STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019)

CALIFORNIA ENERGY COMMISSION

A) New Agreement # PIR-22-002 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
ERDD	Martine Schmidt-Poolman	43	916-776-0808

C) Recipient's Legal Name	Federal ID Number
DNV GL USA, Inc.	76-0187362

D) Title of Project
Mindful Decommissioning: A Data-Driven Tool for Prioritizing Strategic Gas Asset Decommissioning

E) Term and Amount

Start Date	End Date	Amount
8/1/2022	3/31/2025	$ 1,499,275

F) Business Meeting Information

☐ ARFVTP agreements $75K and under delegated to Executive Director

Proposed Business Meeting Date 7/13/2022 ☐ Consent ☒ Discussion

Business Meeting Presenter Martine Schmidt-Poolman Time Needed: 5 minutes

Please select one list serve. Research (Energy RDD / PIER program)

Agenda Item Subject and Description:
DNV GL USA, Inc.
Proposed resolution approving Agreement PIR-22-002 with DNV GL USA, Inc. for a $1,499,275 grant to develop a data-driven, actionable tool that will provide state agencies, local governments, investor-owned utilities, and other stakeholders with valuable information for assessing the technical, social and economic feasibility of decommissioning specific segments of the gas system, and adopting staff's determination that this project is exempt from CEQA. The project will combine a set of geospatial data layers to produce a scalable and systematic approach to screen for promising candidate decommissioning sites. This approach will protect sensitive and confidential data, while also producing high-level insights that can be shared publicly. (R&D Gas funding) Contact: Martine Schmidt-Poolman.

G) 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: Cal. Code Regs., tit. 14, § 15306 and Cal Code Regs. tit.14 § 15262

   ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section: Cal. Code Regs., tit. 14 Section 15306 provides that projects which consist of basic data collection, research, experimental management, and resource evaluation activities, and which do not result in a serious or major disturbance to an environmental resource are categorically exempt from the provisions of the California Environmental Quality Act. This project consists of data collection, research, and resource evaluation activities in existing offices. For these reasons, the proposed work will not have any significant effect on the environment and is exempt under Cal. Code Regs., tit 14, Section 15306,

In addition, this contract involves only feasibility or planning studies for possible future actions that appropriate agencies boards, or commissions have not approved, adopted, or funded. Environmental factors of this research have been considered. Therefore, the project is exempt from Cal. Code Regs., tit 14, Section 15262.

The project will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project sites (offices) are not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

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

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

Legal Company Name:	**Budget**
Groundwork San Diego-Chollas Creek	$ 88,000
The Regents of the University of California on behalf of the Los Angeles Campus	$ 497,891
	$

Legal Company Name:	Budget
	$
	$
	$
	$
	$
	$
	$

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

Legal Company Name:

J) Budget Information

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
NG Subaccount, PIERDD	20-21	501.001O	$1,499,275
			$
			$
			$
			$
			$

R&D Program Area: EGRO: EA TOTAL: $ 1,499,275

Explanation for "Other" selection

Reimbursement Contract #: Federal Agreement #:

K) Recipient's Contact Information

1. **Recipient's Administrator/Officer**

   Name: Taja Haygood

   Address: 5777 Frantz Rd

   City, State, Zip: Dublin, OH 43017-1886

   Phone: 614 761 1214

   E-Mail: taja.haygood@dnv.com

2. **Recipient's Project Manager**

   Name: Christopher Taylor

   Address: 5777 Frantz Rd

   City, State, Zip: Dublin, OH 43017-1886

   Phone: 614 787 8995

   E-Mail: Christopher.Taylor@dnv.com

L) Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-21-504

☐ First Come First Served Solicitation Solicitation #:

☐ Non-Competitive Bid Follow-on Funding (SB 115)

M) The following items should be attached to this GRF

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

______________________ ______________
Agreement Manager **Date**

______________________ ______________
Office Manager **Date**

______________________ ______________
Deputy Director **Date**

Exhibit A
Scope of Work
DNV GL USA, Inc.

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Gas Assets Assessment
3		Decommissioning Readiness Assessment
4		Community Resources and Equitability Assessment
5		Creating Generalized Data Formats and Representations
6		Ideation of Secondary and Tertiary Metrics
7		Data Security and Confidentiality
8	X	Data-Driven Tool Development and Demonstration
9		Evaluation of Project Benefits
10		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
DER	Distributed Energy Resources
IOU	Investor-Owned Utility
ISPP	Information Security Program Plan
MARV	Multi-Analytic Risk Visualization
NDA	Non-Disclosure Agreement
SME	Subject Matter Experts
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 fund the development of a data-driven, actionable tool that will provide state agencies, local governments, investor-owned utilities (IOUs), and other stakeholders with valuable information for assessing the technical, social, and economic feasibility of decommissioning specific segments of the gas system.

[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.

B. Problem/ Solution Statement

Problem

A significant step towards realizing the State of California's goal of decarbonization of energy by 2045 is to strategically decommission natural gas infrastructure. Many cities in California have already adopted building codes that limit the utilization of natural gas in new developments. However, natural gas transmission and distribution lines presently provide service to more than 11 million meters and span more than 100,000 miles. The process of decommissioning must be safe, intentional, environmentally just, and cost-effective. At present there is no strategic integrated decision-making tool that balances the concerns of the state's IOUs, cities and municipalities, community stakeholder groups, developers, regulators, and technology vendors. Furthermore, quantitative tools need to be developed for collecting, analyzing, and integrating the data required by decision-makers to actualize this energy transition efficiently, effectively, and equitably. Such an integrated decision-making tool will need to be inherently inter-disciplinary and must possess the ability to combine heterogeneous data types and sources, spanning technological, engineering, financial and social factors.

Some of the challenges currently facing decision makers include:

- Scope, diversity, and security requirements of data and the need for data processing,
- Necessity to engage subject matter experts (SMEs) across natural gas, grid services, and community stakeholders,
- Lack of a quantitative, analytic approach for integrating disparate data sets and sources,
- Absence of summary metrics that descriptively and evocatively capture total risks and benefits related to economic, environmental, health, safety and equity impacts.

Solution

The Recipient will work with stakeholders to further understand the underlying variables and data types needed to answer these challenges. The Recipient will quantify these heterogeneous factors; develop a scalable, systematic approach to screen for promising candidate decommissioning sites; and implement this approach in a manner that protects sensitive and confidential data while also producing high- level insights that can be shared publicly. The project will adopt a GIS-based Multi-Criteria Decision Analysis framework to support development of the data-driven tool. This is a well-established analytical methodology that systematically combines a set of geospatial data layers, each representing an independent decision criterion/factor, to inform complex, multi-dimensional and geographic site screening. The data-driven tool will be designed to function in the case of missing or uncertain data, and it will include the ability to propagate uncertainties.

The recipient will collect critical information across three main categories for decision-making: (a) assessment of gas assets, (b) assessment of decommissioning readiness, and (c) assessment of community impacts. Engagement with state agencies, IOUs, municipalities, and community stakeholders will ensure that costs and benefits are understood from these diverse points of view and the most critical elements prioritized.

C. Goals and Objectives of the Agreement

Agreement Goals
The goals of this Agreement are to:

- Work with state agencies, IOUs, local governments, community representatives, and other stakeholders to capture the costs, benefits and risks associated with gas decommissioning,
- Engage with community-based organizations and non-profits to understand impacts of decommissioning on environmental justice and energy equity,
- Model diverse and spatially heterogeneous data sets to provide assessment of costs and benefits of gas decommissioning at specific locations,
- Develop and deliver to the California Energy Commission (CEC) a visual and data-driven geospatial tool (beta and final) that screens for promising candidate decommissioning sites.

Ratepayer Benefits: This Agreement will result in ratepayer benefits by contributing to increased energy reliability and cost management through development of a data-driven, transparent, and replicable decision-making tool to be used for assessing and prioritizing strategic gas decommissioning. This project will benefit California IOU Ratepayers by:

- Providing a tool that will help prioritize and prepare for future decarbonization activities by illuminating geo-spatial dependence of risks and benefits based on gas asset decommissioning and operator costs, the economic and environmental risks and benefits associated with conversion of gas-power appliances to electrical service, and measures for energy equity that impact ratepayers in their communities.
- Engaging communities through workshops designed to obtain feedback that allows community concerns and equity considerations to be incorporated into the data-driven tool.
- Helping to identify the most economical and impactful segments of gas assets to decommission according to operating cost (vs. decommissioning cost), net expected greenhouse gas reduction and community impact.

Technological Advancement and Breakthroughs: 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 providing a data-driven tool that can be used to make state-wide assessments. The data-driven tool will be designed for use in screening promising sites for decommissioning gas assets. It will accommodate geospatially resolved datasets, such as pipeline and asset characteristics, community characteristics, census- tract-, parcel- or block-aggregated data, socio-economic data, and electricity grid characteristics. Additionally, the tool will be designed to operate at different levels of granularity. For instance, where customer and/or parcel-level detail may be unavailable, inputs for the model may be imputed from public data provided at the block-aggregate level, and the uncertainties associated with this imputation process estimated. The tool will also be created so that it can be updated when new or more accurate information becomes available, or permissions granted. It will be scalable to gas assets and communities of different size, complexity, and distinct technological, social and economic needs.

Agreement Objectives

The objectives of this Agreement are to:

- Develop a transparent, replicable, and scalable data-driven tool that can be used to screen for promising candidate gas decommissioning sites.
- Build and test a tool that visualizes the geographic dependence of the risks, costs, and benefits of gas decommissioning.
- Collect data from stakeholders and public sources necessary to produce the above tool. Data sets will address gas asset physical, economic, and operational states, geographic variations in decommissioning readiness, and socio-economic impacts of decommissioning.
- Create high-level secondary and tertiary metrics that capture, in a quantitative and visual way, the risks, costs, and benefits of gas asset decommissioning.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V).** All products submitted which will be viewed by the public, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations**.** All technical tasks should include product(s). Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, **"days"** means working days.

The Recipient shall:

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

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

For products that require a final version only

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

For all products

- Submit all data and documents required as products in accordance with the following Instructions for Submitting Electronic Files and Developing Software:

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

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

  - **Software Application Development**

    Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open-source programs:
    - Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
    - Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
    - Visual Studio.NET (version 2008 and up). Recommend 2010.
    - C# Programming Language with Presentation (UI), Business Object and Data Layers.
    - SQL (Structured Query Language).
    - Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
    - Microsoft SQL Reporting Services. Recommend 2008 R2.
    - XML (external interfaces).

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

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

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

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

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

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

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

The CAM shall:

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

Recipient Products:

- Kick-off Meeting Presentation

- Updated Project Schedule *(if applicable)*
- Match Funds Status Letter (subtask 1.7) *(if applicable)*
- Permit Status Letter (subtask 1.8) *(if applicable)*

CAM Product:
- Kick-off Meeting Agenda

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

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

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

The CAM shall:
- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a *CPR Agenda* with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:
- CPR Report(s)

CAM Products:
- CPR Agenda
- Progress Determination

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

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

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

Products:
- Final Meeting Agreement Summary *(if applicable)*
- Schedule for Completing Agreement Closeout Activities
- All Final Products

REPORTS AND INVOICES
Subtask 1.5 Progress Reports and Invoices
The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

The Recipient shall:

- Submit a monthly *Progress Report* to the CAM. Each progress report must:
    - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Funds and in-state expenditures.

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. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

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

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

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

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
    - Ensure that the report includes the following items, in the following order:
        - Cover page (**required**)
        - Credits page on the reverse side of cover with legal disclaimer (**required**)
        - Acknowledgements page (optional)
        - Preface (**required**)
        - Abstract, keywords, and citation page (**required**)

    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:
    - Comments the recipient proposes to incorporate.
    - Comments the recipient does not propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the Final Report. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised Final Report electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

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

CAM Product:
- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this Agreement and applies them to the Agreement during the Agreement term.

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

The Recipient shall:
- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. If <u>no match funds</u> were part of the proposal that led to the CEC awarding

this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter:

- A list of the match funds that identifies:
  - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
  - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
  - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.

- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

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

Subtask 1.8 Permits

The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:

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

The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

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

Subtask 1.9 Subcontracts

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

The Recipient shall:

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

Products:

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

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

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

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

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

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.

- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

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

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

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

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

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

Subtask 1.12 Project Performance Metrics

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

The Recipient shall:

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

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2: DECOMMISSIONING GAS ASSETS ASSESSMENT

The goal of this task is to identify, collect, and analyze data for determining the risks, costs, and benefits that need to be considered related to the decommissioning of gas assets from an operational point of view.

The Recipient shall:

- Work with various stakeholders, such as the CEC, state agencies, IOUs, local governments, etc., and in collaboration with the CAM to:
  - Identify, assess, and prioritize a list of metrics needed to make an overall assessment of the decommissioning risk, costs and benefits based on factors such as, but not limited to, asset physical conditions, operational cost, salvage value, labor costs of infrastructure removal, changes in greenhouse gas emissions, and community impact,
  - Identify critical technological and/or legal/regulatory barriers,
  - Collect data needed to assess, analyze, and weigh the identified metrics needed to populate the Data Driven Tool,

  - Evaluate data sources to identify issues or challenges to quality, completeness, relevance, and data accessibility,
- Create secondary metrics that summarize gas asset factors that impact the state's readiness for decommissioning and make it possible to highlight areas which are most beneficial or most risky to decommission based on the identified metrics.
- Implement a multi-level approach to data collection that is informed by:
  - Publicly available data sources,
  - Coordination (facilitated by CAM) with Recipients of related CEC-funded grants (e.g. PIR-20-008, PIR-20-009),
  - Coordination (facilitated by CAM) with CEC staff involved in other relevant data collection efforts, such as those related to the hydraulic models and data collected by the CEC via Title 20 regulations,
  - Outreach to IOUs,
  - CPUC's Long-Term Gas Planning Rulemaking (R.20-01-007).
- Develop a *Draft Gas Assets Assessment Data Collection and Analysis Plan* that outlines the envisioned approach to data identification, data collection, and data evaluation; identifies the envisioned data sources to be leveraged; lists the stakeholders who will be included in engagement activities; and provides an estimated timeline for these activities.
- Present the *Draft Gas Assets Assessment Data Collection and Analysis Plan* to the CAM (and other stakeholders, in coordination with the CAM), for feedback and comments.
- Develop and submit a *Summary of Comments to Draft Gas Assets Assessment Data Collection and Analysis Plan* that summarizes comments received from the CAM on the *Draft Gas Assets Assessment Data Collection and Analysis Plan*. This document will identify:
  - Comments the recipient proposed to incorporate into the *Final Gas Assets Assessment Data Collection and Analysis Plan*.
  - Comments the recipient does not propose to incorporate with an explanation why.
- Develop a *Gas Asset Assessment Coordination Log* and provide updates at monthly meetings to apprise CAM of interactions with various stakeholders.
- Prepare and present a *Gas Assets Assessment Data Collection and Analysis Report* that includes summaries of the activities, results and lessons learned of the tasks performed relating to implementation of the Gas Assets Assessment Data Collection and Analysis Plan, including the:
  - Expected quality and sources of the data sets that will populate the data-driven tool,
  - Why certain decisions were made for data collection, and
  - How the development of the secondary metrics was carried out based on the processes and decisions.

Products:
- Gas Assets Assessment Data Collection and Analysis Plan (draft and final)
- Summary of Comments to Draft Gas Assets Assessment Data Collection and Analysis Plan
- Gas Assets Assessment Coordination Log
- Gas Assets Assessment Data Collection and Analysis Report (draft and final)

TASK 3: DECOMMISSIONING READINESS ASSESSMENT

The goal of this task is to assess readiness for decommissioning based on: (a) present grid capabilities; (b) planned upgrades and installations; (c) consumer-level electrification capacity (or obstacles), such as required panel upgrades; (d) energy efficiency and net effects of electrification of greenhouse gas emissions; (e) anticipated or policy-driven changes in behavioral energy use; and (f) load balancing and reliability. A robust and sufficient set of metrics will be identified and used to guide the data collection effort and integrated into the data-driven tool.

The Recipient shall:

- Work with state agencies, IOUs, municipalities, technology vendors and other stakeholders to:
  - Identify and collect data to assess present and future electrical grid capacity needs, present and planned distributed energy resources (DERs) and energy storage media. This may also include assessment of feeder/distribution systems to understand how upgrades or changes to these gas assets may strain overall electric system capacity needs and specific electric distribution system assets.
  - Assess the emerging and proven electrification technologies for facilitating fuel switching according to costs, carbon emissions savings, and electric usage.
  - Create secondary metrics for assessing the readiness to decommission gas assets across geographies.
- Develop a *Decommissioning Readiness Assessment Plan* that outlines the envisioned approach to carrying out data identification, data collection, and assessment process; identifies the envisioned data sources to be leveraged; lists the stakeholders who will be included in engagement activities; and provides an estimated timeline for these.
- Present the *Draft Decommissioning Readiness Plan* to the TAC and other stakeholders, in coordination with the CAM, for feedback and comments,
- Develop and submit a *Summary of TAC Comments to Draft Decommissioning Readiness Assessment Plan* that summarizes comments received from the TAC members on the plan. This document will identify:
  - TAC comments the recipient proposes to incorporate into the Final Decommissioning Readiness Assessment Plan.
  - TAC comments the recipient does not propose to incorporate with an explanation why.
- Develop a *Decommissioning Readiness Assessment Coordination Log* and provide updates at monthly meetings to apprise CAM of interactions with various stakeholders.
- Develop and submit a *Decommissioning Readiness Assessment Report* that includes high-level summaries of the activities, results, and lessons learned from tasks performed relating to implementing the *Final Decommissioning Readiness Assessment Plan*.

Products:

- Decommissioning Readiness Assessment Plan (draft and final)
- Summary of TAC Comments to Draft Decommissioning Readiness Assessment Plan
- Decommissioning Readiness Assessment Coordination Log
- Decommissioning Readiness Assessment Report (draft and final)

TASK 4: COMMUNITY RESOURCES AND EQUITABILITY ASSESSMENT

The goal of this task is to assess case studies that inform identification and development of metrics designed to capture the extent of community support and readiness for gas decommissioning, including building characteristics, demographics, user resources, and energy security metrics.

The Recipient shall:

- Develop and execute webinars or workshops that engage community stakeholders and help define the community impact factor and associated metrics explored as part of Task 2.
- Develop a *Case Study Engagement Plan* that includes:
  - An outline of the proposed approach to stakeholder engagement at specific case study location(s),
  - A draft outline of workshops or webinars that will be held, including proposed agenda items, key stakeholders/attendees, and logistical concerns.
  - A draft outline of the *Case Study Tables* that will be generated. These tables will be used to communicate:
    - The identification of metrics of relevance, variables, spatial and temporal scales, and other defining attributes.
    - How metrics relate to actual decisions or other use cases.
    - The types of case studies that may be of importance in future research (beyond the scope of this project) which may focus on more detailed understanding of opportunities for examining gas asset decommissioning in low-income and disadvantaged communities.
    - A draft outline of how identified key stakeholders' input (which could be site/location specific) is expected to: Support understanding of community readiness to gas decommissioning, and support the holistic assessment of the community's income profile, median age of home, level of support for climate action initiatives, etc.
    - Support identification of the kinds of quantitative metrics that will need to be developed and integrated into the decommissioning assessment.
    - Support the defining of and assessment of the motivators, barriers, and customer adoption metrics.
    - Inform state-wide understanding of impacts and opportunities of decommissioning on environmental justice and energy equity.
- Present the Draft Case Study Engagement Plan to the CAM (and other stakeholders, in coordination with the CAM), for feedback and comments.
- Develop and submit a *Summary of Comments to Draft Case Study Engagement Plan* that summarizes comments received on the Draft Case Study Plan. This document will identify:
  - Comments the recipient proposes to incorporate into the *Final Case Study Plan*.
  - Comments the recipient does not propose to incorporate with an explanation why.
- Generate secondary metrics that integrate the individual risks, costs, and benefits to provide an overall picture that enables prioritization from the standpoint of community resources and energy equitability.
- Create a *Case Study Materials Packet* to include engagement materials to support Data-Driven Tool Development and Demonstration (Task 8) and to support Technology/Knowledge Transfer (Task 10).

- Develop and submit a *Community Resources and Equitability Assessment Report*, that includes high level summaries of the activities, results, and lessons learned of tasks performed relating to implementing the Case Study Engagement Plan, and synthesizes the identified community impacts and opportunities of decommissioning on environmental justice and energy equity into a series of quantitative metrics which will help generate the model described above and which will be integrated into the decommissioning assessments carried out in Task 2 and Task 3.

Products:
- Case Study Engagement Plan (draft and final)
- Summary of Comments to Draft Case Study Plan
- Case Study Materials Packet
- Community Resources and Equitability Assessment Report (draft and final)

TASK 5: CREATING GENERALIZED DATA FORMATS AND REPRESENTATIONS
This goal of this task is to facilitate the data integration into the models used in the data-driven tool. The types of data formats the tool will need to process will be identified and new data formats that may be necessary to represent primary, secondary and tertiary metrics will be created. It involves developing a deep understanding of the data sets associated with the factors considered in Tasks 2-4.

The Recipient shall:
- Examine the datasets associated with the factors considered in Tasks 2-4, to identify the opportunities for, or barriers to, building into the data-driven tool the ability to aggregate data at different levels of resolution.
- Compare the levels of spatial representation of the data across the various datasets to provide insight into whether to impute the data from, for example, block aggregated resolution down to parcel level, or, conversely aggregate parcel level data up to block, municipality, regional or state levels.
- Develop and submit a *Primary Data Sources and Formats Spreadsheet Tool* which:
  - Demonstrates the compilation of the primary data sources (described in Task 2).
  - Describes the source format representations (i.e., the nature of the schema, whether it be JSON, CSV, etc. with the internal structures/headings, etc.).
  - Reflects the identified ability to aggregate data from different dataset.
- Develop generalized data representation formats for state-wide application
- Present the *Draft Primary Data Sources and Formats Spreadsheet Tool* the CAM (and other stakeholders, in coordination with the CAM), for feedback and comments.
- Develop and submit a *Summary of Comments Received on Draft Primary Data Sources and Formats Spreadsheet Tool* that summarizes comments received on the *Draft Primary Data Sources and Formats Spreadsheet Tool*. This document will identify:
  - Comments the recipient proposes to incorporate into the *Final Primary Data Sources and Formats Spreadsheet Tool*.
  - Comments the recipient does not propose to incorporate with an explanation why.
- Develop and submit a *Spreadsheet Memorandum* that:
  - Describes the dataset examination and comparison of levels of spatial representation that fed into the development of the *Primary Data Sources and Formats Spreadsheet.*
  - Provides support the understanding of data representation options.

  - Outlines how the above will lead to the interfaces for porting and handling the data within the data-driven tool.
  - Describes how aggregation of data at different levels of resolution could also to support future research, such as for detailed location-specific analyses.

Products:

- Primary Data Sources and Formats Spreadsheet Tool (draft and final)
- Summary of Comments Received on Draft Primary Data Sources and Formats Spreadsheet Tool
- Spreadsheet Memorandum (draft and final)

TASK 6: IDEATION OF SECONDARY AND TERTIARY METRICS

In this task, the team will coordinate closely with the CEC and other stakeholders to develop secondary and tertiary metrics that summarize the metrics collected in Task 2, Task 3 and Task 5. The secondary metrics will be created to summarize the primary metrics collected within each of these tasks. The purpose of the tertiary metrics is to effectively aggregate the secondary metrics, providing an overall assessment of gas decommissioning risks, costs and benefits.

The Recipient shall:

- Design and develop a series of secondary metrics that aggregate the primary input data layers identified in Tasks 2-4 into clear risks, costs, and benefits and to reflect each independent criterion/factor involved with gas asset decommissioning. This includes the assessment and identification of:
  - What needs to be measured,
  - How the primary metrics could best be aggregated, and
  - What the geographic units are at which aggregation should take place.
- Design secondary layers which reflect a component criterion/factor in assessing the overall site suitability for gas decommissioning and into which the secondary metrics will be organized, using a determined consistent geographic unit of aggregation.
- Work together with state agencies, IOUs, municipalities, and other stakeholders, in coordination with the CAM, to determine:
  - The most effective ways to calculate the risks, costs and benefits from the metrics gathered from the primary data sources.
  - How to synthesize the primary data metrics in manners relevant for decision making.
- Identify component criterion and factor weights that will be used to derive from the secondary metrics a set of tertiary metrics.
- Develop a set of tertiary metrics that:
  - Aggregate the secondary metrics,
  - Characterize the areas/geographies of prioritization for gas decommissioning.
- Identify tertiary layers which will each reflect different proposed decommissioning processes, time horizon alternatives, and equity considerations.
- Develop a *Secondary and Tertiary Metrics Report* which describes the design and development of the secondary and tertiary metrics, and reports on the methods for their estimation.
- Present the *Draft Secondary and Tertiary Metrics Report* to the CAM (and other stakeholders, in coordination with the CAM), for feedback and comments.

- Develop and submit a *Summary of Comments to Draft Metrics Report* that summarizes comments received on the *Draft Secondary and Tertiary Metrics Report*. This document will identify:
  - Comments the recipient proposes to incorporate into the *Final Secondary and Tertiary Metrics Report*.
  - Comments the recipient does not propose to incorporate with an explanation why.

Products:
- Secondary and Tertiary Metrics Report (draft and final)
- Summary of Comments to Draft Metrics Report

TASK 7: DATA SECURITY AND CONFIDENTIALITY
The goal of this task is to ensure that any confidential data that is received for purposes of this project is kept secure and confidential in agreeance with the PIER grant terms, Exhibit C, paragraph 26.

The Recipient shall:
- Develop and submit a *Draft Information Security Program Plan* (ISPP) to the CEC before Recipient or Subrecipient is provided or receives access to Confidential Information.
  - The ISPP shall be shared with the Energy Commission, for the Energy Commission's Information Security Officer to review and provide written approval of. A *Final Information Security Program Plan* will be developed with any necessary changes.
  - The ISPP shall adhere to the requirements of the plan, its contents, its implementation and maintenance, as outlined in the PIER grant terms, Exhibit C, paragraph 26.
- Ensure that *before* any of its (and its subrecipient's) employees receive confidential information* the individual employees who will work with that information will, in accordance the ISPP;
  - Submit to the CAM, Signed Employee Non-Disclosure Agreements (NDA),
  - Have received a copy of the Confidential Information special terms as in the PIER grant terms, Exhibit C, paragraph 26.
- Coordinate signing of non-disclosure agreements with the recipient and sub-recipients and stakeholders who contribute confidential data.
- Ensure adequate and sufficient data security measures are in place across the team.
- Communicate data security and confidentiality measures to the team members.
- Ensure that when the Agreement ends, or sooner if (sub)Recipient's work with the Confidential Information has concluded, the Confidential Information shall be destroyed. The Recipient shall provide an *Attestation of Destruction of Confidential Information* to the CAM, this will include the date and method of destruction.

Products:
- Information Security Program Plan (draft and final)
- Signed Employee Non-Disclosure Agreements (where applicable*)
- Attestation of Destruction of Confidential Information

TASK 8: DATA-DRIVEN TOOL DEVELOPMENT AND DEMONSTRATION

The goal of this task is to create a data-driven tool that assesses readiness in terms of risk, cost, and benefit, and highlights the key barriers to (a) gas asset decommissioning, (b) decommissioning readiness and (c) customer resources and equitability. The presentation of the tertiary metrics will provide an overall prioritization map for geographies of interest for gas decommissioning.

The Recipient shall:

- Perform a review of model and database methodology, and of dashboard/user interfaces of existing and in-development geospatially oriented decision-making tools that may serve as examples for the data-driven tool to be developed during this project (such as, but not limited to the Municipality Mapping project, the LA Community Solar Opportunity Map, the Multi-Analytic Risk Visualization (MARV) tool). This in includes examination of:
    - Hosting the database, models and tool (and associated time-periods considering funding resources),
    - Manners in which to make the data-driven tool (beta and final) available to state agencies, IOUs, and other stakeholders ensuring confidentiality as described in the ISPP in Task 7, and which will also be incorporated into the *Data Product Management Plan* (Task 10),
    - Manners in which to visualize information in order to provide necessary analytical insights.
- Prepare a *Review of Existing Relevant Tools Memorandum* that describes the above and is used in soliciting feedback from the TAC, CEC, CPUC and other stakeholders as defined by CAM, on:
    - The practical possibilities of data-driven tool hosting and sharing,
    - The functional and non-functional requirements of the data-driven tool, which also includes exploration and discussion of options for the tool to be setup so that there are distinct modes for state agencies, IOUs, municipalities, etc. and for public access to the tool so that a separate, fully publicly accessible version could be accessed that only provides the tertiary layers without the lower-level data.
    - Design of use cases and user interfaces to support simple and intuitive interaction with the complex nature of the underlying data sets and model.
- Prepare a *Data-Driven Tool Technical Requirements Memorandum* that incorporates feedback provided by the TAC, CEC and CPUC and other stakeholders (above) and outlines how feedback will be acted upon in development of the data-driven tool.
- Construct the Mindful Decommissioning Data-Driven Tool that draws on key functionalities described in the *Review of Existing Relevant Tools Memorandum* and *Data-Driven Tool Technical Requirements Memorandum*, is populated with the data collected in Tasks 2-4 and integrated in Task 6, and demonstrates the integration of risks, cost, and benefits of decommissioning.
- Within 12-15 months of agreement start, launch a beta version of the data-driven tool and prepare a draft *User Manual for the Data-Driven Tool* to be used in securing feedback on the beta-version of the tool.
- Conduct webinars with relevant stakeholders (to be decided upon together with the CAM), that demonstrate the beta-version of the data-driven tool, and solicit feedback on the usefulness of the tool, the presented geospatial data, and the ease-of-use of the tool. This may also include the option to explore data from the entire set of primary,

secondary and tertiary metrics, to allow the users to choose the depth to which they wish to explore the various factors affecting screening of promising sites for gas asset decommissioning.

- Prepare a *CPR Report* and participate in a CPR meeting in accordance with subtask 1.3.
- Revise and launch final version of the data-driven tool.
- Develop a final *User Manual for the Data-Driven Tool* that provides instructions on how to access the final tool and facilitates the continued use and future development of the tool.
- Develop a *Data-Driven Tool Report* that describes the structure of the data-driven tool (the database, the models and the user interface), the factors considered in development, and describes how the received feedback on the beta-version was incorporated into the final tool.

Products:

- Review of Existing Relevant Tools Memorandum
- Data-Driven Tool Technical Requirements Memorandum
- User Manual for the Data-Driven Tool (draft and final)
- CPR Report
- Data-Driven Tool Report (draft and final)

TASK 9: EVALUATION OF PROJECT BENEFITS

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

The Recipient shall:

- Complete *the Initial Project Benefits Questionnaire*. The Initial Project Benefits Questionnaire shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the *Annual Survey* by December 15th of each year. The Annual Survey includes but is not limited to the following information:
    - Technology commercialization progress
    - New media and publications
    - Company growth
    - Follow-on funding and awards received
- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

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

TASK 10: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the scientific and techno-economic analysis and tools developed under this agreement are utilized in the energy policy, and/or planning decisions at the state and/or local levels, academic community and/or commercial sector.

The Recipient Shall:
- Develop and submit a *Data Product Management Plan* that identifies the proposed activities the recipient will conduct to host, maintain, and make the tool available to relevant stakeholders. The *Data Product Management Plan* should include, at a minimum:
    - Details about the manner in which the tool will be hosted (via which license, duration of hosting, etc.),
    - How publicly available products will be delivered and shared and to whom,
    - How confidentiality of data will be ensured as outlined per ISPP (Task 7) while parts of the data-driven tool as demonstrated, either as a beta or if certain elements of the data-driven tool are to be shared with a select group of stakeholders only (see Task 8).
- Develop and submit a *Knowledge Transfer Plan* that identifies the proposed activities the recipient will conduct to meet the goal of the task. The *Knowledge Transfer Plan* should include at a minimum:
    - Specific policy and planning efforts this project is expected to inform.
    - Specific stakeholder groups and energy policy and planning practitioners who will utilize the results of this project.
    - Proposed activities the recipient will conduct to ensure the tools and results from this project be utilized and adopted by the groups identified above.
- Present the *Draft Knowledge Transfer Plan* to the TAC for feedback and comments.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the *Draft Knowledge Transfer Plan*. This document will identify:
    - TAC comments the recipient proposes to incorporate into the *Final Knowledge Transfer Plan*.
    - TAC comments the recipient does not propose to incorporate with and explanation why.
- Submit the *Final Knowledge Transfer Plan* to the CAM for approval.
- Implement the activities as described in the *Final Knowledge Transfer Plan.*
- Develop a *Knowledge Transfer Summary Report* that includes high level summaries of the activities, results, and lessons learned of tasks performed relating to implementing

the *Final Technology Transfer Plan*. This report should not include any proprietary information.

- When directed by the CAM, develop presentation materials for an CEC- sponsored conference/workshop(s) on the project.
- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

- Data Product Management Plan (draft and final)
- Knowledge Transfer Plan (draft and final)
- Summary of TAC Comments
- Technology Transfer Summary Report (draft and final)
- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

RESOLUTION NO: 22-0713-11

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: DNV GL USA, Inc.

RESOLVED, that the State Energy Resources Conservation and Development Commission (CEC) adopts the staff CEQA findings contained in the Agreement or Amendment Request Form (as applicable); and

RESOLVED, that the CEC approves Agreement PIR-22-002 with DNV GL USA, INC. for a $1,499,275 grant to develop a data-driven tool that will provide state agencies, local governments, investor-owned utilities, and other stakeholders with valuable information for assessing the technical, social and economic feasibility of decommissioning specific segments of the gas system. The project will combine a set of geospatial data layers to produce a scalable and systematic approach to identify promising candidate decommissioning sites. This approach will protect sensitive and confidential data, while also producing high-level insights that can be shared publicly; and

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 July 13, 2022.

AYE:

NAY:

ABSENT:

ABSTAIN:

____
Liza Lopez