STATE OF CALIFORNIA

GRANT AMENDMENT REQUEST FORM (GARF)

CEC-277 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

Original Agreement # EPC-19-018 Amendment # 1

Division	Agreement Manager:	MS-	Phone
ERDD	Nadia Richards		916-897-3804

Recipient's Legal Name	Federal ID #
Hell's Kitchen Geothermal LLC	81-1914243

Revisions: (check all that apply)	**Additional Requirements**
☐ Term Extension New End Date:	Include revised schedule and complete items A, B, C, & F below.
☐ Budget Augmentation Amendment Amount: $ 0	Include revised budget and complete items A, B, C, D, & F below.
☐ Budget Reallocation	Include revised budget and complete items A, B, C, & F below.
☒ Scope of Work Revision	Include revised scope of work and complete items A, B, C, E, & F below.
☐ Change in Project Location or Demonstration Site	Include revised scope of work and complete items A, B, C, E, & F below.
☐ Novation/Name Change of Prime Recipient	Include novation documentation and complete items A, B, C, & F below.
☐ Terms and Conditions Modification	Include applicable exhibits with bold/underline/ strikeout and complete items A, B, C, & F below.

A) Business Meeting Information

Business Meeting approval is not required for the following types of Agreements:

☐ Minor amendments delegated to Executive Director per December 2013 Resolution

Proposed Business Meeting Date 11/16/2022 ☐ Consent ☒ Discussion

Business Meeting Presenter Nadia Richards Time Needed: 5 minutes

Please select one list serve. EPIC (Electric Program Investment Charge)

Agenda Item Subject and Description:

Hell's Kitchen Geothermal LLC

Proposed resolution adopting CEQA findings and approving Amendment 1 to grant Agreement EPC-19-018 with Hell's Kitchen Geothermal LLC. Contact: Nadia Richards (Staff Presentation: 5 minutes)

a. Proposed resolution adopting CEQA finding, based on: 1) Imperial County's 2015 Final Programmatic Environmental Impact Report for the Renewable Energy & Transmission Element (SCH#2014071062); 2) Imperial County's 2017 Addendum to the Final Programmatic Environmental Impact Report (which focuses on the Hell's Kitchen Geothermal Exploratory Project); and 3) Imperial County's 2022 Notice of Exemption for research and development mineral extraction pilot work, that the proposed project presents no new significant or substantially more severe environmental impacts beyond those already considered.

b. Proposed resolution for Amendment 1 approves Phase II of the Scope of Work (SOW), which authorizes the expenditure of funds for Phase II. Phase II of the project includes procuring the required materials and equipment and constructing, commissioning, and operating the pre-treatment process at

the pilot facility. Additionally, the project will collect and evaluate data to determine the exact chemical composition of geothermal brine at the site, gather scaling factors to assist in the design of larger-scale plants, and provide techno-economic assessment for commercial-scale operations. This amendment includes minor changes to the SOW (not to the project's purpose), reflecting the approval of this amendment.

B) List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)

Legal Company Name:	**Budget**
JFMPE, Inc.	$ 50,000
Nalco Water Pretreatment Solutions, LLC	$ 50,000
San Diego State University Foundation	$ 72,355
PMC Global Inc.	$ 90,000
DOE- Lawrence Berkeley National Laboratory	$ 246,380
Key Energy Services, LLC	$ 35,000
CJ Berry Well Services Management, LLC	$ 30,000
EFR Environmental Services	$ 25,000
Ancon Environmental Services	$ 30,000
TBD- Well Flow/ Brine Supply and Operation	$ 90,000
TBD- Solid and liquid waste disposal	$ 10,000

C) List all key partners: (attach additional sheets as necessary)

Legal Company Name:

D) Budget Information (only include amendment amount information)

Funding Source	**Funding Year of Appropriation**	**Budget List Number**	**Amount**
			$

R&D Program Area: EGRB: Renewables TOTAL: $ 0

Explanation for "Other" selection

Federal Agreement #:

E) California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
   - ☒ Yes (skip to question 2)
   - ☐ No (complete the following (PRC 21065 and 14 CCR 15378)):

   Explain why Agreement is not considered a "Project":

2. If Agreement is considered a "Project" under CEQA:
   - a) ☐ Agreement **IS** exempt.
     - ☐ Statutory Exemption. List PRC and/or CCR section number:
     - ☐ Categorical Exemption. List CCR section number:
     - ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

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

Check all that apply

- ☒ Initial Study
- ☐ Negative Declaration
- ☐ Mitigated Negative Declaration
- ☒ Environmental Impact Report
- ☐ Statement of Overriding Considerations

F) The following items should be attached to this GARF (as applicable)

1.	Exhibit A, Scope of Work/Schedule	☐ N/A	☒ Attached
2.	Exhibit B, Budget Detail	☐ N/A	☐ Attached
3.	CEQA Documentation	☐ N/A	☒ Attached
4.	Novation Documentation	☐ N/A	☐ Attached
5.	CEC 105, Questionnaire for Identifying Conflicts		☒ Attached

_____ _____
Agreement Manager **Date**

_____ _____
Office Manager **Date**

_____ _____
Deputy Director **Date**

Exhibit A
Scope of Work

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Develop Process Design Criteria
3	X	Design Pilot Plant
4		CEQA Requirements
5	X	Construction and Procurement Plan
6	X	Procure and Construct Pilot Plant
7	X	Operate Pilot plant
8		Post Operation Analysis and Evaluation
9		Techno-Economic Assessment
10		Evaluation of Project Benefits
11		Technology/Knowledge Transfer Activities
12		Production Readiness Plan

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
EV	Electric Vehicle
Recipient	Hell's Kitchen Geothermal, LLC
IOU	Investor Owned Utility
LBNL	Lawrence Berkley National Labs
MW	Megawatt
MWhr	Megawatt hour
PEA	Preliminary Economic Assessment
SDSU	San Diego State University
TAC	Technical Advisory Committee

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

A. Purpose of Agreement

The purpose of this Agreement is to design and demonstrate a pretreatment process for geothermal brine at Recipient's project site in Imperial County. The constructed brine pre-treatment unit will enable removal of silica and heavy metals from geothermal fluid and precondition the brine for subsequent extraction of lithium. The project is divided into two phases:

[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.

Phase I and Phase II. Phase I entails design of a pilot-scale process for pre-treatment of geothermal brine to prepare the brine for lithium extraction. Activities performed under Phase I include the development of pilot plan design and plan to procure materials and services needed for construction and operation of the lithium extraction facility. In addition, in Phase I Recipient will seek approval from the lead agency to proceed with Phase II.

Approval for funding of Phase II Tasks will be considered at a future California Energy Commission Business Meeting and is contingent upon successful completion of Phase I. Approval of Phase II will also be contingent upon the lead agency's approval of Phase II activities, and upon successful compliance with CEQA for Phase II. Phase II involves constructing the facility, commissioning and operating the facility, and collecting and evaluating data on pilot test results.

The lead agency has approved the Phase II activities, Recipient has successfully completed Phase I and the Energy Commission has approved Phase II activities at the November 16, 2022 Business Meeting.

B. PROBLEM/ SOLUTION STATEMENT

Problem

Since 1982 many technical teams have explored the feasibility of lithium extraction from geothermal brine with some projects being more successful than the others. However, none of these efforts has resulted in demonstration of commercial viability of lithium extraction from geothermal brine. Thus, due to the perceived risk, no investors or potential off-takers have been willing to fund such projects on a pilot-scale.

Geothermal brines can be a challenging source for lithium because of their complicated geochemistry and high corrosive potential. In particular, the Salton Sea Geothermal Field contains a large amount of lithium, yet, at the same time it also contains large amounts of other chemical elements that make selective extraction difficult.

Solution

The Recipient will design a pre-treatment process based on the chemical composition of the geothermal fluids at the project site and demonstrate its technical performance on a pilot-scale. The developed process will provide a path to a technically feasible lithium extraction process with favorable commercial scale economics.

C. GOALS AND OBJECTIVES OF THE AGREEMENT

Agreement Goals

The goals of this Agreement are to:

- Determine the exact chemical composition of geothermal brine at the HKG's site.
- Secure necessary CEQA approvals from the lead agency.
- Design, construct and test a **pre-treatment** pilot scale process for removal of impurities, such as silica and heavy metals, from the geothermal fluid based on the chemical composition of the brine.
- Gather scaling factors to assist in design of larger scale demonstration/commercial plants.

- Provide techno-economic assessment for commercial scale operations.

Ratepayer Benefits:[2] This Agreement will result in the ratepayer benefits of greater electricity reliability and lower costs.

The Recipient, with help from partners, created a detailed financial model for a combined geothermal power plant and lithium production plant. The model is based upon a 140MW power plant and two 19,000 tons per year lithium production plants utilizing commercially available lithium extraction technology. The model can determine what minimum electricity price a project is able to maintain financial obligations and attract investment. HKG's analysis of integrating lithium and power projects allows geothermal electricity to be sold at ~$50/MWhr. This is a substantial savings compared to most geothermal power purchase agreements. Integrated geothermal and lithium production could save ratepayers ~35% on electricity purchased from geothermal.

Decreasing the cost of geothermal energy will allow Investor Owned Utilities (IOU) to procure greater amounts of geothermal energy and still provide cost effective solutions to rate payers. This will allow the IOU's to procure more inertia-based power that provides grid benefits and capacity.

Technological Advancement and Breakthroughs:[3] This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by paving the path to the establishment of a stable, secure, low-cost source of lithium needed to manufacture lithium-ion batteries. A supply of lithium-ion batteries is paramount to the state of California achieving its renewable energy goals as increased energy storage systems will be required to integrate intermittent generation sources like wind and solar.

A supply of lithium will also be necessary to support the emerging electric vehicle (EV) industry, which in return will support the decarbonization of the transportation sector and reduce the amount of associated greenhouse gas emissions. Current lithium production globally is ~300,000 tons per year. However, demand is forecast to outstrip current supply by 2- or 3-fold in the next decade. It is critical for manufacturers of EV batteries to have reliable supply of affordable lithium.

Agreement Objectives

The objectives of this Agreement are to:

- Produce equipment scaling factors necessary for designing commercial size equipment.
- Achieve steady-state, uninterrupted operation of brine pre-treatment facility for at least 600 hours.
- Confirm process design criteria.
- Refine reagent consumption factors.

---

[2] California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC "Phase 2" Decision 12-05-037 at page 19, May 24, 2012, CPUC rulemaking 11-10-003).

[3] California Public Resources Code, Section 25711.5(a) also requires EPIC-funded projects to lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory and energy goals.

Exhibit A
Scope of Work

- Produce pretreatment precipitate and establish pretreatment product composition that can be used to seek commercial end users.
- Calibrate mass and energy balance.
- Confirm efficiency of impurities removal.
- Complete techno-economic assessment validating operating and capital cost estimate for commercial plant.

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).** 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 Energy Commission'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 Energy Commission 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;
  - 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 and invoices (subtask 1.5);
- Final Report (subtask 1.6);
- Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
- Any other relevant topics.

- Provide an *Updated Project Schedule, List of Match Funds,* and *List of Permits*, 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:
- Updated Project Schedule *(if applicable)*
- Updated List of Match Funds *(if applicable)*
- Updated List of Permits *(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 Energy Commission 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 Energy Commission 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 Energy Commission.

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 Energy Commission, 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 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.

- Submit the CPR Report along with any other *Task Products* that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).
- 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* and 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)
- Task Products (draft and/or final as specified in the task)

CAM Products:

- CPR Agenda
- List of Expected CPR Participants
- Schedule for Providing a Progress Determination
- 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 Energy Commission 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 state-owned equipment.
    - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1) regarding the Energy Commission's interest in patented technology.

  - The Energy Commission'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 *All Draft and Final Written Products* on a CD-ROM or USB memory stick, organized by the tasks in the Agreement.

Products:
- Final Meeting Agreement Summary *(if applicable)*
- Schedule for Completing Agreement Closeout Activities
- All Draft and Final Written 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 Fund and in-state expenditures.

Products:
- Progress Reports
- Invoices

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. The CAM will review the Final Report, which will be due at least two months before the Agreement end date. When creating the Final Report Outline and the Final Report, the Recipient must use the 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 Style Manual provided by the CAM. (See Task 1.1 for requirements for draft and final products.)

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- 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, 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)
    - Ensure that the document is written in the third person.
    - Ensure that the Executive Summary is understandable to the lay public.
        - Briefly summarize the completed work. Succinctly describe the project results and whether or not the project goals were accomplished.
        - Identify which specific ratepayers can benefit from the project results and how they can achieve the benefits.
        - If it's necessary to use a technical term in the Executive Summary, provide a brief definition or explanation when the technical term is first used.
    - Follow the Style Guide format requirements for headings, figures/tables, citations, and acronyms/abbreviations.

- Ensure that the document omits subjective comments and opinions. However, recommendations in the conclusion of the report are allowed.
- Include a brief description of the project results in the Abstract.

- 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
- Consider incorporating all CAM comments into the Final Report. 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 Final Report 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.
- Submit one bound copy of the *Final Report* to the CAM along with *Written Responses to Comments on the Draft Final Report*.

Products:
- Final Report (draft and final)
- Written Responses to Comments on the Draft 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 Energy Commission 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 Energy Commission 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 Energy Commission 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 <u>no permits</u> 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 the 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)

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.

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.

Products:

- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)
- TAC Meeting Back-up Materials
- TAC Meeting Summaries

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 PROCESS DESIGN CRITERIA

The goal of this task is to develop process design criteria for the pilot plant. This Task is a part of Phase I of this agreement.

The Recipient shall:

- Determine the exact composition of geothermal brine at HKG's site and prepare a *Chemical Composition of Geothermal Fluid Report*.
- Develop list of pilot plant deliverables for brine pre-treatment taking into consideration the requirements for the lithium extraction process, financial stakeholders (investors and lenders), engineering scale up parameters, CEC grant requirements and environmental concerns.
- Develop a *Process Design Criteria Report* based on pilot plant deliverables and previous work conducted in the NI 43-101 Preliminary Economic Assessment (PEA)[4].

Products:

- Chemical Composition of Geothermal Fluid Report
- Process Design Criteria Report

TASK 3: DESIGN PILOT PLANT

The goal of this task is to design a pilot plant for pre-treatment of geothermal brine based on its chemical composition. This Task is a part of Phase I of this agreement.

The Recipient shall:

- Lead the team through the following activities and develop a *Detailed Engineering Report* sufficient for procurement and construction of pilot plant, to include but not be limited to:
    - Create designs for the pretreatment and brine handling equipment.
    - Develop process flow diagram (PFD).
    - Develop mass and energy balance.
    - Develop process and instrumentation diagrams.
    - Complete equipment list and subdivide into "new build" and "purchased" categories.
    - Develop Detailed Engineering Drawings of equipment to be constructed.
    - Develop Detailed Specification Sheets for equipment to be purchased/leased.
- Prepare *CPR Report # 1* and participate in a CPR Meeting per subtask 1.3.

[4] National Instrument 43-101 (the "NI 43-101") is a national instrument for the *Standards of Disclosure for Mineral Projects*. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. National Instrument 43-101

Products:

- Detailed Engineering Report
- CPR Report # 1

TASK 4: CEQA REQUIREMENTS

The goal of this task is to achieve lead agency approval for activities included in Phase II (technical tasks 5-12). This task is a part of Phase I of this agreement.

The Recipient shall:

- Obtain CEQA approvals from the lead agency for the activities under technical tasks 5-7, construction and operation of the pilot plant.
- Prepare a *CEQA Status Memo*, identifying the approvals obtained from the lead agency. The *CEQA Status Memo* shall include evidence of approvals by the lead agency.

Products:

- CEQA Status Memo.

TASK 5: CONSTRUCTION AND PROCUREMENT PLAN

The goal of this task is to develop a construction and procurement plan for the pilot plant.

The Recipient shall:

- Develop a *Construction and Procurement Plan*.
- Develop construction work packages and provide to general contractor.
- Complete equipment procurement agreements (may be purchased or leased, whichever has more favorable cost).
- Draft *CPR Report # 2* and participate in a CPR Meeting per subtask 1.3.

Products:

- Construction and Procurement Plan
- CPR Report # 2

TASK 6: PROCURE AND CONSTRUCT PRE-TREATMENT PILOT PLANT

The goal of this task is to procure required equipment and construct a **pre-treatment pilot process at the Recipient's** pilot plant **site**. This Task is a part of Phase II of this agreement

The Recipient shall:

- Procure required materials and equipment and arrange for delivery to site.
- Construct **pre-treatment** Pilot Plant.
- Provide ***Pre-treatment*** *Pilot Plant Commissioning Report* to CAM.
- Draft *CPR Report # 3* and participate in a CPR Meeting per subtask 1.3.

Products:

- **Pre-treatment** Pilot Plant Commissioning Report
- CPR Report # 3

TASK 7: OPERATE PRE-TREATMENT PILOT PLANT

The goal of this task is to commission and operate the **pre-treatment pilot process at the Recipient's** pilot plant **site**. This Task is a part of Phase II of this agreement

The Recipient shall:

- Commission **pre-treatment** pilot plant and create acceptance report ensuring that at each major equipment entrance and exist, brine stream chemistry and characteristics are as per design.
- Operate **pre-treatment** pilot plant and achieve steady state operation.
- Record and maintain operating data during the course of operations.
- Maintain steady-state operations uninterrupted for at least 600 hours.
- Collect feed brine samples, brine samples between major operations in the **pre-treatment** pilot plant, final brine composition after removal of impurities and composition of removed solid material.
- Create *Operations Report* including, but not limited to, the following;
    - Raw data
    - Acceptance Report
    - Steady State Operations Report
    - Encountered Technical Challenges and Lessons Learned
- Prepare *CPR Report # 4* and participate in a CPR Meeting per subtask 1.3.

Products:

- Operations Report
- CPR Report # 4

TASK 8: POST OPERATION ANALYSIS AND EVALUATION

The goal of this task is to analyze and evaluate the **pre-treatment pilot process at the Recipient's** pilot plant operation. This Task is a part of Phase II of this agreement.

The Recipient shall:

- Collate all operating data acquired during operations.
- Evaluate **pre-treatment** pilot plant performance and at a minimum confirm the following:
    - Reagent consumption rates
    - Mass and energy balance
    - Equipment scale up factors
    - Composition of produced preconditioned brine
    - Composition of removed solid impurities
    - Lessons learned
- Write ***Pre-treatment*** *Pilot Performance Report,* to include but not be limited to the description of process parameters, such as amount of geothermal brine processed per minute, type of impurities removed, lithium concentration before and after treatment.

Products:

- **Pre-treatment** Pilot Performance Report

Exhibit A
Scope of Work

TASK 9: TECHNO-ECONOMIC ASSESSMENT
The goal of this task is to develop a techno-economic assessment of a commercial scale facility based on the results of the pilot plant. This Task is a part of Phase II of this agreement.

The Recipient shall:

- Complete a mass and energy balance analysis of the pilot plant in steady state operations.
- Develop a *Techno-Economic Assessment* of a commercial scale facility based on the results of the pilot plant

Products:

- Techno-Economic Assessment

TASK 10: EVALUATION OF PROJECT BENEFITS
The goal of this task is to report the benefits resulting from this project. This Task is a part of Phase II of this agreement.

The Recipient shall:

- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) Kick-off Meeting Benefits Questionnaire; (2) Mid-term Benefits Questionnaire; and (3) Final Meeting Benefits Questionnaire.
- 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. Examples of information that may be requested in the questionnaires include:

  a. <u>For Product Development Projects and Project Demonstrations:</u>
     - Published documents, including date, title, and periodical name.
     - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
     - Greenhouse gas and criteria emissions reductions.
     - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
     - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.
     - A discussion of project product downloads from websites, and publications in technical journals.
     - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.

     - <u>Additional Information for Product Development Projects</u>:
       - Outcome of product development efforts, such copyrights and license agreements.
       - Units sold or projected to be sold in California and outside of California.
       - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
       - Investment dollars/follow-on private funding as a result of Energy Commission funding.
       - Patent numbers and applications, along with dates and brief descriptions.

- Additional Information for Product Demonstrations:
  - Outcome of demonstrations and status of technology.
  - Number of similar installations.
  - Jobs created/retained as a result of the Agreement.

b. For Information/Tools and Other Research Studies:
   - Outcome of project.
   - Published documents, including date, title, and periodical name.
   - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
   - The number of website downloads.
   - An estimate of how the project information has affected energy use and cost, or have resulted in other non-energy benefits.
   - An estimate of energy and non-energy benefits.
   - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
   - A discussion of project product downloads from websites, and publications in technical journals.
   - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.

- Respond to CAM questions regarding responses to the questionnaires.

The Energy Commission may send the Recipient similar questionnaires after the Agreement term ends. Responses to these questionnaires will be voluntary.

Products:
- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire

TASK 11: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES
The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to the public and key decision makers. This Task is a part of Phase II of this agreement.

The Recipient shall:
- Prepare an Initial Fact Sheet at start of the project that describes the project. Use the format provided by the CAM.
- Prepare a Final Project Fact Sheet at the project's conclusion that discusses results. Use the format provided by the CAM.
- Prepare a Technology/Knowledge Transfer Plan that includes:
  - An explanation of how the knowledge gained from the project will be made available to the public, including the targeted market sector and potential outreach to end users, utilities, regulatory agencies, and others.
  - A description of the intended use(s) for and users of the project results.

  - Published documents, including date, title, and periodical name.
  - Copies of documents, fact sheets, journal articles, press releases, and other documents prepared for public dissemination. These documents must include the Legal Notice required in the terms and conditions. Indicate where and when the documents were disseminated.
  - A discussion of policy development. State if project has been or will be cited in government policy publications or used to inform regulatory bodies.
  - The number of website downloads or public requests for project results.
  - Additional areas as determined by the CAM.
- Conduct technology transfer activities in accordance with the Technology/Knowledge Transfer Plan. These activities will be reported in the Progress Reports.
- When directed by the CAM, develop Presentation Materials for an Energy Commission-sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California Energy Commission.
- 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.
- Prepare a Technology/Knowledge Transfer Report on technology transfer activities conducted during the project.

Products:
- Initial Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- High Quality Digital Photographs
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

TASK 12: PRODUCTION READINESS PLAN
The goal of this task is to determine the steps that will lead to the manufacturing of technologies developed in this project or to the commercialization of the project's results. This Task is a part of Phase II of this agreement.

The Recipient shall:
- Prepare a Production Readiness Plan. The degree of detail in the plan should be proportional to the complexity of producing or commercializing the proposed product, and to its state of development. As appropriate, the plan will discuss the following:
  - Critical production processes, equipment, facilities, personnel resources, and support systems needed to produce a commercially viable product. Internal manufacturing facilities, supplier technologies, capacity constraints imposed by the design under consideration, design-critical elements, and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes."
  - The estimated cost of production.
  - The expected investment threshold needed to launch the commercial product.
  - An implementation plan to ramp up to full production.
  - The outcome of product development efforts, such as copyrights and license agreements.

- Patent numbers and applications, along with dates and brief descriptions.
- Other areas as determined by the CAM.

Products:

- Production Readiness Plan (draft and final)

V. Project schedule

Please see the attached Excel spreadsheet.

State of California **California Natural Resources Agency**

M e m o r a n d u m

To: David Hochschild
Siva Gunda
Andrew McAllister
Patty Monahan
Kourtney Vaccaro

Date: November 7, 2022

From: Nadia Richards
Mechanical Engineer, Energy Research and Development Division

Subject: California Environmental Quality Act Analysis of EPC-19-018, Hell's Kitchen Geothermal, LLC's Pre-treatment Pilot for Lithium Extraction

INTRODUCTION AND SUMMARY

I am a Mechanical Engineer in the Research and Development Division at the California Energy Commission ("CEC") and am the CEC's Agreement Manager for Agreement EPC-19-018 (GFO-19-303-2) ("Agreement") with Hell's Kitchen Geothermal, LLC ("Recipient"), which is a subsidiary of Controlled Thermal Resources US Inc.

This memo analyzes the environmental impacts of the Agreement[1] that includes procuring the required materials and equipment, constructing, commissioning and operating the pre-treatment process for lithium extraction, and collecting data and evaluating test results on the pilot demonstration project site located at 7903 Davis Road Calipatria, CA 92233.

Agreement Project Description

The Agreement funds the research, development, and demonstration of a pre-treatment process for geothermal brine for the extraction of lithium at the Recipient's project site. The lithium extraction process that occurs after the pre-treatment process is not included in this Agreement. The pre-treatment process will enable removal of silica and heavy metals from the geothermal brine to precondition it for the subsequent extraction of lithium. The Recipient will procure necessary equipment and construct the pilot facility at the existing Well Pad #1 site. The pilot facility will operate for at least 600 hours. Additionally, the Agreement will determine the exact chemical composition of geothermal brine at the site at different stages of the pre-treatment process, gather scaling factors to assist in design of larger scale plants, and provide techno-economic assessment for commercial scale operations.

[1] The Agreement includes completed design work as well as a second phase involving construction and operation of the pre-treatment process for lithium extraction from geothermal brine for a research and development pilot project. The CEC is considering approval of the second phase construction and operation work through an amendment to the Agreement.

The pre-treatment process involves the use of the two existing geothermal wells. Geothermal brine will be provided from one of the wells, called a production well, where the geothermal brine is pumped through a depressurization and cooling circuit from which a slip stream of approximately five gallons per minute will flow through the pre-treatment process steps before it is pumped through the lithium extraction circuit. The resultant lithium-depleted brine will then be returned to the main brine stream for re-injection into the second well, called the injection well. The portion of the flow that bypassed the pre-treatment process is considered as the main brine flow which goes back into the injection well. Within the pre-treatment process the dissolved solids can be selectively separated into valuable co-products. Any extraction of lithium from the flowing pre-treated geothermal brine using processes and equipment would be outside the scope of this agreement.

The two geothermal wells were constructed as part of the Geothermal Exploratory Well project considered and approved by the lead agency, the Imperial County Planning Commission ("County") in July 2017. The County evaluated Conditional Use Permit Application No. 16-0001, for the Hell's Kitchen Exploratory Well project ("Exploratory Well") which is described in the County's California Environmental Quality Act ("CEQA") documentation as a project to construct, operate, and test geothermal exploration wells, and to implement a resource appraisal program to support the potential future development of geothermal resources on land currently owned by the Imperial Irrigation District in the unincorporated area of Imperial County. The County extended its approval of the No. 16-0001 Conditional Use Permit (CUP) until June 14, 2023. The geothermal leasing area boarders the Salton Sea, and is within the area known as the Salton Sea Known Geothermal Resource Area. The Exploratory Well project involves four well pads, three move-on areas used for on-site storage and temporary construction trailers, and up to six exploratory wells. The estimated area of disturbance for the Exploratory Well project is approximately 28.24 acres.

The Recipient notified the County that they had completed drilling two geothermal wells in February 2022 under the CUP. The pre-treatment pilot work will be conducted at Well Pad #1, and Well Pad #3 will be used for staging the pilot equipment. Both well pads are approximately 70,000 sq. ft. (1.6 acres) in size. The research and development work will utilize a reduced brine flow from the geothermal wells to reduce visible steam and the footprint of the fluid handling equipment. At the end of the pilot work, the lithium testing equipment will be removed from the site. All work will comply with conditions of the CUP. (Letter to J. Minnick, Imperial County from J. Turner, Controlled Thermal Resources, dated Feb. 24, 2022)

CEQA DOCUMENTATION

Pursuant to my evaluation of the Agreement, I have reviewed the County's CEQA documents relevant to the second phase of the Agreement involving the construction and operation of the pre-treatment process. These CEQA documents include:
(1) 2015 Final Programmatic Environmental Impact Report ("2015 Final EIR") for the County's Renewable Energy and Transmission Element ("RETE")
(2) CEQA Findings, Statement of Overriding Consideration and Mitigation, Monitoring and Reporting Program (SCH# 2014071062).
(3) County Planning Commission's Resolution No. 2015-150 M.O. 18a 100615, approval and certification of the final programmatic environmental impact report for the RETE, adoption of findings; adoption of all mitigation, monitoring and reporting program measures; and adoption of a statement of overriding considerations as to aesthetics.
(4) County Planning Commission's Resolution No. 2015-151 M.O. 18b 100615, approving the RETE as an amendment to the general plan and associated minor consistency changes to other elements.

(5) 2017 Addendum to the Final EIR in the form of a project level Initial Study/Environmental Analysis for the Hell's Kitchen Geothermal Exploratory Well project ("2017 Addendum")
(6) County Planning Commission's Resolution No. 2017-0037, certifying the 2017 Addendum.
(7) County Planning Commission's Resolution No. 2017-0038, approving the Geothermal Exploratory Well Conditional Use Permit #16-0001.
(8) County's 2017 Notice of Determination approving the Geothermal Exploratory Well CUP
(9) Original 2017 Conditional Use Permit (CUP# 16-001) and 2021 Letter from the Imperial County Planning and Development Services approving an extension for the geothermal CUP# 16-0001, from June 14, 2020, to June 14, 2023.
(10) County's 2022 Notice of Exemption for the mineral extraction R&D pilot work (2022 NOE).
(11) Letter dated 2/24/2022 from Control Thermal Resources to Imperial County requesting authorization to conduct R&D Mineral Extraction Pilot work on its site at the Salton Sea Geothermal Field.
(12) Letter dated 9/30/2022 from Control Thermal Resources requesting the County amend the commencement date of operations for the R&D Mineral Pilot work.
(13) Letter dated 10/26/2022 from the Imperial County Planning and Development Services approving to reset the 6-month mineral extraction R&D pilot work to November 1, 2022, to May 1, 2023.

The CEC is acting as a responsible agency in reviewing and considering the lead agency's CEQA documents. Responsible agencies are responsible for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve. (CEQA Guidelines § 15096 (g)(1)).

Of note, the County adopted Findings and a Statement of Overriding Considerations for the 2015 Final EIR concerning aesthetics. The 2015 Final EIR covers RETE for the entire county. The County's 2017 Addendum included a project specific analysis of the Recipient's Geothermal Exploratory Well project that does not involve significantly new environmental effects not analyzed in the 2015 Final EIR nor do they substantially increase the severity of significant effects previously identified in the 2015 Final EIR. Additionally, much of the construction work analyzed in the 2017 Addendum has already been completed because the geothermal exploratory wells have been drilled and the well pad has been completed. The County found that the Geothermal Well project would not have a significant effect on the environment and did not adopt statement of overriding considerations for the Geothermal Permit Exploratory Well project for these reasons. Similarly, no statement of overriding considerations is necessary for the CEC to approve the Agreement for the pre-treatment pilot for lithium extraction project. Additionally, the County issued a 2022 NOE for mineral extraction R&D pilot work at the site that covers the work in the Agreement.

Based on my review and consideration of the above documents, it is my independent and professional opinion that, since the above CEQA documents have been finalized, there have been no new changes related to the pre-treatment pilot for lithium extraction project, and no new, additional, or increased significant environmental impacts have occurred. Furthermore, I have not identified any new information that would change the conclusions of the County's CEQA documents or render those conclusions inadequate.

It is also my opinion that the work to be performed under the Agreement to procure the required materials and equipment and construct, commission, and operate the pre-treatment pilot facility fall within the scope of the lead agency's documents, and that the Agreement will not result in any new significant environmental impacts than those already considered by the lead agency. I have not found any new mitigation measures within the CEC's authority that would lessen or further mitigate the

Agreement's impacts. It is my opinion that the significant environmental impacts identified by the lead agency will be sufficiently mitigated to below significant levels. The reasons for this conclusion are as follows:

DISCUSSION

The construction and operation of the pre-treatment pilot plant will be located at 7903 Davis Road (Well Pad #1) Calipatria, approximately 11 miles west of Niland, Imperial County, California. The operation is expected to be for a limited time of 6 months and the Agreement only requires the pilot process to run for at least 600 continuous hours, which would be 25 days. As explained above, the exploratory geothermal wells and well pads have already been completed at the site. The 2015 Final EIR analyzed direct, indirect and cumulative environmental impacts that would result from the construction and operation of renewable energy projects developed per the Renewable Energy and Transportation Element. The 2017 Addendum analyzed project specific impacts of the Geothermal Exploratory Well project.

Exploratory wells or geothermal exploratory project as defined in Section 21065.5 of the Public Resources Code is a project that consists of not more than six wells and associated drilling and testing equipment. A geothermal exploratory project is considered to be a separate project from any subsequent geothermal field development for purposes of CEQA. (Public Resources Code § 21090.1).

The Project is located within the previously evaluated Renewable Energy Overlay Zone, specifically, the Geothermal Overlay Zone, which includes areas where existing and future development has been environmentally reviewed for geothermal renewable energy facilities.

Even where it may not say so explicitly below, the County already imposed the mitigation measures discussed in the 2017 Addendum and 2015 Final EIR and the mitigation measures are included in the CUP.

Aesthetics

The Agreement will have less than significant impacts with mitigation on aesthetics and will not change the impacts identified in the County's CEQA documents. The County's Statement of Overriding Considerations for the 2015 Final EIR identifies several unmitigable items under the aesthetics category, including: damage scenic resources, degrade existing visual character, and glare and glint. The proposed Agreement will not implicate any of the findings as identified in the statement of overriding considerations. The 2017 Addendum identified a potentially significant impact of degrade the existing visual character. However, the geothermal wells and well pads have been completed so there will be limited construction related to the pilot facility. The Agreement activities include the construction of the temporary pilot facility for the pretreatment process for lithium extraction and any impacts associated should be limited and temporary. The Recipient has stated that all lithium testing equipment will be removed at the end of the pilot demonstration. The County imposed several mitigation measures for aesthetics that will mitigate impacts for degrade the existing visual character to less than significant for the Agreement, listed as follows:

AESTH-1d: Project developers would be required to hold preconstruction meetings, if applicable, with affected agencies and designated specialists to coordinate the mitigation strategy for all resources of

record. This includes a review of final design and construction documents with regard to visual impacts and mitigation.

AESTH-1e: Project developers would be required to monitor compliance with mitigation requirements and consult with the affected agencies during operations and maintenance. Maintaining visual resource design elements would include maintaining revegetated surfaces until self-sustaining; keeping facilities in good repair and repainting as necessary; restoring lands as soon as possible after disturbance; controlling dust and noxious weeds; and operating so as to avoid high-intensity light (glare) being reflected off site.

AESTH-1f: Immediate reclamation of the site, either on federal, State, or private land, would be required for renewable energy facilities after construction. These reclamation activities may include restoration of agricultural farmland to the prior condition. Methods for minimizing visual contrast during reclamation and decommissioning include undertaking treatments such as thinning and feathering vegetation at project edges, enhancing contouring, salvaging landscape materials, and revegetating; restoring the project area to predevelopment visual conditions and the inventoried visual quality rating; removing aboveground and near-ground-level structures; contouring soil borrow areas and other features to approximate natural slopes; using native vegetation to establish form, line, color, and texture consistent with the surrounding undisturbed landscape; distributing stockpiled topsoil to disturbed areas and replanting; and removing or burying gravel or other surface treatments.

AESTH-3: Future renewable energy facilities would be required to consider siting and design features that would minimize glint and glare and take appropriate actions. These actions include identifying glint and glare effects, assessing and quantifying these effects to determine potential safety and visual impacts, and having qualified people conduct such assessments. Methods to minimize glint and glare include limiting use of signs; using reflective or luminescent markers instead of permanent lighting; minimizing offsite visibility of signs and lighting; using nonglare materials and appropriate colors; mitigating or offsetting visual impact by reclaiming unnecessary roads, removing abandoned buildings, using underground utility lines, and rehabilitating and revegetating disturbed areas; and other actions determined in consultation with BLM.

Mitigation measures AESTH-1d, AESTH-1e, AESTH-1f, AESTH-3 would reduce the potentially significant impact on the existing visual character to less than significant.

Agricultural Resources

The Agreement will have no impacts on agricultural resources and will not change the impacts identified in the County's CEQA documents.

Air Quality

The Agreement will have less than significant impacts with mitigation on air quality and will not change the impacts identified in the County's CEQA documents.

The Salton Sea Air Basin (Basin) includes all of Imperial County and a portion of Riverside County. The Basin is designated as non-attainment for federal and state standards of ozone and particulate matter (PM) 10. The Imperial County Air Pollution Control District issued a Draft 2017 Ozone State Implementation Plan to address the underlying issues related to nonattainment, their underlying causes and the steps necessary to reduce pollutant emissions. The pilot facility funded by the

Agreement will not result in population growth in excess of forecasts for Imperial County and the required submittal of a dust control plan will mitigate impacts. The 2017 Addendum identified construction-generated emissions and construction-related traffic as temporary, short-term sources of air emissions that include fugitive dust, construction equipment exhaust and construction-related trips, delivery trips and material-hauling tricks. Emissions would be related to site preparation, grading, construction of the proposed well pads and move on areas and access roads. Here the grading and construction of the well pads and move on areas has already occurred. The Agreement work related to construction is limited to assembling the small pre-treatment pilot on the existing well pad. Sensitive receptors including residences, schools, hospitals, and other sensitive uses were located at least .54 acres from the project area. Any potentially significant impacts will be less than significant with incorporation of mitigation measures.

AQ-1a: Prior to commencing construction, each project proponent shall submit a Dust Control Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval identifying all sources of PM10 emissions and associated mitigation measures during the construction and operational phases of their future renewable energy project. The project proponent shall submit a "Construction Notification Form" to the ICAPCD 10 days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20-percent opacity performance standard for dust control:

- All disturbed areas, including bulk material storage that is not being actively used, shall be effectively stabilized; and visible emissions shall be limited to no greater than 20-percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material, such as vegetative groundcover. Bulk material is defined as earth, rock, silt, sediment, and other organic and/or inorganic material consisting of or containing PM with 5 percent or greater silt content.
- All on-site and off-site unpaved roads segments with 50 or more average vehicle trips per day, shall be effectively stabilized; and so as to limit visible emissions shall be limited to no greater than 20- percent opacity for dust emissions by the use of restricting vehicle access, paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1.0 acre or more in size with 75 or more average vehicle trips per day shall be effectively stabilized; and visible emissions shall be limited to no greater than 20-percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials on public roads shall be completely covered, unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material, prior to using the trucks to haul material on public roadways.
- All track-out or carry-out on paved public roads, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line, except where such material or activity is exempted from stabilization by the rules of ICAPCD.

- The construction of new unpaved roads is prohibited within any area with a population of 500 or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

AQ-1b: Each project proponent shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess (Oxides of Nitrogen) NO_X emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

- Use alternative-fueled or catalyst-equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).
- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

AQ-1c: Each project proponent shall use all available United States Environmental Protection Agency (USEPA) Tier 3 or better construction equipment.

AQ-1d: Consistent with the requirements of ICAPCD Policy 5, each project proponent shall pay an emission mitigation fee sufficient to offset the amount by which the project's NOX emissions exceed the 100 pounds per day threshold. ICAPCD allows a project to pay in-lieu impact fees using the most current Carl Moyer Cost Effective methodology to reduce excess NOX emissions. Under the ICAPCD program, the exact amount of the fee cannot be calculated until the time of construction when more precise data regarding the construction equipment types and hours of operation are known, allowing ICAPCD to calculate the fee. Prior to any earthmoving activity, each project proponent shall submit to the ICAPCD a complete list of all construction equipment to be utilized during the construction phase identifying make, model, year, horsepower, and estimated hours of usage.

AQ-1e: Future renewable energy facilities that utilize combustion sources during operation would be required to obtain a "Permit to Operate" from ICAPCD. Future project proponents would be required to demonstrate consistency with ICAPCD regulations regarding combustion activities prior to permit approval.

AQ-2a: New stationary air pollution point sources such as, but not limited to, combustion sources, emergency-use engines, geothermal wells or steam vents, and cooling towers shall be located away from residential areas and other air quality–sensitive land uses.

Mitigation measures AQ-1a, through AQ-1e and AQ-2a will mitigate air quality impacts to less than significant.

Biological Resources

The Agreement will have less than significant impacts with mitigation on biological resources and will not change the impacts identified in the County's CEQA documents. Several sensitive species were observed at the geothermal leasing area: burrowing owl, white-tailed kite, California gull, American white pelican, white-faced ibis and desert pupfish. Additionally certain sensitive and/or riparian species were found within the project lease area including tamarisk/giant reed thicket, cattail marsh, pickleweed, mudflats and open water. Mitigation measures requiring survey for special status plant and animal species are required as well as marking the construction boundaries, power washing of equipment prior to arrival on site, implementation of a worker environmental awareness program and development of a habitat restoration plan will mitigate any potentially significant impacts. Since the geothermal wells and well pads have already been constructed, the impacts from the Agreement work will be more limited because it will take place on the existing well pads. The County requires several mitigation measures to reduce any impacts to biological resources as discussed below.

BIO-1a: Conduct Surveys for Special Status Plant Species. As a requirement of an application for a renewable energy facility, surveys for special status plant species shall be conducted by qualified and agency-approved botanists to determine the presence or absence of sensitive plant species within the project footprint. Surveys shall be conducted following CDFW or BLM survey guidelines and be appropriately timed to coincide with the blooming periods for these species. Special status plants identified within the construction disturbance area shall be avoided to the extent feasible. A qualified botanist shall supervise the installation of orange construction fencing or other visible material to establish buffer zones between special status plants and construction disturbance.

BIO-1b: Conduct Surveys for Special Status Animal Species. As a requirement of an application for a future renewable energy facility, surveys for special status animal species shall be conducted by qualified and agency-approved biologists to determine the presence or absence of sensitive animal species within the footprint of a future renewable energy project. Required surveys for special status animal species may include, but are not limited to, American badgers, burrowing owl, flat-tailed horned lizard, golden eagle, mountain plover, prairie falcons, Swainson's hawk, and Yuma Ridgway's rail, among others. Any special status mammal, reptile, and amphibian species detected during surveys shall be passively relocated to areas outside the construction zone and prevented from reentering the future project area with the installation of silt fencing or other exclusion fencing. All fencing shall be periodically monitored and maintained for the duration of construction. Passive relocation shall only be done in the nonbreeding season in accordance with guidelines and consultations with resource agencies. Depending on which special status species are present within the project boundaries, passive relocation measures may include covering or excavating all burrows or dens and installing one-way doors into occupied burrows. This would allow any animals inside to leave the burrow but would exclude any animals from reentering the burrow. The burrows shall then be excavated and filled in to prevent their reuse. Other types of relocation measures may be required, depending on which special status species are present within the project boundaries.

If direct impacts to special status species cannot be avoided, an agency-approved biologist shall prepare a species-specific Mitigation and Monitoring Plan that would detail the approved, site-specific methodology proposed to minimize and mitigate impacts to each species. Passive relocation, destruction of burrows, construction of artificial burrows, etc. shall be completed only upon prior approval by and in cooperation with CDFW and/or USFWS.

BIO-1c: Mark Areas of Construction Boundaries. All areas to be disturbed during construction of future renewable energy facilities developed under the proposed Project would be required to flag disturbance boundaries prior to construction. All disturbances would be confined to these flagged areas, and all employees would be instructed that their activities must be confined to locations within the flagged areas. Project proponents of future renewable energy facilities developed under the proposed Project would be required to have environmental monitors on-site during construction activities.

BIO-1d: Power Wash Equipment Prior to Arrival On -Site. All construction equipment used during construction of future renewable energy facilities developed under the proposed Project would be required to be power washed prior to arrival at the future project site to prevent the transportation and establishment of noxious weeds in the project area.

BIO-1e: Implement a Worker Environmental Awareness Program. A brief Worker Environmental Awareness Program (WEAP) would be implemented for construction crews prior to the commencement of project activities for future renewable energy facilities developed under the proposed Project. Training materials and briefings would include, but would not be limited to, discussion of the Federal and State ESAs, the consequences of noncompliance with these acts, identification and values of wildlife and natural plant communities, hazardous substance spill prevention and containment measures, and review of all required and recommended mitigation measures.

BIO-1f: Additional Project Mitigation: Additional biological mitigation may be required based on the renewable energy technology to be developed at specific project locations. Project proponents for future renewable energy facilities would be required to evaluate how specific renewable energy facilities may impact sensitive species and how to mitigate impacts through site design and/or mitigation and monitoring activities. Such mitigation may include, but is not limited to, developing strategies to reduce impacts to avian species related to a possible “lake-effect” associated with solar energy facilities and strategies to reduce the possibility for bird-strikes associated with wind energy facilities, if warranted. Project-specific mitigation and monitoring for future renewable energy facilities may include, but would not be limited to, a Bird and Bat Conservation Strategy based on the type of renewable energy technology to be utilized for a future renewable project.

BIO-2: Develop a Habitat Restoration Plan and Provide for Offsite Mitigation for Temporary or Permanent Impacts. As a requirement of an application for a future renewable energy facility, project proponents shall make an effort to minimize impacts on sensitive natural communities, especially riparian habitats, when designing and permitting projects in order to preserve both the habitat and the overall ecological functions of these areas. These efforts to minimize impacts on riparian habitats and other sensitive natural communities shall be done consistent with California Department of Fish and Wildlife (CDFW) guidelines. Future project proponents shall minimize ground disturbance and construction footprints within and near such areas to the extent practicable. Where avoidance of these areas is not feasible, future project proponents shall arrange for offsite replacement of removed habitats in accordance with consultation with CDFW.

Prior to construction, future project proponents shall develop a Habitat Restoration Plan (HRP) for review and approval by CDFW and the County of Imperial. The HRP shall be prepared by a qualified biologist and/or botanist and shall detail the methods for restoring or enhancing any riparian habitats or other sensitive natural communities impacted within the project area. The goal of the HRP shall be to mitigate any temporary or permanent impacts to riparian habitats or other sensitive natural

communities. Mitigation ratios would be developed through consultation with CDFW and the County of Imperial.

BIO-3: Provide restoration/compensation for affected jurisdictional areas. Impacts to areas under the jurisdiction of the USACE, RWQCB Regional Water Boards, State Water Board, and CDFW shall be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible, each applicant shall provide the necessary mitigation required as part of wetland permitting by creation/ restoration/preservation of suitable jurisdictional or equivalent habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation would be determined in consultation with USACE, CDFW, RWQCB, and BLM as part of the wetland permitting process. A jurisdictional delineation and impact assessment shall be prepared for each site based on the final alignment and final engineering plans when they are complete. Mitigation ratios would be developed through consultation with the wetland permitting agencies. The width of wetland buffers would also depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies.

Mitigation measures BIO-1a through BIO-1f, BIO-2 and BIO-3 will mitigate biological impacts to less than significant.

Cultural Resources

The Agreement will have less than significant impacts with mitigation on cultural resources, paleontological resources, and tribal culture resources and will not change the impacts identified in the County's CEQA documents.

In compliance with the Mitigation Measure identified in the 2015 Final EIR, a project specific cultural resources study was prepared. The cultural resource study included a records search which identified three cultural resources previously recorded within a 0.5-mile radius of the project area and no cultural resources have been previously recorded in the project area. Additionally, two archaeological pedestrian surveys were completed on November 9, 2016, and January 18, 2017. A record search of the Sacred Lands File held by the Native American Heritage Commission (NAHC) had negative results but included a list of 35 Native American individuals and organizations that were sent letters for further information regarding the project area including sacred sites, Tribal Cultural Resources, and Traditional Cultural Properties. The cultural resource study also included two archaeological pedestrian surveys which found one historic isolate consisting of fragments from two possibly historic bottles along the western side of Davis Road within Well Pad 1. No other cultural resources were identified in the project area.

Obsidian Butte is approximately 6.4 km to the southwest of the project area and construction monitoring by a qualified archaeologist of all ground disturbance is recommended as required under Mitigation Measures CUL-1d and CUL-3. The County requested project comments from California Tribes and the NAHC. The County incorporated the following mitigation measures for cultural resources.

CUL-1d: Site Characterization, Siting and Design, and Construction. Preconstruction activities for the minimization or avoidance of impacts on cultural resources shallinclude the following:

- Archaeological Monitoring: Prior to any ground-disturbing activities for future renewable energy facilities, project proponents should retain a qualified archaeologist to be present at all

preconstruction meetings to advise construction contractors about the sensitive nature of cultural resources located on and/or in the vicinity of the future project site, as well as monitoring requirements. A qualified monitor should observe all onsite and offsite future construction activities that would result ground disturbance (including project-related offsite utility and roadway improvements).

- Native American Monitor: During construction of future renewable energy facilities, a Native American monitor should observe all ground-disturbing activities (including project-related offsite utility and roadway improvements). The Native American monitor should consult with the archaeological monitor regarding objects and remains encountered during grading or excavation that may be considered sacred or important.

  Unanticipated Discoveries Historic Properties Treatment Plan/Data Recovery Plan: Should an unanticipated discovery be made, avoidance is the preferred treatment (CEQA Guidelines, Section 15126.4(b)(3)(A)), but if the site cannot be avoided in place, then the site will be further evaluated. Immediately upon discovery of a find, a qualified archaeologist will evaluate the significance of the newly discovered site or unanticipated discovery along with attempted consultation with designated Native American representatives in order to provide proper management recommendations. If testing and evaluation of the site is recommended, the cultural resources consultant will prepare a research design, schedule, and budget for review and approval by the County and applicant. During evaluation and testing, the appropriate Native American tribe shall be notified in advance so that a tribal monitor can be present and assist with the work being conducted. At the completion of the monitoring program, the cultural resources consultant will prepare a monitoring report that describes the project, the personnel used, the dates of performance, and results. If cultural resources are recovered and cannot be preserved in place, they shall be cleaned, catalogued, analyzed, reburied in a nearby area, after consultation or curated at the California Historical Resources Regional Information Center.

CUL-1e: Reclamation and Decommissioning. Project proponents of future renewable energy facilities should develop measures to confine reclamation and decommissioning activities to those areas previously disturbed by construction-related activities. Along with ensuring that the removal of structures would not result in further subsurface intrusion, measures should be developed to ensure that reclamation and decommissioning activities would utilize established access routes.

CUL-3: Human Remains. Prior to project implementation, local governments should consider working with tribes to develop an appropriate plan to address the identification and treatment of California Native American human remains should they be encountered (SB18 Public Resources Code §5097.98). If, at any time, evidence of human remains is identified during construction of future renewable energy facilities associated with the proposed Project, the County Coroner must be notified immediately and permitted to examine the remains. The discovery of human remains is always a possibility during ground disturbances. Human remains and associated cultural items refer to objects that fit into one of four types of items expressly protected under Native American Graves Protection and Repatriation Act (NAGPRA) (43 CFR 10), to include: (a) human remains, (b) funerary objects; (c) sacred objects; and (d) objects of cultural patrimony. Any significant confirmed find should be evaluated to determine if an adverse effect to the resource has occurred. Such a discovery, or probable likelihood of such a discovery as identified during an initial study, would require a recommencement of consultation between the lead agency, the Imperial County Coroner’s office, the

NAHC, and the Most-Likely Descendant (MLD) identified by the NAHC, in order to address adverse effects [AB 52.2(c)]. Any potential human remains identified by a cultural resources monitor during construction of future renewable energy facilities should initially be treated according to California Health and Safety Code, Section 7050.5(b) and Public Resource Code, Section 5097.98(a-h); however, the archaeological monitor should be responsible for determining whether cultural items are associated. In addition, future renewable energy facilities developed under the proposed Project would be required to implement the provisions of AB 52 (Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to, the Public Resources Code).

Mitigation measures CUL-1d, CUL-1e and CUL-3 would reduce the potentially significant impact on cultural resources to less than significant.

Paleontological Resources

The Agreement will have less than significant impacts on paleontological resources and will not change the impacts identified in the County's CEQA documents.

Tribal Cultural Resources

The Agreement will have less than significant impacts with mitigation on tribal cultural resources and will not change the impacts identified in the County's CEQA documents. The potential tribal cultural resource impact identified in the 2017 Addendum is associated with the construction and operation of a future renewable energy facilities. As part of the Cultural Resource Study prepared for the project, the Native American Heritage Commission (NAHC) was contacted for a record search of the Sacred Lands File which had negative results. The County contacted the 35 individuals and organizations recommended by NAHC and received two comments back. Additionally, the County request project comments from 15 California Tribes and received a comment from the Colorado River Indian Tribes that was incorporated into Mitigation Measure CUL 1-d discussed above. The comment request that all prehistoric cultural resources, including both known and yet-to-be discovered sites be avoided. If avoidance was infeasible, then the resources be left in-situ or reburied in a nearby area, after consultation.

Mitigation measure CUL-1d would reduce the potentially significant impact on tribal cultural resources to less than significant.

Geology and Soils

The Agreement will have less than significant impacts with mitigation on geology and soils and will not change the impacts identified in the County's CEQA documents. The Brawley Seismic Zone is located 3 miles west of the project area underneath the Salton Sea and the Salton Hills Fault is located four miles northeast of the project area. The Agreement area does have a history of Seismic activity but not as great as other locations in the County. The County incorporated several mitigation measures to ensure that the impacts are less than significant.

GEO-1: Prepare Geotechnical Report(s) for the Projects and Implement Required Measures. Facility design for all project components of future renewable energy facilities developed under the proposed Project shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

- Site preparation
- Soil bearing capacity
- Appropriate sources and types of fill
- Potential need for soil amendments
- Road, pavement, and parking areas
- Structural foundations, including retaining-wall design
- Grading practices
- Soil corrosion of concrete and steel
- Erosion/winterization
- Seismic ground shaking
- Liquefaction
- Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by each project applicant. Design of future renewable energy facilities would need to be consistent with applicable CBC Seismic Design Categories based on site-specific soil characteristics and proximity to potential seismic hazards.

GEO-2: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP). Future renewable energy facilities developed under the proposed Project would require a detailed SWPPP to be developed and implemented to minimize erosion during construction in compliance with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The SWPPP would be required to include the following:

- A detailed description of all Best Management Practices (BMPs) that will be employed
- An outline of the areas on site that will be disturbed during construction of the project
- An outline of all areas that will be stabilized by temporary or long-term erosion control measures
- A proposed schedule for the implementation of erosion control measures

In addition, all surface water and drainage features within 1,000 feet of construction activities shall be identified. Construction activities within 100 feet of these resources shall implement the BMPs detailed in the SWPPP prepared for each project.

GEO-4: Implement Corrosion Protection Measures. As determined appropriate by a licensed geotechnical or civil engineer, each project proponent shall ensure that all underground metallic fittings, appurtenances, and piping located in corrosive soils include a cathodic protection system to protect these facilities from corrosion for future renewable energy facilities developed under the proposed Project.

GEO-5: Demonstrate Compliance with On-Site Wastewater Treatment and Disposal Requirements. Wastewater treatment and disposal system(s) associated with future renewable energy facilities shall demonstrate compliance with the Imperial County performance standards as outlined in Title 9, Division 10, Chapters 4 and 12 of the Imperial County Land Use Ordinance. Prior to construction, and

again prior to operation, each future project proponent would be required to obtain all necessary permits and/or approvals from Imperial County. Each future project proponent would be required to demonstrate that the system adequately meets County requirements, which have been designed to protect beneficial uses and ensure that applicable water quality standards are not violated. This shall include documentation that the system would not conflict with the Regional Water Quality Control Board's (RWQCB) Anti-Degradation Policy.

Mitigation measures GEO-1, GEO-2, GEO-4, and GEO-5 would reduce the potentially significant impact on geology and soils to less than significant.

Greenhouse Gas Emissions

The Agreement will have less than significant impacts on greenhouse gas emissions and will not change the impacts identified in the County's CEQA documents.

Hazards and Hazardous Materials

The Agreement will have less than significant impacts with mitigation incorporated for hazards and hazardous materials and will not change the impacts identified in the County's CEQA documents. Hazardous materials present at the site would only include fluids for onsite maintenance of construction vehicles and equipment such as gasoline, lubricating oils and chemical materials for maintenance of equipment or application of corrosive-control protective coatings such as paints or solvents. The County has imposed mitigation to address an accidental spill at the site.

HAZ-1a: Implement hazardous materials and waste minimization measures including conducting a Phase I Environmental Site Assessment to determine the presence of hazardous materials from past site activities.

HAZ-1b: Proponents of future renewable energy facilities developed under the proposed Project that would handle hazardous materials that exceed regulatory thresholds would need to prepare and submit a Business Emergency Response Plan for approval to the State Department of Toxic Substance Control and County of Imperial Local Enforcement Agency.

Mitigation measures HAZ-1a and HAZ-1b would reduce the potentially significant impact on hazards and hazardous materials to less than significant.

Hydrology and Water Quality

The Agreement will have less than significant impacts with mitigation incorporated on hydrology and water quality and will not change the impacts identified in the County's CEQA documents. The Agreement work will take place on Well Pad #1 and the staging area will be at Well Pad #3. Construction activities that could impact water quality include land disturbance, fuel and chemical spills, and storage and potential treatment of geothermal brine. The County required the following mitigation measures to ensure that impacts are mitigated to a level less than significant.

HYDRO-1a: Acquire Appropriate CWA Regulatory Permits, Prepare SWPPP, and Implement BMPs Prior to Construction and Site Restoration. Project proponents or project construction contractors for future renewable energy facilities would be required to prepare a project-specific SWPPP and be

responsible for securing coverage under State Water Resources Control Board's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by each project applicant prior to commencement of work and shall be made conditions of the contract with each contractor selected to build and decommission future renewable energy facilities developed under the proposed Project. The SWPPP(s) shall, at a minimum, incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Dewatering and/or flow diversion practices, if required (see Mitigation Measure HYDRO-1b)
- Sediment control practices (temporary sediment basins, fiber rolls)
- Temporary and post-construction on-site and off-site runoff controls
- Special considerations and BMPs for water crossings, wetlands, and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis placed on the following water quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

Each SWPPP shall be prepared by a qualified SWPPP practitioner with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. Given that Imperial Valley Drains would accept runoff from areas within the Salton Trough and are listed as impaired for sediment, the SWPPP shall include BMPs sufficient for Risk Level 2 projects. BMPs for soil stabilization and erosion control practices and sediment control practices would also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HYDRO-1b: Properly Dispose of Construction Dewatering in Accordance with the Colorado River Basin Regional Water Quality Control Board. If required, all construction dewatering for future renewable energy facilities developed under the proposed Project shall be discharged to an approved land disposal area or drainage facility in accordance with Colorado River Basin Regional Water Quality Control Board (RWCQB) requirements. Each future project proponent or project construction contractor shall provide the Colorado River Basin RWQCB with the location, type of discharge, and methods of treatment and monitoring for all groundwater dewatering discharges. Emphasis shall be placed on those discharges that would occur directly or in proximity to surface water bodies and drainage facilities.

HYDRO-3: Comprehensive Drainage and Sedimentation Control Plan. Project proponents for future renewable energy facilities would be required to prepare a Comprehensive Drainage and Sedimentation Plan (Plan) prior to the initiation of construction (or decommissioning as relevant). Detailed hydrologic analysis shall be performed prior to final design of the specific future renewable energy project. Results of these analyses will be submitted to the County for review. All proposed grading and impervious surfaces on-site shall be reviewed and approved by the County with respect to its potential to cause or result in additional erosion and sedimentation, increased stormwater flows, or altered drainage patterns that could lead to unintentional ponding or flooding on-site or downstream, and/or additional erosion and sedimentation. The Plan shall include, but not be limited to, the following measures:

• Construction of access corridors and temporary and permanent access roads shall not block existing drainage channels and shall not significantly alter the existing topography.

• The project proponent shall delineate the active drainage channels within each drainage avoidance area and avoid placement of proposed flood protection berms within active drainage channels. The drainage avoidance areas shall protect no less than 90 percent of the area of the active drainage channels from construction impacts.

• The project proponent shall prepare hydraulic analyses that estimate the pre-and post-Conclusions.

Mitigation measures HYDRO-1a, HYDRO-1b and HYDRO-3 would reduce the potentially significant impact on hydrology and water quality to less than significant.

Land Use and Planning

The Agreement will have less than significant impacts on land use and planning, and will not change the impacts identified in the County's CEQA documents.

Mineral Resources

The Agreement will have less than significant impacts on mineral resources and will not change the impacts identified in the County's CEQA documents. Imperial County has a number of mineral resources that are currently being extracted for economic gain. These mineral resources include gold, gypsum, sand, gravel, lime, clay, and stone. However, the extraction of mineral resources is limited to a relatively small number of sites throughout Imperial County. The minerals extracted under the Agreement would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Noise and Vibration

The Agreement will have less than significant impacts with mitigation on noise and vibration and will not change the impacts identified in the County's CEQA documents. Since the geothermal wells and well pads have already been constructed, the impacts from the Agreement only involve activities that occur after the initial construction period. The County requires several mitigation measures to reduce any impacts to noise and vibration as discussed below.

NOI-1b: Implement noise reduction techniques. Project proponents developing future renewable energy facilities shall implement the following requirements:

1. Limit noisy construction activities (including truck and rail deliveries, pile driving, and blasting) to the least noise-sensitive times of day consistent with the requirements of the County of Imperial Noise Ordinance.

2. Consider use of noise barriers such as berms and vegetation to limit ambient noise at plant property lines, especially where noise-sensitive receptors may be present.

3. Ensure all project equipment has the appropriate sound-control devices and shield-impact tools. Use battery-powered forklifts and other facility vehicles and flashing lights instead of audible backup alarms on mobile equipment.

4. Locate stationary construction equipment (such as compressors and generators) as far as practical from nearby residences.

5. If blasting or other noisy activities are required during the construction period, notify nearby residents and the permitting agencies 24 hours in advance.

6. Properly maintain mufflers, brakes, and all loose items on construction and operation-related vehicles to minimize noise and ensure safe operations. Operate trucks as quietly as possible, while considering local conditions. Advise about downshifting and vehicle operations in residential communities to keep truck noise to a minimum.

7. Install mufflers on diesel and gas-driven engine air coolers and exhaust stacks. Equip emergency pressure relief valves and steam blow-down lines with silencers to limit noise levels.

8. Contain project facilities within buildings or other types of effective noise enclosures, when necessary and feasible.

9. Employ engineering controls, including sound-insulated equipment and control rooms, to reduce the average noise level to appropriate levels in normal work areas.

Mitigation measure NOI-1b would reduce the potentially significant impact on noise to less than significant.

Population and Housing

The Agreement will have no impacts on population and housing and will not change the impacts identified in the County's CEQA documents.

Public Services

The Agreement will have less than significant impacts on public services and will not change the impacts identified in the County's CEQA documents. The Agreement is temporary and will not result in increased demand for services.

Recreation

The Agreement will not have less than significant impacts on recreation and will not change the impacts identified in the County's CEQA documents. No mitigation is required.

Transportation/Traffic

The Agreement will have less than significant impacts with mitigation on transportation/traffic and will not change the impacts identified in the County's CEQA documents. The County's mitigation measures for post-construction traffic impacts include:

TRA-1a: Implement a transportation plan. Project proponents shall prepare a transportation plan for implementation during all phases of future renewable energy facilities developed under the proposed Project. The transportation plan shall address methods for reducing construction worker traffic volumes and project-related equipment and materials transport by implementing the following strategies: (1) provide a construction worker rideshare program; (2) schedule shift changes and deliveries to avoid conflict with peak-hour traffic patterns; (3) establish traffic controls for transport of facility hazardous and nonhazardous materials, components, main assembly cranes, and other large pieces of equipment; and (4) evaluate alternative transportation approaches depending on specific object sizes, weights, origin, destination, peak-hour traffic, and unique handling requirements.

TRA-1b: Coordinate road improvements with local authorities. Project proponents shall consult with local planning authorities regarding increased traffic during the construction phase of future renewable energy facilities developed under the proposed Project. Each project proponent shall conduct a project-specific traffic impact assessment of the vehicle numbers per day, their size, and type to determine design for implementing local road improvements and multiple-site access locations for future renewable energy facilities developed under the proposed Project.

TRA-1c: Implement traffic control measures. Project proponents shall prepare and implement traffic control measures, such as intersection realignment coupled with speed limit reduction; installation of traffic lights and/or other signage; and addition of acceleration, deceleration, and turn lanes on routes with site entrances for future renewable energy facilities developed under the proposed Project.

TRA-1d: Ensure proper signage and travel management. Project proponents shall ensure signs are placed along future construction roads to identify speed limits, travel restrictions, and other standard traffic control information. Consideration should be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute times to minimize impacts on local commuters.

TRA-3a: Project proponents of future renewable energy facilities would be required to retain a professional civil engineer to survey and evaluate the conditions of roads along proposed haul routes prior to commencing construction. Preconstruction conditions shall be documented for each roadway with photo and text description. Video of haul routes may also be used to document preconstruction conditions. The photographs and/or videos are to include documentation of bridges and other appurtenances such as signs, striping, drainage, and other utilities as determined in consultation with the County. The report shall make a determination of the minimum road design criteria needed to support anticipated project traffic and whether the existing roadways comply. Each project proponent shall submit the completed report to Imperial County Department of Public Works for review and comment.

TRA-3b: Project proponents of future renewable energy facilities shall enter into a Roadway Maintenance Agreement with the County of Imperial prior to issuance of a grading permit. Each project proponent shall pay its fair share of the responsibility to maintain future haul routes during construction and, if necessary, bring the roadways up to an appropriate minimum standard to handle the anticipated traffic.

TRA-3c: Project proponents of future renewable energy facilities shall be responsible for roadway preparation work, pavement construction, and repairs to County-maintained roads, including County-maintained bridges and other roadway appurtenances for any other route that is subsequently used but not identified in the Programmatic EIR. This may include, but is not limited to, bridges, signs, striping, drainage improvements and roadway shoulders. Consideration shall also be given to improvements to other infrastructure, such as IID canal and drain crossings.

TRA-4a: Provide on-site laydown and staging. Project proponents shall ensure that their future renewable energy facility site contains adequate area for construction laydown and staging, parking for construction and operation worker vehicles, and site traffic circulation aisles.

TRA-4b: Control site access. Project proponents shall restrict traffic to the roads specified for the future renewable energy facility. Use of other unimproved roads should be restricted to emergency situations involving potential injury or loss of life.

TRA-4c: Repair project-related damage. Project proponents shall be responsible for repairing or reconstructing project-related access roads that are damaged during construction of future renewable energy facilities to return them to pre-project conditions.

Mitigation measures TRA-1a through TRA-1d, TRA-3a through TRA-3c, and TRA-4a through TRA-4 would reduce the potentially significant impact of transportation/traffic to less than significant.

Utilities and Service Systems

The Agreement will have a less than significant impacts with mitigation on utilities and service systems and will not change the impacts identified in the County's CEQA documents. The 2017 Addendum identified a potential significant impact involving solid waste disposal at a landfill. Since the geothermal wells and well pads have already been constructed, the Agreement only involve activities that occur after the initial construction period and would have more limited impacts on solid waste. The County's mitigation measure includes:

UTIL-6 Complete a Waste Management Plan for construction and decommissioning. Prior to the issuance of a grading permit or building permit, the applicant shall prepare a Waste Management Plan and submit to ICPDS and ICDPW for review and approval. The Waste Management Plan that shall identify the projected waste from landfills, such as sorting and recycling of materials, reuse of materials and waste reduction measures.

Mitigation measure UTIL-6 would reduce the potentially significant impact of utilities and service systems to less than significant.

CONCLUSION

In conclusion, I support the County's CEQA findings and when applied to the work to be performed under the Agreement believe that the Agreement will not result in any new significant environmental impacts than those already considered by the lead agency.

California Energy Commission

November 16, 2022 Business Meeting -- Agenda Item #7

Hell's Kitchen Geothermal LLC. Project: "Hell's Kitchen Geothermal Pre-treatment Pilot for Lithium Extraction" (EPC-19-018)

The full California Environmental Quality Act (CEQA) supporting documentation for EPC-19-018 can be obtained at:

Item	Description	Reference
1	2015 Final Programmatic Environmental Impact Report ("2015 Final EIR") for the County's Renewable Energy and Transmission Element ("RETE")	Item# 1 host site
2	CEQA Findings, Statement of Overriding Consideration and Mitigation, Monitoring and Reporting Program (SCH# 2014071062).	Item# 2-13 host site.
3	County Planning Commission's Resolution No. 2015-150 M.O. 18a 100615	Item# 2-13 host site.
4	County Planning Commission's Resolution No. 2015-151 M.O. 18b 100615	Item# 2-13 host site.
5	2017 Addendum to the Final EIR in the form of a project level Initial Study/Environmental Analysis for the Hell's Kitchen Geothermal Exploratory Well project	Item# 2-13 host site.
6	County Planning Commission's Resolution No. 2017-0037	Item# 2-13 host site.
7	County Planning Commission's Resolution No. 2017-0038	Item# 2-13 host site.
8	County's 2017 Notice of Determination approving the Geothermal Exploratory Well CUP	Item# 2-13 host site.
9	Original 2017 Conditional Use Permit (CUP# 16-001) and 2021 Letter from the Imperial County Planning and Development Services approving an extension for the geothermal CUP# 16-0001, from June 14, 2020, to June 14, 2023.	Item# 2-13 host site.

10	County's 2022 Notice of Exemption for the mineral extraction R&D pilot work (2022 NOE)	Item# 2-13 host site.
11	Letter dated 2/24/2022 from Control Thermal Resources to Imperial County requesting authorization to conduct R&D Mineral Extraction Pilot work on its site at the Salton Sea Geothermal Field.	Item# 2-13 host site.
12	Letter dated 9/30/2022 from Control Thermal Resources requesting the County amend the commencement date of operations for the R&D Mineral Pilot work.	Item# 2-13 host site.
13	Letter dated 10/26/2022 from the Imperial County Planning and Development Services approving to reset the six-month mineral extraction R&D pilot work from November 1, 2022, to May 1, 2023.	Item# 2-13 host site.

CEQA STATEMENT OF FINDINGS

1.0 Purpose of CEQA Findings

California Environmental Quality Act (CEQA) Findings play an important role in the consideration of projects for which an Environmental Impact Report (EIR) is prepared. Under Public Resources Code § 21081 and CEQA Guidelines §15091, where a final EIR identifies one or more significant environmental effects, a project may not be approved until the public agency makes written findings supported by substantial evidence in the administrative record regarding each of the significant effects. In turn, the three possible findings specified in CEQA Guidelines §15091(a) are:

A. Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

B. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

C. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

2.0 Environmental Impact Report and Addendum

Imperial County certified the 2015 Final Programmatic Environmental Impact Report ("2015 Final EIR") for the County's Renewable Energy and Transmission Element ("RETE") including CEQA Findings, Statement of Overriding Consideration and Mitigation, Monitoring and Reporting Program (SCH# 2014071062). Imperial County then prepared the 2017 Addendum to the Final EIR in the form of a project level Initial Study and Environmental Analysis for the Hell's Kitchen Geothermal Exploratory Well project ("2017 Addendum").

The County determined that Geothermal Exploratory Well project could have significant effects on the following environmental resources:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Tribal Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise and Vibration
- Transportation/ Traffic

- Utilities and Service Systems

Of the eleven resources noted above, the Agreement project components within the CEC's jurisdiction could have significant environmental effects on all the resources. The CEC, acting as a responsible agency, has reviewed and considered the Imperial County's environmental documents and the potential environmental effects of the portion of the project that the CEC is considering funding under CEQA Guidelines § 15096.

3.0 Agreement Project Description

The Agreement project funds the research, development, and demonstration of a pre-treatment process for geothermal brine for the extraction of lithium at the Recipient's project site. The lithium extraction process that occurs after the pre-treatment process is not included in this Agreement. The pre-treatment process will enable removal of silica and heavy metals from the geothermal brine to precondition it for the subsequent extraction of lithium. The Recipient will procure necessary equipment and construct the pilot facility at the existing Well Pad #1 site and Well Pad #3 will be used for staging the pilot equipment. The pilot facility will operate for at least 600 hours.

The pre-treatment process involves the use of the two existing geothermal wells. Geothermal brine will be provided from one of the wells, called a production well, where the geothermal brine is pumped through a depressurization and cooling circuit from which a slip stream of approximately five gallons per minute will flow through the pre-treatment process steps before it is pumped through the lithium extraction circuit. The resultant lithium-depleted brine will then be returned to the main brine stream for re-injection into the second well, called the injection well. The portion of the flow that bypassed the pre-treatment process is considered as the main brine flow which goes back into the injection well. Within the pre-treatment process the dissolved solids can be selectively separated into valuable co-products.

4.0 Findings of Significant Impacts, Required Mitigation Measures and Supporting Facts

4.1 Aesthetics Resources

4.1.1 Degrade existing visual character

a. Potential Impact: The proposed project would be located in a quasi-rural community and includes potential viewer groups of farmers, rural residents, motorists and visitors. During the construction, there may be the use of heavy equipment and visual clutter of equipment storage, signage and possibly dust.
b. Mitigation Measures:
   AESTH-1d: Project developers would be required to hold preconstruction meetings, if applicable, with affected agencies and designated specialists to coordinate the mitigation strategy for all resources of record. This includes a

review of final design and construction documents with regard to visual impacts and mitigation.

AESTH-1e: Project developers would be required to monitor compliance with mitigation requirements and consult with the affected agencies during operations and maintenance. Maintaining visual resource design elements would include maintaining revegetated surfaces until self-sustaining; keeping facilities in good repair and repainting as necessary; restoring lands as soon as possible after disturbance; controlling dust and noxious weeds; and operating so as to avoid high-intensity light (glare) being reflected off site.

AESTH-1f: Immediate reclamation of the site, either on federal, State, or private land, would be required for renewable energy facilities after construction. These reclamation activities may include restoration of agricultural farmland to the prior condition. Methods for minimizing visual contrast during reclamation and decommissioning include undertaking treatments such as thinning and feathering vegetation at project edges, enhancing contouring, salvaging landscape materials, and revegetating; restoring the project area to predevelopment visual conditions and the inventoried visual quality rating; removing aboveground and near-ground-level structures; contouring soil borrow areas and other features to approximate natural slopes; using native vegetation to establish form, line, color, and texture consistent with the surrounding undisturbed landscape; distributing stockpiled topsoil to disturbed areas and replanting; and removing or burying gravel or other surface treatments.

AESTH-3: Future renewable energy facilities would be required to consider siting and design features that would minimize glint and glare and take appropriate actions. These actions include identifying glint and glare effects, assessing and quantifying these effects to determine potential safety and visual impacts, and having qualified people conduct such assessments. Methods to minimize glint and glare include limiting use of signs; using reflective or luminescent markers instead of permanent lighting; minimizing offsite visibility of signs and lighting; using nonglare materials and appropriate colors; mitigating or offsetting visual impact by reclaiming unnecessary roads, removing abandoned buildings, using underground utility lines, and rehabilitating and revegetating disturbed areas; and other actions determined in consultation with BLM**.**

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The disturbance from the proposed activities would be temporary, fugitive dust will be minimized consistent with ICAPCD regulations and implementation of mitigation measures AESTH-1d, AESTH-1e, AESTH-1f, and AESTH-3 would reduce the potentially significant impact on the existing visual character to less than significant by requiring visual

monitoring of operations and reclamation activities at the site after construction.

4.2 Air Quality Resources

4.2.1 Conflict with Applicable Air Quality Plan

a. Potential Impact: The project site is located within the Salton Sea Air Basin which is designated as a non-attainment area for federal and state standards for ozone and PM10 and construction of the pilot facility could generate additional emissions.
b. Mitigation Measures:
AQ-1a: Prior to commencing construction, each project proponent shall submit a Dust Control Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval identifying all sources of PM10 emissions and associated mitigation measures during the construction and operational phases of their future renewable energy project. The project proponent shall submit a “Construction Notification Form” to the ICAPCD 10 days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20-percent opacity performance standard for dust control:
• All disturbed areas, including bulk material storage that is not being actively used, shall be effectively stabilized; and visible emissions shall be limited to no greater than 20-percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material, such as vegetative groundcover. Bulk material is defined as earth, rock, silt, sediment, and other organic and/or inorganic material consisting of or containing PM with 5 percent or greater silt content.
• All on-site and off-site unpaved roads segments with 50 or more average vehicle trips per day, shall be effectively stabilized; and so as to limit visible emissions shall be limited to no greater than 20- percent opacity for dust emissions by the use of restricting vehicle access, paving, chemical stabilizers, dust suppressants, and/or watering.
• All unpaved traffic areas 1.0 acre or more in size with 75 or more average vehicle trips per day shall be effectively stabilized; and visible emissions shall be limited to no greater than 20-percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
• The transport of bulk materials on public roads shall be completely covered, unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material, prior to using the trucks to haul material on public roadways.

- All track-out or carry-out on paved public roads, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line, except where such material or activity is exempted from stabilization by the rules of ICAPCD.
- The construction of new unpaved roads is prohibited within any area with a population of 500 or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

AQ-1b: Each project proponent shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess (Oxides of Nitrogen) NO_X emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

- Use alternative-fueled or catalyst-equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).
- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

AQ-1c: Each project proponent shall use all available United States Environmental Protection Agency (USEPA) Tier 3 or better construction equipment.

AQ-1d: Consistent with the requirements of ICAPCD Policy 5, each project proponent shall pay an emission mitigation fee sufficient to offset the amount by which the project's NOX emissions exceed the 100 pounds per day

threshold. ICAPCD allows a project to pay in-lieu impact fees using the most current Carl Moyer Cost Effective methodology to reduce excess NOX emissions. Under the ICAPCD program, the exact amount of the fee cannot be calculated until the time of construction when more precise data regarding the construction equipment types and hours of operation are known, allowing ICAPCD to calculate the fee. Prior to any earthmoving activity, each project proponent shall submit to the ICAPCD a complete list of all construction equipment to be utilized during the construction phase identifying make, model, year, horsepower, and estimated hours of usage.
AQ-1e: Future renewable energy facilities that utilize combustion sources during operation would be required to obtain a “Permit to Operate” from ICAPCD. Future project proponents would be required to demonstrate consistency with ICAPCD regulations regarding combustion activities prior to permit approval.
AQ-2a: New stationary air pollution point sources such as, but not limited to, combustion sources, emergency-use engines, geothermal wells or steam vents, and cooling towers shall be located away from residential areas and other air quality–sensitive land uses.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The agreement project involves construction and temporary operation of the pilot facility at the existing geothermal wells and well pads. Emissions of these criteria pollutants could result from vehicles driving on unpaved surfaces and exhaust from vehicles transporting construction materials and personnel. However, any impacts related to the pre-treatment pilot facility will be temporary. The preparation of a Dust Control Plan and the use of Tier 3 or better construction equipment are required as part of the mitigation measures. Any potentially significant impact will be mitigated to less than significant with incorporation of mitigation measures AQ-1a through AQ-1e.

4.2.2 Expose sensitive receptors to substantial pollutant concentrations

a. Potential Impact: Construction activities including site preparation, vehicles driving on unpaved roads, exhaust from transporting construction materials and vehicle and equipment exhaust during operation and maintenance.
b. Mitigation Measures

AQ-1a through AQ-1e and AQ-2a above

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The nearest sensitive receptor is located over half a mile from the project area and the construction activities would be

temporary and most of the construction activities analyzed in the 2017 Addendum have already occurred to construct the well pads and geothermal test wells. Impacts from the construction of the pre-treatment pilot facility will be limited and temporary. Any potentially significant impacts would be mitigated to less than significant with the implementation of mitigation measure AQ-1a through AQ-1e and AQ-2a.

4.2.3 Create Objectionable Odors

a. Potential Impact: Construction of facilities may result in diesel exhaust and the geothermal facility could have objectionable odors for people living within a mile of the project.
b. Mitigation Measures

AQ-1a through AQ-1e and AQ-2a discussed above.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The nearest residence is located over half a mile from the project area and the construction activities would be temporary. New stationary air pollution point sources are required to be located away from residential or other sensitive uses. Any potentially significant impacts would be mitigated to less than significant with the implementation of mitigation measures AQ-1a through AQ-1e and AQ-2a.

4.3 Biological Resources

4.3.1 Substantial Adverse Effect on a Sensitive Species

a. Potential Impact: There could be impacts to burrowing owl, white-tailed kite, California gull, American white pelican, white-faced ibis and desert pupfish. The avian species are sensitive but not listed. The white-tailed kite is a California Fully Protected species. The desert pupfish is federally and state endangered.
b. Mitigation Measures

BIO-1a: Conduct Surveys for Special Status Plant Species. As a requirement of an application for a renewable energy facility, surveys for special status plant species shall be conducted by qualified and agency-approved botanists to determine the presence or absence of sensitive plant species within the project footprint. Surveys shall be conducted following CDFW or BLM survey guidelines and be appropriately timed to coincide with the blooming periods for these species. Special status plants identified within the construction disturbance area shall be avoided to the extent feasible. A qualified botanist shall supervise the

installation of orange construction fencing or other visible material to establish buffer zones between special status plants and construction disturbance.

BIO-1b: Conduct Surveys for Special Status Animal Species. As a requirement of an application for a future renewable energy facility, surveys for special status animal species shall be conducted by qualified and agency-approved biologists to determine the presence or absence of sensitive animal species within the footprint of a future renewable energy project. Required surveys for special status animal species may include, but are not limited to, American badgers, burrowing owl, flat-tailed horned lizard, golden eagle, mountain plover, prairie falcons, Swainson's hawk, and Yuma Ridgway's rail, among others. Any special status mammal, reptile, and amphibian species detected during surveys shall be passively relocated to areas outside the construction zone and prevented from reentering the future project area with the installation of silt fencing or other exclusion fencing. All fencing shall be periodically monitored and maintained for the duration of construction. Passive relocation shall only be done in the nonbreeding season in accordance with guidelines and consultations with resource agencies. Depending on which special status species are present within the project boundaries, passive relocation measures may include covering or excavating all burrows or dens and installing one-way doors into occupied burrows. This would allow any animals inside to leave the burrow but would exclude any animals from reentering the burrow. The burrows shall then be excavated and filled in to prevent their reuse. Other types of relocation measures may be required, depending on which special status species are present within the project boundaries.

If direct impacts to special status species cannot be avoided, an agency-approved biologist shall prepare a species-specific Mitigation and Monitoring Plan that would detail the approved, site-specific methodology proposed to minimize and mitigate impacts to each species. Passive relocation, destruction cooperation with CDFW and/or USFWS.

BIO-1c: Mark Areas of Construction Boundaries. All areas to be disturbed during construction of future renewable energy facilities developed under the proposed Project would be required to flag disturbance boundaries prior to construction. All disturbances would be confined to these flagged areas, and all employees would be instructed that their activities must be confined to locations within the flagged areas. Project proponents of future renewable energy facilities developed under the proposed Project would be required to have environmental monitors on-site during construction activities.

BIO-1d: Power Wash Equipment Prior to Arrival On-Site. All construction equipment used during construction of future renewable energy facilities developed under the proposed Project would be required to be power washed

prior to arrival at the future project site to prevent the transportation and establishment of noxious weeds in the project area.

BIO-1e: Implement a Worker Environmental Awareness Program. A brief Worker Environmental Awareness Program (WEAP) would be implemented for construction crews prior to the commencement of project activities for future renewable energy facilities developed under the proposed Project. Training materials and briefings would include, but would not be limited to, discussion of the Federal and State ESAs, the consequences of noncompliance with these acts, identification and values of wildlife and natural plant communities, hazardous substance spill prevention and containment measures, and review of all required and recommended mitigation measures.

BIO-1f: Additional Project Mitigation: Additional biological mitigation may be required based on the renewable energy technology to be developed at specific project locations. Project proponents for future renewable energy facilities would be required to evaluate how specific renewable energy facilities may impact sensitive species and how to mitigate impacts through site design and/or mitigation and monitoring activities. Such mitigation may include, but is not limited to, developing strategies to reduce impacts to avian species related to a possible “lake-effect” associated with solar energy facilities and strategies to reduce the possibility for bird-strikes associated with wind energy facilities, if warranted. Project-specific mitigation and monitoring for future renewable energy facilities may include, but would not be limited to, a Bird and Bat Conservation Strategy based on the type of renewable energy technology to be utilized for a future renewable project.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: Required surveys for the special status species must be conducted by qualified biologists to determine the presence of species under mitigation measures BIO-1a and BIO-1b. Equipment must be power washed to avoid noxious weeds and a worker environmental awareness program must be implemented to help avoid impacts. Indirect and dispersed direct effects to the species may come from construction activities and the increase of human activity. The pre-treatment pilot facility will be constructed and operated on an existing well pad and construction related impacts should be temporary. Any potentially significant impacts with be mitigated to less than significant by implementation of mitigation measures BIO-1a through BIO-1f.

4.3.2 Substantial Adverse Effect on Riparian Habitat

a. Potential Impact: Sensitive and/or riparian habitats were found within the greater Geothermal lease area including tamarisk/giant reed thicket, cattail marsh, pickleweed, mudflats and open water.
b. Mitigation Measures

BIO-2: Develop a Habitat Restoration Plan and Provide for Off-site Mitigation for Temporary or Permanent Impacts. As a requirement of an application for a future renewable energy facility, project proponents shall make an effort to minimize impacts on sensitive natural communities, especially riparian habitats, when designing and permitting projects in order to preserve both the habitat and the overall ecological functions of these areas. These efforts to minimize impacts on riparian habitats and other sensitive natural communities shall be done consistent with CDFW guidelines. Future project proponents shall minimize ground disturbance and construction footprints within and near such areas to the extent practicable. Where avoidance of these areas is not feasible, future project proponents shall arrange for off-site replacement of removed habitats in accordance with consultation with CDFW.

Prior to construction, future project proponents shall develop a Habitat Restoration Plan (HRP) for review and approval by CDFW and the County of Imperial. The HRP shall be prepared by a qualified biologist and/or botanist and shall detail the methods for restoring or enhancing any riparian habitats or other sensitive natural communities impacted within the project area. The goal of the HRP shall be to mitigate any temporary or permanent impacts to riparian habitats or other sensitive natural communities. Mitigation ratios would be developed through consultation with CDFW and the County of Imperial.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The Agreement project for the pilot facility will be constructed on the existing well pad. Additionally, the well pads were constructed in areas that were unvegetated or mudflat areas to avoid pickleweed patches. Any potentially significant impacts would be mitigated to less than significant with the implementation of mitigation measure BIO-2.

4.3.3 Potential Impact: Substantial Adverse Effect on Federally Protected Wetlands

a. Potential Impact: Construction may result in direct and/or indirect impacts to the jurisdiction Waters of the United States including wetlands.
b. Mitigation Measures

BIO-3: Provide restoration/compensation for affected jurisdictional areas. Impacts to areas under the jurisdiction of the USACE, RWQCB Regional Water Boards, State Water Board, and CDFW shall be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible, each applicant shall provide the necessary mitigation required as part of wetland permitting by creation/

restoration/preservation of suitable jurisdictional or equivalent habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation would be determined in consultation with USACE, CDFW, RWQCB, and BLM as part of the wetland permitting process. A jurisdictional delineation and impact assessment shall be prepared for each site based on the final alignment and final engineering plans when they are complete. Mitigation ratios would be developed through consultation with the wetland permitting agencies. The width of wetland buffers would also depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: Any impacts to jurisdiction waters or wetlands will be avoided to the extent feasible. If avoidance is not feasible, then mitigation will be provided upon consultation with USACE, CFDW and SWRCB. Since the pilot facility will be constructed on existing well pads, the Agreement project is less likely to impact jurisdiction waters and wetlands. Any potentially significant impacts will be mitigated to less than significant with the implementation of mitigation measure BIO-3.

4.4 Cultural Resources

4.4.1 Historic or Archaeological Resources

a. Potential Impact: No archaeological resources have been previously recorded at the site and none were identified in the cultural resource surveys. However, the presence of the resource collecting source at Obsidian Butte which is approximately 6.4 km to the southwest of the project area.
b. Mitigation Measures

CUL-1d: Site Characterization, Siting and Design, and Construction. Preconstruction activities for the minimization or avoidance of impacts on cultural resources shall include the following:

•

• Archaeological Monitoring: Prior to any ground-disturbing activities for future renewable energy facilities, project proponents should retain a qualified archaeologist to be present at all preconstruction meetings to advise construction contractors about the sensitive nature of cultural resources located on and/or in the vicinity of the future project site, as well as monitoring requirements. A qualified monitor should observe all onsite and offsite future construction activities that would result ground disturbance (including project-related offsite utility and roadway improvements).

- Native American Monitor: During construction of future renewable energy facilities, a Native American monitor should observe all ground-disturbing activities (including project-related offsite utility and roadway improvements). The Native American monitor should consult with the archaeological monitor regarding objects and remains encountered during grading or excavation that may be considered sacred or important.

Unanticipated Discoveries Historic Properties Treatment Plan/Data Recovery Plan: Should an unanticipated discovery be made, avoidance is the preferred treatment (CEQA Guidelines, Section 15126.4(b)(3)(A)), but if the site cannot be avoided in place, then the site will be further evaluated. Immediately upon discovery of a find, a qualified archaeologist will evaluate the significance of the newly discovered site or unanticipated discovery along with attempted consultation with designated Native American representatives in order to provide proper management recommendations. If testing and evaluation of the site is recommended, the cultural resources consultant will prepare a research design, schedule, and budget for review and approval by the County and applicant. During evaluation and testing, the appropriate Native American tribe shall be notified in advance so that a tribal monitor can be present and assist with the work being conducted. At the completion of the monitoring program, the cultural resources consultant will prepare a monitoring report that describes the project, the personnel used, the dates of performance, and results. If cultural resources are recovered and cannot be preserved in place, they shall be cleaned, catalogued, analyzed, reburied in a nearby area, after consultation or curated at the California Historical Resources Regional Information Center.

CUL-1e: Reclamation and Decommissioning. Project proponents of future renewable energy facilities should develop measures to confine reclamation and decommissioning activities to those areas previously disturbed by construction-related activities. Along with ensuring that the removal of structures would not result in further subsurface intrusion, measures should be developed to ensure that reclamation and decommissioning activities would utilize established access routes.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: Because of the presence of the resource collecting source at Obsidian Butte approximately 6.4 km to the southwest of the project area, construction monitoring by a qualified archaeologist of all ground disturbance is required under mitigation measures CUL-1d, CUL-1e and CUL -3 which is discussed below. Any potentially significant impacts would be mitigated to less than significant with the implementation of mitigation measure CUL-1d, CUL-1e and CUL-3.

4.4.2 Human Remains

a. Potential Impact: There is no indication from research or the archaeological survey that the project area has been used for human burial but in the event that human remains are inadvertently discovered during construction activities could be inadvertently damaged.
b. Mitigation Measures

CUL-3: Human Remains. Prior to project implementation, local governments should consider working with tribes to develop an appropriate plan to address the identification and treatment of California Native American human remains should they be encountered (SB18 Public Resources Code §5097.98). If, at any time, evidence of human remains is identified during construction of future renewable energy facilities associated with the proposed Project, the County Coroner must be notified immediately and permitted to examine the remains. The discovery of human remains is always a possibility during ground disturbances. Human remains and associated cultural items refer to objects that fit into one of four types of items expressly protected under Native American Graves Protection and Repatriation Act (NAGPRA) (43 CFR 10), to include: (a) human remains, (b) funerary objects; (c) sacred objects; and (d) objects of cultural patrimony. Any significant confirmed find should be evaluated to determine if an adverse effect to the resource has occurred. Such a discovery, or probable likelihood of such a discovery as identified during an initial study, would require a recommencement of consultation between the lead agency, the Imperial County Coroner's office, the NAHC, and the Most-Likely Descendant (MLD) identified by the NAHC, in order to address adverse effects [AB 52.2(c)]. Any potential human remains identified by a cultural resources monitor during construction of future renewable energy facilities should initially be treated according to California Health and Safety Code, Section 7050.5(b) and Public Resource Code, Section 5097.98(a-h); however, the archaeological monitor should be responsible for determining whether cultural items are associated. In addition, future renewable energy facilities developed under the proposed Project would be required to implement the provisions of AB 52 (Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to, the Public Resources Code).

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The primary construction analyzed under the 2017 Addendum has already been completed. The construction related to the pilot facility will take place on the existing well pad and ground disturbance is not anticipated. Any potential significant impacts will be mitigated to less than significant with the implementation of mitigation measure CUL-3.

4.5 Tribal Cultural Resources

4.5.1 Substantial Adverse Change to a Tribal Cultural Resource

a. Potential Impact: Consultation with tribes under AB52 needed to understand potential impacts associated with construction and operation of geothermal exploratory well project.
b. Mitigation Measures

CUL-1d discussed above.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The County prepared a cultural resource study for the 2017 Addendum and a record search of Sacred Lands File. Tribal contacts provided by the Native American Heritage Commission and fifteen California Tribes were sent a letter by the County about the project. Language from the Colorado River Indian Tribes comment letter was incorporated into mitigation measure CUL-1d. Any potentially significant impact will be mitigated to less than significant through the implementation of mitigation measure CUL-1d.

4.6 Geology

4.6.1 Seismic ground shaking and Unstable Geologic Conditions

a. Potential Impact: Imperial County is located in the seismically active region of southern California. Several fault zones delineated on the Alquist-Priolo Earthquake Fault Zoning Map underlie the renewable energy overlay zones developed for the proposed Project.
b. Mitigation Measures

GEO-1: Prepare Geotechnical Report(s) for the Projects and Implement Required Measures. Facility design for all project components of future renewable energy facilities developed under the proposed Project shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

• Site preparation

• Soil bearing capacity

• Appropriate sources and types of fill

• Potential need for soil amendments

• Road, pavement, and parking areas

• Structural foundations, including retaining-wall design

• Grading practices

• Soil corrosion of concrete and steel

• Erosion/winterization

• Seismic ground shaking

• Liquefaction

• Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions and shall determine appropriate foundation designs that are consistent with the version of the California Building Code (CBC) that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by each project applicant. Design of future renewable energy facilities would need to be consistent with applicable CBC Seismic Design Categories based on site-specific soil characteristics and proximity to potential seismic hazards.

GEO-2: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP). Future renewable energy facilities developed under the proposed Project would require a detailed SWPPP to be developed and implemented to minimize erosion during construction in compliance with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The SWPPP would be required to include the following:

- A detailed description of all Best Management Practices (BMPs) that will be employed
- An outline of the areas on site that will be disturbed during construction of the project
- An outline of all areas that will be stabilized by temporary or long-term erosion control measures
- A proposed schedule for the implementation of erosion control measures

In addition, all surface water and drainage features within 1,000 feet of construction activities shall be identified. Construction activities within 100 feet of these resources shall implement the BMPs detailed in the SWPPP prepared for each project.

GEO-5: Demonstrate Compliance with On-Site Wastewater Treatment and Disposal Requirements. Wastewater treatment and disposal system(s) associated with future renewable energy facilities shall demonstrate compliance with the Imperial County

performance standards as outlined in Title 9, Division 10, Chapters 4 and 12 of the Imperial County Land Use Ordinance. Prior to construction, and again prior to operation, each future project proponent would be required to obtain all necessary permits and/or approvals from Imperial County. Each future project proponent would be required to demonstrate that the system adequately meets County requirements, which have been designed to protect beneficial uses and ensure that applicable water quality standards are not violated. This shall include documentation that the system would not conflict with the Regional Water Quality Control Board's (RWQCB) Anti-Degradation Policy.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: In the event of an earthquake along one of the fault sources and seismic hazards related to ground motion could occur in susceptible areas. The geotechnical evaluation required in GEO-1 and SWPPP would analyze potential impacts and require appropriate project design. The potentially significant impact would be mitigated to less than significant with the implementation of mitigation measures GEO-1,GEO-2, and GEO-5.

4.6.2 Construction related erosion

a. Potential Impact: Construction and operation of the pilot plant would result in short and long-term impact to the soils from construction of well pad sites, access roads and other proposed facilities.
b. Mitigation Measures

GEO-1 and GEO-2 discussed above.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The well pads that will be used for the pilot facility have already been constructed and the Agreement project will involve construction on those existing well pads. Any potentially significant impacts will be mitigated to less than significant by the implementation of mitigation measures GEO-1 and GEO-2.

4.6.3 Unstable Soils

a. Potential Impact: According to a soil survey of Imperial County, some of the project area is not prone to liquefaction but the remainder of the project area is predominantly low strength sea sediments which have the potential for seepage and expansion.
b. Mitigation Measures

GEO-1 and GEO-2 discussed above.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: GEO-1 and GEO-2 would address the potential hazards of liquefaction and total and differential settlement by requiring a licensed geotechnical or soils engineer to investigate the site-specific soil conditions. The potentially significant impacts would be mitigated to less than significant with implementation of GEO-1 and GEO-2.

4.6.5 Expansive soil

a. Potential Impact: Many soil types within the County contain high portion of clay which may exhibit a moderate to high potential for shrink-swell and could exert additional pressures on buried structures and electrical connections to produce shrinkage cracks.
b. Mitigation Measures

GEO-1 and GEO-2 above

GEO-4: Implement Corrosion Protection Measures. As determined appropriate by a licensed geotechnical or civil engineer, each project proponent shall ensure that all underground metallic fittings, appurtenances, and piping located in corrosive soils include a cathodic protection system to protect these facilities from corrosion for future renewable energy facilities developed under the proposed Project.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: In general, much of the near surface soils in the agricultural area of the Salton Trough consists of silty clays and clays which are moderately to highly expansive. The geotechnical evaluation required in GEO-1 and SWPPP required in GEO-2 will require appropriate project design to address impacts related to expansive soils. The potentially significant impacts will be mitigated to less than significant with the implementation of mitigation measures GEO-1, GEO-2 and GEO-4.

4.7 Hazards and Hazardous Materials

4.7.1 Accident involving release of hazardous materials

a. Potential Impact: Hazardous materials onsite could include fluids for onsite maintenance of construction vehicles and equipment and chemical materials for the maintenance of equipment.
b. Mitigation Measures

HAZ-1a: Implement hazardous materials and waste minimization measures including conducting a Phase I Environmental Site Assessment to determine the presence of hazardous materials from past site activities.

HAZ-1b: Proponents of future renewable energy facilities developed under the proposed Project that would handle hazardous materials that exceed regulatory thresholds would need to prepare and submit a Business Emergency Response Plan for approval to the State Department of Toxic Substance Control and County of Imperial Local Enforcement Agency.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The mitigation measures HAZ-1a and HAZ-1b will help ensure that existing hazardous materials at the site are known and that there is a plan for handling any hazardous materials that are onsite for the pilot facility. Any potentially significant impacts from an accidental release will be mitigated to less than significant with the implementation of HAZ-1a and HAZ-1b.

4.7.2 Interfere with adopted emergency response plan

a. Potential Impact: Construction and decommissioning of the pilot facility would involve increased vehicle trips that might impact an emergency response plan.
b. Mitigation Measures
TR-1a and TR-1d and TR-4a and TR-4c which are discussed below.
c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The 2017 Addendum primarily focused on the construction and decommissioning of the exploratory wells. The geothermal wells and well pads have already been constructed and the removal of pilot facilities will not necessarily occur at the same time as the decommissioning. Any potentially significant impact will be mitigated to less than significant by implementation of the mitigation measures TR-1a, TR-1d, TR-4a, and TR-4c.

4.8 Hydrology/Water Quality

4.8.1 Contribute to runoff water

a. Potential Impact: Construction of the proposed pilot project could include fuel and chemical spills, storage and treatment of geothermal brine and the potential application pesticides, herbicides and dust suppressant chemicals.
b. Mitigation Measures:

- HYDRO-1a: Acquire Appropriate CWA Regulatory Permits, Prepare SWPPP, and Implement BMPs Prior to Construction and Site Restoration. Project proponents or project construction contractors for future renewable energy

facilities would be required to prepare a project-specific SWPPP and be responsible for securing coverage under State Water Resources Control Board's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by each project applicant prior to commencement of work and shall be made conditions of the contract with each contractor selected to build and decommission future renewable energy facilities developed under the proposed Project. The SWPPP(s) shall, at a minimum, incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Dewatering and/or flow diversion practices, if required (see Mitigation Measure HYDRO-1b)
- Sediment control practices (temporary sediment basins, fiber rolls)
- Temporary and post-construction on-site and off-site runoff controls
- Special considerations and BMPs for water crossings, wetlands, and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis placed on the following water quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

Each SWPPP shall be prepared by a qualified SWPPP practitioner with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. Given that Imperial Valley Drains would accept runoff from areas within the Salton Trough and are listed as impaired for sediment, the SWPPP shall include BMPs sufficient for Risk Level 2 projects. BMPs for soil stabilization and erosion control practices and sediment control practices would also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant

reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HYDRO-1b: Properly Dispose of Construction Dewatering in Accordance with the Colorado River Basin Regional Water Quality Control Board. If required, all construction dewatering for future renewable energy facilities developed under the proposed Project shall be discharged to an approved land disposal area or drainage facility in accordance with Colorado River Basin Regional Water Quality Control Board (RWCQB) requirements. Each future project proponent or project construction contractor shall provide the Colorado River Basin RWQCB with the location, type of discharge, and methods of treatment and monitoring for all groundwater dewatering discharges. Emphasis shall be placed on those discharges that would occur directly or in proximity to surface water bodies and drainage facilities.

HYDRO-3: Comprehensive Drainage and Sedimentation Control Plan. Project proponents for future renewable energy facilities would be required to prepare a Comprehensive Drainage and Sedimentation Plan (Plan) prior to the initiation of construction (or decommissioning as relevant). Detailed hydrologic analysis shall be performed prior to final design of the specific future renewable energy project. Results of these analyses will be submitted to the County for review. All proposed grading and impervious surfaces on-site shall be reviewed and approved by the County with respect to its potential to cause or result in additional erosion and sedimentation, increased stormwater flows, or altered drainage patterns that could lead to unintentional ponding or flooding on-site or downstream, and/or additional erosion and sedimentation. The Plan shall include, but not be limited to, the following measures:

• Construction of access corridors and temporary and permanent access roads shall not block existing drainage channels and shall not significantly alter the existing topography.

• The project proponent shall delineate the active drainage channels within each drainage avoidance area and avoid placement of proposed flood protection berms within active drainage channels. The drainage avoidance areas shall protect no less than 90 percent of the area of the active drainage channels from construction impacts.

- The project proponent shall prepare hydraulic analyses that estimate the pre- and post-Conclusions.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The more significant construction contemplated in the 2017 Addendum has already been completed including the construction of the well pads and geothermal wells. The pilot project will be constructed at

the existing well pad and will use another existing well pad at the construction laydown area. The requires SWPPP and BMPs for stormwater will prevent construction related runoff and polluted runoff. Any potentially significant impacts will be mitigated to less than significant with the implementation of mitigation measures HYDRO-1a, HYDRO-1b and HYDRO-3.

4.9 Noise and Vibration

4.9.1 Substantial temporary increase in noise levels

a. Potential Impact: Construction of the pilot facility has the potential to generate limited noise level in excess of the standards in the County's Noise Element.
b. Mitigation Measures

NOI-1b: Implement noise reduction techniques. Project proponents developing future renewable energy facilities shall implement the following requirements:

1. Limit noisy construction activities (including truck and rail deliveries, pile driving, and blasting) to the least noise-sensitive times of day consistent with the requirements of the County of Imperial Noise Ordinance.

2. Consider use of noise barriers such as berms and vegetation to limit ambient noise at plant property lines, especially where noise-sensitive receptors may be present.

3. Ensure all project equipment has the appropriate sound-control devices and shield-impact tools. Use battery-powered forklifts and other facility vehicles and flashing lights instead of audible backup alarms on mobile equipment.

4. Locate stationary construction equipment (such as compressors and generators) as far as practical from nearby residences.

5. If blasting or other noisy activities are required during the construction period, notify nearby residents and the permitting agencies 24 hours in advance.

6. Properly maintain mufflers, brakes, and all loose items on construction and operation-related vehicles to minimize noise and ensure safe operations. Operate trucks as quietly as possible, while considering local conditions. Advise about downshifting and vehicle operations in residential communities to keep truck noise to a minimum.

7. Install mufflers on diesel and gas-driven engine air coolers and exhaust stacks. Equip emergency pressure relief valves and steam blow-down lines with silencers to limit noise levels.

8. Contain project facilities within buildings or other types of effective noise enclosures, when necessary and feasible.

9. Employ engineering controls, including sound-insulated equipment and control rooms, to reduce the average noise level to appropriate levels in normal work areas.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The construction contemplated in the 2017 Addendum has already been completed. The construction of the pilot facility will be temporary but any potentially significant impacts will be mitigated to less than significant through the implementation of mitigation measure NOI-1b.

4.10 Transportation/Traffic

4.10.1 Congestion Management Program

a. Potential Impact: Construction of the proposed pilot facility would temporarily increase traffic due to vehicles transporting construction materials and personnel.
b. Mitigation Measures:

TRA-1a: Implement a transportation plan. Project proponents shall prepare a transportation plan for implementation during all phases of future renewable energy facilities developed under the proposed Project. The transportation plan shall address methods for reducing construction worker traffic volumes and project-related equipment and materials transport by implementing the following strategies: (1) provide a construction worker rideshare program; (2) schedule shift changes and deliveries to avoid conflict with peak-hour traffic patterns; (3) establish traffic controls for transport of facility hazardous and nonhazardous materials, components, main assembly cranes, and other large pieces of equipment; and (4) evaluate alternative transportation approaches depending on specific object sizes, weights, origin, destination, peak-hour traffic, and unique handling requirements.

TRA-1b: Coordinate road improvements with local authorities. Project proponents shall consult with local planning authorities regarding increased traffic during the construction phase of future renewable energy facilities developed under the proposed Project. Each project proponent shall conduct a project-specific traffic impact assessment of the vehicle numbers per day, their size, and type to determine design for implementing local road improvements and multiple-site access locations for future renewable energy facilities developed under the proposed Project.

TRA-1c: Implement traffic control measures. Project proponents shall prepare and implement traffic control measures, such as intersection realignment coupled with speed limit reduction; installation of traffic lights and/or other signage; and

addition of acceleration, deceleration, and turn lanes on routes with site entrances for future renewable energy facilities developed under the proposed Project.

TRA-1d: Ensure proper signage and travel management. Project proponents shall ensure signs are placed along future construction roads to identify speed limits, travel restrictions, and other standard traffic control information. Consideration should be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute times to minimize impacts on local commuters.

TRA-4a: Provide on-site laydown and staging. Project proponents shall ensure that their future renewable energy facility site contains adequate area for construction laydown and staging, parking for construction and operation worker vehicles, and site traffic circulation aisles.

TRA-4b: Control site access. Project proponents shall restrict traffic to the roads specified for the future renewable energy facility. Use of other unimproved roads should be restricted to emergency situations involving potential injury or loss of life.

TRA-4c: Repair project-related damage. Project proponents shall be responsible for repairing or reconstructing project-related access roads that are damaged during construction of future renewable energy facilities to return them to pre-project conditions.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: Most of the construction contemplated in the 2017 Addendum has already been completed. Any impacts related to the pre-treatment pilot facility construction will be temporary. Any potentially significant impacts will be mitigated to less than significant by mitigation measures TRA-1a through TRA-1d and TRA-4a- TRA-4c.

4.10.2 Increase traffic hazards

a. Potential Impact: Due to construction of the pilot facility there is a potential increase in hazards.
b. Mitigation Measures:

TRA-3a: Evaluate Haul Route Conditions. Project proponents of future renewable energy facilities would be required to retain a professional civil engineer to survey and evaluate the conditions of roads along proposed haul routes prior to commencing construction. Preconstruction conditions shall be documented for each roadway with photo and text description. Video of haul routes may also be used to document preconstruction conditions. The photographs and/or videos are to include documentation of bridges and other appurtenances such as signs,

striping, drainage, and other utilities as determined in consultation with the County. The report shall make a determination of the minimum road design criteria needed to support anticipated project traffic and whether the existing roadways comply. Each project proponent shall submit the completed report to Imperial County Department of Public Works for review and comment.

TRA-3b: Roadway Maintenance Agreement. Project proponents of future renewable energy facilities shall enter into a Roadway Maintenance Agreement with the County of Imperial prior to issuance of a grading permit. Each project proponent shall pay its fair share of the responsibility to maintain future haul routes during construction and, if necessary, bring the roadways up to an appropriate minimum standard to handle the anticipated traffic.

TRA-3c: Roadway Preparation Work. Project proponents of future renewable energy facilities shall be responsible for roadway preparation work, pavement construction, and repairs to County-maintained roads, including County-maintained bridges and other roadway appurtenances for any other route that is subsequently used but not identified in the Programmatic EIR. This may include, but is not limited to, bridges, signs, striping, drainage improvements and roadway shoulders. Consideration shall also be given to improvements to other infrastructure, such as IID canal and drain crossings.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding. The construction associated with the pilot facility should be temporary in time and less impactful that the construction of the geothermal wells discussed in the 2017 Addendum. The potentially significant impacts will be mitigated to less than significant with mitigation measure TRA-3a – TRA-3c.

4.10.3 Result in inadequate emergency access

a. Potential Impact: Construction and decommissioning of the agreement project could generate large number of vehicle trips that could impact emergency access.
b. Mitigation Measures: TRA-4a through TRA-4c discussed above.
c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: An existing well pad has been identified as the construction laydown and staging area for the Agreement project. Most of the construction contemplated in the 2017 Addendum has already been completed. Any impacts from the construction of the pre-treatment pilot facility will be temporary. Potentially significant impacts will be mitigated to less than significant with implementation of mitigation measures TRA-4a through TRA-4c.

4.11 Utilities and Service Systems

4.11.1 Served by a landfill with sufficient capacity

a. Potential Impact: The Agreement project would generate solid waste during construction and operation. The waste would likely be disposed of using a locally license waste hauling service to transport the materials to a permitted facility.
b. Mitigation Measures:

UTIL-6 Complete a Waste Management Plan for construction and decommissioning. Prior to the issuance of a grading permit or building permit, the applicant shall prepare a Waste Management Plan and submit to ICPDS and ICDPW for review and approval. The Waste Management Plan that shall identify the projected waste from landfills, such as sorting and recycling of materials, reuse of materials and waste reduction measures.

c. Finding: (1) Changes or alteration have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect.
d. Facts supporting the Finding: The Waste Management Plan should help Imperial County plan for the potential amount of solid waste that would need to be disposed of and the potentially significant impacts would be mitigated to less than significant with Mitigation Measure UTIL-6.

RESOLUTION NO: 22-1116-07

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION RE: HELL'S KITCHEN GEOTHERMAL LLC

WHEREAS, to fulfill duties under the California Environmental Quality Act (CEQA), Imperial County (County) prepared and certified a 2015 Final Programmatic Environmental Impact Report (2015 Final EIR) for its Renewable Energy and Transmission Element Update (State Clearinghouse #2014071062), including a Mitigation, Monitoring and Reporting Program and

WHEREAS, the County prepared a 2017 Addendum to the 2015 Final EIR (2017 Addendum) to analyze the project specific impacts of the Controlled Thermal Resources dba Hell's Kitchen Project's Geothermal Permit #16-001 Exploratory Well Project Conditional Use Permit (CUP) and

WHEREAS, the County's 2017 Addendum indicated that geothermal exploratory well project would not involve significantly new environmental effects not analyzed in the 2015 Final EIR nor would it substantially increase the severity of significant effects previously identified in the 2015 Final EIR; and

WHEREAS, the State Energy Resources Conservation and Development Commission (CEC) is considering amendment 1 to Agreement EPC-19-018 with Hell's Kitchen Geothermal LLC for Phase II of the Scope of Work (SOW), which authorizes the expenditure of funds for Phase II. The Agreement funds a pre-treatment pilot for lithium extraction project. Phase II of the project includes procuring the required materials and equipment and constructing, commissioning, and operating the pre-treatment process at the pilot facility. Additionally, the project will collect and evaluate data to determine the exact chemical composition of geothermal brine at the site, gather scaling factors to assist in the design of larger scale plants, and provide techno-economic assessment for commercial scale operations. This amendment includes minor changes to the SOW (not to the project's purpose), reflecting the approval of this amendment;

WHEREAS, the geothermal test wells and well pads have already been constructed under the CUP at the site where the pre-treatment pilot for lithium extraction project is proposed to be located. Additionally, the County issued a 2022 Notice of Exemption (2022 NOE) for mineral extraction pilot work at the site.

WHEREAS, the CEC has reviewed the 2015 Final EIR, 2017 Addendum, the 2022 NOE for the pre-treatment pilot for lithium extraction, and various County documents, which establish mitigation measures for the Renewable Energy and Transmission Element and the CUP; and

WHEREAS, the CEC has considered the proposed design, facilities, construction, and operation of the pre-treatment pilot for lithium extraction at the existing geothermal exploratory wells and well pads, with regards to environmental impacts and mitigation measures, as documented in the staff's CEQA Analysis of EPC-19-018 memorandum and

WHEREAS, the CEC has used its own independent judgment to consider the potential environmental impacts of the amendment to grant Agreement EPC-19-018 for the pre-treatment pilot for lithium extraction project;

Prior to acting on amendment 1 to Agreement EPC-19-018, the CEC desires to make certain findings pursuant to CEQA Guidelines, title 14, section 15096:

THEREFORE, THE CEC FINDS:

1. The CEC has reviewed the information, including CEQA findings and Mitigation, Monitoring and Reporting Program, contained in the County's 2015 Final EIR, 2017 Addendum, and 2022 NOE that is relevant to its approval of amendment 1 to EPC-19-018, and which are adopted to the extent that they are relevant to the CEC's decision to approve amendment 1 to EPC-19-018 for the pre-treatment pilot for lithium extraction.

2. The County has already adopted the mitigation measures recommended in Mitigation Monitoring and Reporting Plan, and required by the CUP, and has the authority to implement the mitigation measures. Agreement EPC-19-018 requires compliance with all applicable laws, regulations, rules and required permits including the CUP.

3. The CEC has reviewed and considered 2015 Final EIR, 2017 Addendum and 2022 NOE and finds that these documents are adequate for its use as the decision-making body for its consideration of amendment 1 of EPC-19-018 as documented in staff's CEQA Analysis of EPC-19-018 memorandum and in the CEQA Findings.

4. Approval of amendment 1 of EPC-19-018 is within the scope of the CUP and the activities evaluated in the 2015 Final EIR, 2017 Addendum and 2022 NOE.

THEREFORE, BE IT RESOLVED, on the basis of the entire record before the CEC that, with the implementation of the mitigation measures and conditions of approval previously determined, the proposed pre-treatment pilot for lithium extraction presents no new significant or substantially more severe environmental impacts beyond those already considered; and

FURTHER BE IT RESOLVED, the CEC has not identified any feasible alternative or additional feasible mitigation measures within its power that would substantially lessen or avoid any significant effect the pre-treatment pilot for lithium extraction would have on the environment and determined that following the County's adoption of the 2015 Final EIR, 2017 Addendum, 2022 NOE and CUP, none of the circumstances within California Code of Regulations, title 14, section 15162 are present, so that no subsequent or supplemental environmental review is required;

FURTHER BE IT RESOLVED, that the CEC adopts the CEQA Findings including the mitigation measures that reduce any potentially significant impacts to less than significant; and

FURTHER BE IT RESOLVED, that the CEC approves amendment 1 to Agreement EPC-19-018 with Hell's Kitchen Geothermal LLC for Phase II of the Scope of Work, which authorizes the expenditure of funds for Phase II.

FURTHER BE IT RESOLVED, that the Executive Director or their designee shall execute the same on behalf of the CEC.

CERTIFICATION

The undersigned Secretariat to the CEC 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 CEC held on November 16, 2022.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

_____
Liza Lopez
Secretariat