity; and
  - Enable electric resilience during power outages for environmental, health, and safety considerations.

3.3. Project Overview

The LDES Addition would be located on PSG-owned land and will be connected to the grid through PSG's 66-kV substation on the property **(See Figure 3-4, Detailed View of Proposed Battery System Locations).**

To support a 4 MW LDES with a total storage capacity of 32 MWh, the project will use up to 58 Eos battery cubes or similar modified shipping containers, each capable of storing 600 kWh.

Phase 1: Initial LDES Deployment

- Phase 1 will provide a minimum 8 MWh storage capacity, capable of discharging 1 MW over 8 hours. The system will connect to the PSG plant substation's medium voltage switchgear via a step-up transformer converting 480 volts (V) to 13.8 kilovolts (kV).
- This phase will support the Micro Mill construction and commissioning. It will supply supplemental power, manage instantaneous increases in power demand, and enable full charging outside normal construction hours temporary using the SCE utility feed in addition to the solar panels.
- Phase 1 will operate for approximately 3 months prior to completion of construction on Phase 2.

Phase 2: Full Operational Deployment

- Phase 2 will add a minimum additional 24 MWh storage capacity, capable of discharging at 3 MW over 8 hours. This phase will also require a step-up transformer, in this case to convert the battery system's 480 V output to 66 kV. This higher voltage will be connected to the PSG substation's high voltage bus, enabling the BESS to supply power to the PSG Micro Mill.
- The combined Phase 1 and 2 will operate to support the long-term operational, energy management, and resilience requirements of the Micro Mill. PSG expects to operate the LDES addition to absorb excess on-site solar energy so it can fully use renewable energy production to dynamically shift the mill's net load in response to energy and capacity price signals.

LDES Addition Deployment

The LDES Addition will be integrated with both PSG's on-site solar field once the solar field is operational, and with the electrical grid. The BESS and solar photovoltaic system design ensures flexibility in charge and discharge rates, with the ability to provide continuous power over 8 hours and to adjust BESS charge rates to capture on-site solar generated power that is in excess of variable steel mill load requirements.

Generally, the LDES batteries would be charged by the on-site solar panels during times of the day when the California Independent System Operator's day-ahead prices are low (typically during periods of high solar production, such as midday), and would be discharged when the day-ahead prices are high (typically early morning and late evening).

The LDES zinc hybrid batteries would involve the design, construction, installation, operation, and decommissioning/removal (at the end of the project) of the following facilities:

1. **Battery Enclosures/Containers:**
    - Preliminary plans call for up to 58 zinc hybrid-based battery containers/enclosures, each with approximately 600 kilowatt hours (KWh) of capacity.
    - The energy storage site would be located within 300 feet of the PSG substation.
2. **Direct Current Voltage Networking:**
    - The battery system is planned to operate at 480V direct current.
    - Inverters and step-up transformers would be used to integrate the BESS system with the PSG substation at 13.8 kV during Phase 1 and 66 kV during Phase 2.
3. **Energy Management System:**
    - A control system would be implemented to optimize battery dispatch for energy demand shifting, solar integration, and backup power applications.

4. **Electrical Infrastructure:**
    - Cabling, transformers, and switchgear would be installed to interconnect the batteries with the solar farm and the grid.
5. **Civil/Structural Components:**
    - Concrete footings and foundations would be constructed to securely install the battery enclosures.

3.4. Facility Construction

3.4.1. LDES Addition Schedule

Construction of the LDES Addition would be organized into the following activities:

Design:

- September 2025: Integration engineering and design.

Procurement:

- November 2025: Order battery equipment.
- November 2025: Order critical equipment (inverters, transformer, circuit breaker).

Site Work:

- August 2025: Site work begins including both phases of the LDES Addition (civil work, foundations, trenching, installation, fencing, gravel) concurrently with construction of the Micro Mill facility.

Phase 1:

- September 2026: Battery equipment delivery for Phase 1 (16 containers).
- September 2026: Critical equipment (inverters, transformer, circuit breaker) delivery.
- October 2026: Installation and commissioning of Phase 1.
- January 2027: Energization of Phase 1.

Phase 2:

- January 2027: Battery equipment delivery for Phase 2 (42 containers).
- February 2027: Installation and commissioning of Phase 2.
- March 2027: Final interconnection approval.
- April 2027: Energization of Phase 2.

3.4.2. Workforce

For the LDES Addition, the average daily construction workforce would vary between 5 and 10 construction workers, with a peak workforce of up to 10 workers (they would be in addition to the workforce supporting the construction of the Micro Mill facility). During commissioning, some project workers and utility personnel would be required to connect

the LDES Addition to the substation and ensure it is functioning properly. The commissioning workforce would be onsite for up to 10 weeks, with an average of 5 workers and a peak workforce of 10 workers. Parking for the construction workforce would be located in the construction office parking area as shown in **Figure 3-4, Detailed View of Proposed Battery System Location.**

The vehicle trips generated from construction of the LDES Addition assumes 10 workers would commute individually for a total of 10 daily round trips. Additionally, construction activity trips would include several trucks arriving and departing the site each day to deliver supplies, equipment, and materials.

Portable restrooms, hand-washing stations, and clean drinking water would be provided for the entire construction workforce.

3.4.3. Site Grading and Preparation

Before initial construction mobilization, any required sediment and erosion control measures would be implemented in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP), as required by mitigation measure MM 4.10-2. To ensure proper grading and effective drainage, the site's topography will be accessed, and a grading plan will be provided to facilitate efficient water runoff. Regular monitoring and adjustments will be carried out throughout the grading process to meet drainage requirements, preventing erosion and flooding issues in the future.

3.4.4. System Installation

Grading, excavation, and trenching would be required for the installation of piping, electrical conduit, and container footings. This would require the use of excavators, compaction equipment, and water trucks. Excavation depths would be determined based on the results of the geotechnical investigation; however, it is expected that trenching would be less than four feet deep.

Concrete required for foundations or equipment pads would be provided by a supplier and trucked to the project site. Whether the concrete would be mixed on-site or premixed off-site will depend on the preferences and specifications of the engineering, procurement, and construction (EPC) contractor. Similarly, the water supply for making concrete would also be determined by the EPC supplier. Electrical equipment would be mounted or installed in-place and interconnected to SCE’s electrical distribution system.

3.4.5. Electrolyte Fill

At the end of each phase of the construction processes for the zinc hybrid-based batteries, the batteries would be filled with electrolyte, a water-based acidic solution. After initial commissioning, the electrolyte would be stationary and contained within the cells with a battery. The battery enclosures (i.e., the modified shipping containers) would serve as secondary containment for the electrolyte. No electrolyte would be released during operation of the system.

Workers would wear appropriate personal protective equipment (PPE), be trained to handle the electrolyte solution, be equipped with spill cleanup kits, and be trained in proper spill response in the event that a spill occurred during electrolyte fill. Any spills may be neutralized with baking soda or any commercially available acid spill kits (Murdock, 2023).

3.4.6. Substation Upgrades

The LDES Addition would be connected to the planned PSG substation at 66 kV and 13.8 kV, which allows integration of solar and battery technologies in the substation design. Inverters, step up transformers, relays, and breakers will be required.

3.4.7. Commissioning

At the conclusion of the LDES Addition construction and installation phases, the system would go through a commissioning phase to ensure it is operating properly. PSG personnel and contractors would connect the BESS to the PSG substation. Battery supplier employees and qualified contractors would adjust the battery storage system to ensure it is functioning properly. The commissioning workforce would be onsite for up to two weeks for each phase, with an average and peak workforce of two workers.

3.5. Operations and Maintenance

The LDES Addition will undergo regular maintenance and preventative care over its operational lifespan. PSG will contract with the battery supplier, or another qualified firm, to oversee the operation and maintenance of the system. The facility will be remotely operated and monitored via a Supervisory Control and Data Acquisition (SCADA) system, with PSG staff on-site to perform routine monitoring. Additionally, staff provided by the battery supplier, or a qualified third party, will be on-call to respond to any alerts. These staff will visit the site annually, or as needed, to perform the necessary maintenance tasks.

Annual maintenance will include the following activities:

- **Visual Inspection:** Inspect battery racks, control cabinet internals, and general site conditions for water penetration, corrosion, and other issues. Inspect door mechanisms and verify proper torque on wiring connections.
- **Fan Operation Check:** Ensure fans are operational, listening for abnormal noises and confirming correct rotation.
- **Fuse Inspection:** Visually inspect fuses for continuity and heat stress, with replacement as needed.
- **DC Switch Operation:** Operate DC switches and disconnects to verify proper functionality.
- **Fast Stop Test:** Test the Fast Stop operation to confirm all contactors open correctly.
- **Control Voltage Check:** Inspect control voltages (24VDC, 5VDC, 3.5VDC) to ensure they are within specifications.

- **Space Heater Inspection:** Inspect and activate space heater circuits in both control cabinets and battery racks.
- **Uninterruptible Power Supply (UPS) Backup Check:** Confirm UPS backups are operational and functioning as designed.
- **Cleaning:** Clean air vents in battery racks and control cabinets to prevent obstruction or overheating.
- **Air Filter Maintenance:** Clean or replace air filters per manufacturer's warranty guidelines.
- **Thermal Imaging:** Use thermal imaging to inspect DC power circuitry connections during normal operation to identify any potential issues.
- **Capacity and Efficiency Test:** Conduct a full cycle test (0-100-0 percent state-of-charge) to assess battery performance and efficiency, recording all data.
- **Documentation:** Record preventive maintenance work, observations, and test results.
- **Ground Fault Detection Test:** Test ground fault detection systems if installed at the inverter level.

Replacement parts and components will be warehoused off-site and deployed as needed

3.5.1. Site Security

Minimal lighting would be used for operations and would be limited to safety and security functions. Motion sensitive, directional security lights would be installed to provide adequate illumination at points of ingress and egress. All lighting would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional temporary lighting were to be required for nighttime maintenance, portable lighting equipment would be used and removed from the site at the end of the maintenance work.

3.6. Decommissioning and Demolition

The estimated life of the LDES Addition would be approximately 20 years; however, the facility could stay online past the initial 20-year period if they are in good condition and operating satisfactorily to continue operation. Once the LDES Addition has completed its useful life, it will undergo decommissioning, upgrading, or replacement with new battery equipment. If decommissioned, demolition would take 6 to 12 months, during which aboveground facilities and structures would be removed. Underground cables would either be removed or abandoned in place, and electrical connections to the substation would be terminated.

Demolition would likely involve a combination of salvage or disposal performed in accordance with applicable federal, state, and local regulations. The battery is composed of standard recyclable materials. LDES battery suppliers are actively engaged in developing the supply chain required for end-of-life material management and a circular use frame-

work, which would result in recycling pathways and offtakes for approximately 80 percent by weight of end-of-life materials.

The electrolyte in the zinc hybrid-based batteries would be drained by qualified environmental contractors and the battery containers would be processed to separate the module, auxiliary equipment, and plumbing materials for recycling. Electrolyte can be reprocessed, either for use within the battery supplier's supply chain for additional battery deployments, or for third-party commercial use in caustic wastewater management, or as inputs in chemical industries.

Auxiliary equipment would be processed for scrap metal; where appropriate, motors or equipment can be resold. Plumbing parts, composed primarily of PVC and HDPE piping, could be processed as plastics recycling.

Battery modules would undergo a second advanced processing step to separate the anode, electrodes, and packaging and direct materials to steelmaking, scrap metals, and plastic recycling markets. Enclosures could be recycled as scrap metal.

Balance of plant equipment has standard electronics and equipment recycling pathways to scrap metal markets.

Project-level infrastructure, including concrete, piping, and electricals/conduit could be managed via site level demolition/construction recycling processes for aggregate waste.

At end-of-life, the project site would be evaluated for deployment of new energy resource technologies or be returned to a state specified in relevant contracting and project approval conditions.

4. Environmental Assessment

The Micro Mill Final EIR analyzed project impacts to 20 resource areas. None of these resources areas would experience any increase to the type or severity of impact as a result of the proposed LDES Addition to the Micro Mill project. However, the Micro Mill Project EIR identified three areas (aesthetics, air quality, and noise) that had both project and cumulative impacts that were significant and unavoidable Two areas (biological resources and wildfire) had significant and unavoidable cumulative impacts.

The use of the zinc hybrid-based batteries would include the transportation and use of an acidic electrolyte solution, which is addressed in more detail in the Hazards and Hazardous Materials and Transportation and Traffic sections of this addendum. These resource areas are addressed in Sections 4.1 through 4.7. For the remaining 13 resource areas, the proposed LDES Addition would have no change to either the type or severity of impacts as analyzed in the Micro Mill Final EIR. However, a summary of these remaining resource areas is provided in Section 4.8. Because the LDES Addition would not require off-site improvements, offsite improvements are not addressed in this addendum.

4.1. Aesthetics

Baseline Conditions

There would be no increase in the area of permanent disturbance as a result of adding 4.26 acres for the two BESS projects because the location of the batteries would displace area set aside for the solar array. Hence, the solar array and battery storage area would remain in the same location as described in the EIR, comprising approximately 63 acres in total. The solar modules would be 9 feet in height (EIR, p. 44.1-13) and dark colored (blue or black) (EIR, p. 4.1-5). The LDES battery storage containers would be 8.5 feet high, 8.5 feet wide, and 40 feet long. All lighting would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable county requirements. Lights would remain off when not in use.

Summary of Final EIR Impact Conclusions

The visual analysis in the Micro Mill EIR was based on Key Observation Points (KOPs). They were selected to represent views that would be experienced from sensitive viewpoints. KOP 2 would be the viewpoint that is most affected by the addition of the LDES Addition. As described in EIR **Table 4.1-5:** *Visual Quality Rating Analysis – KOP 2* (EIR pp. 4.1-27 to 4.1-29), the pre-development score is 10, and the post-development score is 7. Since the difference in scores would be 3 points, visual impacts experienced from KOP 2 would be potentially significant.

The EIR determined that impacts to scenic vistas from development of the Micro Mill would be **less than significant** (EIR, p. 4.1-17). The replacement of about 4.26 acres of solar arrays with battery units within those arrays would not significantly change the project's impact on a scenic vista. The LDES storage containers are slightly lower than

the surrounding solar panels. The impact to scenic vistas would remain **less than significant and no mitigation would be required**. Similarly, the LDES Addition would not damage scenic resources including trees, rock outcroppings, and historic buildings within a state scenic highway. The project's impacts would remain **less that significant and no mitigation would be required**.

Impact 4.1-3 addresses whether the Micro Mill Project would degrade the existing visual character or quality of public views of the site and its surroundings. The analysis determined that implementation of the Micro Mill Project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. The Micro Mill Project would be substantially modifying the area with the removal of vegetation, including the removal and relocation of Joshua Trees, for the micro mill buildings, solar array, and parking lot (EIR, p. 4.1-27). The EIR determined that MM 4.1-1 through MM 4.1-4 would reduce visual impacts associated with the Micro Mill Project by limiting vegetation removal, planting native vegetation, providing privacy fencing, reducing the visibility of project features, and ensuring that the site is kept free of debris and trash. Native vegetation would be left in place around the Micro Mill Project area where feasible, allowing for a natural screening of project components. In addition, proposed landscaping would include receiving areas for western Joshua trees that may be relocated as a result of the proposed development. Furthermore, the color treatment of buildings would help these components to better blend in with the natural landscape (EIR, p. 4.1-42). Implementation of MM 4.1-1 requires that buildings to be painted with colors that blend with the surrounding landscape. MM 4.1-2 would ensure that the battery containers were painted with non-reflective paint. Thus, the implementation of the LDES Addition would not create any visual impacts in excess of those previously examined in the Micro Mill EIR. However, because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, impacts to visual resources would remain **significant and unavoidable** (EIR, p. 4.1-42). The LDES Addition would replace solar panels with slightly shorter shipping containers and would not change that determination.

Impact 4.1-4 addressed whether the Micro Mill Project would create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area. The EIR states that potential operational impacts associated with new sources of lighting at the battery sites would be minimized through compliance with applicable development standards pertaining to lighting, including Chapter 19.81 (Dark Skies Ordinance), as required with implementation of MM 4.1-5, which states that projects would be designed to provide the minimum illumination needed to achieve safety and security objectives. Therefore, implementation of MM 4.1-5 and compliance with applicable local development standards and regulations pertinent to lighting would minimize the potential for light trespass onto adjacent properties and roads, and impacts would be **less than significant** (EIR, pp. 4.1-44 and 4.1-45). To reduce glare potential, the project would be required to implement MM 4.1-5 through MM 4.1-7, which require the use of non-reflective and glare-minimizing materials. Although light and glare impacts would occur from the addition of the BESS-related lighting, with implementation of MM 4.1-5 and MM 4.1-6, lighting impacts will be minimized and would not exceed those impacts addressed

in the EIR. With implementation of these mitigation measures, impacts would be **less than significant** (EIR, p. 4.1-45).

Cumulative Impacts

According to the EIR, there are 36 separate projects within a 6-mile radius of the project site. These projects include seven solar projects and projects with a solar component; none of the cumulative projects include a proposed manufacturing project. The size and scope of already existing development are increased by the proposed Micro Mill Project, which will result in cumulative impacts to aesthetics when considered together with the project. Unobstructed views of regional topographical features and undeveloped lands would no longer be available as acreage is developed with various projects. To mitigate some of the potential impacts to the existing visual character or quality of public views of the site and its surroundings, MM 4.1-1 through MM 4.1-4 would be implemented. Impacts from substantial light or glare would be **less than significant** with the implementation of MM 4.1-5 through MM 4.1-7. Even with implementation of MM 4.1-1 through MM 4.1-7, the BESS project's contribution to significant impacts associated with visual character in the Antelope Valley would not exceed those addressed in the EIR. However, the visual impacts to the valley would remain **cumulatively significant and unavoidable** (EIR, p. 4.1-47). Considering the lithium-ion BESS portion as part of the cumulative impacts, it would not cause the revised project to exceed those impacts addressed in the EIR.

Consideration of Changes to Impact Conclusions

The LDES Addition would replace approximately two acres of blue or black solar panels (including surrounding graveled area) that are up to 9 feet in height with shipping containers that are about 8.5 feet high. Based on **Figure 3-4, Detailed View of Proposed Battery System Location**, solar panels that are replaced would be those more than 300 feet from Sierra Highway, leaving one or more rows of solar panels between the battery containers and Sierra Highway. MM 4.1-1 requires that the project proponent present a plan to color treat the proposed structures to blend in with the colors found in the surrounding natural landscape while not producing reflection, as approved by the Kern County Planning and Natural Resources Department. MM 4.1-2 requires that the following aesthetic features shall be required in site plans and building permits for commercial buildings located within 1,000 feet of the Sierra Highway corridor: "b. Reflective metal exteriors shall not be used as exterior architectural elements in buildings immediately adjacent to Sierra Highway." (EIR, p. 4.1-43). The remaining solar panels between the battery storage containers and Sierra Highway will act as a visual barrier, mitigating views of the battery containers from Sierra Highway by passing motorists. Regardless, the presence of the 8.5-foot-high battery containers would appear small and consistent with the mill buildings and other structures seen behind them.

Summary of Findings

Impact 4.1-3 addressed whether the Micro Mill Project would degrade the existing visual character or quality of public views of the site and its surroundings. The Micro Mill Project

would change the existing visual character from typical desert vegetation to an industrial facility. Page 4.1-26 of the EIR describes the changes to the visual character as:

> "The post-development view from KOP 2 (see **Figure 4.1-3**) depicts the micro mill facility and a portion of the 63-acre solar array, as well as the proposed seven-foot fence that will surround the project site. Specifically, the water treatment plant, the Containerized Power Control Room, the gas tank storage area, the truck refueling area, the slag disposal area, septic field, the water tank, a storage area, the finished goods bay (55 feet high), the spooler bay (40 feet high), the rolling mill bay (55 feet high), and the service bay (40 feet high) can be seen from KOP 2. The top height of the structures that can be seen from KOP 2 would be approximately 55 feet. Much of the view from KOP 2 consists of the micro mill facility and the components that were previously described. Additionally, much of the foreground consists of a portion of the 63-acre solar array. In combination, the micro mill facility and its components and a portion of the solar array will obstruct the view of the existing viewshed."

Replacing about two acres of solar array with the modified shipping containers (and surrounding graveled area) used for the LDES Addition would not make a significant change to the industrial facility character described above that was analyzed in the Micro Mill EIR. Even with implementation of MM 4.1-1 through MM 4.1-7 the project's contribution to significant impacts associated with visual character in the Antelope Valley would be both **project-specific and cumulatively significant and unavoidable** (EIR, p. 4.1-47). The LDES Addition would not change that conclusion. No additional mitigation would be able to reduce the aesthetic impacts to less-than-significant.

4.2. Air Quality

Baseline Conditions

The project site is currently vacant and located in a sparsely populated rural residential unincorporated area situated between the unincorporated communities of Rosamond and Mojave in Kern County, California. The site is in the Antelope Valley area of the Mojave Desert and within the Mojave Desert Air Basin. Nearby surrounding uses include vacant agricultural land, a solar facility, Sierra Highway, and the Union Pacific Railroad. Surrounding sensitive receptors include a smattering of single-family residences, with the closest being approximately 1,000 feet northwest of the project site (EIR, p. 4.3-16).

The federal Clean Air Act and the California Clean Air Act set levels of air pollutants in various regions and subregions of the state and the California Air Resource Board is required to report concentration levels through its State and Local Air Monitoring Stations network. Regions are then categorized by being in compliance with, or in attainment of, these national and state ambient air quality standards. As shown in EIR Table 4.3-4: EKAPCD Attainment Status, Kern County and the project site are currently in a "non-attainment" status for state and federal ozone (8-hour), state ozone (1-hour), and

particulate matter (2.5 micrometers). Due to region's topography and desert setting, the Eastern Kern Air Pollution Control District (EKAPCD) has established a collection of rules and regulations for development to conform with in order to ensure compliance with local, state, and federal air quality regulations.

Summary of Final EIR Impact Conclusions

The Final EIR's air quality impact analysis assessed the proposed project's potential impacts associated with the construction and operation of the Micro Mill and associated features. In addition to the CEQA significance criteria and other federal air quality criteria, and in conformance with the EKAPCD Guidelines for Preparing and Air Quality Assessment for Use in Environmental Impact Reports, the *Air Quality Technical Report and the Air Quality Analysis of Off-Site Utilities Memorandum* prepared for the project assessed whether the project was consistent with the EKAPCD's 2023 Air Quality Plan. This included providing an analysis of the project's conformity to the Kern Council of Governments and the applicable traffic analysis zones; as well as providing emissions from similar projects in the Ozone Attainment Plan for the basin, a discussion of the Ozone Attainment Plan for the applicable air district, its development, and relation to the regional basin, Triennial Plan, and the State Implementation Plan.

With respect to the project's consistency with the local *Air Quality Plan*, the EIR's analysis focused on whether or not the project would: 1) support the primary goals of the 2023 Air Quality Attainment Plan (AQAP), and (2) include applicable control measures from the 2023 AQAP. With the proposed changes to the site's general land use designation from resource management to heavy industrial and the zone classification from limited agricultural to heavy industrial–precise development combining, the project would be consistent with the county's projected growth assumptions used to form the 2023 AQAP, in providing an adequate and geographically balanced supply of land designated for a range of industrial purposes. Furthermore, the project would not include any new residential growth or dwelling units, and thus, would not include a substantial increase in passenger vehicle and light duty truck trips and would be consistent with the goals of the 2022 Regional Transportation Plan and Sustainable Communities Strategy (EIR, p. 4.3-47).

Because the proposed project is located within the Mojave Desert Air Basin, it is required to comply with the EKAPCD rules that are established to bring the basin into attainment of the ambient air quality standards. Furthermore, because the project would be considered a new major stationary source, it would be required to conform to the New Stationary Review (NSR). As described in the EIR, the project would comply with all rules and regulations established by the EKAPCD, including Rule 210.1, which requires new major stationary sources that increase emissions in amounts exceeding specified thresholds to provide emission reduction offsets to mitigate their emissions growth. The project's emissions would not exceed the significance thresholds by the NSR and would not jeopardize attainment of the AQAP. Therefore, with compliance of EKAPCD Rule 210.1, the proposed project would be consistent with the goals of the 2023 AQAP (EIR, pp. 4.3-47 and 4.3-48).

For onsite project emissions associated with the construction of the proposed mill and associated on-site features, as well the off-site improvements related to the water line, traffic improvements, and SCE powerlines, and with the implementation of MM 4.3-1 and MM 4.3-2, construction of the project would result in a **less than significant impact** (EIR, p. 4.3-56). However, even with the implementation of mitigation measures, designed to control exhaust emissions of nitrogen oxides (NOx), particulate matter (PM), and fugitive dust PM emissions from future operations onsite, the project would exceed the applicable thresholds from the operation of the meltshop as well as transportation emissions. Impacts from operations would be **significant and unavoidable** (EIR, p. 4.3-56).

In order to analyze potential impacts associated with exposing sensitive receptors to toxic air contaminants (TACs), specifically diesel particulate matter (DPM) from vehicle exhaust, the air quality assessment conducted a health risk assessment (HRA) for project construction plus operations and operations alone. The HRA analyzed toxic air contaminant emissions for the temporary construction period and continuing through the operations period, for a 30-year duration. The combined total emissions, with the reduction of exhaust emissions stemming from implementing the Tier 4 measures included in MM 4.3-1, construction and operation of the mill would not exceed the applicable thresholds of harmful DPM pollutants. Furthermore, emissions from operations alone would not exceed the air district's threshold, and implementing MM 4.3-1 would even further reduce this cancer-causing TAC. Additionally, non-carcinogenic and acute hazards at the maximally exposed individual resident would be below the air districts thresholds of significance. This impact would be **less than significant with mitigation incorporated** (EIR, p. 4.3-60).

Because the project is not located within the vicinity of an intersection that is currently operating at a Level of Service (LOS) of E or below, and with the implementation of mitigation measure MM 4.17-3 that include improvements to intersections that would result in a LOS of C or better, construction and operation of the proposed mill would result in a **less than significant** impact with respect to carbon monoxide (CO) hotspots and their accompanying health risks (EIR, p. 4.3-61).

Visibility impacts associated with the stationary sources proposed for the Micro Mill Project, specifically in the three Class I areas within 100 kilometers of the site, were found to be reduced with the implementation mitigation measures. MM 4.3-1 and MM 4.3-2, that are recommended to comply with state and federal attainment regulations, would further reduce visible PM pollutants; however, implementing MM 4.3-3 would enact a Federal Land Manager screening procedure to demonstrate that the project would result in the 98th percentile change in light extinction is less than 5 percent each year compared to the Class I areas in the vicinity. This impact would be **less than significant with mitigation incorporated** (EIR, p. 4.3-61).

Activities involved in the construction of the Mill and other proposed features have the potential to generate fugitive dust, which may contain the harmful *Coccidioides immitis* (CI) spores that if inhaled could cause Valley Fever in construction workers and nearby sensitive receptors. MM 4.3-2, and MM 4.3-4 and MM 4.3-5 would help in reducing the

health risks associated with Valley Fever. MM 4.3-2 requires the project to have comprehensive site construction controls in place to proactively control the generation of fugitive dust as required and regulated by the EKAPCD Rule 402. MM 4.3-4 requires the project to provide training to construction workers aimed to proactively control and reduce fugitive dust and the potential for the release of CI spores, training on specific worker/task safety procedures, and general information regarding symptoms testing and treatment options for Valley Fever. Moreover, MM 4.3-5 would require a one-time fee to Kern County Public Health Services Department for Valley Fever public awareness programs. With the **implementation of mitigation**, this impact would be reduced to a **less than significant** level for on and off-site construction activities (EIR, pp. 4.3-61 and 4.3-62).

Health impacts from the potential exposure of asbestos would be **less than significant** because there are no known sources of asbestos in the project vicinity (EIR, p. 4.3-62).

With respect to the project's contribution to cumulative air quality impacts with those of other projects in the vicinity of the proposed Micro Mill, if the worst-case scenario were to occur with all construction schedules were overlapping, the result could be cumulatively considerable, and impacts would be **significant and unavoidable**. Because operations of the Micro Mill were found to be, even with the imposition of mitigation measures, **significant and unavoidable**, the project would thus result in cumulatively considerable impacts that would be **significant and unavoidable** when combined with the overall operational emissions of nearby projects (EIR, p. 4.3-68).

Consideration of Changes to Impact Conclusions

With the inclusion of the zinc-hybrid LDES Addition, the project would be contained in the same footprint as that analyzed in the EIR, the severity of impacts would not change. The land near the on-site PSG substation that would be exchanged for the LDES Addition units has already been analyzed in CalEEMod with much of the same equipment that would be required for installing the zinc-hybrid battery units. The general practice in analyzing air quality impacts is to be conservative in the analysis by considering a broader area of land instead of the exact square footage of every feature as construction vehicles tend to move over greater distances for maneuvering as well as running equipment for longer durations than they would be in real-time. Therefore, actual project emissions would be less than what was analyzed in the air quality assessment.

Moreover, a similar project's projected emission levels were analyzed for 128 LDES battery enclosures. The total amount of NOx emissions from these 128 LDES units was projected to be 2.66 tons/year and total reactive organic gas (ROG) emissions were found to be 0.29 tons/year. Because the Micro Mill construction is projected to emit a total of 13.92 tons/year of NOx and 2.76 tons/year of ROG, both with an annual threshold of 25 tons/year, the additional emissions (if any) from the 58 zinc-hybrid-based LDES units would not exceed the applicable significance thresholds. Furthermore, the proposed inclusion of the zinc-hybrid-based LDES would be done in two phases. Phase 1 would occur during the first and second years of construction of the overall project, to be operating approximately 3 months prior to completion of construction of Phase 2, and

Phase 2 would commence during the second year (which had the highest emission levels of NOx overall at 13.92 tons/year) and could extend into the third year.

If construction activities associated with the LDES Addition rollover into the third year, emissions during the second year would be even lower and still far from the 25 tons/year threshold. Also, the addition of 10 workers would not contribute substantially to the overall construction emissions. As with the proposed project, all construction activities would adhere to the EKAPCD rules and regulations, as well as the recommended MM 4.3-1 through MM 4.3-5 and MM4.17-3. As a result, the project would be consistent with the AQAP and impacts due to construction would result in a **less than significant impact with mitigation incorporated** (EIR, p. 4.3-52).

Regarding operational impacts, the LDES Addition would be remotely operated and would only require a few workers visiting the site on an annual basis. These very few trips would be miniscule in comparison to the 440 operations workers analyzed in the EIR. However, as the EIR indicated, despite the implementation of mitigation measures during operations, emissions from the mill would exceed the air district's thresholds and the project would result in impacts that would be **significant and unavoidable** (EIR, p. 4.3-52; 4.3-56).

The potential for emissions of TACs would be similar to those analyzed in the EIR. Emissions of carcinogenic pollutants would be miniscule compared to those analyzed in the EIR. Furthermore, the LDES Addition would not emit objectionable odors during operations as the only gaseous emissions would be small amounts of hydrogen gas, which is known to be odorless. Gasses released during normal operations are discussed in detail in Section 4.4 Hazards and Hazardous Materials. With the implementation of MM 4.3-1 through 4.3-5 and MM 4.17-3, impacts associated with visual emissions, valley fever, TACs, and CO hotspots would remain **less than significant with mitigation incorporated** (EIR, p. 4.3-65).

As with the findings in the Micro Mill Final EIR, the minor addition of emissions from the construction of the zinc-hybrid LDES Addition, when combined with those emitted by other projects in the area, could result in cumulatively considerable impacts that may be **significant and unavoidable with mitigations imposed** if all construction periods were to overlap. Operations of the Micro Mill would result in an overall net reduction of emissions by providing electricity that would displace energy produced from fossil fuels (EIR, p. 4.3-68). The miniscule amount of emissions from the operations of the zinc-hybrid LDES Addition would be minor in comparison to those emitted by the Micro Mill overall. However, because the Micro Mill would emit emissions of NOx and PM that would be above the applicable significance thresholds, the incremental contribution of emissions from the project plus the LDES Addition, and those emitted by other related projects nearby would result in **cumulatively considerable impacts.** Thus, despite implementation of MM 4.3-1 through 4.3-5 and 4.17-3, these impacts would be **cumulatively significant and unavoidable** (EIR, p. 4.3-68).

Summary of Findings

The inclusion of the zinc-hybrid LDES Addition during the Micro Mill's construction period would not create new air quality impacts, nor alter those impacts analyzed in the Mojave Micro Mill Final EIR. The impact analysis methodologies would not change, nor would the final conclusions that were published in the EIR. Impacts from construction would remain **less than significant with the incorporation of mitigation measures** MM 4.3-1 through 4.3-5 and MM 4.17-3 and impacts from the operation of the Micro Mill would remain **significant and unavoidable**, even with the imposition of the recommended mitigation measures. Similarly, despite the implementation of the aforementioned mitigation measures during construction and operations, the addition of the battery system may contribute to temporary criteria pollutants from occasional worker trips and would contribute to a long-term cumulative increase in criteria pollutants. Thus, the Micro Mill Project construction and operation would result in a **significant and unavoidable cumulative** impact.

4.3. Biological Resources

Baseline Conditions

The Micro Mill Project site is located within the eastern high desert region of unincorporated Kern County and, more specifically, within the western extent of the Mojave Desert. The Mojave Desert covers more than 40,000 square miles in California, Arizona, Nevada, and Utah. The western Mojave Desert is generally bounded by the Tehachapi Mountains to the northwest, the San Gabriel Mountains to the southwest, and the Great Basin to the east.

Vegetation in the Mojave Desert region within which the Micro Mill Project site is located is influenced by arid climatic conditions, topography, desert soils, and past land uses. Vegetation in the region includes a predominance of plant morphological adaptations to extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, deep tap root systems) and saline-alkali soils (e.g., salt excretion, active transport systems) (EIR, p. 4.4-3).

The Mojave Desert region supports a variety of mammals, birds, and reptiles. Reptile species commonly occurring in the desert portion of Kern County include the side-blotched lizard (*Uta stansburiana*), western whiptail (*Aspidoscelis tigris*), desert spiny lizard (*Sceloporus magister*), gopher snake (*Pituophis catenifer*), glossy snake (*Arizona elegans*), and Mojave rattlesnake (*Crotalus scutulatus*). Bird species common to the region include common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), and red-tailed hawk (*Buteo jamaicensis*). Mammal species typical of the area include white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beechyi*), and bat species including California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*) and western pipistrelle (*Pipistrellus hesperus*) (EIR, p. 4.4-3).

Based on the field reconnaissance, a total of five natural communities and land uses were determined to be present within the Micro Mill Project site (EIR, p. 4.4-5).

Summary of Final EIR Impact Conclusions

The EIR's biological resource impact analysis is based on existing and potential biological resources occurring within the Micro Mill Project site and vicinity of the project identified by the Biological Technical Report prepared for the Micro Mill Project. Biological resources evaluated included special-status plant and wildlife species. Other resources, (e.g., wetlands, riparian habitat, movement corridors) are not anticipated to occur within the project site. The potential for special-status species to occur on the Micro Mill Project site is based on the results of database research, surveys of the project site, presence of suitable habitat, and the proximity of the project site to previously recorded occurrences (EIR, p. 4.4-21).

The Micro Mill Project site is located in Kern County, which requires the development of a Joshua Tree Impact Plan or Joshua Tree Preservation Plan for developments that have the potential to impact the Western Joshua Tree (WJT). Plans shall include a comprehensive inventory of all WJT within the project site, an impact analysis, avoidance and preservation measures, and mitigation measures including relocation. Additionally, Kern County requires a Transportation Plan when relocation of WJT is proposed (EIR, p. 4.4-21).

Eight wildlife species have been recorded in the vicinity of the Micro Mill Project site; however, five of them are associated with habitats that do not occur within the project site, or the project site is located outside of the species' range. The three species of interest are the Desert tortoise (*Gopherus agassizii*), Burrowing owl (*Athene cunicularia*), and Mohave ground squirrel (*Xerospermophilus mohavensis*) (EIR, p. 4.4-10).

The EIR determined that with implementation of MM 4.4-1 and 4.4-2, impacts to WJT as a result of Micro Mill Project construction and operation would be reduced to **less than significant**. With implementation of MM 4.1-5 through MM 4.1-7, impacts as a result of nighttime lighting and glare would be **less than significant**. Additionally, with implementation of MM 4.4-1, MM 4.4-3, MM 4.4-4 through MM 4.4-6, which require qualified biologist oversight, pre-construction surveys, exclusion fencing, and development of a common raven management plan, impacts to special status wildlife species as result of Micro Mill Project construction and operation would be **less than significant** (EIR, p. 4.4-23). With implementation of MM 4.4-7, which requires temporal work restrictions, pre-construction surveys, and avoidance measures should nesting species be detected, impacts to protected nesting birds would be **less than significant** (EIR, p. 4.4-24).

Considering the number of present and reasonably foreseeable future development projects in the Antelope Valley, the Micro Mill Project, when combined with other projects, would contribute to cumulative loss of habitat for special-status species. Implementation of MM 4.4-1 through MM 4.4-7 would reduce impacts to habitat to less than significant for the Micro Mill Project. However, the Micro Mill Project, when combined with other related development projects proposed throughout the county, would cumulatively impact

habitat for special-status species. Thus, **cumulative impacts would be significant and unavoidable** (EIR, p. 4.4-36).

Consideration of Changes to Impact Conclusions

Because the LDES Addition would replace acreage otherwise part of the 63-acre solar farm, the total amount of temporary and permanent disturbance would remain unchanged compared to the originally approved Micro Mill Final EIR. Thus, the potential direct and indirect impacts to the sensitive species would remain unchanged. The LDES Addition would not directly affect any of those sensitive species. The impact conclusions for operations and maintenance activities would remain the same as identified in the Final EIR, and no new significant impacts would occur.

Summary of Findings

The LDES Addition to the approved Micro Mill EIR would not create any significant new biological impacts, or significant changes to the impact analysis methodology and conclusions presented in the Final EIR. Impacts from the LDES Addition would be the same type as those disclosed in the EIR. However, even with implementation of MM 4.1-5 through MM 4.1-7, and MM 4.4-1 through 4.4-7, **cumulative impacts would be significant and unavoidable** (EIR, p. 4.4-36).

4.4. Hazards and Hazardous Materials

Baseline Conditions

The Micro Mill Project site is approximately 174 acres of predominantly vacant land across two adjacent parcels, located at the southeast corner of the intersection of Sopp Road and Sierra Highway. Regionally, the site is approximately 57 miles southeast of Bakersfield in the desert region near the unincorporated communities of Rosamond and Mojave and is about 1.25 miles southeast of the State Route 14 (SR 14) and Backus Road exit. Regional access to the project site is provided by SR 14 by way of Backus Road one mile north of the project site, from Sierra Highway to the east off of SR 14.

The land uses immediately surrounding the Micro Mill Project site are sparsely developed with the vast majority of land being vacant while zoned for agricultural production. The nearest residence to the LDES Addition is located approximately 1000 feet north of the LDES site. The nearest school is Rosamond High School, located approximately 5 miles south of the Micro Mill Project site. The nearest airports are the Rosamond Sky Park located approximately 5.5 miles southwest of the Micro Mill site and the Mojave Air and Space Port located approximately 8 miles north of the Micro Mill site. The Micro Mill Project site is not located within an Airport Sphere of Influence of any existing airport.

Senate Bill 38 requires each battery energy storage facility located in California to have an emergency response and emergency action plan that covers the premises of the battery energy storage facility. The bill requires the owner or operator of the facility, in developing the plan, to coordinate with local emergency management agencies, unified program agencies, and local first response agencies.

Summary of Final EIR Impact Conclusions

The Micro Mill Project impacts associated with hazards and hazardous materials are addressed in Section 4.9 of the EIR. That section addresses the baseline conditions related to hazards and hazardous materials in the Micro Mill Project area and describes the environmental setting for hazardous materials and waste, airports, electromagnetic fields, and wildfire hazards. Other sensitive receptors, such as residences and schools, are also described because their proximity to the Micro Mill Project site could affect their exposure to the potential hazards.

During construction of the Micro Mill facilities, hazardous materials such as petroleum fuels and lubricants used on field equipment would be subject to the Material Disposal and Solid Waste Management Plan and other measures that seek to limit releases of hazardous materials and wastes as described in the Hydrology and Water Quality section of the EIR (Section 4.10). The disposal of all oils, lubricants, and spent filters would be performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. During construction, the relatively limited use and small quantities of hazardous materials, and subsequent transport and disposal of such materials, would be controlled through compliance with applicable regulations including the Kern County and Incorporated Cities Hazardous Waste Management Plan. Thus, impacts during construction would be **less than significant** (EIR, pp. 4.9-21 and 4.9-22).

Scrap metal can contain toxic materials such as lead, mercury, and cadmium that can be released into the environment when it is recycled or disposed of improperly. One such hazardous material that would be a byproduct of the rebar making process is Electric Arc Furnace (EAF) dust, which is considered a hazardous waste. Therefore, it will be collected in a bag filter, transported in an enclosed conveyor to a silo and, in a completely enclosed process and with a dustless spout, the trucks will be loaded from the silo to be trucked out of the plant (EIR, p. 4.9-22).

Operational activities of the micro mill would also use other hazardous materials through the maintenance of its equipment, and other equipment, and vehicles on-site. To mitigate any potential impacts of the use of hazardous materials, MM 4.9-1, which requires the preparation of a Hazardous Materials Business Plan, would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public (EIR, p. 4.9-24).

The photovoltaic (PV) modules that would be installed on the project site use cadmium telluride (CdTe), thin film, or crystalline silicon technology. PV modules are constructed as solid-state monolithic devices to achieve long-term field durability to withstand harsh environmental conditions for 25 years or more. The Final EIR concludes that the use of a CdTe PV system would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during normal operations (EIR, p. 4.9-36). The Final EIR also concludes that crystalline silicon and thin

film CdTe PV technologies do not present a health risk in the event of fire or breakage, with regards to their use of lead and cadmium compounds, respectively (EIR, p. 4.9-3).

Overall, adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials, and implementation of MM 4.9-1 through MM 4.9-10 would minimize or reduce potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials, to a **less-than-significant** level (EIR, p. 4.9-30).

Consideration of Changes to Impact Conclusions

The 4 MW LDES Addition will use up to 58 modified shipping containers, each capable of storing 600 kWh. Construction of the LDES Addition would require the use of standard construction equipment similar to that used to construct the Micro Mill facility and solar field. Potential Hazards and Hazardous Material impacts are described below.

Construction

During construction, the aqueous electrolyte solution used in the zinc hybrid-based batteries, which is a blend of water, halides, additives, and buffering agents, would be transported to the site in tanker trucks that meet the U.S. Department of Transportation (DOT) safety regulations. The transportation route after leaving SR 14 does not include passing by any schools, hospitals, or nursing homes. Therefore, the transportation route during construction, and ultimately demolition, would not pose a significant risk to the public. Aside from the electrolyte, only a minimal amount of hazardous material (i.e., petroleum products) would be used during construction. As with construction of the Micro Mill facilities, implementation of established construction controls would reduce the risk of hazardous materials spills and releases during project construction. Implementation of best management practices would ensure that hazardous materials used on-site during operation would neither be released into the environment nor expose operational personnel to hazardous materials.

Potential impacts that may result from construction of the LDES Addition include the accidental release of materials, such as petroleum products including lubricants, fuels, and solvents or electrolyte. To mitigate any potential impacts of the use of hazardous materials during construction or operation, MM 4.9-1 requires the preparation of a Hazardous Materials Business Plan. The Plan would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill. It would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public. With implementation of MM 4.9-1, construction impacts from the LDES would be **less than significant** (EIR, p. 4.9-25).

Operation

The only hazardous material during operation of the LDES Addition batteries would be contained within the LDES units and consist of a battery electrolyte used in the zinc hybrid-based batteries. All chemical reaction batteries use an electrolyte that creates a

small amount of heat during the reaction while producing electricity, and upon recharging. Thus, each module would have exhaust fans to remove heat from inside the module. It is also known that very small amounts of hydrogen gas are inadvertently released during this same chemical reaction (Murdock, 2023) This is similar to that produced by an automobile lead-acid battery when charging. Though the risk of fire or explosion is low, these battery containers would include the installation of hydrogen gas detectors and an exhaust fan on each enclosure. The detectors would ensure that the fan would exhaust the enclosure to keep the hydrogen gas levels below the lower explosive limit of 4 percent and would remove excess heat. If the exhaust fan were to fail, then the battery units would shut down.

UL Solutions, formerly known as Underwriters Laboratory, researches safety and development of standards that are mainly concerned with the risk from fires and electric shocks (UL Solutions, 2023). The Federal Occupational Safety and Health Administration (OSHA) and Cal OSHA both require that almost all electrical devices and cables in workplaces meet the relevant UL standards. UL9540A is used to suggest mitigations to prevent flammable gases released during fire, battery overcharging, and other abnormal operating conditions within the energy storage system from creating an explosion. Results from the UL 9540A Test Method are used to address battery installation instructions, ventilation requirements, effectiveness of proposed fire protection systems, and fire service response strategy and tactics. The LDES zinc hybrid battery technologies have passed UL 1973, UL 9540, and UL 9540A certifications, and are currently in the process of passing additional certifications related to safety and performance standards. In addition, the BESS will be operated in conformance with 2022 California Fire Code, Title 24, Part 9, and the National Fire Protection Association (NFPA) Standard 855 for energy storage systems. As such, there is no increase in fire risk from the zinc hybrid batteries as a result of the operation of the LDES Addition. In addition, Kern County requires that the LDES Addition be located at least 300 feet from the lithium-ion BESS, as well as the PSG Substation, and Sierra Highway.

With implementation of MM 4.9-1 through MM 4.9-10, adherence to regulations and standard protocols during the transportation, storage, and use of any hazardous materials, compliance with the requirements of SB 38 (Emergency Response and Emergency Action Plan), and operating in conformance with 2022 California Fire Code, Title 24, Part 9, and the National Fire Protection Association (NFPA) Standard 855 for energy storage systems, operational impacts from the LDES Addition would be **less than significant with mitigation incorporated** (EIR, p. 4.9-27).

Conformance with existing state and county regulations, as well as implementation of MM 4.9-1 through MM 4.9-12, MM 4.15-1, of **Section 4.15**, *Public Services*, (Fire Safety Plan) and MM 4.19-1, of **Section 4.19**, *Utilities and Service Systems*, (design and construction of water system) would further reduce the potential for cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as any other cumulative project, would reduce the impact to a level that would not contribute to cumulative effects (EIR, p. 4.9-38). Therefore, with implementation of MM 4.9-1 through MM 4.9-12, MM 4.15-1, and MM 4.19-1, cumulative impacts would be reduced to **less than significant with mitigation incorporated** (EIR, p. 4.9-39).

Summary of Findings

Among other topics, the Micro Mill EIR addressed the project impacts related to hazards and hazardous materials in the project area and the hazardous materials and waste, airports, electromagnetic fields, and wildfire hazards. Except as described above, there would be no changes to potential impacts (construction, operation, or cumulative) as analyzed in the Micro Mill EIR due to the inclusion of the LDES Addition. With implementation of MM 4.9-1 through MM 4.9-12, compliance with the requirements of SB 38 (Emergency Response and Emergency Action Plan), and operating in conformance with 2022 California Fire Code, Title 24, Part 9, and the NFPA Standard 855 for energy storage systems, and implementation of the county's requirements of a 300-foot-setback from critical uses, operational impacts from the LDES Addition would be **less than significant with mitigation incorporated** (EIR, p. 4.9-27).

4.5. Noise

Baseline Conditions

Existing baseline conditions would be consistent with those identified in the Micro Mill EIR. The vicinity of the site, and much of the region, consists largely of vacant undeveloped land uses, with a smattering of rural single-family residences spread far apart. North of the site is a food storage facility and an outdoor storage area for a stone manufacturing facility. East of the site is Edwards Air Force Base and its solar facility. Directly west of the site lies the Union Pacific Railroad, with the Sierra Highway just beyond, both running north-south and parallel to one another. The nearest sensitive receptor (R2) is a rural single-family residence located about 1,000 feet northwest of the mill site on Dobbs Road.

Ambient noise levels surrounding the project site were derived from short-term noise measurements taken at three locations, two near the project site and one along the off-site improvements path in the community of Rosamond located south of the site. Baseline measurements (see EIR Table 4.13-3 *Summary of Short-Term Ambient Noise Measurements at the Project Site*) indicate the existing ambient noise levels in the project vicinity range from 53.7 dBA Leq (in Rosamond) to 68.9 dBA Leq (R1 at residence along Sierra Highway approximately 1,060 feet north of the project site). Roadway noise levels surrounding the project site (taken from 50 feet from the centerline) range from 59.8 to 67.6 dBA CNEL on Backus Road between Sierra Highway and SR 14, respectfully; 67.1 dBA CNEL along Sierra Highway between Backus Road and Sopp Road; 64.3 dBA CNEL on Sopp Road between Sierra Highway and Line Butte Road (roadway segment containing the site's northern boundary); and 54 dBA CNEL along Rosamond Boulevard in Rosamond (off-site improvements roadway segment). The site is comprised of vacant, undisturbed land, with no existing anthropogenically induced sources of noise emissions generated onsite.

Summary of Final EIR Impact Conclusions

The Final EIS analysis of potential noise and vibrational impacts is based on changes to the existing ambient noise in the project vicinity and the generation of vibrations as a direct result of the construction and operation of the Micro Mill Project and as identified

in the Noise and Vibration Impact Study and the supplemental technical memorandum Noise and Vibration Analysis of Off-Site Power Utilities. The significance criteria used for this section of the Final Micro Mill EIR were based on those found in Appendix G of the CEQA Guidelines:

- Would the project generate a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;
- Would the project generate excessive groundborne vibration or groundborne noise levels;
- Would the project result in a permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels?

The threshold of significance used to analyze potential temporary or permanent noise impacts in the vicinity of the project was an increase of 5 dBA Leq above the existing ambient noise environment. Temporary construction activities required to build the Micro Mill and conduct the off-site transmission line improvements would require several phases of construction comprising several pieces of equipment. The combined noise level for all equipment in each phase of onsite construction was analyzed at the two distances 1,060 feet and 440 feet. Due to the potential of phases overlapping, the EIR analysis combined the calculated noise levels of all phases to produce a total project construction noise level experienced at each receptor. The analysis established an exceedance of the 5 dBA Leq above ambient noise levels for project onsite construction noise experienced by R2, but did not exceed this threshold at R1. However, **with the implementation of MM 4.13-1 and MM 4.13-2 this impact would be less than significant**. MM 4.13-1 requires equipment staging and laydown practices and MM 4.13-2 requires noise reducing measures such as acoustical barriers, mufflers, and orientating equipment away from receptors (EIR, p. 4.13-23).

Similarly, off-site construction activities required for the erection and installation of the power and telecommunication lines were analyzed per phase and for each of the three sensitive receptors. The analysis found that neither of the three sensitive receptors would experience construction noise from the combined phases of the power and transmission line installation in excess of the Federal Transportation Administration (FTA) 80 dBA Leq (8-hour) threshold. Off-site construction noise due to vehicle trips was analyzed and compared to the existing ambient noise levels of project vicinity roadway segments listed in Table 4.13-12 Existing Roadway with Construction Noise Levels of the EIR/EIS. As indicated, none of the project roadways would experience an increase in traffic as a consequence of project construction that would result in the exceedance of 5 dBA CNEL above existing ambient noise levels. Thus, this impact was found to be **less than significant** (EIR, p. 4.13-24).

For off-site traffic impacts on roadways in the project vicinity, a 5 dBA over existing ambient noise levels was the threshold used in the EIR analysis. Traffic noise during construction was analyzed using the projected number of worker trips and haul truck trips during the temporary construction period. The project would generate a maximum of 1,030 workers trips per day, 101 vendor trips, and 67 haul truck trips. The increase in project vicinity roadways as a result of this increase in traffic would generate a noise level increase of 5.9 dBA above existing conditions on Backus Road between SR-14 and Sierra Highway. The EIR did not provide a recommended mitigation measure to reduce traffic on this roadway segment, which would result in a **significant and unavoidable impact** (EIR, p. 4.13-26).

Operational noise impacts were analyzed in the EIR by calculating the noise emissions of each of the proposed pieces of equipment that would generate relatively high noise levels. The combined equivalent continuous noise level from these pieces of equipment was projected to result in a noise level of 86.2 dBA Leq at a distance of 50 feet. When extrapolated out to the sensitive receptors, the noise experienced at these locations would be attenuated below 67.2 dBA Leq. This would be below the existing ambient-based noise thresholds of 73.9 dBA Leq at R1 and 70.6 dBA Leq at R2. This impact was found to be **less than significant** (EIR, p. 4.13-30 and 4.13-40).

For operational traffic on project vicinity roadways, the increase in traffic was found to increase noise levels between 2.0 to 8.3 dBA compared to baseline conditions (EIR Table 4.13-13 *Existing Roadway with Proposed Project Noise Levels*). The increase of noise on the project vicinity roadways during the first year of opening (2026) was indicated in EIR Table 4.13-14 *Year 2026 Roadway with Proposed Project Noise Levels*. In both scenarios, only two out of the four roadways would experience an increase in noise that would exceed the 5 dBA increase over existing conditions threshold, and only one (Backus Road between SR-14 NB Ramps and Sierra Highway) has existing residences. The impact from the increase in noise levels over the existing and projected ambient noise environment as a result the operation of the project was found to be **significant and unavoidable**. Until the county adopts a mechanism to collect fees for roadway improvements for Dawn Road (a dirt road that could be an alternative route for future project trips), there are no feasible measures available to reduce this impact (EIR, p. 4.13-31 and 4.13-32).

As the proposed mill would generate very little on-site land use activities (i.e. from customers visiting the site and the noises produced by their vehicles and conversations), the anticipated noise levels would be attenuated to approximately 36 to 49 dBA at 1,000 feet. Considering the Kern County Code regarding noise-generating events lasting more than one minute, none of the stationary noise sources on the project site would result in an exceedance of the 70 dBA daytime or 60 dBA nighttime thresholds. This impact would be **less than significant**. Additionally, as the proposed Micro Mill facility is not considered to be a sensitive land use, there would be **no impacts** to the interior operations from traffic noise. Finally, as the off-site power and telecommunication lines represent an infrastructure project that, once constructed, would not generate any substantial noise levels. Therefore, off-site operational noise generated from these lines would not result

in temporary or permanent substantial increases and noise and this impact was found to be **less than significant** (EIR, p. 4.13-32 and 4.13-33).

Impacts associated with vibrations generated on- and off-site and experienced by the nearby sensitive receptors were analyzed using typical vibration levels of equipment and thresholds outlined in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment. The two criteria used for the EIR analysis were impacts related to structural damage and human annoyance. As indicated in EIR Table 4.13-15, Vibration Source Amplitude for Construction Equipment and EIR Table 4.13-16, Summary of Construction Equipment and Activity Vibration, none of the pieces of construction equipment would generate vibrations above the 0.5 in/sec (or 102 VdB) or 94 VdB (or 0.2 in/sec PPV) thresholds for building damage. Furthermore, no vibrations would exceed the FTA's 78 VdB threshold at the nearest noise-sensitive receptor location during daytime hours or the FTA's 84 VdB threshold for annoyance of occupants in residential buildings. Thus, impacts from construction vibrations were found to be **less than significant**. Lastly, as the Micro Mill facility would not include any development of industrial uses that would generate substantial ground vibration, there would be **no impacts** in this area (EIR, p. 4.13-36 and 4.13-37).

Similarly, off-site construction activities during the installation of the power and telecommunication lines would generate vibrations from large dozers and other pieces of equipment that would have a maximum vibration of 0.017 in/sec PPV at 75 feet (the closest distance to a sensitive receptor during off-site improvements). Based on the FTA's guidance for occasional events at residential buildings, the off-site work could reach vibrational levels of 73 VdB, which would not exceed the FTA's threshold of 75 VdB at 75 feet. This impact was found to be **less than significant** (EIR, p. 4.13-39).

As the proposed Micro Mill Project would not be located within an Airport Sphere of Influence of any existing airport, nor the Kern County Airport Land Use Compatibility Plan, the Mojave Micro Mill EIR found this impact to be **less than significant** (EIR, p. 4.13-41).

With respect to the project's contribution to cumulative noise impacts with those of other projects in the vicinity of the proposed Micro Mill facility, despite the implementation of MM 4.13-1 and MM 4.13-2, construction of the project would result in an increase of 5 dBA or more above existing ambient noise levels on project vicinity roadways and impacts would be **significant and unavoidable**. The cumulative year (2042) baseline plus project traffic noise levels would be cumulatively considerable, resulting in cumulative impacts being **significant and unavoidable** when combined with future land uses in the region (EIR, p. 4.13-42 through 4.13-44).

Consideration of Changes to Impact Conclusions

Construction of the zinc-hybrid LDES Addition would displace construction of some solar PV panels but would add additional construction activities that would include the use of heavy equipment to construct foundations; use of a backhoe to trench electrical; use of flatbed trucks to bring the battery containers to the project site; use of a crane to place

the containers on top of their foundations; and use of tanker trucks to deliver the electrolyte. However, construction of the LDES Addition (both Phases 1 and 2) would occur concurrently with construction of the Micro Mill facility. Therefore, the battery system additions could increase noise levels generated on-site that would be experienced by the nearby receptors. Nonetheless, with the implementation of MM 4.13-1 and MM 4.13-2, this impact would remain the same as analyzed in the EIR as **less than significant with mitigation incorporated** (EIR, p. 4.13-33 and 4.13-34). Additionally, there would be no off-site construction required for the installation of the zinc-hybrid LDES Addition. The increase in worker, vendor, and haul truck trips associated with the LDES facilities would temporarily increase roadway noise levels beyond what was analyzed in the EIR. However, as the Micro Mill would result in off-site traffic impacts being **significant and unavoidable**, this increase in LDES Addition-related trips during construction would not alter the impact concluded in the EIR (EIR p. 4.13-34).

During operation of the zinc-hybrid LDES Addition, the noise generated by the battery system would be minor in comparison to the noise of the Micro Mill facility itself. Each of the zinc-hybrid LDES units would generate a noise level of 75 dBA Leq at a distance of 1 meter. Noise would be attenuated over the distance of 440 feet (distance from the project's property line nearest sensitive receptor), the nearest sensitive receptor would experience noise levels of approximately 49.9 dBA Leq (or 56.31 dBA Ldn). This increase would only slightly change the calculated noise level of the Micro Mill facility from 67.4 dBA Leq (or 73.8 dBA Ldn) to 68.1 dBA Leq (or 74.5 dBA Ldn) (the main source of noise would come from the mill itself, thus the project' batteries would be miniscule additions and therefore similar in the total output of the project). The zinc-hybrid LDES Addition would not result in the operations exceeding the local noise thresholds of 73.9 and 70.6 dBA Leq (or 80.3 and 77.0 dBA Ldn). The impact from the batteries would remain **less than significant**, as was analyzed in the EIR (EIR, p. 4.13-30). The increase in traffic noise from operating the zinc-hybrid LDES system would be from a few trips per month as the system would be remotely controlled. Regardless, the Final EIR determined that operation traffic noise would be **significant and unavoidable with no feasible mitigation to reduce impacts** (EIR, p. 4.13-31).

With respect to the vibrations emitted by the zinc-hybrid LDES Addition, there would be no change in impact severity than what was analyzed in the EIR. The batteries containers would sit on concrete footings, with no pile driving activities required during the construction phases, nor any use of other pieces of equipment that would result in vibrations experienced by the nearby sensitive receptors above the FTA's established groundborne vibration thresholds. This impact would remain **less than significant**, as was analyzed in the EIR (EIR, p. 4.13-36). Furthermore, the batteries themselves would not emit groundborne vibrations during their operation. Therefore, there would be **no impact**, as was analyzed in the EIR for onsite noise generating equipment (EIR, p. 4.13-37).

Cumulative Impacts

There are 36 separate projects within a 6-mile radius. Although none of the cumulative projects includes a proposed manufacturing facility, the combination of those projects and the proposed Micro Mill could result in short-term cumulatively considerable increases

in noise levels. The off-site construction traffic associated with existing development and projects that may be developed in the same period as the mill, in combination with noise from traffic associated with the the Micro Mill Project, will result in cumulative impacts to noise. Despite the imposition of MM 4.13-1 and MM 4.13-2, the project would result in construction noise impacts that would be **significant and unavoidable**. However, with implementation of MM 4.13-1 through MM 4.13-2, the zinc-hybrid LDES Addition's contribution to significant impacts associated with the increase of traffic on roadways in the vicinity would not exceed those addressed in the EIR. The residual noise impacts related to a substantial increase over existing ambient levels would remain **cumulatively significant and unavoidable** (EIR, p. 4.13-41 through 4.13-44).

Summary of Findings

In general, the addition of the zinc-hybrid LDES Addition would not result in any substantial changes to the project that would alter the impacts addressed in the EIR. The increase in construction equipment required for the installation of batteries would be minor as much of the construction equipment would already be on-site and noise levels generated by those pieces of equipment during the construction period were previously analyzed in the EIR; and done so conservatively. With the **implementation of MM 4.13-1 and MM 4.13-2, on-site construction noise impacts would remain less than significant.** Noise generated by the LDES Addition during operation would be minor. The proposed location of the units, in comparison to other operational features, would result in a slight increase in noise levels generated by the facility and this impact would **remain less than significant**. The zinc-hybrid LDES Addition would add few trips to the total construction trip count, and only a handful of trips per month during operations. However, both construction and operations of the project (including the batteries) would result in increases to traffic on project vicinity roadways that could result in an increase of 5 dBA or more and impacts would **remain significant and unavoidable with no feasible mitigations available. Cumulative impacts would remain as significant and unavoidable** for both construction and operation of the project plus the LDES Addition.

4.6. Transportation and Traffic

Baseline Conditions

The circulation system in the vicinity of the project site is made up of a combination of state and county facilities. The Micro Mill Project site is located near two highways that would provide access to the general vicinity of the project during the construction and operation phases. Sierra Highway borders the western boundary of the project site just west of the Union Pacific Railroad. SR 14 runs parallel approximately 0.75 mile west of the project site (EIR, p. 4.17-1).

Local roads include Sopp Road, a two-lane local road at the north side of the Project and Lone Butte Road, a two-lane local road that extends north from Sopp Road at the northeast corner of the project site. Backus Road and Dawn Road are both two lane local roads running east-west roughly 1 mile north and 2 miles south of the project, respec-

tively. These roads both provide access to SR 14 via full diamond interchanges (EIR, p. 4.17-2).

Summary of Final EIR Impact Conclusions

At the time of preparation of the Traffic Impact Study, the Micro Mill Project's construction phase was expected to last approximately 24 months from 2023 to 2025, with the operational phase beginning immediately after and lasting until 2042. Because of the LDES Addition, this schedule has been delayed about two years. Based on the information provided and the analysis completed in the Traffic Impact Study, the construction phase of the proposed project would degrade the level of service (LOS) to a level below the LOS set by the Kern County General Plan at one intersection while the remaining intersections would not be below LOS D. The PM Peak Hour LOS at the intersection of Backus Road and SR 14 northbound ramps would drop from LOS C in 2023 and LOS D in 2025 to LOS F for the construction years (EIR pp. 4.17-16 and 4.17-17).

To mitigate this potential impact, MM 4.17-1 and MM 4.17-2 would be implemented. MM 4.17-1 would require, prior to the issuance of construction or building permits, the project proponent to implement measures to ensure peak hour construction worker vehicle limits are maintained during the AM and PM peak hours to maintain LOS D or better at the study intersections. MM 4.17-2 would require the project proponent to prepare and submit a Construction Traffic Control Plan to the Kern County Public Works Department-Development Review and the Caltrans offices for District 9 for approval. By implementing these mitigation measures, impacts would be reduced to **less than significant** (EIR p. 4.17-17).

During the operations phase, with mitigation measures implemented, including MM 4.17-3 requiring installation of a traffic signal and road widening at the SR 14 northbound at Backus Road intersection by "opening day" and a traffic signal at southbound ramp and Backus Road intersections by 2042, the LOS would then be adjusted to LOS B, which is above the LOS standard of LOS D. Therefore, impacts would be **less than significant** (EIR, p. 4.17-29). Although the proposed project traffic would result in a degradation of the LOS below the standard LOS D, as set in the Kern County General Plan, with implementation of MM 4.17-1 through MM 4.17-3, the impacts would be **less than significant with mitigation incorporated** (EIR, p. 4.17-33).

Consideration of Changes to Impact Conclusions

The LDES Addition to the Mojave Micro Mill Project would not be noticeable when compared to the Micro Mill Project impacts overall. During construction (estimated to be from third quarter 2025 through second quarter 2027), the LDES Addition would add 58 haul trips for the battery shipping containers spread out over two phases and several days within each phase, compared to the daily 101 vendor trips and 67 haul trips during construction of the mill (EIR, p. 4.13-23). The LDES Addition would reduce the number of trips associated with the development of the solar field as it would be somewhat smaller than originally planned. The construction workforce for the LDES Addition would add up to 10 additional employee trips per day compared to the estimated 872 daily trips from

the mill workforce (EIR, p, 4.17-34). The LDES construction workforce would be subject to the Construction Traffic Control Plan (MM 4.17-2). Therefore, the LDES Addition would not create any significant new Transportation and Traffic impacts, or significant changes to the impact analysis methodology and conclusions presented in the Final EIR. Impacts from the LDES Addition would be the same type as those disclosed in the Final EIR, but substantially less.

When compared to the Micro Mill plant's anticipated operational workforce of approximately 440 workers (EIR, p. 1-13), the addition of these 5 to 10 periodic maintenance workers would not have a noticeable effect on traffic.

The EIR determined that project traffic generated by cumulative projects located further than six miles from the project site would not have a noticeable effect on traffic conditions at study intersections or roadway segments, and therefore vehicle trips that would be generated by those projects were not considered in the cumulative traffic analysis for the proposed project.

During the construction phase of the project, at the PM Peak Hour, the LOS at the intersection of Backus Road and SR 14 northbound ramps would drop from a LOS A to an LOS F. However, with the implementation of MM 4.17-1 and MM 4.17-2 impacts would be considered **less than significant with mitigation incorporated** (EIR, p. 4.147-39).

For the operational phase of the project, two intersections would drop below the minimum standard of LOS D: Backus Road and SR 14 northbound ramps and Backus Road and SR 14 southbound ramps. With the implementation of MM 4.17-1 and MM 4.17-2, as well as MM 4.17-3 requiring installation of a traffic signal and road widening at the SR 14 northbound at Backus Road intersection by "opening day," and a traffic signal at southbound ramp and Backus Road intersections by 2042, the LOS would then be adjusted to LOS B.

The EIR concluded that cumulatively, impacts during the construction and operational phases of the proposed project, with the implementation of MM 4.17-1 through MM 4.17-3, would be less than significant (EIR, p. 4.17-39). The addition of the LDES Addition would not change that conclusion.

Summary of Findings

The LDES Addition, constructed in two phases with 16 battery containers in Phase 1 and 42 containers in Phase 2, would not add a significant amount of traffic to the roads and intersections surrounding and leading to the project site. Similarly, the 5 to 10 additional workers involved in construction of the LDES Addition would be an insignificant addition to the 515 workers constructing the mill facility (EIR, p. 1-13). During operations, 5 to 10 workers would be needed for periodic maintenance. They would not have a noticeable effect on operational traffic when combined with the 440 operational workers for the mill. Consequently, with implementation of MM 4.17-1 through MM 4.17-3, the cumulative traffic impacts from construction and operations would be **less than significant with mitigation incorporated** (EIR, p. 4.17-40).

4.7. Wildfire

Baseline Conditions

The project site is on 174 acres of privately owned land in the western Mojave Desert, approximately 5.5 miles north of the unincorporated community of Rosamond. California Desert vegetation (Mojave Creosote Bush Scrub community) dominates most of the project site and region and the topography across the project site is relatively flat with little variation. Scattered, widely spaced Joshua trees occur throughout portions of the creosote bush scrub communities present within the project site; however, they do not occur at a density high enough to consider them a distinct woodland community. The project site primarily consists of sparse desert vegetation. Existing development in the vicinity of the project includes a mix of undeveloped land, sparse residential, renewable energy projects (solar), and dispersed industrial (EIR, p. 4.20-1).

According to the Fire Hazard Severity Zones map published by CAL FIRE, the Micro Mill Project site is classified as Moderate within a Local Responsibility Area. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. Based on a review of CAL FIRE's Fire and Resource Assessment Program, Fire Perimeters, no fires in the recorded history have burned across the project site (EIR, p. 4.20-3).

Summary of Final EIR Impact Conclusions

Because of the existing and proposed condition, the potential for wildfire on the project site is considered moderate. Construction and operation of the Micro Mill Project would not exacerbate the risk of wildfire. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials (EIR, p. 4.20-7). Given the moderate potential for fire and the lack of permanent occupants, the project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be **less than significant** (EIR, p. 4.20-9).

Development of the Micro Mill Project is limited to approximately 527,021 square feet of building coverage with an approximately 63 acres of ground-mounted solar panels and battery storage, all within the 174-acre project boundary. One new road would be constructed along the eastern boundary of the project site to provide an additional access point to the project site, which would primarily be designated for large trucks importing and exporting material to and from the project site. Construction, operation, and maintenance associated with the new infrastructure would adhere with all federal, state, and local laws, regulations, codes, and safety standards. The project proponent would be required to develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions for use during construction and operation, per MM 4.15-1. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure is reduced and, thus, project

improvements would not exacerbate fire risk and impacts would be **less than significant with mitigation incorporated** (EIR, p. 4.20-10).

With the lack of topographic variation, fire history, and with the implementation of MM 4.10-1, the project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be **less than significant with mitigation incorporated** (EIR, p. 4.20-11).

Nevertheless, given the location is subject to high wind speeds, and is a rural area with limited infrastructure, the Micro Mill Project and related projects have the potential to result in a cumulative impact related to exposing people to pollutant concentrations from a wildfire and, thus, would result in a **significant and unavoidable cumulative impact** in this regard (EIR, p. 4.20-13).

Consideration of Changes to Impact Conclusions

Fifty-eight LDES battery containers would be brought on-site for the LDES Addition. Some types of battery storage (generally lithium-ion batteries) are subject to thermal runaway, which is when a battery cell enters an uncontrollable self-heating state that causes it to catch fire. Because of this history, the California legislature passed Senate Bill 38, which was signed into law in October 2023. This bill requires each battery energy storage facility located in California to have an Emergency Response and Emergency Action Plan that covers the premises of the battery energy storage facility. The bill requires the owner or operator of the facility, in developing the plan, to coordinate with local emergency management agencies, unified program agencies, and local first response agencies. The bill also requires the owner or operator of the facility to submit the plan to the county. For this reason, Kern County has required the two BESS locations at the project site have a minimum 300-foot setback from the PSG Substation, from Sierra Highway, and from each other. In addition, both types of batteries will be operated in conformance with 2022 California Fire Code, Title 24, Part 9 and the National Fire Protection Association (NFPA) Standard 855 for energy storage systems.

The proposed zinc hybrid flow battery technologies used for the LDES Addition have passed UL 1973, UL 9540, and UL 9540A certifications, and are currently in the process of passing additional certifications related to safety and performance standards to demonstrate that they are not subject to thermal runaway.

There are two battery storage sites planned for the project property. The LDES Addition site and the 300-foot distant lithium-ion battery site. Each will be gravel covered and within surrounding access roads. This reduces wildfire risk by eliminating vegetation as a potential fuel. The LDES Addition uses a nonflammable aqueous zinc hybrid technology that has no wildfire risk. The small amount of hydrogen generated during operations is vented. The lithium-ion batteries on the separate site have the potential to combust. However, even if thermal runaway occurs at the lithium-ion battery BESS it would not result in a wildfire, because the surrounding area is gravel covered and separated from potential fuel that could ignite a wildfire.

Summary of Findings

The proposed zinc hybrid flow battery technologies being considered for the LDES Addition have passed UL 1973, UL 9540, and UL 9540A certifications for fire safety demonstrating that they are not subject to catching on fire. The LDES Addition will be subject to compliance with the requirements of SB 38 to prepare an Emergency Response and Emergency Action Plan. In addition, it will be operated in conformance with 2022 California Fire Code, Title 24, Part 9 and the National Fire Protection Association (NFPA) Standard 855 for energy storage systems.

Given the above information, the moderate potential for fire in the project area and the lack of permanent occupants, the LDES Addition is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors. It should be noted that the project site also is not adjacent to any area with a substantial risk of wildfire and the LDES Addition would not exacerbate the risk of wildfire or result in impacts to the environment. Therefore, with implementation of MM 4.10-1, MM 4.15-1, and MM 4.17-2 and MM 4.17-3, impacts would be **less than significant with mitigation incorporated** (EIR, p. 4.20-9). Regardless, the Micro Mill Project was determined to contribute to a **significant and unavoidable cumulative impact** (EIR, p. 4.20-14).

4.8. Other Resources Analyzed in the Final EIR

The following section provides a brief summary of the resources that are fully addressed in the Micro Mill EIR, and whose analyses have been incorporated by reference in this EIR addendum. References to the applicable Mojave Micro Mill EIR sections and the Mitigation Monitoring & Reporting Program (Exhibit C of the February 8, 2024, Staff Report) are included throughout the following subsections. The lead agency (Kern County) determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of the EIR, that the proposed Micro Mill Project would not result in significant impacts in some environmental issue areas, and that no further analysis would be required in the EIR. Thus, the following issue areas were excluded from further analysis in the EIR:

- Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production;
- Result in the loss of forestland or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.
- Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code) because neither the

project site nor surrounding land near the project site are encumbered by an active Williamson Act Land Use Contract.

None of these issues areas are affected by the LDES Addition.

Agriculture and Forestry Resources

Section 4.2 of the Mojave Micro Mill Final EIR discusses whether construction or operation of the Micro Mill Project would disrupt access to agricultural lands or alter these lands, while Section 4.2.4 provides an impact analysis to agriculture and forestry resources. The Micro Mill Project site is located within the boundaries of Agricultural Preserve No. 24 and is vacant, previously disturbed land. At the time of the EIR, the project site was zoned A-1 (Limited Agriculture). The applicant proposed to rezone the A-1 parcels to M-3 PD (Heavy Industrial – Precise Development Combining) in Zone Map 213, as detailed in **Chapter 3 of the EIR**, *Project Description*. Therefore, with the proposed rezone, the Micro Mill facility would not conflict with zoning for agriculture. None of the project parcels are designated as Important Farmland (DOC, 2020), nor are any adjacent to the project site under Williamson Act contracts.

The LDES Addition to the project would be located on lands examined under the EIR that were designated for the solar field. Therefore, no additional Agriculture and Forestry Resources impacts would occur from the incorporation of the LDES Addition into the Project Description. The EIR determined that impacts to this technical area would be **less than significant** and that no mitigation measures were required (EIR, p. 4.2-12 to 4.2-13).

The EIR also determined that the Micro Mill's project effects are not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects in the area. Similarly, the concurrent development of the lithium-ion BESS would not affect cumulative impacts. Thus, the loss of land zoned for agricultural use within Antelope Valley and Kern County would result in a **less than significant impact** (EIR, p. 4.2-13)

Cultural Resources

The Micro Mill impacts associated with cultural resources are included in Section 4.5 of the Final EIR, with the impact analysis and proposed mitigation measures resulting from ground-disturbing activities of the Micro Mill Project addressed in Section 4.5.4. That section analyzes potential adverse changes to any historical or archaeological resource, and potential disturbance of human remains. Regarding built resources, 12 of the 13 identified cultural resources within, and immediately adjacent to, the project area are recommended not eligible for listing in the California Register, and therefore do not quality as historical resources, nor do they qualify as unique archaeological resources under Public Resources Code 21803.2(g) (EIR, pp.4.5-36 and 4.5-37).

One resource, P-15-002050 (Southern Pacific Railroad), may be eligible for listing in the California Register and, therefore, may qualify as a historical resource. However, this resource, located 85 feet outside of the project area and within the 200-foot-wide Union

Pacific Railroad easement as identified on the proposed plans, would not be subject to direct or indirect impacts as a result of project implementation. Therefore, the Micro Mill Project would not result in significant impacts to known cultural resources that qualify as historical resources pursuant to CEQA. (EIR, p.4.5-37).

Mitigation measures MM 4.5-1 through 4.5-5 have been adopted that require the use of a Lead Archaeologist in consultation with a Native American Monitor to provide training and oversight of cultural resource work. They require the preparation of a Cultural Resources Treatment Plan and outline the process and procedures for the identification, evaluation, and protection of cultural resources, as well as procedures for the avoidance or mitigation of impacts resulting from implementation of newly proposed project activities. MM 4.5-3 and MM 4.5-4 would require appropriate treatment and protection of unearthed paleontological and archaeological resources, should they be located during construction. This would include those that qualify as historical resources. Implementation of these four mitigation measures would reduce potential impacts to historical and archaeological cultural resources to a **less-than-significant level**. Additionally, although project construction is not anticipated to disturb human remains, the implementation of MM 4.5-5 would ensure the appropriate protocol is followed regarding identifying and handling remains, should they be inadvertently discovered. (EIR, p. 4.5-44).

Given that the proposed BESS modifications would be located within the solar field analyzed in the EIR and subject to the same mitigation measures, there would be no new impacts to cultural resources, nor a change in the severity of impacts from what was presented in the Final EIR. With implementation of MM 4.5-1 through 4.5-5, impacts to historic and archaeological resources would continue to be **less than significant with mitigation incorporated** (EIR, pp. 4.5-43 and 4.5-44).

The geographic area of analysis of cumulative impacts for cultural resources includes the western Antelope Valley. This geographic scope of analysis is appropriate because the archaeological and historical resources within this area are expected to be similar to those that occur on the project site because of their proximity, and because the similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. Development of the proposed Micro Mill Project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant cultural resources impact due to the potential loss of historical and archaeological cultural resources unique to the region. However, mitigation measures are included in the EIR to reduce potentially significant project impacts to cultural resources during construction of the proposed Micro Mill Project, which would reduce the project's incremental contribution to cumulative impacts. Thus, given this minimal impact and similar mitigation requirements for other projects in the western Antelope Valley, cumulative impacts to cultural resources would be **less than significant** (EIR, pp. 4.5-43 and 4.5-44).

Energy

Section 4.6 of the EIR analyzes the energy implications of the Mojave Micro Mill Project, focusing on electricity, natural gas, and transportation energy. Specifically, each of these aspects are evaluated in context with the construction and operation phases. Within the

construction phase, activities associated with construction of proposed Micro Mill Project are analyzed. This includes analyzing energy demand as a result of the use of heavy-duty construction equipment, on-road trucks, and construction workers commuting to and from the project site (EIR, p. 4.6-1). Construction of the Micro Mill facility is expected to last 24 months (EIR, p. 1-13).

During construction of the Micro Mill Project, energy would be consumed in the form of electricity for powering the construction trailers (lights, electronic equipment, and heating and cooling) and exterior uses, such as lights, water conveyance for dust control, and other construction activities. Natural gas would not be used for construction purposes. Project construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the project site, approximately 515 construction workers per day would travel to and from the project site, and delivery and haul truck trips (e.g., hauling of demolition material to off-site reuse and disposal facilities) (EIR, p. 4.6-15). By including the LDES Addition into the Project Description, it would add 5 to 10 additional construction workers to each phase of the short LDES construction period. As stated previously, Phase 1 of the LDES project would support the steel mill's construction and commissioning. Its primary goal is to provide essential energy storage and manage power demands during the early stages of the project. This phase will be completed quickly to ensure the mill can complete the construction and commissioning stages even before full utility upgrades are in place.

Phase 2 of the BESS project will focus on optimizing energy use and integrating with on-site solar generation as the steel mill transitions to full operations. This phase involves a larger-scale LDES deployment designed to enhance energy resilience, reduce costs, and improve operational efficiency.

The Final EIR analyses activities from the operation of the proposed Micro Mill Project. This includes analyzing the required energy in the form of electricity and natural gas for scrap metal recycling, rebar production, building heating, cooling, lighting in the ancillary buildings (i.e. office, storeroom, vehicle maintenance, power control rooms, etc.), water demand and wastewater treatment, electronics, and other energy needs; transportation-fuels, primarily gasoline, for vehicles traveling to and from the proposed project (EIR, p. 4.6-1). The EIR determined that with implementation of MM 4.6-1 combined with the Air Quality mitigation measures, MM 4.3-1 through MM 4.3-4, the Energy impacts would be **less than significant** (EIR, p. 4.6-20). However, with implementation of the solar arrays, analyzed in the Micro Mill EIR, the inclusion of the LDES Addition will add additional reliability and energy benefit to the project.

Cumulatively, the Micro Mill EIR, determined that impacts would be **less than significant** with implementation of MM 4.6-1, as well as MM 4.3-1 through 4.3-4 (EIR, p. 4.6-24). The inclusion of the LDES Addition and lithium-ion BESS would further reduce cumulative Energy impacts.

Geology and Soils

Section 4.7 of the EIR addresses Geology and Soils. Section 4.7.4 analyzes project impacts to Geological and Soils Resources resulting from construction and operation of the Micro Mill Project. The EIR determined that, given the absence of any known active faults in the project area and required compliance with the Kern County Building Code, impacts related to fault rupture are anticipated to be **less than significant**. Based on the absence of any known active faults that cross the project site, and project compliance with applicable ordinances of the Kern County Building Code, personnel present during the construction and operation phases of the proposed project also would not be exposed to hazards from fault rupture. Therefore, impacts related to fault rupture would be **less than significant** (EIR, pp. 4.7-20 and 4.7-21).

The Micro Mill Project is in a highly seismic region that could experience one or more substantive seismic events in the future. The region is influenced by several fault systems, most notably the San Andreas and Garlock fault systems, which are capable of generating strong ground motions that could affect the project site and surrounding areas (EIR, p. 4.7-21). To mitigate any potential impacts, such as the risk of loss, injury, or death stemming from the project, MM 4.7-1 through MM 4.7-7 would be implemented along with the Kern County Building Code and the California Building Code (CBC) (EIR, p. 4.7-22).

Furthermore, the buildings, solar array, and additional site components would be constructed in accordance with all other applicable codes, such as those that require property line and public roadway setbacks to protect the public and onsite staff from potential hazards associated with the facilities that could result from an earthquake (EIR, p. 4.7-22). Similarly, the LDES Addition would be subject to the same mitigation requirements and building codes. Thus, adherence to the requirements of the Kern County Building Code, the CBC, and MM 4.7-1 through MM 4.7-7 would ensure that seismic hazards would be minimized; impacts related to ground shaking would be **less than significant** (EIR, p. 4.7-22).

Mitigation measure MM 4.7-8 consists of the project proponent preparing a Soil Erosion and Sedimentation Control Plan. With the implementation of MM 4.10-1, MM 4.10-2, and MM 4.7-8, potential impacts regarding soil erosion or the loss of topsoil would be **less than significant** (EIR, p. 4.7-27). Similarly, to stem potential impacts from the use of a septic system, MM 4.7-9 and MM 4.7-10 would be implemented (EIR, p. 4.7-31). The LDES Addition would be subject to these same mitigation measures.

As the location and type of construction and operation activities under the proposed LDES Addition would remain the same as the Micro Mill Project, based on the discussion provided in the Final EIR Section 4.7, there would be no new geology, seismicity, soils, and paleontological impacts, nor would there be a change in the severity of impacts.

The Micro Mill EIR also considers potential Geology and Soils impacts to cumulative projects and states that the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts on soils because such impacts are site

specific and would only have the potential to combine with impacts of the project if they occurred in the same location as the project (EIR, p. 4.7-33). Although the lithium-ion BESS would be located 300 feet south of the LDES Addition, the nature of the facility (i.e., storage containers placed on a concrete foundation) would not affect the LDES Addition. Thus, with implementation of mitigation measures MM 4.7-1 through MM 4.7-10, MM 4.5-1 through MM 4.5-4, and MM 4.10-1 and MM 4.10-2, cumulative impacts related to geology and soils are **less than significant** (EIR, p. 4.7-35).

Greenhouse Gas Emissions

The Mojave Micro Mill Final EIR Section 4.8 describes greenhouse gas emissions resulting from construction and operation of the Micro Mill Project. Although the proposed Micro Mill Project would result in emissions exceeding 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_{2e}$/year), the impacts are determined to be less than significant because the proposed project demonstrates compliance with option (1) compliance with applicable state greenhouse gas (GHG) reduction plan (EIR, p. 4.8-64). For the reasons described in the Final EIR, the proposed Micro Mill Project's emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2045 targets established by SB 32, AB 1279, and the 2022 Scoping Plan. Therefore, given the proposed project's GHG emissions efficiency and the proposed project's consistency analysis with applicable GHG plans, policies and regulations adopted for the purpose of reducing GHG emissions, impacts regarding GHG emissions and reduction plans would be **less than significant** and no mitigation measures were required (EIR, p. 4.8-65). Adding the two BESS projects would further reduce GHG emission by allowing surplus renewable solar energy to be captured and stored on-site for use in operating the Micro Mill, further replacing the need for electricity from gas-fired power plants.

Regarding cumulative impacts, the Final EIR concluded that given that the proposed Micro Mill Project would generate GHG emissions that would not conflict with applicable GHG reduction plans and policies, and given that GHG emission impacts are cumulative in nature, the proposed project's incremental contribution to cumulatively significant GHG emissions would be less than cumulatively considerable (EIR, 4.8-67).

Hydrology and Water Quality

The Mojave Micro Mill Final EIR Section 4.10 describes the hydrological environmental and regulatory settings, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce impacts, where applicable.

To reduce potential impacts associated with hazardous materials, the project would implement MM 4.10-2, which requires the preparation of a hydrologic study and drainage plan per the Kern County Development Standards and the Kern County Code of Building Regulations prior to issuance of a grading permit. Based on the findings of the hydrologic study, the drainage plan would recommend an onsite design that complies with all channel setback requirements and ensure facilities are located in such a way to lessen their impact on drainage areas and their water quality. MM 4.10-2 would require that ground disturbance is minimized within drainage areas and timed to avoid the rainy

season where possible. This would decrease the potential of stormwater mixing with construction-related materials and degrading water quality. Therefore, while construction and grading activities would affect current drainage patterns and could result in erosion and sedimentation on the project site, implementation of MM 4.10-1 and MM 4.10-2 and compliance with the established regulatory framework would reduce potential impacts to **less than significant with mitigation incorporated** (EIR, p. 4.10-18).

The Micro Mill Project would result in a significant increase in impervious surfaces on the site as result of the construction of the micro mill, ancillary buildings, other project components, and internal roads, which will be paved with asphalt. Panels from the 63-acre solar array are not considered impervious surfaces, because stormwater falling on the panels would drip and infiltrate into the ground below or run off during larger storm events (EIR, p. 4.10-18). Similarly, the two BESS battery units would have runoff from the containers, but the water would infiltrate into the surrounding ground, which would be graveled, or run-off during larger storm events.

Operation of the micro mill would require the use of certain materials that could be considered hazardous materials (EIR, p. 4.10-18). The addition of the LDES units would also use hazardous materials. Potential impacts from the LDES hazardous materials are addressed in Section 4.4 of this addendum. Water quality could also be degraded by non-hazardous materials during operation activities of the mill, as the project would result in an increase in impervious surfaces. During dry periods, impervious surfaces can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants can mix with stormwater and degrade water quality (EIR, p. 4.10-19). These conditions would not occur in the solar arrays or the LDES Addition because the ground surface in these areas would not be impervious, but covered with gravel. Hence, following compliance with the established regulatory framework, project operation would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality (EIR, p. 4.10-19). With implementation of MM 4.9-1, MM 4.10-1, and MM 4.10-2, construction and operational impacts would be **less than significant with mitigation incorporated** (EIR, p. 4.10-21).

As noted in the EIR, the project site is currently undeveloped and contains pervious surface. Project implementation of the micro mill facility would result in intensification of development and addition of impervious surfaces that would reduce infiltration (EIR, p. 4.10-21). However, the solar farm and BESS areas are considered pervious surfaces, and therefore, would not reduce infiltration. With implementation of MM 4.10-2, impacts would be **less than significant**. In addition to building the two retention basins to capture water from the project site, MM 4.10-2, which requires the preparation of a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site, would be required. Therefore, impacts regarding the potential impeding or redirecting of flood flows would be **less than significant** with the implementation of MM 4.10-2 (EIR, p. 4.10-27)

The Water Supply Assessment found that the Antelope Valley-East Kern Water Agency, as the water supplier has sufficient water supplies available to serve the proposed project,

its member agencies now and over a 20-year planning horizon (EIR, p. 4.10-22). The LDES Addition will require a small amount of water to replenish electrolyte solution in the zinc hybrid batteries during their maintenance. This amount of water would be insignificant when added to the overall water needs of the micro mill facility.

With implementation of MM 4.9-1, MM 4.10-1, and MM 4.10-2 cumulative impacts would be **less than significant** (EIR, p. 4.10-32).

Land Use and Planning

The Mojave Micro Mill Final EIR Section 4.11 addresses the affected environment and regulatory setting of the project for impacts that may affect land use and planning. The proposed project is located on approximately 174 acres of undeveloped, privately owned land in unincorporated Kern County. The Micro Mill Project site is designated as Zone "X" based upon the Flood Insurance Rate Map overlay as issued by the Federal Emergency Management Agency, which indicates the project site is not in an area of flood hazard. When the EIR was written, the project site had a designated map code 8.5 (Resource Management – minimum 20 acres) by the Kern County General Plan and classified A-1 (Limited Agriculture) by the Kern County Zoning Ordinance. The Micro Mill Project included requests for a General Plan Amendment from map code 8.5 to 7.3 (Heavy Industrial), a Zone Classification Change from A-1 to the M-3 PD (Heavy Industrial – Precise Development Combining) District, as well as Conditional Use Permits, a Precise Development Plan, and Zone Variances (EIR, p. 4.11-1).

The proposed mill project would be located on vacant, undeveloped land in southeastern Kern County and would not physically divide an established community (EIR, p. 4.11-23). As noted, the Micro Mill Project required approval of several plans and entitlements. With the approval of the Zone Classification Change, Precise Development Plan, zone variances, and conditional use permits--which have since been approved by Kern County—the project is now consistent with applicable land use policies and regulations, and impacts related to consistency with the Zoning Ordinance are **less than significant** (EIR, p. 4.11-26). The inclusion of the LDES Addition would not require any additional entitlements but would be consistent with these plans.

The geographic scope of the cumulative analysis is the western Antelope Valley. This area was selected to analyze the cumulative impact to regional land use patterns of project development in the area, and because there is some uniformity to existing land use patterns in this region. Thirty-six projects were proposed within the geographic scope. The anticipated impacts of the Micro Mill Project in conjunction with cumulative development in the area of the project would increase the urbanization and result in the loss of agricultural space. The proposed Micro Mill Project and the two BESS units would be consistent with the goals and policies of the Kern County General Plan. In addition, with approval of the land use plans and entitlements, development of the micro mill, solar array, and ancillary structures (including the BESS units) for the proposed project would be an allowable use that would not conflict with the land use or zoning classification for the project site. Therefore, as proposed the project would be consistent with the goals and policies of the Kern County General Plan and the Kern County Zoning Ordinance,

therefore, it would not contribute to a cumulatively considerable impact regarding land use. Furthermore, all other past, present, and future projects would be required to undergo separate environmental review on a case-by-case basis in accordance with the requirements of CEQA. Each related project would also be required to demonstrate consistency with all applicable planning documents governing the project site, including the Kern County General Plan and the Kern County Zoning Ordinance, should those projects be within the plan area. Therefore, cumulative land use impacts would be considered **less than significant** (EIR, p. 4.11-27).

Mineral Resources

The Mojave Micro Mill Final EIR Section 4.12 describes impacts on mineral resources that would result from implementation of the proposed Micro Mill Project. The project site is not located on lands designated as a mineral resource zone by the state and the project site is not known to contain mineral resources (EIR, p. 4.12-7). The project site does not contain any oil or gas wells, is not located on a locally important mineral resource recovery site delineated by the Kern County General Plan, or designated NR (Natural Resources), or PE (Petroleum Extraction) Zone Districts by Kern County's Zoning Ordinance. While there are nearby mineral resource recovery sites, the operation of such sites would not be impeded by the development of the proposed project. Therefore, the development of the proposed micro mill facility would not result in the loss of availability of a known locally important mineral resource recovery site. Impacts would be **less than significant** (EIR, p. 4.12-8). Since the LDES Addition would be located on the project site, it too would not result in the loss of availability of a known locally important mineral resource.

For cumulative impacts, the geographic scope of impacts associated with mineral resources generally encompasses the project site and a 6-mile-radius area around the project site. This scope is appropriate because of the localized nature of mineral resource impacts. Furthermore, there are no mineral resource zones or lands designated as 8.4 Mineral and Petroleum areas by the Kern County General Plan within a one-mile-radius area around the project site. Additionally, the project is not located within the Kern County's NR (Natural Resources), or PE (Petroleum Extraction) Zone District. Therefore, the proposed project (including the two BESS units), in conjunction with other related projects, would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. Therefore, cumulative impacts to mineral resources would be **less than significant** (EIR, p. 4.12-9).

Population and Housing

The Mojave Micro Mill Final EIR Section 4.14 addresses potential impacts of the Mojave Micro Mill Project on population, housing, and employment at the project site and provides an overview of current population estimates, projected population growth, current housing, employment trends, and the regulatory setting (EIR, p. 4.14-1).

The proposed mill project would provide a substantial amount of new jobs to the area during the construction and operational phases, as is consistent with the adopted Kern County General Plan goals, plans, and policies. During the construction phase, which is

expected to last approximately 24 months, it is expected that on any given peak construction day, approximately 515 construction employees will be needed. However, the project would not directly or indirectly induce the development of any new housing or businesses. Similarly, the LDES Addition would add up to 10 construction jobs. The addition of these few jobs would also not directly or indirectly induce the development of any new housing or businesses.

Operation of the proposed Micro Mill Project would require up to 440 full-time and or part-time staff. Implementation of MM 4.15-3 encourages all project contractors at the project site to hire at least 50 percent of construction employees from local Kern County communities. Given the scope of the existing population and available housing in the area, this increase is not considered significant. The project does not propose the extension of roads or the development of other infrastructures, such as utilities, that would indirectly induce population growth. While impacts would be **less than significant**, implementation of MM 4.15-3 would further reduce the impacts (EIR, p. 4.14-6). The inclusion of the LDES Addition would add 5 to 10 periodic maintenance workers, which would be insignificant.

Because no new residences would be constructed, the project would not increase population. It is anticipated that a substantial amount of the required labor force in the surrounding areas would be used for project construction and the operational phase. While impacts would be **less than significant**, implementation of MM 4.15-3 would **further reduce the impacts.** Therefore, the project, in conjunction with the current and reasonably foreseeable projects, would not lead to population growth. The employment opportunities provided by the project and other reasonably foreseeable projects would help to provide a balance with the current and projected labor force associated with future conditions. Therefore, cumulative impacts would be **less than significant with mitigation incorporated** (EIR, p. 4.14-8).

Public Service

The Mojave Micro Mill Final EIR Section 4.15 describes the affected environment and regulatory setting pertaining to public services, which include fire and police protection. The Kern County Fire Department provides primary fire protection services, fire prevention, emergency medical, and rescue services. Fire Station No. 15 (Rosamond) is approximately 5.5 miles southwest of the project site and would be the primary responder to a fire or emergency at the project site (EIR, p. 4.15-1).

The Kern County Emergency Medical Services Division is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the county, which include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician training programs throughout the county (EIR, p. 4.15-2).

The Kern County Sheriff's Office provides basic law enforcement services in the unincorporated areas of the county, which includes the project area. The nearest substation is

the Rosamond Substation located approximately 5.5 miles south of the project site in the unincorporated community of Rosamond (EIR, p. 4.15-3).

The project site is located within the Mojave Unified School District. The Kern County Parks and Recreation Department manages an extensive system of large regional parks designed to serve the entire countywide population. Other public facilities include library facilities, post office facilities, and courthouses (EIR, p. 4.15-5). The EIR determined that impacts to schools and parks would not occur. The proposed project would not require employees or their children to relocate to the project area. Therefore, substantial temporary increases in population that would adversely affect local school populations are not expected. Similarly, these workers and their families would also be anticipated to use existing recreational resources, and because a substantial increase in population would not occur, there would not be a resultant substantial new demand on existing parks or recreational facilities or demand for new resources (EIR, p. 4.15-13)

Fire hazards from the project as a large-scale construction project would increase the need for response from the Fire Department for fire protection and emergency services. Although construction would be temporary and short term, fire hazards from the project would potentially increase the need for fire response or emergency services during the construction period. However, as required by MM 4.15-1, the project proponent would prepare and implement a Fire Safety Plan, used during construction and operations, that would contain notification procedures and emergency fire precautions consistent with the 2022 California Fire Code and Kern County Fire Code. Given the temporary nature of the project's construction phase, impacts to fire protection services and facilities during project construction would be **less than significant with implementation of MM 4.15-1** (EIR, pp. 4.15-14 and 4.15-16). Impacts from the LDES Addition to fire hazards were previously addressed in Wildfire, Section 4.7 of this addendum.

While construction of the project would increase the number of people on the project site, the increase would be temporary and, thus, would not substantially increase the service demand for law enforcement protection services in Kern County. The project site would include several security measures described in the EIR. Due to the security measures implemented by the project and the limited risk within the area, the project would not increase services demand for the law enforcement protection. Therefore, new or physically altered sheriff facilities would not be required to accommodate the proposed project and impacts to the California Highway Patrol are not anticipated. Impacts would be **less than significant** (EIR, p. 4.15-16).

Project construction workers would not increase demand for local schools, parks, or public facilities such that substantial physical deterioration of such facilities would occur, nor would project construction require the construction or expansion of recreational facilities that might have an adverse effect on the environment, nor result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios. Impacts during construction would be **less than significant** (EIR, pp. 4.15-16 and 4.15-17).

To ensure operational impacts would be **less than significant** the project would implement MM 4.15-3, which would encourage all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. Therefore, staff required during operation would not increase demand for public facilities such that substantial physical deterioration of such facilities would occur, nor would project construction require the construction or expansion of public facilities that might have an adverse effect on the environment. Thus, the proposed project would not result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios and impacts would be **less than significant** (EIR, p. 4.15-17). Hence, with implementation of MM 4.15-1 through MM 4.15-3, impacts would **be less than significant** (EIR, p. 4.15-19).

Concerning cumulative impacts, other related projects would also be expected to avoid or mitigate impacts on public services, this project would comply with the goals, policies, and implementation measures of the Kern County General Plan, and cumulatively significant impacts would be **less than significant**. Therefore, the project's incremental effect (including the lithium-ion BESS) is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. The project **would not create a cumulatively considerable impact** related to public services with the incorporation of MM 4.15-1 through MM 4.15-3 (EIR, p. 4.15-19).

Recreation

The Mojave Micro Mill Final EIR Section 4.16 addresses potential impacts of the project on parks and recreation opportunities in the project's vicinity. The project would result in a temporary increase in population during construction as a result of the influx of construction workers. The limited addition of people to the area, and the short-term duration of construction, the potential temporary increase in use by project personnel at any one park is not anticipated to be significant or result in a detectable physical deterioration of parks. A **less than significant** impact would occur in this regard (EIR, p. 4.16-4).

Operation of the project would require approximately 440 fulltime employees that could be a mix of Kern and Los Angeles county residents, including employees relocating to Kern County. The resulting addition of families to this area could potentially increase the number of users at local parks. However, the creation of 440 jobs is expected to fill the need for jobs in the surrounding communities, therefore, no substantial increase in population is expected. Operation of the Micro Mill Project would not result in a substantial influx of people. Therefore, the potential increase in use by project personnel at any one neighborhood and/or regional park is not anticipated to be significant or result in a detectable physical deterioration of parks. A **less than significant** impact would occur in this regard (EIR, pp. 4.16-4 and 4.16-5).

The LDES Addition would add few construction workers (5 to 10) and few operational workers (5 to 10). Their addition to the micro mill workforces would be insignificant and would not affect the recreation impacts analyzed in the EIR.

Because there is no intended construction or expansion of recreational facilities, with the construction of the proposed mill project, no impact would occur in this regard. With regard to the construction or expansion of new parks, the project would result in little to no impact, due to no new construction of these facilities. Therefore, impacts of the project would not have the potential to combine with impacts from cumulative projects to result in a significant impact (EIR, p.4.16-6)

Tribal Cultural Resources

The Mojave Micro Mill Final EIR Section 4.18 provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. Searches of the Sacred Lands File were performed. The conclusion of the requested searches yielded no known Native American cultural resources within the project area or its vicinity (EIR, p. 4.18-12). However, analysis from the *Cultural Resources Assessment Report*, states that the project area has a high to moderate sensitivity from the presence of subsurface archeological resources. Therefore, the project has the potential to impact previously unknown and buried historical resources during project-related excavation. In the event that unknown archaeological resources that qualify as historical resources are discovered during project construction, significant impacts could occur. MM 4.5-1 through MM 4.5-4 would require cultural resources sensitivity training for construction workers, implementation of avoidance measures should prehistoric archaeological resources or sites be inadvertently located, archaeological monitoring during construction, and appropriate treatment of unearthed human remains. Implementation of these measures, which would apply to the construction of the two BESS units, would reduce impacts to unknown resources to **less than significant with mitigation incorporated** (EIR, p. 4.18-13).

The San Manuel Band of Mission Indians noted that due to the nature of the project and the location, they did not have concerns with project implementation. However, the tribe recommend mitigation language to ensure impacts to unknown resources would be less than significant. Therefore, with the implementation of MM 4.5-1 through MM 4.5-5 impacts to tribal cultural resources would be **less than significant** (EIR, pp. 4.18-13 and 4.18-14).

Potential tribal cultural resource impacts from the project, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. However, there were no known or identified tribal cultural resources on the project site. Therefore, with the implementation of MM 4.5-1 through MM 4.5-5, cumulative impacts would be considered **less than significant** (EIR, p. 4.18-15)

Since the two BESS units would be constructed within the footprint of the Micro Mill Project examined in the EIR, and subject to the mitigation measures, there would be no additional impacts to tribal cultural resources from them.

Utilities and Service Systems

The Mojave Micro Mill Final EIR Section 4.19 addresses change in demand for utilities (water supply, stormwater, electricity, natural gas, telecommunications, and solid waste disposal). The construction phase of the proposed project is expected to last approximately 24 months.

Construction

Water will be used for such construction activities as dust suppression, soil compaction, excavation, grading activities, equipment cleaning, vehicle wash downs, washout basins, and re-compaction of backfill materials, concrete pouring and related activities. Water use over the two-year construction period would be up to approximately 22 million gallons or 69 acre-feet. Construction water demand would be met using water supplies from the existing well on the project site and with water that would be trucked to the project site. Impacts would be **less than significant** (EIR, p. 4.19-14).

Construction of the project would generate a minimal volume of wastewater. During construction activity, wastewater contained within portable toilet facilities and portable hand washing facilities would be disposed of at an approved offsite disposal site. Wastewater impacts would be **less than significant**, and mitigation is not required (EIR, p. 4.19-14 and 4.19-15).

As discussed in EIR **Section 4.10**, *Hydrology and Water Quality*, the project site is located in a remote region with no existing or planned stormwater infrastructure. MM 4.10-2 requires the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The project would be required to adhere to Kern County Public Works Department stormwater requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion and protection of water quality of stormwater runoff. Additionally, the project would implement MM 4.10-1 and MM 4.10-2, which require preparation of a site-specific SWPPP and hydrologic study/final drainage plan to address stormwater discharge from construction and operation. Thus, construction of the project would not exceed the capacity of, or require the relocation of, any existing storm water drainage systems. The proposed project would not result in the relocation or construction of new or expanded stormwater drainage facilities with the potential to cause significant environmental effects. Impacts would be further reduced with implementation of MM 4.10-1 and MM 4.10-2 (EIR, p. 4.19-15).

During construction of the Micro Mill Project, electricity would be consumed, on a limited basis, to power lighting, electric equipment, and supply and convey water for dust control. Electricity would be supplied to the project site by SCE and would be obtained from the existing electrical lines that connect to the project site. Thus, the construction of the new or expanded energy infrastructure would not cause significant environmental effects. **Impacts would be less than significant** (EIR, p. 4.19-15 and 4.19-16).

The proposed project would not use natural gas during the construction phase. Therefore, construction impacts would be **less than significant** (EIR, p. 4.19-16). Construction of the project would not require or result in the relocation or construction of new or expanded telecommunication facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be **less than significant** (EIR, p. 4.19-16).

Solid waste generated by construction of the proposed project is not anticipated to be significant. During the construction phase, waste materials will be recycled where feasible, with remaining unrecyclable materials disposed of in landfills in compliance with all applicable regulations including Kern County Building code requirements. Therefore, construction impacts of the project on existing landfills are anticipated to be **less than significant** (EIR, p. 4.19-27 and 4.19-28). Compliance with the established regulatory framework would ensure less-than-significant impacts regarding compliance with management and reduction statutes and regulations related to solid waste. (EIR, p. 4.19-29).

Construction activities for the two BESS units would be done as part of the overall Micro Mill Project's construction. Any impact from the BESS units would be minimal. Therefore, there would be no additional construction impacts from the LDES Addition.

Operations

Operational water demands would be met through connections to Antelope Valley-East Kern's (AVEK) portable water lines. Connection to AVEK's water lines would require construction of on-site utility infrastructure but would not necessitate relocation or expansion of existing AVEK water facilities. AVEK, as the water supplier, has sufficient water supplies available to serve the proposed project over a 20-year planning horizon, even during dry years. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant (EIR, p. 4.19-16 and 4.19-17).

Wastewater generated at the project site, would come from the operational systems as well as the on-site bathroom facilities. The project is proposing to install an on-site septic system that would consist of a septic tank and drainfield that will be located on the northwest portion of the project site and serve the project's wastewater needs. With the implementation of MM 4.19-2, any new wastewater package plant facility would be constructed according to state specifications, with coordination of Kern County Public Works and Kern County Environmental Health Services Departments and would be operated in such a way as to not contaminate the underlying unconfined aquifer. Thus, operation of the project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be **less than significant** (EIR, p. 4.19-17).

During the operational phase, the overall site will include approximately 50 percent of impervious area. Drainage sub-area delineations and flowpaths were preserved from the

existing condition, although as the stormwater drainage design progresses, these parameters will be updated. Two detention basins are included in the proposed project site plan (**Figure 3-3**). In addition, MM 4.10-2 would include creating a hydrologic study and final drainage plan that would detail engineering design measures to manage stormwater flows and reduce potential increases in stormwater runoff to off-site areas. All onsite facilities proposed as part of the project would occur within the project footprint and in areas proposed to be disturbed. No off-site connections to municipal stormwater facilities exist or are proposed; thus, impacts would be **less than significant** (EIR, p. 4.19-17)

During operation, the proposed project would include approximately 10 MWs, 58.74 acres of ground-mounted solar panels, which is intended to generate electricity for on-site use. With the two BESS units there will be about 58.74 acres of solar panels and 4.26 acres of batteries. In addition, energy sourced from SCE would be provided via connections to existing electric lines in the project area. As a result of the proposed project's power consumption being a fraction of the overall electricity usage, the project would not require or result in the relocation or construction of electric power facilities to accommodate the minimal increase in demand, with exception to some off-site improvements to existing SCE transmission lines. Impacts would be **less than significant** (EIR, p. 4.19-18).

The project will not use natural gas during the operation phase. There would be **no impact**. (EIR, p. 4.19-18)

Telecommunication equipment including underground and overhead telephone, fiber optics and wireless communications infrastructure such as cellular, satellite, or microwave towers would be required to enable operation of the proposed project. Although the project would result in new and expanded telecommunication facilities, given that the telecommunications line would follow along previously disturbed lands, the construction or relocation of telecommunication equipment would not cause significant environmental effects. Impacts would be **less than significant** (EIR, p. 4.19-18 and 4.19-19).

Solid waste generated by operations may include residual from imported scrap metal that cannot be recycled into the manufacturing process, as well as metal byproducts from the manufacturing and fabrication processes that have the potential to be incapable of being recycled into product or exported for off-site processing (slag, dust from Fume Treatment Plant, etc.). The Mojave-Rosamond Landfill is planned to continue operations through 2123 and is expected to serve the project throughout its operational phase. Therefore, impacts related to landfill capacity would be **less than significant** (EIR, p. 4.19-28). Compliance with the established regulatory framework would ensure **less-than-significant impacts** regarding compliance with management and reduction statutes and regulations related to solid waste (EIR, p. 4.19-29).

The LDES Addition would only have an insignificant impact on water use. The zinc hybrid batteries require some water to refill the electrolyte during periodic maintenance. It would not generate any wastewater. Regarding stormwater, the surface area surrounding the battery containers would be pervious so stormwater would be absorbed into the surrounding soil. The two BESS units would provide a project benefit to electricity since it would allow a greater use of renewable energy, reducing reliance on natural gas-fired

power plants. The BESS units would not use natural gas. Telecommunications required for the micro mill facility would be sufficient for the BESS units. The BESS units would not generate any solid waste during operations. Consequently, the BESS units would not create any additional impacts to Utilities and Service Systems.

Cumulative Impacts

In total, 36 projects are being proposed in the Antelope Valley that would impact the existing water supply, which is derived almost entirely from the Antelope Valley Groundwater Basin. To mitigate for some of these potential impacts, MM 4.19-1 aimed at requiring all facilities of the water system to be designed and constructed to comply with Kern County Development Standards. Therefore, cumulative impacts related to water supply and facilities would be **less than significant** (EIR, p. 4.19-30).

The project is located in an area with no wastewater treatment provider or infrastructure and would not generate a significant volume of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and portable hand wishing facilities and disposed of at an approved facility. During the operational phase, an on-site septic system, which will include a septic tank and drainfield, will recycle some of the wastewater produced on-site. In addition to the on-site septic system, a connection for water and sewage disposal will be provided to the Antelope Valley-East Kern Water Agency. No wastewater is produced by the BESS units. As a result, the project's wastewater is unlikely to exceed the provider's capacity for wastewater. Additionally, the integration of MM 4.19-2 requiring any new wastewater package plant facility to be constructed according to state specifications would mitigate for some of these potential impacts. Therefore, the project would not have the potential, when combined with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact to a regional wastewater treatment facility (EIR, p. 4.19-30 and 4.19-31).

Per county requirements, other projects in the vicinity would be required to offset substantial increases in stormwater as well, and would also be required to implement best management practices and comply with the NPDES General Construction Permit and their respective SWPPP, as applicable. Therefore, the project would not contribute to a cumulatively considerable impact related to stormwater drainage (EIR, p. 4.19-31).

Because construction of the project would not displace existing electrical facilities, and would tie into existing off-site facilities, relocation of electrical facilities would not be required. For the operational phase of the project, electricity will be needed to power the machines needed to produce rebar. Electricity demand will be satisfied from two different sources. The first source will be from electricity provided by SCE. The second of these sources will be from the 58.74-acre solar array that will be built on-site—which with the two BESS units—will include a battery storage system in addition to the solar panels. This will help offset the need for energy from SCE for the proposed project. Therefore, the project would not require or result in the relocation or construction of electric power facilities and impacts would be **less than significant** (EIR, pp. 4.19-31 and 4.19-32).

The project will not use natural gas during construction or operation phase. Therefore, there would be **no cumulative impact** (EIR, p. 4.19-32).

The project in combination with cumulative projects would increase demand on telecommunication facilities within their planned growth parameters. Therefore, cumulative impacts related to telecommunications facilities would be **less than significant** (EIR, p. 4.19-32).

The proposed project would generate a minimal amount of solid waste that would be disposed of by a permitted hauler at the Mojave-Rosamond Recycling and Sanitary Landfill. No solid waste would be produced by the BESS units. MM 4.1-3 would be implemented, which consists of designating a recycling coordinator that would ensure the separation and proper disposal of recyclable materials and solid waste generated during project operation, thereby further reducing solid waste generated during operation. Surrounding projects would also be required to comply with all applicable ordinances in place designed to reduce the amount of solid waste disposed in landfills. Therefore, with the implementation of MM 4.1-3, cumulative impacts would be **less than significant** (EIR, p. 4.19-32).

Overall, the project (including the two BESS units) would not have a significant impact on public utilities. The incremental effects of the project would also not be substantial enough to result in a cumulatively considerable impact on utilities and service systems with implementation of MM 4.10-1, MM 4.10-2, MM 4.1-3, MM 4.19-1 and 4.19-2. Thus, cumulative impacts would be **less than significant** (EIR, pp. 4.19-32 and 4.19-33).

5. Summary/Conclusion

The potential impacts from the LDES Addition would be insignificant when considered as part of the overall Micro Mill Project. The LDES Addition would not create any new significant environmental effects or a substantial increase in the severity of previously identified significant effects. It would not create any potential impacts that could not be mitigated by the measures set forth in the EIR. In addition, the LDES Addition does not create substantial changes with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR. None of the conditions described in Section 15162 of the CEQA Guidelines calling for preparation of a subsequent EIR have occurred.

6. References

Murdock, Colby. 2023. Eos Energy Storage: Utility Demonstration of Non-Flammable, Aqueous-Zinc Battery Storage. California Energy Commission. Publication Number: CEC-500-2023-052.

UL Solutions. 2023. UL 9540A Test Method. Available online at: https://www.ul.com/services/ul-9540a-test-method. Accessed in September 2024.

Statement of Overriding Considerations

for Electrified Steel Mill Long Duration Energy Storage Demonstration

The California Environmental Quality Act (CEQA) requires a public agency to balance the benefits of a proposed project against its significant unavoidable adverse impacts in determining to approve the project.

The Mojave Micro Mill Project (Project) would result in environmental effects that, although mitigated to the extent feasible by the implementation of mitigation measures required for the project, would remain as significant and unavoidable adverse impacts, as discussed in the Mojave Micro Mill Environmental Impact Report (EIR) and Kern County's Findings of Fact and Statement of Overriding Considerations. The potential impacts from the non-lithium battery energy storage system (LDES Addition) would be insignificant when considered as part of the overall Project, as discussed in the Energy Commission's EIR Addendum. The LDES Addition would not create any new significant environmental effects or a substantial increase in the severity of previously identified significant effects. It would not create any potential impacts that could not be mitigated by the measures set forth in the EIR. In addition, the LDES Addition does not create substantial changes with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR. These impacts are summarized below and constitute those impacts for which this Statement of Overriding Considerations is made.

Significant and Unavoidable Effects

Aesthetics:

The Project would result in project-level and cumulative aesthetics impacts related to visual character. Implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site. Mitigation Measures MM 4.1-1 through MM 4.1-7 would be incorporated to reduce visual impacts associated with the proposed project. However, because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, impacts to visual character would be significant and unavoidable.

Replacing about two acres of solar array with the modified shipping containers (and surrounding graveled area) for the LDES Addition would not make a significant change to the industrial facility character that was analyzed in the EIR. Even with implementation of MM 4.1-1 through MM 4.1-7 the project's contribution to significant impacts associated with visual character in the Antelope Valley would be both project-specific and cumulatively significant and unavoidable (EIR, p. 4.1-47). The LDES Addition would not change that conclusion. No additional mitigation would be able to reduce the aesthetic impacts to less-than-significant.

Air Quality:

The Project would result in a project level and cumulatively considerable net increase of any criteria pollutant for which the Projects' region is nonattainment under applicable federal or State ambient air quality standards. The proposed project's long-term operational emissions would exceed Eastern Kern Air Pollution Control District's (EKAPCD's) applicable significance thresholds.

The inclusion of the zinc-hybrid LDES Addition during the Project's construction period would not create new air quality impacts, nor alter those impacts analyzed in the EIR. The impact analysis methodologies would not change, nor would the final conclusions that were published in the EIR. Impacts from construction would remain less than significant with the incorporation of mitigation measures MM 4.3-1 through 4.3-5 and MM 4.17-3 and impacts from the operation of the Micro Mill would remain significant and unavoidable, even with the imposition of the recommended mitigation measures. Similarly, despite the implementation of the aforementioned mitigation measures during construction and operations, the addition of the battery system may contribute to temporary criteria pollutants from occasional worker trips and would contribute to a long-term cumulative increase in criteria pollutants. Thus, the Project's construction and operation would result in a significant and unavoidable cumulative impact.

Biological Resources:

The Project would result in cumulative biological resources impacts. As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with the number of present and reasonably foreseeable future development projects in the Antelope Valley, the project would result in the cumulative loss of habitat for transient special-status species. The LDES Addition to the approved EIR would not create any significant new biological impacts, or significant changes to the impact analysis methodology and conclusions presented in the Final EIR. Impacts from the LDES Addition would be the same type as those disclosed in the EIR. However, even with implementation of MM 4.1-5 through MM 4.1-7, and MM 4.4-1 through 4.47, cumulative impacts would be significant and unavoidable (EIR, p. 4.4-36).

Noise:

The Project would result in project-level and cumulatively considerable impacts from noise. Implementation of the Project would result in potentially significant impact to noise. Mitigation Measure MM 4.13-1 and MM 4.13-2 would require measures to reduce short-term noise associated with project construction. However, project-level impacts to construction noise would still result in a significant and unavoidable impact. Additionally, operation traffic noise would be significant and unavoidable with no feasible mitigation to reduce impacts. In general, the addition of the zinc-hybrid LDES Addition would not result in any substantial changes to the Project that would alter the impacts addressed in the EIR. The proposed project's cumulative contribution from operational traffic and

construction associated with the Project would result in a cumulative significant and unavoidable impact.

Wildfire:

The LDES Addition would not exacerbate or increase the severity of the risk of wildfire. The CEC is only considering funding the LDES Addition. However, the Mojave Micro Mill Project will contribute to cumulative wildfire impacts according to Kern County's Final EIR. Kern County has fully approved the Mojave Micro Mill Project, and the project may proceed without CEC funding the LDES Addition. With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within State Responsibility Areas (SRAs) and/or High Fire Hazard Severity Zones, some related projects in the area may be. The LDES Addition site will be gravel covered and within surrounding access roads. This reduces wildfire risk by eliminating vegetation as a potential fuel. The LDES Addition uses a nonflammable aqueous zinc hybrid technology that has no wildfire risk. The small amount of hydrogen generated during operations is vented. The LDES Addition is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors. The LDES Addition would not exacerbate the risk of wildfire or result in impacts to the environment. Therefore, with implementation of MM 4.10-1, MM 4.15 1, and MM 4.17 2 and MM 4.17 3, impacts would be less than significant with mitigation incorporated (EIR, p. 4.20-9). Regardless, the Project was determined to contribute to a significant and unavoidable cumulative impact (EIR, p. 4.20-14).

Findings

This Energy Commission finds and determines that it has considered the identified means of lessening or avoiding the Project and LDES Addition's significant effects and that to the extent any significant direct or indirect environmental effects, including cumulative project impacts, remain unavoidable or not mitigated to below a level of significance after mitigation, such impacts are at an acceptable level in light of the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits of the project, as discussed below, and such benefits override, outweigh, and make "acceptable" any such remaining environmental impacts of the project (CEQA Guidelines Section 15092(b)).

The following benefits and considerations outweigh the identified significant and unavoidable adverse environmental impacts. All of these benefits and considerations are based on the facts set forth in the Findings, the EIR, the EIR Addendum and the record of proceedings for the project.

Each benefit set forth below constitutes an overriding consideration warranting approval of the Project and LDES Addition, independent of the other benefits, and the Energy Commission determines that the adverse environmental impacts of the project are

“acceptable” if any of these benefits would be realized. The Project would provide benefits as follows:

1) The Project would be the first steel mill built in California in 50 years, and, once active, will be the only active steel mill in California. Additionally, this steel mill will be a first of its kind in the world as the only fully electric, zero process emissions steel mill. This will be a major contribution to California’s economy, and electrification and clean energy goals. Through the grant agreement that provides Energy Commission funding for the LDES Addition, the Energy Commission has a unique opportunity to contribute to this valuable effort and add additional value to the steel mill’s energy infrastructure.

2) The electrified steel mill project is an exemplary case of electrification in industrial applications that supports the State of California’s SB-100 renewable goals. The LDES Addition will directly contribute to California’s energy storage procurement and SB-100 goals.

Additionally, the County determined in its Statement of Overriding Consideration that the following benefits outweigh the significant unavoidable environmental impacts of the Project:

3) The Project would utilize 174 acres of vacant, underutilized agricultural land in unincorporated Kern County to facilitate development of Kern County’s first, and California’s only, state-of-the-art steel rebar manufacturing facility that would help to meet market demand for reinforced steel (rebar) in the California construction market.

4) The Project is expected to generate between $63 million and $73 million in gross cumulative tax revenues between 2024 and 2033, thus resulting in a net fiscal benefit for Kern County. The project will also pay $100,000 annually for the benefit of the Kern County Fire Department for CO2Capture related equipment and training programs.

5) The Project would support the economic development of Kern County by introducing a new steel manufacturing industry to Kern County that would generate jobs during construction with a peak workforce during construction of up to 515 workers, and 440 full-time jobs during operation, providing increased business for local contractors and vendors.

6) The Project would minimize environmental effects by:

a. Providing an opportunity to recycle metals in California, and Southern California in particular, reducing solid waste in the landfills and reducing vehicle miles traveled to deliver recyclables and finished product that would otherwise travel to and from out of state mills.

b. Utilizing an electric arc furnace which would produce fewer greenhouse gas emissions compared to typical fossil-fuel and natural gas-powered blast furnaces or other conventional production methods.

c. Reducing resource consumption by incorporating clean energy and emission-reduction technologies such as on-site, accessory solar energy generation, long duration battery energy storage, carbon capture and utilization (CCU), as well as water treatment plant.

Given the substantial economic, legal, social, technological, or other benefits that will accrue region-wide or statewide from implementation of the Project including the LDES Addition, the Energy Commission finds the identified benefits override the Project's identified significant, unavoidable and immitigable environmental impacts.

Exhibit A
Scope of Work

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Develop Energy Storage System Design for Integrating LDES Technologies
3		Procure Equipment and Materials for LDES System
4	X	Installation and Pre-energization Testing of LDES Technologies and Energy Storage System Components
5		Functionally Test and Commission the LDES System for Final Acceptance
6	X	Operate LDES to Utilize On-site Solar and to Reduce Load During Scarce Grid Conditions
7		Monitoring, Verification, and Performance Evaluation
8		Evaluation of Project Benefits
9		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
AHJ	Authority Having Jurisdiction
BESS	Battery Energy Storage System
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
Commissioning	Full charge and discharge at 4MW for 8hrs for the combined LDES technologies during PSPS, other outage events, or for load reduction at times of peak demand
CPR	Critical Project Review
GHG	Greenhouse Gas
kV	Kilovolt
LDES	Long Duration Energy Storage
MW	Megawatt
MWh	Megawatt-hour
Mechanical completion of LDES systems	Point at which (a) structural installation of the applicable project system(s) has occurred and (b) the project(s) is mechanically, electrically, and functionally complete to the extent necessary to be ready for initial commissioning, adjustment, and testing
PSG	Pacific Steel Group
PSPS	Public Safety Power Shut Off
TAC	Technical Advisory Committee

[1] Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

Exhibit A
Scope of Work

II. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES

A. Purpose of Agreement

The purpose of this Agreement is to fund the deployment of a 4 MW over 8 hours (4 MW/32 MWh) non-lithium-ion long duration energy storage (LDES) system in support of the recipient's planned $630M first-of-its-kind zero process emission rebar steel mill. This LDES system will be integrated with the recipient's steel mill construction, commissioning and operations, and utilize approximately 50 MW of on-site solar photovoltaics. The project aims to demonstrate the ability of the energy storage system to optimize the use of on-site solar energy, support critical operations at the steel mill during periods of high energy demand and outages, and contribute to the overall energy management strategy of the facility.

B. Problem/ Solution Statement

Problem

LDES technologies capable of storing and discharging electricity for eight hours or longer can play an important role in supporting electric reliability and resilience with high levels of renewable generation. However, the majority of storage systems deployed in California today are short-duration lithium-ion batteries and LDES technologies have only been demonstrated at relatively small scales generally below 1 MW.

Solution

Public Resources Code section 25641 provides that the CEC:

> Shall establish and implement the Long-Duration Energy Storage Program to provide financial incentives for eligible projects,[2] located at eligible storage facilities,[3] that have power ratings of at least one megawatt and are capable of reaching a target of at least eight hours of continuous discharge of electricity at that power rating in order to deploy innovative energy storage systems to the electrical grid for purposes of providing critical capacity and grid services.[4]

This project will deploy a long-duration energy storage system as part of a behind-the-meter microgrid at the recipient's cutting-edge zero process emissions steel mill. The LDES system will utilize zinc hybrid cathode battery technology, providing a total capacity of 32 MWh, integrated with approximately 50 MW of solar photovoltaics. This microgrid can be rapidly deployed and configured to support construction and commissioning of the steel mill and optimize the energy management strategy of ongoing steel operations. The LDES system and microgrid will be

[2] Under Public Resources Code section 25642, an "eligible project" shall include, but not be limited to, an eligible storage facility that includes any of the following: (i) Compressed air or liquid air technologies; (ii) Flow batteries, advanced chemistry batteries, or mechanical energy storage; (iii) Thermal storage or aqueous battery systems; or (iv) A hydrogen demonstration project. "Eligible project" shall not include a pumped storage project or lithium-ion-based storage technology. Cal. Pub. Res. Code § 25642 (b)(2)(A).
[3] "Eligible storage facility" shall include, but not be limited to, an energy storage system that is interconnected to the electrical grid in California or to a California balancing authority. Cal. Pub. Res. Code § 25642.
[4] Cal. Pub. Res. Code § 25641.

capable of powering critical facilities during Public Safety Power Shutoff (PSPS) events or other outage scenarios, delivering power quality that meets or exceeds current facility standards.

C. Goals and Objectives of the Agreement

Agreement Goals
The goals of this Agreement are to:

- Deploy a 4 MW/32 MWh energy storage system to support the dynamic electricity requirements of recipient's innovative zero process emissions steel mill throughout construction, commissioning, and operations.
- Increase the scale of LDES technology deployments to support California's clean energy objectives and inform future deployments.
- Demonstrate the performance of LDES technology in energy-intensive heavy manufacturing with high cycling and performance requirements.
- Increase knowledge about how LDES technology can support a cost-effective zero-carbon renewable energy storage solution to meet the challenges to:
    - Integrate and fully utilize on-site solar energy for use in manufacturing, with cyclical operations
    - Provide operational energy management for plant operations in response to price signals based on energy grid scarcity
    - Provide energy to critical operations during outages
- Enable electric resilience during power outages for environmental, health, and safety considerations.

This project will support the overall advancement of LDES technology deployment.

Agreement Objectives
The objectives of this Agreement are to:

- Demonstrate how large-scale non-lithium-ion LDES can be the key to unlocking 100 percent renewables in California while strengthening grid resilience.
- Identify all barriers to the scaling and implementation of large-scale LDES.
- Provide a clear path for expansion of large-scale LDES solutions through California.
- Enable and inform future industrial electrification applications of LDES as a pioneering example of industrial application.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V).** All products submitted which will be viewed by the public, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations**.** All technical tasks should include product(s). Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and

final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, **"days"** means working days.

The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Consider incorporating all CAM comments into the final product. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product.
- Submit the revised product and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period, or approves a request for additional time.

For products that require a final version only

- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

For all products

- Submit all data and documents required as products in accordance with the following:

Instructions for Submitting Electronic Files and Developing Software:

- **Electronic File Format**
  - Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the California Energy Commission's (CEC) software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

  The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:
  - Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
  - Text documents will be in MS Word file format, version 2007 or later.
  - Project management documents will be in Microsoft Project file format, version 2007 or later.

- **Software Application Development**
  Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open-source programs:
  - Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
  - Microsoft Internet Information Services (IIS), (version 6 and up)

Recommend 7.5.
- Visual Studio.NET (version 2008 and up). Recommend 2010.
- C# Programming Language with Presentation (UI), Business Object and Data Layers.
- SQL (Structured Query Language).
- Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
- Microsoft SQL Reporting Services. Recommend 2008 R2.
- XML (external interfaces).

Any exceptions to the Electronic File Format requirements above must be approved in writing by the CAM. The CAM will consult with the CEC's Information Technology Services Branch to determine whether the exceptions are allowable.

MEETINGS

Subtask 1.2 Kick-off Meeting

The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The administrative portion of the meeting will include discussion of the following:
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Administrative products (subtask 1.1);
  - CPR meetings (subtask 1.3);
  - Match fund documentation (subtask 1.7);
  - Permit documentation (subtask 1.8);
  - Subcontracts (subtask 1.9); and
  - Any other relevant topics.

  The technical portion of the meeting will include discussion of the following:
  - The CAM's expectations for accomplishing tasks described in the Scope of Work;
  - An updated Project Schedule;
  - Technical products (subtask 1.1);
  - Progress reports (subtask 1.5);
  - Final Report (subtask 1.6);
  - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
  - Any other relevant topics.

- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones

- List of potential risk factors and hurdles, and mitigation strategy

- Provide an *Updated Project Schedule, Match Funds Status Letter,* and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:
- Designate the date and location of the meeting.
- Send the Recipient a *Kick-off Meeting Agenda*.

Recipient Products:
- Kick-off Meeting Presentation
- Updated Project Schedule *(if applicable)*
- Match Funds Status Letter (subtask 1.7) *(if applicable)*
- Permit Status Letter (subtask 1.8) *(if applicable)*

CAM Product:
- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings
The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit.
However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:
- Prepare and submit a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

The CAM shall:
- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a *CPR Agenda* with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.

- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:
- CPR Report(s)

CAM Products:
- CPR Agenda(s)
- Progress Determination

Subtask 1.4 Final Meeting
The goal of this subtask is to complete the closeout of this Agreement.

The Recipient shall:
- Meet with CEC staff to present project findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.
  - The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
  - The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
    - Disposition of any procured equipment.
    - The CEC's request for specific "generated" data (not already provided in Agreement products).
    - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
    - "Surviving" Agreement provisions such as repayment provisions and confidential products.
    - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:
- Final Meeting Agreement Summary *(if applicable)*

- Schedule for Completing Agreement Closeout Activities
- All Final Products

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

The Recipient shall:

- Submit a monthly *Progress Report* to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Funds and in-state expenditures.
- In no event shall any individual providing direct labor under this Agreement, and combined with any other active or future Agreement with the CEC, invoice more than 1800 hours of direct labor per year without prior CAM written approval, regardless of the maximum number of hours permitted within any Budget.

Products:

- Progress Reports
- Invoices
- Monthly Time Tracking Report

Subtask 1.6 Final Report

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a *Final Report Outline* in accordance with the *Energy Commission Style Manual* provided by the CAM.

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Energy Commission Style Manual
- Comments on Draft Final Report Outline
- Acceptance of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)
    - Acknowledgements page (optional)
    - Preface (**required**)
    - Abstract, keywords, and citation page (**required**)
    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments on Draft Final Report* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:
  - Comments the recipient proposes to incorporate.
  - Comments the recipient does not propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:

- Summary of TAC Comments on Draft Final Report
- Draft Final Report
- Written Responses to Comments *(if applicable)*
- Final Report

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this

Agreement and applies them to the Agreement during the Agreement term.

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of CEC funds. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

  If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter:
  - A list of the match funds that identifies:
    - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
    - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

- Match Funds Status Letter
- Supplemental Match Funds Notification Letter *(if applicable)*
- Match Funds Reduction Notification Letter *(if applicable)*

Subtask 1.8 Permits

The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be

identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
    - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
    - The schedule the Recipient will follow in applying for and obtaining the permits.

  The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

- Permit Status Letter
- Updated List of Permits *(if applicable)*
- Updated Schedule for Acquiring Permits *(if applicable)*
- Copy of Each Approved Permit *(if applicable)*

Subtask 1.9 Subcontracts

The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

The Recipient shall:

- Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required Energy Commission flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract terms.
- If required by the CAM, submit a draft of each *Subcontract* required to conduct the work under this Agreement.
- Submit a final copy of each executed subcontract.
- Notify and receive written approval from the CAM prior to adding any new subcontractors (see the discussion of subcontractor additions in the terms and conditions).

Products:

- Subcontracts *(draft if required by the CAM)*

Exhibit A
Scope of Work

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support, and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.

The TAC may be composed of qualified professionals spanning the following types of disciplines:

- Researchers knowledgeable about the project subject matter;
- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be

discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:
- List of Potential TAC Members
- List of TAC Members
- Documentation of TAC Member Commitment

Subtask 1.11 TAC Meetings
The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

The Recipient shall:
- Discuss the TAC meeting schedule with the CAM at the Kick-off meeting. Determine the number and location of meetings (in-person and via teleconference) in consultation with the CAM.
- Prepare a *TAC Meeting Schedule* that will be presented to the TAC members during recruiting. Revise the schedule after the first TAC meeting to incorporate meeting comments.
- Prepare a *TAC Meeting Agenda* and *TAC Meeting Back-up Materials* for each TAC meeting.
- Organize and lead TAC meetings in accordance with the TAC Meeting Schedule. Changes to the schedule must be pre-approved in writing by the CAM.
- Prepare *TAC Meeting Summaries* that include any recommended resolutions of major TAC issues.

The TAC shall:
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project’s strategic goals.
- Review and provide comments to proposed project performance metrics.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

Products:
- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)

- TAC Meeting Back-up Materials
- TAC Meeting Summaries

Subtask 1.12 Project Performance Metrics
The goal of this subtask is to finalize key performance targets for the project based on feedback from the TAC and report on final results in achieving those targets. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic metrics that provide the most significant indicator of the research or technology's potential success.

The Recipient shall:

- Complete and submit the project performance metrics section of the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task, to the CAM.
- Present the draft project performance metrics at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:
    - TAC comments the Recipient proposes to incorporate into the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
    - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the *Final Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- Discuss the *Project Performance Metrics Results* at the Final Meeting.

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

Exhibit A
Scope of Work

IV. TECHNICAL TASKS

*Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required.* ***Subtask 1.1 (Products)*** *describes the procedure for submitting products to the CAM.*

TASK 2: DEVELOP ENERGY STORAGE SYSTEM DESIGN FOR INTEGRATING LDES TECHNOLOGIES

The goal of this task is to complete the engineering design for installation and integration of the LDES technologies and energy storage system components including all electrical, structural, and miscellaneous items required to develop a complete Issued for Construction set of design drawings.

The Recipient shall:

- Develop and submit *Issued for Construction Drawings* for review that include but are not limited to the following:
    - Hardware design and specifications for the LDES technologies and energy storage system components
    - Anticipated construction and interconnection timelines
    - All necessary permits filed for building, interconnection, and back up generation
- Conduct TAC Meeting #1 per subtask 1.10
    - Document, submit, and discuss these tasks and lessons learned during the TAC meeting with the TAC and the CAM
- Prepare a *Design Report* that includes but is not limited to the following.
    - Summary of all planned operational use cases for the energy storage system over the course of the project
    - Schematics and integration details
    - Electrical design
    - Definition of schematic symbols and data entry types
    - Documentation of the capabilities of the battery management system(s)
    - System documentation
- Obtain approval and provide a *Copy of Notice to Proceed* from the authorities having jurisdiction (AHJ)
- Prepare a *Design Report Presentation (PowerPoint)* which will include the design plans and summarize and highlight the *Design Report* and present at a Design Report meeting.

Products:

- Issued for Construction Drawings
- Design Report (Draft and Final)
- Copy of Notice to Proceed
- Design Report Presentation (PowerPoint)

TASK 3: PROCURE EQUIPMENT AND MATERIALS FOR LDES SYSTEM

The goal of this task is to procure, track, and manage logistics for the delivery of the 4 MW/32 MWh LDES technologies to the recipient's demonstration site.

The Recipient shall:

- Develop a detailed *Master List of Equipment and Materials* for the 4 MW/32 MWh LDES technologies, including the zinc hybrid battery cells and modules, and associated infrastructure.

- Receive written approval of Master List of Equipment and Materials from CAM before executing purchase contract for LDES technologies
- Create purchase contract based on approved Master List of Equipment and Materials
- Coordinate logistics and track delivery of LDES technologies to the project demonstration site
- Confirm and document receipt of the LDES technologies to California distribution yard and facility
- All equipment reimbursed under this grant will be encumbered by the CEC and shall not be encumbered as set forth in Exhibit C, Terms and Conditions, until Mechanical Completion of the LDES systems. “Mechanical Completion” means (a) structural installation of the applicable project system(s) has occurred and (b) the project(s) is mechanically, electrically, and functionally complete to the extent necessary to be ready for initial commissioning, adjustment, and testing.

Products:

- Master List of Equipment and Materials

TASK 4: INSTALLATION AND PRE-ENERGIZATION TESTING OF LDES TECHNOLOGIES AND ENERGY STORAGE SYSTEM COMPONENTS

The goal of this task is to install a 4 MW/32 MWh LDES system capable of integrating with steel mill load and on-site solar photovoltaic generation and establish all necessary energy storage systems at recipient's facility.

The Recipient shall:

- Install all necessary equipment at the steel mill site, including but not limited to the LDES technologies and required microgrid infrastructure.
- Make appropriate electrical connections to recipient’s plant substation.
- Receive final approval for interconnection from the utility providing service, ensuring that the system meets all regulatory and operational standards.
    - Phase 1 LDES deployment will provide 8 MWh of storage capacity, capable of discharging 1 MW over 8 hours, supporting the steel mill's construction and commissioning.
    - Phase 2 LDES deployment will enhance the system with an additional 24 MWh of storage capacity, capable of discharging at 3 MW over 8 hours, serving as a local resilience asset and optimizing energy management.
- Prepare an *Equipment Testing and Readiness Report* that includes but is not limited to the following:
    - Specific pre-energization testing and evaluation performed on all components to confirm proper functionality
    - Testing data sheets that verify all equipment was evaluated and tested according to established procedures to ensure all equipment and individual system components are safe to energize and will function as designed
- Participate in final inspection and obtain *Final Installation Inspection Letter* from the AHJ or its representative, confirming Mechanical Completion and System Readiness
- Prepare a *CPR Report #1* and participate in CPR Meeting, per subtask 1.3.

Products:

- Equipment Testing and Readiness Report
- Final Installation Inspection Letter

- CPR Report #1

TASK 5: FUNCTIONALLY TEST AND COMMISSION THE LDES SYSTEM FOR FINAL ACCEPTANCE

The goals of this task are to test each LDES system individually and then together as one entire LDES system, to complete commissioning, and to receive permission to operate.

The Recipient shall:

- Develop a *LDES Functional Acceptance Testing and Commissioning Plan,* prior to completion of installation of the system deployment, that includes but is not limited to the following.
    - LDES subsystems and systems to be functionally tested and details of testing plans
    - Sequence of LDES system functional testing and startup period
    - Goals and expected outcomes of each functional test and overall process
    - Definition of successful results, for example cell, module, and unit balancing, full control and monitoring capability, verification of inverter inputs and outputs
    - Roles and responsibilities of the parties
- Prepare a *LDES Performance and Acceptance Test Result(s) Report(s)* that includes but is not limited to the following.
    - Results of subsystem and system verification tests identified in the Functional Testing and Commissioning Plan
    - Acceptance Test results for each LDES subsystem individually at the single container level
    - Acceptance Test results for the LDES system at the level of multiple containers connected to a common electrical node
    - Test results of full system performance verification
    - Test results of a full systems readiness evaluation verifying that the full system will operate as designed in a microgrid application
- Provide a *Systems Readiness Certification*
- Achieve *Authority to Operate* by the AHJ or its representative and provide a copy of approval documentation.
- Conduct TAC Meeting #2 per subtask 1.10
    - Document, submit, and discuss lessons learned during the TAC meeting with the TAC and the CAM.

Products:

- LDES Functional Acceptance Testing and Commissioning Plan
- LDES Performance and Acceptance Test Results Report
- Systems Readiness Certification
- Authority to Operate

TASK 6: OPERATE LDES TO UTILIZE ON-SITE SOLAR AND TO REDUCE LOAD DURING SCARCE GRID CONDITIONS

The goal of this task is to operate the energy storage system to demonstrate multiple use cases and demonstrate the ability to for full utilization of on-site solar production for steel mill requirements and to dispatch the LDES system in response to scarce grid conditions.

The Recipient shall:

- Develop an *Energy Storage System Testing and Commissioning Plan,* prior to completion of installation, that includes the following at a minimum:
    - Energy storage subsystems to be tested
    - Sequence of system testing and startup period
    - Goals and expected functionality of the energy storage system
    - Definition of successful results to demonstrate utilization of on-site solar and to reduce loads during scarce grid conditions
    - Roles and responsibilities of the parties
- Test the energy storage system under the following use cases:
    - Discharge of 4 MW for 8 hours, utilizing the combined capacity of the LDES system (8 MWh from Phase 1 and an additional 24 MWh from Phase 2).
    - Reduction in grid load during times of grid scarcity or peak electrical grid demand.
        - Track data on voluntary load reductions during scarce grid conditions and report on participation in the Emergency Load Reduction Program, Base Interruptible Program, or other demand response programs.
- Prepare an *Energy Storage System Operations and Analysis Report* with the results of testing for each Use Cases.
- Prepare an *Energy Storage System Performance Presentation* with the results of the Use Cases test
- Prepare a *CPR Report #2* and participate in CPR Meeting, per subtask 1.3

Products:

- Energy Storage System Testing and Commissioning Plan
- Energy Storage System Operations and Analysis Report
- Energy Storage System Performance Presentation
- CPR Report #2

TASK 7: MONITORING, VERIFICATION, AND PERFORMANCE EVALUATION

The team will measure and verify the performance of the energy storage system and compare to projected performance. The goal of this task is to conduct measurement and validation of the energy storage system, to periodically evaluate and report on their performance in a number of use cases, and to report the benefits resulting from this project by performing measurement and verification (M&V) of greenhouse gas (GHG) and energy consumption reduction. The specific load profile of the plant will not be required from the recipient per this task.

The Recipient shall:

- Enter into an agreement with M&V subcontractor per Task 1.9 (if using an outside vendor)
    - Coordinate site visits with the M&V subcontractor at the demonstration site(s)
- Develop a *Measurement, Verification & Performance Evaluation Plan,* prior to initiating measurement period, that includes but is not limited to the following.
    - A description of the monitoring equipment and instrumentation which will be used.
    - Set up of measurement devices and data collection platform
    - A data collection schedule, including length of measurement and verification period
    - A description of the key input parameters and output metrics that will be measured and that will be used validate cost effectiveness and performance including but not limited to.
        - Number of MWh provided during PSPS or other outage events

        - Number and time of MW load reduction and duration provided during times of peak demand
    - A description of the M&V protocol, analysis, and collection methods to be employed.
    - Definition of analytical methods for processing data
    - Expected results prior to measurement period
    - A description of the independent, third-party M&V services to be employed, if applicable.
- Develop M&V protocol for *post-installation* measurements (and calculations) of:
    - Electric, natural gas and/or other fossil fuel consumption, and GHG emissions of the equipment/process/system(s)/sub-system(s) that will be upgraded and/or replaced and/or modified. Factors and metrics to be approved by the CAM.
- Perform at least six months or two seasons, for seasonal facilities, (or a shorter period as approved in writing by the CAM) of post-installation measurements based on M&V protocol for post-installation.
- Provide a summary of post-installation M&V progress in Progress Report(s) (see subtask 1.5) which shall include but not be limited to:
    - A narrative on operational highlights from the reporting period, including any stoppages in operation and why; and
    - A summary of M&V findings from the reporting period.
- Analyze post-installation electrical, natural gas and/or other fossil fuel consumption, and GHG emissions.
- Provide all key assumptions used to estimate and determine energy and GHG reductions (and additions, if applicable).
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations.
- Submit updated *Measurement, Verification & Performance Evaluation Reports* per the frequency listed in the terms and conditions summarizing performance of the energy storage system, including but not limited to the following.
    - Measured LDES performance relative to nameplate guarantees; MWh throughput (subtotal and total); roundtrip efficiency; auxiliary load reports; generation mix reports; subsystem and system availability and reliability metrics; costs and economic savings; and summary statistics on utility distribution grid performance including outages, voltage, and frequency monitoring.
    - GGRF data and benefits per the metrics listed in the terms and conditions and as provided by CARB guidance.
- Conduct TAC Meeting #3 per subtask 1.10
    - Document, submit, and discuss lessons learned during the TAC meeting with the TAC and the CAM.

Products:

- Measurement, Verification & Performance Evaluation Plan
- Measurement, Verification & Performance Evaluation Report

TASK 8: EVALUATION OF PROJECT BENEFITS

The goal of this task is to report the benefits resulting from this project.

Exhibit A
Scope of Work

The Recipient shall:

- Complete *the Initial Project Benefits Questionnaire*. The Initial Project Benefits Questionnaire shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the *Annual Survey* by January 31st of each year. The Annual Survey includes but is not limited to the following information:
    - Technology commercialization progress
    - New media and publications
    - Company growth
    - Follow-on funding and awards received
- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:

- Initial Project Benefits Questionnaire
- Annual Survey(s)
- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

TASK 9: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the technological learning that resulted from the demonstration(s) is captured and disseminated to the range of professions that will be responsible for future deployments of this technology or similar technologies.

The Recipient Shall:

- Develop and submit a *Project Case Study Plan* that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The Project Case Study Plan should include:
    - An outline of the objectives, goals, and activities of the case study.
    - The organization that will be conducting the case study and the plan for conducting it.
    - A list of professions and practitioners involved in the technology's deployment.
    - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
    - Presentations/webinars/training events to disseminate the results of the case study.
- Present the draft *Project Case Study Plan* to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the draft *Project Case Study Plan*. This document will identify:

  - TAC comments the recipient proposes to incorporate into the final *Technology Transfer Plan*.
  - TAC comments the recipient does not propose to incorporate with and explanation why.
- Submit the final *Project Case Study Plan* to the CAM for approval.
- Execute the final Project Case Study Plan and develop and submit a Project Case Study.
- When directed by the CAM, develop presentation materials for a CEC sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in knowledge sharing event(s) sponsored by the California CEC.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

- Project Case Study Plan (Draft and Final)
- Summary of TAC Comments
- Project Case Study (Draft and Final)
- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.