

GFO-22-503 Pre-Application Workshop

Gas Pipeline Safety and Integrity Research to Support Decarbonization Energy Research and Development Division, California Energy Commission Presenters: Sean Anayah, Adam Gottlieb, Reta Ortiz, Qing Tian, and Peter Chen Date: Tuesday, December 13th, 2022



Time	Item
10:00 am	Welcome and Introduction
10:10 am	 Background and Solicitation Overview Housekeeping Commitment to Diversity Gas R&D Program Purpose of Solicitation Available Funding Project Group Requirements
10:50 am	Application Requirements Attachments Submission Process Evaluation Process
11:15 am	Q&As
12:00 pm	Adjourn

Virtual Housekeeping

- This workshop will be recorded.
- Participants will be muted during the presentation. Please chat your question in the Q&A window.
- Updates on solicitation documents including this presentation will be posted at the Grant Funding Opportunity's webpage:

https://www.energy.ca.gov/solicitations/2022-11/gfo-22-503-gaspipeline-safety-and-integrity-research-support-decarbonization

Commitment to Diversity

The CEC adopted a resolution strengthening its commitment to diversity in our funding programs. The Energy Commission continues to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, Energy Commission staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the Energy Commission's funding opportunities.
- Assist applicants in understanding how to apply for funding from the Energy Commission's programs.
- Survey participants to measure progress in diversity outreach efforts.



Participation Survey

Survey responses will be summarized anonymously to track attendance of underrepresented groups in our workshops for public reporting purposes.

 Online participants, please use this link: <u>https://forms.office.com/g/NagKEwC5EB</u>

Thanks!











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Empower Innovation strives to accelerate your clean tech journey with easy access to funding opportunities from the Energy Commission and other funding providers, curated resources and events, and connections to people and organizations.

FIND A PARTNER

RESOURCES & TOOLS

Announce your interest in this funding
 opportunity and message other interested
 parties to find potential partners.
 Browse the collection of resources for
 clean tech innovators including Resource
 Libraries, Funding Sources, Tools, and
 Databases.

https://www.empowerinnovation.net/en/custom/f unding/view/36461#







- Catalyze change and accelerate achievement of policy goals.
- \$24 million annual budget, funded by a gas consumption surcharge.
- Public interest R&D advancing decarbonization, safety and integrity of gas infrastructure, equity.
- Support state energy policy and achieve equitable benefits.







• CPUC General Order No. 112-F:

- Rules for utilities to design, construct, test, operate, and maintain gas gathering, transmission, and distribution systems beyond federal rules.
- CPUC Resolution G-3584:
 - Approved the FY21-22 Gas R&D budget with initiatives on mitigating natural force damage threats and improving plastic pipeline integrity.



- Fund gas pipeline safety and integrity research.
- Support gas system decarbonization.
- Advance technologies that can better inspect, monitor, and assess the condition of gas pipelines with a focus on natural force damages and plastic pipeline inspections.



Project Group	Available Funding	Minimum Award Amount	Maximum Award Amount
Group 1: Monitoring and Risk Assessment for Natural Force Damage to Gas Pipelines	\$3,000,000	\$1,500,000	\$3,000,000
Group 2: Plastic Pipeline Deficiency Inspection for Pipeline Integrity Management	\$1,000,000	\$750,000	\$1,000,000



- 20% of match funding is required.
- Applications that include match funding will receive additional points during the scoring phase.
- Match funding contributors must submit match funding commitment letters that meet the requirements. Failure to do so will disqualify the match funding commitment from consideration.
- Refer to the Solicitation Manual for more details on match funding.

Background:

- Approximately 7% of gas pipeline incidents can be attributed to natural force damages.
- Pipeline operators assess risk using inperson patrols and integrity risk factors.
- Advanced monitoring technologies and data analytics can improve safety and reduce frequency of costly repairs and service interruptions.

Causes of Gas Pipeline Incidents 2010 - 2022



Project Focus:

- Develop and demonstrate novel **remote** or **embedded** sensing technologies for geotechnical pipeline monitoring.
- Examples include, but are not limited to:
 - **Remote:** ground monitoring with satellites, unmanned aerial vehicles (UAV), or laser imaging, detection, and ranging (LIDAR)
 - Embedded: fiber optic strain sensors
- Employ sensors and field sensor data to measure or predict mechanical loads and assess potential damages or failures before they occur.
- Support technologies with intelligent sampling and monitoring algorithms to detect concerning changes in pipeline conditions.

Technology Requirements:

- Demonstrate a complete system approach, including sensors, field data collection, data management and analysis, and risk assessment.
- Directly measure stress/strain change and/or indirectly measure ground movement by analyzing field data.
- Enhance device performance, improve modeling accuracy, increase cost effectiveness, and demonstrate technology in partnership with gas utilities, pipeline owners, and operators.
- Technology Readiness Level (TRL) advancement from TRL 7 to 9.

Demonstration Requirements:

- Demonstrate the improved monitoring and risk assessment solution at location(s) where pipelines are at risk from natural force damages.
- Demonstrate for at least 12 months and collect data to quantify metrics including:
 - Pipeline integrity improvement, such as a decrease in pipe failures attributed to improved monitoring technologies.
 - Area surveyed or length of pipelines monitored.
 - Overall improvement on performance metrics, such as costs savings and GHG reduction.

Project Narrative Requirements:

Address the following questions under Technical Merit:

- How will the technology function effectively across diverse applications where there are a variety of causes of natural force damages?
- What are the demonstration sites and why were they selected? How will the technology address the risk imposed by the natural forces at the sites?

Address the following questions under Technical Approach:

- What plans have been identified to continue demonstrating the technology, collecting data, and operating the system after the project completion?
- What commercialization milestones would the proposed technology try to achieve by the end of the project term?



Group 2: Plastic Pipeline Deficiency Inspection for Pipeline Integrity Management

Background:

- Plastic pipeline failures include slow crack growth, ductile rupture, fusion welding failure, and rapid crack propagation.
- Currently, pipes are pressure tested and visually inspected.
- Non-destructive evaluation (NDE) methods are needed to assess embedded or defects while retaining integrity.



Source: SoCalGas



Group 2: Plastic Pipeline Deficiency Inspection for Pipeline Integrity Management

Project Focus:

- Develop NDE technologies that measure the structural integrity and health of plastic pipes in in-situ conditions.
- Identify different types of damages and provide high quality, precise, and replicable results at a low-cost.
- Improved NDE technologies should collect data to identify high risk pipelines, mitigate risk, and inform gas decommissioning opportunities.



Group 2: Plastic Pipeline Deficiency Inspection for Pipeline Integrity Management

Technology Requirements:

- Develop NDE technologies for plastic pipes, fittings, and joints. Examples include microwave testing or ultrasonic testing.
- Demonstrate the NDE technology's capability for measuring pipes across a range of diameters typical of gas distribution mains.
- Detect common flaws that may be detrimental to a plastic pipe, fitting, or joint.
- Incorporate distinct practices and procedures to ensure replicable and accurate results. Follow applicable ASTM Standard of Practice or ISO NDT Inspection technical specifications.
- Technology Readiness Level (TRL) advancement from TRL 5 to 8.



Demonstration Requirements:

- Demonstrate technology applicability to California gas pipeline systems, especially in disadvantaged and low-income communities.
- Demonstrate the NDE technologies in the field and collect data to quantify metrics including, but not limited to:
 - System integrity improvement through increased precision, accuracy, and reliability of measurements.
 - Area surveyed or length of pipelines inspected.
 - Cost savings and GHG reduction associated with the NDE technology and reducing risks of leaks.
 - Reduced or avoided gas service interruption during pipeline repair.

Group 2: Plastic Pipeline Deficiency Inspection for Pipeline Integrity Management Project Narrative Requirements:

Address the following questions under Technical Merit:

- How will the project advance plastic pipeline risk management research in relation to gas utilities' distribution integrity management programs?
- How can the technologies, in conjunction with risk assessment models, be used to identify high-risk pipelines for potential gas decommissioning opportunities?

Address the following questions under Technical Approach:

- How will the technology be designed and implemented to ensure future commercial adoption? How will the project collaborate with gas utilities to advance the research and support adoption in California?
- How will the applicant ensure that the data collected about high-risk pipelines is shared with pipeline owners and operators?



- This is an open solicitation for public and private entities.
- Applicants must accept the PIER terms and conditions.
 Standard, UC, and DOE T&Cs available online: <u>https://www.energy.ca.gov/funding-opportunities/funding-resources</u>
- Applicants are encouraged to register with the California Secretary of State, as all recipients must be registered and in good standing to enter into an agreement with the Energy Commission: <u>http://www.sos.ca.gov</u>



Each Applicant must complete and	including the following:
1. Application Form (.pdf)	8. CEQA Compliance Form (.docx)
2. Executive Summary (.docx)	 References and Work Product Form (.docx, .pdf)
3. Project Narrative (.docx)	10. Commitment and Support Letters (.pdf)
4. Project Team (.docx, .pdf)	11. Project Performance Metrics
5. Scope of Work (.docx)	12. Applicant Declaration (.docx)
6. Project Schedule (.xlsx)	13. California Based Entity Form (.docx)
7. Budget (.xlsx)	

Project Narrative (Attachment 3)

- This is your opportunity to explain the entirety of the project. The narrative should explain:
 - Why is your project necessary and important to California?
 - OWhat is your project approach and how will each major task be implemented?
 - How will the project be completed in the term proposed?
 - How will the project outcomes benefit California gas ratepayers and residents?
 - Address the requirements for your group as described in Section I.C.

Respond to the scoring criteria described in Section IV.F.

Scope of Work (Attachment 5)

- Tell us exactly what you are proposing to do in your project.
- Identify what will be deliver to the Energy Commission.
- Be sure to include in the technical tasks:
 At least one product deliverable per task.
 Address requirements in Section I.C. under Project Focus.
- Be sure to include in the Project Schedule (Attachment 6):
 Product deliverables that correspond with the Scope of Work.
 - Realistic dates on when product deliverables can be completed.



- Identify how the Energy Commission funds and match funds be spent to complete the project.
- Subcontractors receiving \$100,000 or more Energy Commission funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** rates for the entire project term.
- Travel Restrictions:
 - CEC funds should be limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage).
 - If an applicant plans to travel to conferences, including registration fees, they must use match funds.



Commitment and Support Letter Forms (Attachment 10)

- Follow guidelines provided for commitment and support letters.
 - Commitment letters are required for entities or individuals that are committing match funding, testing/demonstration sites, including the Prime.
 - Support letters describe a project stakeholder's interest or involvement in the project.
- All applicants must submit at least one support letter.
- Match funding must be supported by a match fund commitment letter.
- Any project partners that will make contributions to the project (other than match and sites) must submit a commitment letter.
- Limit to two pages per letter, excluding the cover page.



- Method of Delivery is the Energy Commission Grant Solicitation System, available at: <u>https://gss.energy.ca.gov/</u>
- Electronic files must be in Microsoft Office Word (.doc, .docx) and Excel (.xls, .xlsx) formats, unless originally provided in solicitation in another format.
- Application documents should meet formatting requirements, and page recommendations.
- Attachments requiring signatures (Application Form and Support/Commitment Letters) may be scanned and submitted in PDF format.
- First-time users must register as a new user to access system.
- Grant Solicitation System (GSS) How to Apply presentation: <u>https://www.energy.ca.gov/media/1654</u>



START THE PROCESS EARLY!

- Applications must be fully submitted <u>BEFORE</u> the deadline listed in the solicitation manual
- The GSS system will shut off at the deadline
- Applications in the process of being submitted prior to the deadline will NOT be accepted after the deadline
- Applications will NOT be accepted after the deadline



- Register as a New User
- Log In
- 3 Step Application Process:
 - 1. Select Solicitation
 - 2. Upload Files
 - Select documents for upload
 - Tag files with document type
 - Designate confidential documents (if applicable)
 - 3. Review and Submit

All three steps must be complete BEFORE the deadline



How will my Application be Evaluated? Application Screening

Admin Screening Process

- Energy Commission staff screens applications per criteria in Section IV.E.
- Criteria are evaluated on a pass/fail basis.
- Applicants must pass all screening criteria or the application will be disqualified.

Some Reasons for Disqualification

- Application is not submitted by the specified due date and time.
- Application does not include one or more support letters.
- Application contains confidential material.



How will my Application be Evaluated? Application Scoring

- Evaluation Committee applies the scoring scale to the scoring criteria.
- Applications must obtain a minimum passing score of 52.5 points for Criteria 1-4 in order to continue evaluation.
- Applications must obtain a minimum passing score of 70 points for Criteria 1-7 in order to be considered for funding.
- Review Section IV of the manual and ensure the application provides a clear and complete response to each scoring criteria.

Scoring Criteria	Maximum Points
1. Technical Merit	15
2. Technical Approach	25
3. Impacts and Benefits for CA IOU Ratepayers and CA Residents	20
4. Team Qualifications, Capabilities, and Resources	15
5. Budget and Cost-Effectiveness	15
6. CEC Funds Spent in California	5
7. Ratio of Direct Labor Costs to Indirect Costs	5
Total	100
Minimum Points to Pass	70



How will my Application be Evaluated? Application Scoring – Preference Points

- Passing applications (score of 70 or more from Criteria 1-7) will be considered for bonus points. Criteria for bonus points include:
 - Match Funding
 - Disadvantaged Communities
 - California Based Entities

Scoring Criteria	Maximum Points
8. California Based Entities	5
9. Match Funds	10
10. Disadvantaged & Low- Income Communities	5
Total Bonus Points	20



- Applicants may receive up to 10 additional preference points based on the criteria below:
 - O Up to 5 points will be awarded based on the percentage of proposed cash relative to the total match contributions using the Match Scoring Table in the Scoring Criteria.
 - The remaining 5 points may be awarded to applications that exceed the minimum match requirements up to 100 percent using the Exceeds Minimum Match Scoring table.
 - Refer to the Solicitation Manual for more details on the match funding scoring criteria.

Disadvantaged Communities and Low-Income Communities

- Projects with all test or demonstration sites located in disadvantaged and/or low-income communities and justifies how the project will benefit these communities may receive additional points.
- Applications must:
 - Identify economic impacts such as customer bill savings and job creations.
 - Increase access to clean energy or sustainability technologies.
 - Have letters of support from technology partners, communitybased organizations, environmental justice organizations, or other partners.

Identifying Disadvantaged Communities

These areas represent the **25% highest scoring census tracts in CalEnviroScreen**, along with other areas with high amounts of pollution and low populations.

 <u>https://oehha.ca.gov/calenviroscre</u> en/report/calenviroscreen-40



Identifying Low-Income Communities

Low-income communities:

• <u>https://www.hcd.ca.gov/grants-and-funding/income-limits</u>

Use CARB's Priority Population Map to determine AB 523 low-income communities

 <u>https://www.arb.ca.gov/cc/capandtr</u> <u>ade/auctionproceeds/communityin</u> <u>vestments.htm</u>



Next Steps After Grant Award

- Notice of Proposed Award: Shows total proposed funding amounts, rank order of applicants by project group, and the amount of each proposed award.
- Agreement Development: Proposal documents will be processed into a legal agreement.
- Failure to Execute: The Energy Commission reserves the right to cancel the pending award if an agreement cannot be successfully executed with an applicant.
- Project Start: Recipients may begin work on the project only after the agreement is fully executed (approved at an Energy Commission business meeting and signed by the Recipient and the Energy Commission).



Activity	Date	
Solicitation Release	November 29, 2022	
Pre-Application Workshop	December 13, 2022 at 10:00 am	
Deadline for Written Questions	December 23, 2022 at 5:00 pm	
Anticipated Distribution of Questions and Answers	January 10, 2023	
Deadline to Submit Applications	February 28, 2023 at <u>11:59 pm</u>	
Anticipated Notice of Proposed Award Posting	Week of April 3, 2023	
Anticipated Energy Commission Business Meeting	June 2023	
Anticipated Agreement Start Date	June 30, 2023	
Anticipated Agreement End Date	June 30, 2026	



Three ways to ask questions:

- 1. Use the raise hand feature in Zoom:
 - Zoom phone controls:
 - *6 Toggle mute/unmute
 - *9 Raise hand
 - Introduce yourself by stating your name and affiliation
 - Keep questions under 3 minutes to allow time for others

- 2. Type questions in the Q&A Box in Zoom:
 - Please provide name and affiliation.
- 3. Submit written questions:
 - Email questions to <u>Natalie.Johnson@energy.ca.gov</u> by December 23, 2022 at 5:00 pm

Note that an official CEC response will be provided in writing and posted on the GFO webpage in \sim 3 weeks.



Please send all questions related to GFO-22-503 to:

Natalie Johnson Commission Agreement Officer 1516 Ninth Street, MS-18 Sacramento, CA 95814 (916) 891-8523 Natalie.Johnson@energy.ca.gov

Deadline to submit questions: December 23, 2022 at 5:00 PM Deadline to submit applications: February 28, 2023 at 11:59 PM



Thank You!

