

2019-2020 GRANT SOLICITATION

Capture and Control System for Oil Tankers Project

Transportation and Toxics Division
California Air Resources Board
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California Air Resources Board
Capture and Control System for Oil Tankers

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I. SUMMARY

The California Air Resources Board (CARB or Board) is soliciting a Grantee to develop, implement and administer a project for a capture and control system for oil tankers¹ under the Fiscal Year (FY) 2019-2020 Funding Plan for Clean Transportation Incentives (FY 2019-20 Funding Plan).² Total funding for this project is up to \$10 million from the FY 2019-20 Low Carbon Transportation Allocation.³

CARB's goal under the capture and control solicitation is to demonstrate that the commercially available capture and control technologies currently used by container vessels or new innovative technologies can continue to be adapted for use on oil tanker vessels at berth. When controlling emissions from both the auxiliary engines and boilers, oil tanker vessels produce higher flow rates of emissions than other vessel types such as container vessels.

This project will continue to demonstrate the expanded technological capability of capture and control systems to reduce emissions on vessels with higher exhaust flow rates and therefore may be applicable to other vessel types besides oil tankers. The system will capture vessel exhaust either at the vessel stack, or from another connection point in the vessel exhaust system, and divert the exhaust to an emissions treatment unit to remove oxides of nitrogen (NO_x), fine particulate matter (PM 2.5), reactive organic gases (ROG) and diesel particulate matter (DPM) emissions. Eligible projects will be required to treat emissions of criteria pollutants and toxic air contaminants that are generated by the operation of the capture and control system. Eligible projects will also be required to reduce greenhouse gas (GHG) emissions that are generated by the capture and control system, to avoid a net increase of GHG emissions.

The project funded under this Solicitation will support the continued adaptation of capture and control system technology to oil tankers. Eligible projects shall include a plan for requesting that the capture and control system demonstrated under this Solicitation receive approval from CARB as an alternative control technology under CARB-approved emissions control strategy as described in the proposed Control Measure for Ocean-Going Vessels At Berth (Proposed At Berth Regulation)⁴. More details on eligible project components can be found in Section IX: Eligible Projects. All work shall be completed by January 1, 2025. Specific tasks are outlined within this

¹ For the Solicitation, an oil tanker is a self-propelled vessel constructed or adapted primarily to carry liquid bulk cargo. Tanker vessels may carry petroleum crude, petroleum products, or non-petroleum based products.

² The FY 2019-20 Funding Plan is available at <https://ww2.arb.ca.gov/our-work/programs/low-carbon-transportation-investments-and-air-quality-improvement-program/low-1>

³ Of the \$40 million appropriated for Low Carbon Transportation Projects in SB 1204 (Lara, Chapter 524, Statutes of 2014), \$10 million was allocated for a capture and control system for oil tankers to capture at-berth vessel emissions.

⁴ Proposed Control Measure for Ocean Going Vessels At Berth, August 25, 2020, <https://ww2.arb.ca.gov/rulemaking/2019/ogvatberth2019>

Solicitation. Applications are due to CARB no later than **5:00 p.m., November 6, 2020.**

This competitive Solicitation is open to eligible applicants, which includes local air districts, California-based public agencies and California-based non-profit organizations that demonstrate the requisite administrative and technical expertise in overseeing advanced technology deployments.

II. BACKGROUND

In 2007, Governor Schwarzenegger signed into law the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (Assembly Bill (AB) 118, Statutes of 2007, Chapter 750). AB 118 created the Air Quality Improvement Program (AQIP), a voluntary incentive program implemented by CARB, to fund clean vehicle and equipment projects, air quality research, and workforce training.

As required by Health and Safety Code (HSC) Section 44274(a), the Board adopted regulatory guidelines (Guidelines⁵) in 2009 for AQIP. The Guidelines define the overall administrative requirements, policies, and procedures for program implementation based on the framework established in statute.

In 2012, the legislature passed, and Governor Brown signed into law, three bills: AB 1532 (Pérez, Chapter 807), Senate Bill (SB) 535 (de León, Chapter 830), and SB 1018 (Budget and Fiscal Review Committee, Chapter 39s), which established the Greenhouse Gas Reduction Fund (GGRF) to receive Cap-and-Trade auction proceeds and to provide the framework for how the auction proceeds will be administered to further the purposes of Assembly Bill (AB) 32 (Núñez, Chapter 488, Statutes of 2006). Cap-and-Trade auction proceeds have been appropriated to CARB for Low Carbon Transportation projects that reduce GHG emissions, with an emphasis on investments that benefit the State's disadvantaged communities. Per statute, these funds must be used to further the purposes of Assembly Bill 32 (AB 32; Núñez, Chapter 488, Statutes of 2006). The Low Carbon Transportation investments build upon and greatly expand existing advanced technology and clean transportation programs, which provide mobile source incentives to reduce criteria pollutant, air toxic, and GHG emissions.

Senate Bill (SB) 1403 (Lara, Chapter 370, Statutes of 2018) guides CARB's heavy-duty vehicle investments funded with Cap-and-Trade auction proceeds. SB 1403 extended the California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program created under SB 1204 (Lara, Chapter 524, Statutes of 2014) that helps accelerate the introduction of the next generation of cleaner heavy-duty vehicles and engines with a priority on projects that benefit disadvantaged communities. The budget includes a total of \$182 million for heavy-duty vehicle and equipment projects.

⁵ Formal Regulatory Documents For the AB 118 AQIP Guidelines
<https://ww2.arb.ca.gov/resources/documents/aqip-formal-regulatory-documents>

The proposed projects include advanced technology demonstrations, early commercial pilots, and voucher incentives for commercially available technologies consistent with the direction of SB 1204 (Lara, Chapter 524, Statutes of 2014) and SB 1403 (Lara, Chapter 370, Statutes of 2018), which guide CARB's heavy-duty vehicle investments funded with Cap-and-Trade auction proceeds. These investments support a broad range of clean and efficient vehicle and equipment technologies. Of the \$182 million, \$40 million is allocated for Heavy-Duty Advanced Technology Demonstration and Pilot Projects, with specifically up to \$10 million available for the oil tanker vessel exhaust capture and control system project.

III. NEED FOR EMISSIONS REDUCTIONS FROM OCEAN-GOING OIL TANKERS

California has a vibrant economy in which the movement of freight plays a significant role. However, this economic benefit comes at a cost to the health of many Californians living and working in neighborhoods that are heavily impacted by air pollution associated with this freight activity. Freight activity, which includes trucks, commercial harbor craft, locomotives, port equipment used for handling cargo, and the large commercial ocean-going vessels that visit our ports, accounts for roughly half of California's air pollution.⁶ California's combination of unique geography and robust freight transportation network contributes to the State experiencing some of the worst air quality in the nation.

Reducing port-related emissions helps California meet Federal clean air laws, which require regions in the State with unhealthy levels of ozone, particulate matter (PM), NO_x, and other key pollutants to develop State Implementation Plans (SIP). These SIPs are used to inform the Federal government and the public about how a region will reach their clean air goals.

Another key objective is to reduce toxic air contaminants, such as DPM, which contributes to localized cancer risk. In addition to reducing the public health impacts of criteria and toxic air pollutants, achieving additional emissions reductions from freight-related sources at California's ports is expected to assist with meeting the State's climate change goals by reducing GHG and black carbon emissions.^{7,8,9} Further

⁶ California Air Resources Board, Update On California Actions to Minimize Community Health Impacts From Freight, April 14, 2020, <https://ww3.arb.ca.gov/board/books/2019/032119/19-3-2pres.pdf>

⁷ California Health and Safety Code § 38500 - 38599, Division 25.5, Assembly Bill No. 32, California Global Warming Solutions Act of 2006, September 27, 2006, http://www.leginfo.ca.gov/pub/0506/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf

⁸ California Health and Safety Code § 38566, Division 25.5, Senate Bill No. 32, September 8, 2016, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.

⁹ California Health and Safety Code § 39730, Division 26, Senate Bill No. 605, Short-lived climate pollutants, September 21, 2014, http://leginfo.ca.gov/pub/13-14/bill/sen/sb_06010650/sb_605_bill_20140921_chaptered.htm

reductions from ocean-going vessels at berth have been identified as a key measure needed to accomplish these goals¹⁰.

In 2007, CARB approved the Airborne Toxic Control Measure For Auxiliary Diesel Engines Operated On Ocean-Going Vessels At-Berth in a California Port (Existing At-Berth Regulation). The Existing At-Berth Regulation provides two options to reduce emissions from auxiliary engines on ocean-going vessels while at berth: 1) Turn off auxiliary engines and connect the vessel to an alternative source of power (Reduced Onboard Power Generation Option); or 2) Use an alternative control that achieves equivalent emissions reductions (Equivalent Emissions Reduction Option). For fleets that chose the Equivalent Emissions Reduction Option, compliance began on January 1, 2010. The majority of fleets began compliance on January 1, 2014, with the Reduced Onboard Power Generation Option.

In 2019, CARB proposed a new Control Measure for Ocean-Going Vessels At Berth¹¹ (Proposed At Berth Regulation), which aims to further reduce NO_x, PM_{2.5}, ROG and DPM emissions from ocean-going vessels by increasing the number of vessel visits required to control emissions from currently regulated vessel categories (container, cruise, and refrigerated cargo) and by requiring additional vessel types, roll on-roll off (ro-ro), commonly known as auto carriers, and tanker vessels, to control their emissions at berth. Under the Proposed At Berth Regulation, oil tanker vessels would be required to control their auxiliary engine and auxiliary boiler emissions while at berth at ports and independent marine terminals in California where vessel visits exceed specified activity thresholds.

Tanker vessels typically fall into two categories, those that transport crude and Liquefied Natural Gas or Liquefied Propane Gas (LNG/LPG or crude oil tankers), and those that transport refined products, chemicals, or food grade oils (product or chemical tankers).

Crude oil and LNG/LPG tankers generally carry only one type of product and typically use auxiliary diesel engines to provide power for lights, ballast pumps, and all other electric hoteling loads while a vessel is at berth, and a boiler powered/steam turbine combination to drive the pump that provides the majority of the power to move the cargo off the vessel. As such, the hoteling activities can be shore powered, but the pumping activities powered by the boiler cannot be shore powered. For ocean-going vessels, a capture and control system has been shown to reduce emissions from both the boiler and auxiliary engines.

Product and chemical tankers can carry multiple different products, and often are constructed with multiple storage holds, requiring a more elaborate pumping system

¹⁰ California State Implementation Plans, August 10, 2020, <https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans>

¹¹ Proposed Control Measure for Ocean-Going Vessels At Berth <https://ww2.arb.ca.gov/rulemaking/2019/ogvatberth2019>

that enables each hatch to be loaded and unloaded independently. Some product and chemical tankers, generally the larger ones, use steam-driven pumps to offload cargo. The rest use auxiliary engines to power hydraulic or electric pumps. These vessels are suitable for shore power, but are also well suited for reducing emissions with a capture and control system.

Compared to other vessel categories, boilers are a significant source of emissions for oil tankers depending on the tanker design. All tankers have boilers onboard that operate to provide heating for crew comfort and water, and to keep the viscous bunker fuel used in the main engines in liquid form. Some tankers, generally crude oil tankers, also have boilers that generate steam to power pumps that move the tanker's cargo to shore and serve a safety function to provide inert gas in their cargo tanks that contain flammable liquids. Due to the extensive use of boilers in tanker operations, the Proposed At Berth Regulation includes emissions reduction requirements for auxiliary engines on tanker vessels, and for boilers on tanker vessels with steam powered product pumps. While the main source from tankers is boiler PM, CARB is also aiming to reduce emissions from tanker auxiliary engines that contribute to localized cancer risk due to DPM exposure.

The continued development and demonstration of advanced emissions control technologies is necessary in order to meet California's long-term GHG emissions reduction goals, protect public health, particularly in communities disproportionately burdened by air pollution, and reach attainment with increasingly more stringent federal air quality standards. The selected project must demonstrate advanced technologies and be able to reduce the capture and control system's GHG emissions and improve air quality for many affected areas within the State when the technology is fully integrated into the marketplace. The selected project should be a model to other California ports to adopt demonstrated strategies and technologies magnifying the future emissions reduction potential of wide scale adoption.

IV. OVERVIEW OF CURRENT CAPTURE AND CONTROL SYSTEM TECHNOLOGIES

Two approaches currently exist to achieve the emissions reductions that are required by the Existing At-Berth Regulation: shore power, and capture and control systems. Shore power is the preferred technology since it eliminates all localized emissions of pollution from the vessel's auxiliary engines and reduces net GHG emissions while the vessel is connected to shore power. Capture and control technology is most useful for vessels that do not frequently visit the same ports, such as oil tanker vessels, since it reduces criteria and toxics emissions without the need for significant infrastructure on the vessel (when compared with shore power, which requires equipment to be installed on the vessel). Capture and control systems are adaptable to different platforms including barge-based and land-based. While barge-based capture and control systems do not generally require any terminal-side infrastructure, land-based systems may require significant infrastructure depending on terminal-specific conditions. Funding under this Solicitation may be used for either barge-based or land-based capture and control systems, which are described below in further detail.

Barge-Based Capture and Control System

Barge-based capture and control systems involve a capture and control device on a movable barge that is maneuvered alongside a vessel at berth, to reduce emissions from the vessel while it continues to operate its auxiliary engines and boilers. The current generation of barge-based technologies is designed to control emissions from the vessel's auxiliary engines. Current barge-based technologies are dependent on an external tugboat to move the barge alongside the vessel. Although there is the potential for self-propelled barges to eliminate the need for a tugboat, this technology has not yet been implemented. Once berthed beside the vessel, a placement arm on the barge lifts a duct up to the top of the vessel's exhaust stack to "capture" the emissions. Then a large fan on the barge creates a vacuum to pull the vessel exhaust and excess ambient air through the duct and route it down to the emissions "control" unit on the barge. Existing barge-based systems utilize diesel generators to power both the placement arm and emissions control systems. Advancements are being made in battery and fuel cell technology to power ferries in California and Northern Europe and indicate that future versions of generators powering barge-based capture and control systems could be adapted to be zero-emissions utilizing these new technologies to reduce PM_{2.5}, NO_x, reactive organic gases (ROG), and black carbon. These systems are dispatched to reduce emissions from specific vessels, typically operated by a third-party system provider¹². They offer the opportunity to barge systems that are capable of reducing emissions from vessels not equipped for shore power, and can serve as a back-up to shore power systems in case of equipment breakdown. The third-party system provider typically has its own staff on the barge to support this operation. Terminals with wider channels may readily accommodate a

¹² Third-party system provider refers to a company or organization that is separate from the entities that own/operate/charter the ocean going vessel, as well as the port/terminal.

barge alongside a vessel at berth, but terminals with narrow channels may not be able to physically fit a barge without blocking navigation in the channel.

Land-Based Capture and Control System

Land-based capture and control systems are essentially land-based versions of the barge-based systems described above. The emissions control unit can be built in place near a terminal's wharf or can be mounted on a mobile chassis where the system can be moved along the wharf with a heavy-duty truck. Once the unit is in place on the dock, the system's capture device places the ducting over the vessel stack. The system captures and routes the vessel exhaust emissions from auxiliary engines to the landside control technology.

Similar to the barge-based system, the land-based system can also be adapted from container vessels to reduce emissions from both auxiliary engines and boilers on oil tankers at berth. It reduces emissions of PM_{2.5}, NO_x, ROG, and DPM. Future versions could be zero-emissions, powered by grid electricity, or use batteries or fuel cells as discussed above in reference to barge-based capture and control systems. The existing system, Shorekat, serves vessels visiting a bulk terminal, based on a contract between the third-party technology provider and the terminal operator. These systems offer the opportunity to reduce emissions from vessels not equipped for shore power and/or at berth locations not equipped for shore power. The land-based system provider may have its own staff present at the terminal to operate the positioning boom and support this operation. As noted above in the discussion of independent marine terminals, installing a land-based system may require extensive shoring up of wharves to support the weight of the control and capture system, and other needed infrastructure improvements.

Existing Capture and Control Systems

Two systems, the Marine Exhaust Treatment System version 1 (METS-1) and the Advanced Maritime Emissions Control System (AMECS)¹³ received approval in 2015 for use on container vessels as an alternative to shore power for compliance with CARB's At-Berth Regulation. Clean Air Engineering's METS-1 was developed at Port of Los Angeles as part of a terminal lease obligation. Advanced Cleanup Technologies' AMECS was developed through San Pedro Bay Ports Technology Advancement Program. CARB approval required an in-use demonstration of the effectiveness of each system in both capturing and controlling emissions on a number of vessels at berth. A land-based capture and control system called ShoreKat, developed by Clean Air Engineering – Maritime (CAEM), has also been deployed at the Port of Los Angeles to capture emissions from bulk vessels. Eligible projects under this Solicitation may use the same technology for tanker vessels, but the systems will need to be developed specifically to handle the higher exhaust loads of

¹³ At-Berth Regulation Executive Orders for approved alternative technologies for use with the At-Berth Regulation, <https://ww3.arb.ca.gov/ports/shorepower/eo/eo.htm>

oil tanker vessels and address safety/operational concerns.

V. AVAILABLE FUNDING

Each fiscal year, CARB staff submits a proposed funding plan to the Board for approval that serves as the blueprint for expending GGRF and AQIP funds appropriated to CARB in the State budget. The annual funding plan establishes CARB's priorities for the funding cycle, describes the projects CARB intends to fund and sets funding targets for each project. Funding is provided for projects that support evolution through three phases of technology: demonstration, commercialization, and transition to widespread deployment. The FY 2019-20 Funding Plan was approved at the October 24, 2019 Board Meeting. The FY 2019-20 Funding Plan allocated \$40 million for demonstration and pre-commercial heavy-duty vehicle and off-road equipment investments. The total funding available under this Solicitation is up to \$10 million. If additional funds become available, and valid applications remain unfunded, those projects may be funded without reissuing a Solicitation. If additional funding becomes available, the expenditure timeline of those new funds may extend the project end date beyond those listed in this Solicitation.

Project activities eligible for funding under this Solicitation include:

- Construction and deployment of capture and control system technology that is adapted to oil tankers with a high potential to be commercialized.
- Deployment of eligible commercially available capture and control equipment.
- Production, installation, and supporting infrastructure operations and maintenance.
- Demonstration of the deployed equipment technology.
- Data collection and emissions testing on equipment or vessels, infrastructure deployed as part of a proposed project.
- Project administration costs as detailed in the application (project administration costs shall not exceed five percent of the project amount funded by CARB).

These activities are further described in Section IX of this Solicitation. This Solicitation may not fund research or design-only projects.

VI. REQUIRED MATCHING FUNDS

The Grantee is required to match a minimum of 25 percent of the Total Project Cost. Total Project Cost is equal to the sum of requested grant funding amount and the applicant's proposed match amount. Only applications that meet the minimum match amount will be scored.

Match funding must be provided in the following manner:

1. A minimum of 10 percent of the Total Project Cost must be in the form of cash committed by the Grantee, federal and local public agencies, project partners, and/or technology manufacturer (exclusive of providing in-kind contributions). Cash includes labor and capital outlays that occur during the term of the Grant Agreement. Currently budgeted and programmed Federal funds may be considered as cash.
2. The remaining portion of the match may be through some combination of in-kind contributions committed by the Grantee, federal and local public agencies, project partners, and/or technology manufacturer such as equipment, materials, consumables, equipment transportation, private financing, labor and federal or State funds. Public funds committed as part of an in-kind match cannot be sourced from GGRF. If an application proposes to use an award of funding from another State agency as a portion of their in-kind match, the award letter for those funds must be included as part of the application (see Appendix A).

Project facilities, laboratories, or property will not be considered as part of a proposed in-kind match whether owned or leased by the Grantee or technology manufacturer.

If the project uses assets that have or will be funded in whole or part by other public incentive programs and is still under contractual obligations, its incentive program status must be clearly identified in the project's narrative. Additionally, the project narrative must include a plan to ensure that emissions reductions required by any incentive program's contract or grant are considered and accounted for (see Appendix A, Attachment 2).

The applicant may propose to use in-kind matching funds for administrative activities, if selected for funding, to be performed after the issuance of a preliminary award of funding and before the execution of the Project's grant agreement. Such activities may include completing any applicable California Environmental Quality Act (CEQA) requirements, entering into sub-agreements with technology manufactures and end-users, and performing other administrative activities required by the prospective grantee, to enter into the grant agreement. However, an applicant does this at its own risk and with no guarantee that a grant agreement will be executed. CARB will not reimburse the prospective Grantee for any costs incurred before the grant agreement is executed.

If a third-party, (i.e., a party other than the Grantee or technology manufacturer) proposes to provide any part of the required match, the Grantee must include a letter from each third-party stating that it is committed to providing a specific dollar value and the source of those funds. Match letters from third-party participants must be signed by someone who has the authority to commit those funds and will be considered binding on the applicant. Letters that do not have specific dollar amounts may not be considered.

Match contributions letters from public agencies that require approval from their governing board but do not have such approval at the time of application is submitted must be clearly documented in the match letter. CARB will consider such contributions as pending in the application review and, for applications selected for a preliminary award, Grantees will be required to show governing board approval of all proposed match funding before grant execution. Match letters that do not meet these Match Letter Requirements may not be considered.

A Grantee and its partners must demonstrate technical and fiscal resources sufficient to meet their cost share commitment and complete the proposed project in their letter of commitment from technical and fiscal partners.

VII. ELIGIBLE GRANTEES

This competitive Solicitation is open to local air districts, other California-based public entities, or California-based non-profit organizations as the Grantee (applicant). The Grantee must demonstrate its expertise at implementing advanced technology deployment projects and providing sufficient administration and oversight. Private sector parties (i.e., technology manufacturers and end-users) interested in securing funding for a technology or strategy, must partner with an eligible Grantee submitting a project proposal. Only projects from eligible Grantees will be scored.

Eligible applicants must meet all applicable requirements of State law and regulations, AQIP Guidelines, FY 2019-20 Funding Plan, and this Solicitation. Specific requirements for the Grantee are further described in this Solicitation. To be considered for the grant award, applicants must fully complete the Application (Appendix A) and demonstrate that they meet the application requirements (see Section XII of this Solicitation). CARB may request clarification regarding application responses during the application review process. Responses to clarifying questions will not be considered for scoring, but will become part of the application and therefore the grant agreement if a proposal is selected for funding.

Projects that already have all the needed participants, such as the identified end users of the proposed equipment, technology manufacturer(s), data collection and analysis provider, eligible community based organizations¹⁴, and eligible applicant, will score higher than those that do not have team members identified in advance (see Criteria 2 in Section XV, Evaluation, Scoring, and Preliminary Selection).

The Grantee will be required to submit to CARB a resolution of its governing board prior to execution of the Grant Agreement that commits the agency/organization to:

¹⁴ For the purpose of this solicitation, a community-based organization is a group of residents that has identified a need or goal to improve the lives of residents and/or the environment within the local community and has organized in an effort to effect a defined change enriching the lives of local residents and/or the environment. Community based organizations are typically nonprofit organizations located in and serving the needs of community residents.

1. Comply with the requirements of this Solicitation.
2. Accept the Grant funds from CARB.
3. Allocate any funding that the Grantee has committed to be part of a project application.

It is recommended that the resolution allow for grant amendments without governing board approval, if possible. If the public agency or non-profit organization does not have a governing board, then a binding written commitment from an official of the agency that has authority to enter into contractual obligations will be required to fulfill the above commitments.

If the public agency or non-profit organization that is submitting the application contributes a match to the project, the governing board resolution shall authorize the agency's or organization's legally authorized official to supply sufficient funding to meet the stated match commitment. Signed Grant Agreements and approved governing board resolutions need to be in place on or before the deadline listed in the Solicitation Timeline in Section XIII. Sub-agreements between the technology manufacturer(s) and the Grantee need to be in place before non-administrative work can begin.

VIII. RESPONSIBILITIES OF GRANTEE, TECHNOLOGY MANUFACTURER AND DATA COLLECTOR

The Grantee will be responsible for administration of the adaptation of capture and control system technology to oil tankers project, and major responsibilities will include:

1. Develop project team including, technology manufacturer, end-users and third party data collection and analysis provider.
2. Submit demonstration project proposal (application) to CARB.
3. Administer the project.
4. Coordination of press releases and press events.
5. Ensure completion of required CEQA documents.
6. Oversee technology manufacturer(s) if applicable.
7. Oversee project budget, completion of milestones, and verify receipt of deliverables and the amount of funds being used for the project's match requirement.
8. Ensure frequency of oil tanker vessel visits in order to meet CARB certification/approval by establishing a Memorandum of Understanding (MOU) or agreement with oil tanker vessel operators/owners.
9. Report to CARB on project status, Grant performance, and match expenditure.
10. Submit quarterly reports and Grant disbursement requests to CARB.
11. Ensure purchase, installation, and maintenance of data logging or other data collection equipment as required.
12. Submit required testing and data necessary for CARB approval.

13. Submit emissions monitoring data as identified in the test plan, as requested by CARB.
14. Coordinate periodic project status update meetings.
15. Submit a hazard or safety assessment by a classification society (or equivalent), including a consultation with the U.S. Coast Guard).

If applicable, the technology manufacturer's major responsibilities in the project will include:

1. Teaming with an air district, other public agency, or non-profit organization to develop the demonstration project application.
2. Ensuring that the emissions control equipment is available for source testing, data collection and CARB or Grantee inspection, as necessary.
3. Ensure that the data collected meets the requirements to become CARB approved.
4. Ensure testing protocol complies with CARB's approval.
5. Providing the technical expertise in performance of the demonstration.
6. Timely achievement of stated project goals.
7. On-time reporting to the Grantee on project status and Grant performance.

The data collection and analysis provider's major responsibilities in a proposed project will include:

1. Installation and maintenance of data collection equipment on advanced technology and facilities.
2. Coordination with CARB, Grantee, and other project partners on data to be collected.
3. Collection, analysis and reporting of collected data.
4. Must be a third party data collector (i.e. a party other than the Grantee or technology manufacturer).

Progress reports will be submitted from all project partners to the Grantee at a minimum of three-month intervals. The Grantee is responsible for forwarding all progress reports, unaltered, to CARB within seven business days of receipt (see Reporting and Monitoring Requirements in Section XVII, Implementation Process). Additionally, every Grant disbursement request shall be accompanied by a progress report, in addition to any other required reports, that documents the time interval, expenditure of match funds and the completion of specific project milestones, including any specific deliverables as defined for that milestone (see Project Funding Procedure in Section XVII, Implementation Process).

Specific data elements will be required to be collected and required formats are listed in Appendix F, Data Collection Requirements. Data collection will be required throughout the project, and the data gathered will be required to be submitted to CARB periodically and as part of project milestones and periodic project update

reports. The Grantee must coordinate installation of data logging or other equipment to facilitate data collection. The Grantee will ensure that the data collection provider will have access to representative equipment with comparable duty-cycles. Emissions testing protocols will be approved by CARB, at its sole discretion. For more details, please see Appendix F, Data Collection Requirements.

A final report must be submitted to CARB by the Grantee at the conclusion of the project. The project will not be complete until the final report has been accepted by CARB. The final report will include, but will not be limited to: a summary of the progress reports, any deliverables that were committed to in the project, the results from any emissions testing performed, and any other information required by CARB. The Draft final report is due to CARB no later than December 15, 2024 and the final report to CARB no later than March 15, 2025 (see Sample Grant Agreement, Appendix B). CARB retains the right to withhold up to 10 percent of the total award amount until delivery of the final report.

Additional reporting requirements are detailed in the Reporting and Monitoring Requirements section of this Solicitation.

IX. ELIGIBLE PROJECTS

A. Overview

CARB's goal under the capture and control solicitation is to continue to demonstrate that the commercially available capture and control technologies currently used by container vessels can be adapted for use on oil tanker vessels at berth.

The project will fund a capture and control system designed to:

- Provide direct GHG, criteria pollutant, and toxic air contaminant emissions reductions from oil tanker emissions at berth.
- Reduce GHG emissions that are generated by the capture and control system, to avoid a net increase of GHG emissions.
- Showcase innovative solutions to address the unique safety requirements of oil tanker vessels.
- Demonstrate that the system achieves emissions rates less than 0.4 g/kilowatt (kW)-hour (hr) for NO_x, 0.03 g/kW-hr for PM 2.5, and 0.02 g/kW-hr for ROG for tanker auxiliary boilers. Default emissions rates of tanker auxiliary boilers on ocean-going vessels are 2.0 g/kW-hr for NO_x, 0.17 g/kW-hr for PM 2.5, and 0.11 g/kW-hr for ROG.
- Capture and control vessel exhaust either, at the stack or when diverted to directly to a connection point and treat that exhaust in an emissions control system targeting NO_x, PM_{2.5}, ROG and DPM.
- Support the establishment of widespread commercial utilization of the capture and control system.

- Demonstrate operation in a unique safety environment and expanded capability for larger exhaust loads to the existing barge-based capture and control technologies for container vessels, which can include self-propelled barge systems.
- Accelerate commercialization of capture and control systems for use with oil tankers and other vessel types.
- Projects must be within a disadvantaged community as defined by CARB's SB 1550 Guidance.
- Acquire all needed CARB approvals for use with oil tankers.
- Acquire other applicable certifications or approvals needed for safe operations such as United States Coast Guard and classification societies.
- Submit a hazard or safety assessment by a classification society (or equivalent), including a consultation with the U.S. Coast Guard.

B. Eligible Facilities (Project Location)

Eligible project must be located at a California port or marine terminal that is within a disadvantaged community as defined by CARB's SB 1550 and SB 535 Guidance and explained below in Section D, "Disadvantaged Community Component."

C. Eligible Technologies

Eligible projects can include the equipment technologies that were discussed in Section IV and technologies that are currently not fully commercially available and still in the pre-commercialization/pilot phase. Technologies can include either a land-based or barge-based system. Projects that propose barge-based systems can also include demonstration of self-propelled barge systems. However, all systems must include a safety or hazard assessment that includes a consultation with the U.S. Coast Guard.

Eligible land-based systems can include:

1. Capture and control equipment.
2. Grid improvements to allow for additional electrical demand from the capture and control system.
3. Improvements to port/terminal-side infrastructure needed to install and operate the control and capture system.
4. Zero-emissions fuel cell systems and fuel storage needed to support the proposed system.

Eligible barge-based systems can include:

1. Capture and control equipment.
2. Barge, which can include propulsion systems.

3. Port/terminal-side infrastructure improvements needed to support the proposed project.
4. Zero-emissions fuel cell systems and fuel storage needed to support the proposed system.
5. Needed tugboat support.

Other eligible project components can include:

1. Systems that control and capture GHG emissions from the oil tanker and/or the self-propelled barge.
2. Workforce training and development.
3. First responder training.

D. Disadvantaged Community Component

The eligible projects that can be funded by this Solicitation are required to achieve reductions in GHG, criteria pollutant, and toxic air contaminant emissions and must provide benefits to disadvantaged communities. Projects will be required to be located in disadvantaged communities to be eligible for funding.

Appendix A, Application, provides detailed information and tools for determining if a project is located within a disadvantaged community.

X. SCOPE OF WORK

Although shore power would be the preferable compliance strategy to comply with the Proposed At Berth Regulation, CARB staff recognizes there will be situations when shore power would be unavailable for a variety of reasons, or that retrofitting and installing shore power on certain vessels and terminals would not be cost effective. In contrast to shore power systems, capture and control technologies in use currently do not require modification to vessels. This is an important consideration for tanker vessels since many of these vessels are infrequent visitors to California, coming less than four times per year. Unlike shore power, capture and control systems also have the capability of controlling boiler emissions in addition to auxiliary engine emissions. Based on CARB staff's analysis of terminal infrastructure and vessel visits¹⁵ and discussions with tanker industry members, CARB staff believe that capture and control technologies may be the most probable compliance strategy for oil tanker vessels.

The emissions capture and control technologies currently mounted on barges have been an option that provides flexibility for container vessels to comply with the requirements under the existing At Berth Regulation. If the project is selected, CARB staff intends that the demonstration and test data that will be collected from the

¹⁵ Proposed Control Measure for Ocean-Going Vessels At Berth, Standardized Regulatory Impact Assessment (SRIA) <https://ww3.arb.ca.gov/regact/2019/ogvatberth2019/appc-1.pdf>

Grantee would identify the strengths of such technologies, but will also provide staff with the information to identify potential improvements to the technology and evaluate the emissions reductions capabilities of the technology on other vessel types.

The tanker industry, during the proposed At Berth regulation development process, also pointed out a number of safety considerations. The new adaptations of the emissions capture and control system for tanker use would need to address these considerations, with the main concerns related to safety due to the combustible nature of the cargo and the need to adhere to the United States Coast Guard's 30-minute disconnection requirement in the event of an emergency. Therefore, to be eligible, the application must include a description of the project's plan to comply with the disconnection requirement in the application's project narrative and provide a safety or hazard assessment.

Existing emissions control technologies do not control GHG emissions from the vessel, and are also powered by diesel generator sets which add to total GHG emissions. The Proposed At Berth Regulation also would require that any emissions control technologies do not contribute additional operational GHG emissions. Therefore, to be eligible, applications are required to ensure that the design meets "grid neutral" requirements. To meet the grid neutral requirements for the capture and control system, an applicant may need to employ some combination of low carbon technology such as battery, hybrid power, waste heat recovery, solar, renewable fuels, low carbon fuels, carbon capture, and barge self-propulsion for positioning or travel.

The selected project is intended to help continue adapting capture and control technology to tanker vessels to control auxiliary engine emissions, as well as boiler emissions, while tanker vessels are at berth. CARB staff anticipates that successful implementation of this technology will serve to continue to demonstrate and enable scalability and full commercialization of this technology for tanker marine terminals and the tanker industry.

Requirements

This section provides information on required elements for the project. The requirements identified below are minimum requirements and are not comprehensive. In addition to the information below, the project must include reporting and monitoring requirements as detailed in the Reporting and Monitoring Requirements Section of this Solicitation.

The FY 2019-20 Funding Plan allocated \$10 million for this Solicitation, as described in "Section V, Available Funds." Applications must follow CARB's "Recommended Emissions Testing Guidelines for Ocean-going Vessels¹⁶" and include the following components that describe the test plan:

¹⁶ Recommended Emissions Testing Guidelines for Ocean-going Vessels
https://ww2.arb.ca.gov/sites/default/files/2019-11/ogv%20test%20guidelines_ADA.pdf

1. Overview of Test Program – Purpose, Equipment Tested, Test Cycle, and Measured Quantities.
2. Description of Control Strategy – Main Components, Operating Principles, Sources, and Consumables.
3. Limitation of Control Strategy – Process Limitations and Likely Failure Modes
4. Maintenance Scheduling.
5. Expected Capture Efficiencies.
6. Expected Emissions Reductions and CEMS.

In addition, the test plan must indicate where the test will be done while the equipment is in its intended vocation by the end-user partner included in the project application. Applications that have elements of their proposals for the adaptation of capture and control system technology to tankers that show a strong ability to be deployed widely into the marketplace within three years of the conclusion of the project must provide enough relevant data items to determine their economic viability for their continued use as identified in Appendix F - Data Collection Framework. Demonstrations of equipment operation must consist of a minimum of 200 hours for the emissions control unit funded by this Solicitation. Projects with longer demonstration durations will score higher than those that only meet the minimum deployment timeline.

The application must outline a plan to conclude the project with an application to become a CARB approved emissions control strategy under the Proposed At Berth Regulation. Subsequently, the process for the CARB approved emissions control strategy under the Proposed At Berth Regulation will be referred to as "CARB approval".

The application must describe the disposition of all equipment at the end of the proposed project. In addition, projects that indicate they will continue the use of funded assets in their normal business practices after the term of the project could score higher than those that do not indicate the disposition of funded assets.

The funded project must be made available for tours by government officials, members of the public and other interested stakeholders to highlight firsthand the benefits and the anticipated benefits from employing such technologies and strategies.

Data Collection and Analysis and Emissions Testing

Data collection and analysis will be a required element of the funded project and will be accomplished by a "third-party data collector ((i.e. a party other than the Grantee or technology manufacturer ") with experience in collecting and analyzing data from marine projects). The tanker's auxiliary engine and boiler emissions and their associated fuel usage need to be quantified to support the most accurate emissions analysis. The emissions data will be used to ensure the design of future strategies will

meet all compliance requirements for the tanker vessels. The emissions data may also be used to confirm or update emissions inventories.

Data elements to be collected are based on CARB's sole discretion, as outlined in Appendix F - Data Collection Framework, or as modified by CARB at its sole discretion, in consultation with the project's technology manufacturer(s), end-users, data collection and analysis provider and Grantee. All project team participants must work cooperatively with the data collector and supply data as requested in a timely manner. The data collected from vessels, engines, boilers, infrastructure and facility improvements, vessel visit and control strategy operation reports, and other relevant equipment with the project team must be shared with CARB.

Reproducible emissions testing to verify the emissions reduction benefits of capture and control technologies funded under this Solicitation is required. NO_x, ROG, PM and GHG emissions will be shown as NO_x, PM_{2.5}, ROG, and carbon dioxide (CO₂) equivalent¹⁷ per visit (g/kw-hr). The testing will utilize durability, performance, and source testing procedures as required for CARB approval, and these procedures (including the specific test methods) must be cited in the project's narrative and will be subject to CARB approval.

Reproducible emissions testing for ocean-going vessel auxiliary engines to verify the emissions benefits from the demonstration of technologies funded under this Solicitation is required. NO_x emissions will be shown as NO_x and nitric oxide (NO) plus nitrogen dioxide (NO₂). The emissions testing procedure must be cited in the project's narrative (see Appendix A, Attachment 2). The final emissions testing procedure will be subject to CARB approval.

Data collected from emissions or durability testing as part of a selected project and included in the project's submitted work plan and scope of work can be applied toward CARB or United States Environmental Protection Agency (U.S. EPA) certification or verification. However, funding cannot be used directly to pay for CARB fees.

The data collected will provide the information for CARB staff to evaluate the technologies. The evaluation will include the following components:

1. Applicability-Range of Product Evaluation: Establishing an emissions control group¹⁸ (vessel categories).

¹⁷ CO₂ equivalent" means the number of metric tons of CO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas.

¹⁸ Recommended Emissions Testing Guidelines for Ocean-going Vessels, California Air Resources Board, Version 1, June 20, 2012 https://ww2.arb.ca.gov/sites/default/files/2019-11/ogv%20test%20guidelines_ADA.pdf

2. Emissions Capture Performance Testing: Stack testing to determine capture efficiency of vessel emissions into the control system using appropriate test cycles or test loads.
3. Emissions Reduction Performance Testing: Baseline and controlled testing using appropriate test cycles or test loads.
4. In-Use Performance and Durability: Demonstrating performance over an established time period.
5. Periodic Testing: Generally required under regulatory programs or permitting.

In-Use Performance and Durability data collection is necessary to help facilitate accounting of the emissions reduction benefits in emissions inventories and current and future air quality planning efforts. The following sections describe the information needed, testing procedures, reporting, control device description and operational parameters, and quality controls necessary to evaluate the control technology.

Technology Certification and Permitting

As part of a viable commercialization plan, CARB approval must be a goal for all emissions control technologies. For any technology that will require CARB approval, the grantee must explain in the project narrative the steps that will be followed to accomplish required CARB approval protocols. This can be accomplished by following CARB's "Recommended Emissions Testing Guidelines for Ocean-going Vessels" and the requirements for a CARB approved emissions control strategy under the Proposed At Berth Regulation. CARB approval ensures the capture and control system will be eligible as a compliance technology for the CARB's At Berth Regulation.

Infrastructure Modifications to Accommodate Technology

Implementation of certain tanker emissions control technologies may require modifying the existing infrastructure of the terminal where the system would be deployed. This may include berth reinforcements, system mounting, and energy supply/refueling structures to support the operation of the technology. CARB staff will require any grantee that includes any proposed infrastructural modifications in their application to indicate all the required steps, including, but not limited to, siting, permitting, safety certifications, and other necessary certifications, reports, and approvals such as CEQA and others. In addition, any proposed infrastructure costs must be substantiated by entities with experience in the installation, permitting, and commissioning of similar infrastructure. The grantee must demonstrate that infrastructure modifications can be completed in a timely manner to ensure the completion of the project by January 1, 2025. Operation and maintenance of any proposed infrastructure must be addressed in the project application budget.

a. Hydrogen Refueling Stations

Proposals containing a hydrogen refueling station installation must adhere to the minimum technical requirements and renewable hydrogen requirements specified in Appendix C and the CEQA and permitting requirements described in Appendix E. Additionally, the project must comply with all applicable federal, State, and local laws and requirements for acceptable installation and usage of hydrogen refueling stations. Each hydrogen refueling station must be designed to allow the station to accept delivery of hydrogen fuel from a mobile refueler or hydrogen tube trailer if on-site hydrogen production goes off-line or if hydrogen delivered via a pipeline is disrupted. Public or private access to refueling from proposed refueling stations is not required. However, infrastructure proposals that allow refueling to non-project entities during or following the completion of the demonstration project may score higher than those that do not allow refueling to non-project entities.

XI. PROPRIETARY INFORMATION AND INTELLECTUAL PROPERTY

CARB will not make any claims of ownership of any equipment or vessel funded by this grant. However, all information and data generated under the Grant Agreement will be the property of CARB. Additionally, the technology manufacturer(s), end-users, data collection and analysis provider and Grantee will be required to make available any information and data needed to satisfy the requirements discussed in the Reporting and Monitoring Requirements section of this Solicitation.

Data gathered on actual emissions to the air as part of this demonstration project cannot be protected from disclosure. Any information determined to be a trade secret or otherwise exempt from disclosure under the California's Public Records Act or other provisions of law must be labeled "confidential." Review Appendix A, Attachment 6 for Procedures for Handling Confidential Information. If you wish to include confidential information, you must:

1. Complete the Confidentiality Provision (Appendix A, Attachment 6) and attach it to your project proposal.
2. Separate confidential pages from the other elements of the project proposal (do not include any confidential information in the main project proposal).
3. Clearly label every confidential page as "CONFIDENTIAL".

Project proposals will be reviewed by CARB staff and may include reviewers outside of CARB associated with public universities in California and other State government agencies as needed. In the project proposal, at the point where the information would appear if it were not confidential, please indicate its existence under the separate cover. Please provide the name, address, and telephone number of the individual to be contacted if CARB receives a request for disclosure of the information claimed as confidential. CARB may share confidential information related to a project (such as certification/verification data) with multiple units and sections within CARB or

other relevant State agencies.

XII. APPLICATION REQUIREMENTS

Eligible Grantees must meet all applicable requirements of State law and regulations, AQIP Guidelines, FY 2019-20 Funding Plan, and this Solicitation. To be considered for the grant award, Grantees must complete the application and demonstrate that they meet the required Solicitation elements. CARB may request clarification regarding application responses during the application review process. Clarifying questions will not be considered changes to the application for the purpose of scoring, but will be considered part of the project application and will be included in the grant agreement if the project is selected for funding. Only applications that contain all of the required elements as described in the Required Application Elements section and Appendix A of this Solicitation will be scored. Please note, detailed descriptions of each scoring criteria usually results in higher ranking.

Please enclose with your project proposal any documents (or pertinent excerpts) that you cite in support of performance claims for your project. However, do not include materials that are not needed to supply the information requested in these instructions. CARB will not review patent documents, engineering drawings and specifications, or promotional materials. Include in your application package letters of commitment from project partners that describe the nature of their contribution to the project.

Letters of support from non-project partners are discouraged and are not part of the scoring criteria. Local community based organizations that are part of the project team should detail their support for the project and what role the community group will play in the project. Further, letters should indicate the level of support the project has in the disadvantaged community(ies) where the project is located and indicate the group's role in the community. Strong support from eligible community groups may be eligible for extra points under the Optional Extra Credit Scoring Criteria 12, described in Section XV Evaluation, Scoring and Preliminary Selection section.

CARB requires applications to be accurate, and applicants are strongly encouraged to ensure their applications are brief and clear. If a project is selected for funding, the application will be the basis for the development of the grant agreement and will be incorporated as part of the grant agreement. Applications will be considered a promise to perform actions in a specific project and are not considered a starting place to begin negotiations on the project's final scope of work. Applications will be initially screened for completeness; incomplete applications will not be scored. The application is included as Appendix A of this Solicitation and includes the following required elements:

Appendix A: Application (Application must be signed and dated)

- Attachment 1: Project Executive Summary and Project Summary for Public Posting
- Attachment 2: Project Narrative and Work Plan
- Attachment 3: Emissions Reduction and Cost-Effectiveness Calculations
- Attachment 4: Proposed Budget and Project Milestones and Disbursement Schedule
- Attachment 5: Disadvantaged Communities Eligibility Determination
- Attachment 6: Procedures for Handling Confidential Information
- Attachment 7: Letters of Commitment
- Attachment 8: California Environmental Quality Act Worksheet (if applicable)
- Attachment 9: Conflict of Interest Declaration
- Attachment 10: STD. 204 Payee Data Record (**required even if applicant is a public entity**)
- Attachment 11: Applicant Qualifications

XIII. APPLICATION INSTRUCTIONS

Appendix A contains the forms and information necessary for submittal of a complete application. CARB will select a Grantee based upon the scoring criteria identified in this Solicitation. All information and data submitted as a response to this Solicitation are the property of CARB and will become a public record. If no qualified proposal is submitted, CARB will not award a grant and will re-evaluate this Solicitation to re-solicit for project proposals or other options at CARB's sole discretion.

If you need this document in an alternate format or language, please contact Project Lead at (916) 324-7901 or dmitri.smith@arb.ca.gov. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Applications must be submitted via an upload portal. Applicants must identify a specific person that will upload the completed application on or before the due date (see solicitation timelines below for more details on the due date). The grantee will submit an email to the Project Lead at dmitri.smith@arb.ca.gov at least seven (7) days before the solicitation due date that identifies the name, affiliation, phone number and email address of the person that the applicant has identified as the application

submitter. Only one person per applicant team may be the application submitter. CARB will then forward a link to the application submitter that will be used to access the secure on-line file upload portal for application upload. All the documents that make up the application must all be submitted in a single PDF file. Only one signed version of the application needs to be submitted. Applicants who try to submit their application after the due date will not have access to the upload portal.

Solicitation Timeline*

Key Actions	Dates	Time (Pacific)
Public Release of Solicitation	September 2, 2020	--
Applicant Question Deadline	September 22, 2020	5:00 pm
Applicant Zoom Conference	September 24, 2020	10:00 am
Application Submittal Deadline	November 6, 2020	5:00 pm
Preliminary Grantee Selection	November 30, 2020	5:00 pm
Final CEQA Documentation Submittal Deadline**	December 31, 2020	5:00 pm
Execute Grant Agreement and Return to CARB***	February 1, 2021	5:00 pm
Sub-Agreement Process Complete	March 15, 2021	5:00 pm

* Timelines are subject to change at CARB's sole discretion.

**This step only applies for projects containing infrastructure proposals where an agency other than CARB is the lead CEQA agency for the project.

***Includes governing board resolution.

XIV. APPLICANT ZOOM CONFERENCE

CARB will hold an Applicant Zoom conference at which time staff will be available to answer questions potential applicants may have regarding eligibility, application completion, and other requirements. The Applicant Zoom conference will take place on the following date and time:

Date: September 24, 2020

Time: 10:00 a.m. – 12:00 p.m. (Pacific

Time) Registration link:

<https://zoom.us/meeting/register/tJErd-GgrD4oGtego7JOp1ihzk-tA7ZJfhYh>

After registering, you will receive a confirmation email containing information about joining the meeting.

The Applicant Zoom conference will be open to all interested entities. The intent of the Applicant Zoom conference is to provide potential project applicants with an opportunity to ask clarifying questions regarding the Solicitation package and project requirements. Written questions submitted before the Applicant Zoom conference will be given priority. Questions may be emailed to Dmitri Smith at dmitri.smith@arb.ca.gov dmitri.smith@arb.ca.gov. Questions may be submitted up to 5:00 p.m. (Pacific Time) two business days prior to the Zoom conference. The questions and answers from the Applicant Teleconference and any questions received via email will be posted on the CARB website no later than **5:00 p.m. (Pacific Time) on October 15, 2020**; this date may be extended at CARB's sole discretion. CARB will not answer questions regarding this Solicitation after the Applicant Zoom conference. Any verbal communication with a CARB employee concerning this Solicitation is not binding on the State and shall in no way alter a specification, term, or condition of the Solicitation.

XV. EVALUATION, SCORING, AND PRELIMINARY SELECTION

CARB will evaluate all eligible project applications based on the same scoring criteria described below. The maximum score is 150 points. The qualified applicant(s) with the highest overall score(s) will be preliminarily selected as Grantee(s).

The preliminary selection of a project does not in any way commit CARB to approving the grant. The selected applicant will be required to sign a Grant Agreement with CARB to fulfill the duties of Grantee (see Appendix B). The Grant Agreement may not be executed unless and until any required CEQA review has been completed. For a project where an agency other than CARB is serving as lead CEQA agency, the applicant must submit any required final CEQA documents by December 31, 2020 (prior to execution of the Grant Agreement). If an applicant fails to meet this requirement, CARB may deny the grant application. CARB will independently review any CEQA documentation provided by the applicant. CARB may modify or deny any

Grant Agreement based upon information produced from the CEQA environmental review process. If CARB in its sole discretion finds a project's CEQA documentation inadequate, CARB retains absolute sole discretion to either (1) modify the grant agreement as necessary to comply with CEQA, (2) select other feasible alternatives to avoid significant environmental impacts, or (3) deny the grant application. No legal obligations will exist unless and until the parties have executed and delivered a Grant Agreement, as informed by information produced from the CEQA environmental review process (to the extent applicable).

For a project where CARB serves as the lead CEQA agency (generally, a project for which no other discretionary governmental approvals are required), CARB will conduct any required CEQA review. CARB reserves the right to require any supplemental information that CARB deems necessary to conduct any required environmental review. CARB may modify or deny any Grant Agreement based upon information produced from the CEQA environmental review process. CARB retains absolute sole discretion to either (1) modify the grant agreement as necessary to comply with CEQA, (2) select other feasible alternatives to avoid significant environmental impacts, or (3) deny the grant application. No legal obligations will exist unless and until the parties have executed and delivered a Grant Agreement, as informed by information produced from the CEQA environmental review process (to the extent applicable). If environmental review is required in connection with a project application and CARB incurs costs in preparing such environmental review, CARB may charge and collect a reasonable fee from the project applicant to recover those costs as set forth in section 21089 of the Public Resources Code.

CARB, in its sole discretion, may cancel the proposed grant and make a selection to the next highest scoring project, and so on, until an agreement is reached, or exercise its right, in its sole discretion, throughout this process to not award a grant. CARB reserves the right, in its sole discretion, to cancel this Solicitation, re-solicit for a Grantee, or direct funding to another project in the FY 2019-20 Funding Plan. In the event funding has been awarded to the highest scoring project(s), and the remaining available funds are less than the amount requested in the next highest scoring application, CARB, in its sole discretion, may offer funding to the next highest scoring project(s), may fund a portion of the next highest scoring project(s), or carry the remaining funds forward to the next fiscal year, shift the funds to another project category, or not award a grant.

CARB retains the right to remove discrete elements of projects selected for funding that CARB determines to be ineligible or to reduce the scope of a proposed project to use any remaining funds. In the event that one or more projects cannot be fully funded because the requested amount exceeds the available remaining funds, CARB in its sole discretion may offer to fund those projects at a lesser amount at a scaled down scope. If the project applicant declined funding at the reduced project scope, CARB may offer funding to the next highest scoring eligible application, either fully or

at a scaled down scope, carry the remaining funds forward to the next fiscal year, shift funds to another project category, or not award a grant(s).

It is anticipated that up to \$10 million for the selected project will be available under this Solicitation. If additional funds become available, and valid applications remain unfunded or if a funded application can be expanded beyond the original scope outlined in their application, those projects may be funded without reissuing a Solicitation at CARB’s sole discretion. If additional funds are made available for remaining applications the expenditure timeline of those funds may be used to extend a project beyond the project end date described in this Solicitation.

If two or more applications are submitted for the same project by different applicants, those applications will be scored separately, and the highest scoring project will then compete against applications submitted for different projects. Other elements are also required to be included in each application as indicated in this Solicitation (see the Required Application Elements area of this section. Applications that already have sub-agreements in place with all the proposed project partners will be eligible for extra credit points, see scoring criteria 10 in this section.

A. Summary of Scoring Criteria for Demonstration Projects

	Scoring Criteria	Points
1	Applicant Qualifications	10
2	Project Team Capabilities and Degree of Industry Collaboration	30
3	Project Objectives and Work Plan	15
4	Budget, Match Funding, and Financial Capabilities	10
5	Potential Emissions Reduction Benefits and Cost-Effectiveness	10
6	Technology and Innovation	20
7	Potential for Market Penetration and Commercialization of the Technology	20
8	Application Completeness	10
9	Timeline for Project Completion	15
10	Optional Extra Credit Scoring Criteria	10
	TOTAL	150

Applicants will be evaluated based on the Scoring Criteria. The Project Narrative and Work Plan must address how the applicant will implement all of the tasks in the proposed scope of work. Project applications that provide more details, usually score higher.

B. Scoring Scale

Using the scoring scale below, the evaluation team will score each eligible application for each scoring criteria described within this Solicitation.

Possible Points	Interpretation	Explanation for Percentage Points
0%	Not Responsive	Response does not include or fails to address the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable.
10-30%	Minimally Responsive	Response minimally addresses the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable.
40-60%	Inadequate	Response addresses the requirements being scored, but there are one or more omissions, flaws, or defects or the requirements are addressed in such a limited way that it results in a low degree of confidence in the proposed solution.
70%	Adequate	Response adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable.
80%	Good	Response fully addresses the requirements being scored with a good degree of confidence in the Applicant's response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable.
90%	Excellent	Response fully addresses the requirements being scored with a high degree of confidence in the Applicant's response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations.
100%	Exceptional	All requirements are addressed with the highest degree of confidence in the Applicant's response or proposed solution. The response exceeds the requirements in providing multiple enhancing features, a creative approach, or an exceptional solution.

The **PROJECT NARRATIVE** must separately address each of the scoring criteria listed below; see instructions for the Project Narrative in Appendix A, Attachment 2.

1. Applicant Qualifications (Appendix A, Attachment 11) – Maximum 10 points

- a. Describe the experience and expertise the proposed Grantee has in implementing air quality incentive projects or programs and working with equipment or vessel manufacturers, technology providers, and other key project stakeholders. Scoring will be based upon the applicant’s ability to successfully act as Grantee according to their demonstrable staffing, infrastructure, funding, and other available resources.

2. Project Team Capabilities and Degree of Industry Collaboration – Maximum 30 points

- a. Proposals that identify the end user of the proposed technologies or strategies to be used during the project. Applications that have all the project participants in place at time of application submittal will score higher than those that do not have all the needed participants identified in advance.
- b. Describe the roles and the work to be performed by each of the project’s key participants, including project administration, end users, data collection and reporting, technology manufacturers, and community groups.
- c. Describe the administrative and technical qualifications and capabilities of key personnel, such as education and training, research and professional experience, publications (patents, copyrights, and software systems may be provided in addition to or substituted for publications), and the ability of the applicant to administer similar air quality programs.
- d. Describe the project team’s relationship and degree of collaboration with among the project partners including equipment manufacturers, charging/refueling infrastructure builders, end users, and data collection and analysis partners. Describe what business alliances and partnerships will be involved in commercialization of any pre-commercial technology proposed to be part of the project.
- e. Performance of the Grantee, technology manufacturer(s), end-users, and other project participants with previous CARB funded projects will also be considered.

- f. Describe any community based organizations that are in support of the proposed project, and any plans for ongoing engagement with those organizations.

3. Project Objectives and Work Plan (for Work Plan, see Appendix A, Attachment 2) – Maximum 15 points

- a. Provide a concise statement of how the project meets CARB’s goal under the Capture and Control System for Oil Tanker Project Solicitation and the FY 2019-20 Funding Plan.
- b. In a logical sequence, describe the tasks necessary to prepare for and conduct the proposed project. Tasks should be divided into the phases of the project, as appropriate, and described in enough detail for reviewers to understand the scope of the work. Identify what entity (Grantee, industry partner, or data collection and analysis provider) will perform each task.
- c. Identify the extent to which renewable sources of energy will be used to support the technology to be demonstrated. Projects employing a higher percentage of renewable energy will score higher than those employing a lower percentage or no renewable energy.
- d. Provide quantitative milestones for each budget period of the project, and identify them with a number, title, and planned completion date. The general duration for each task must be specified. Identify at which milestones disbursement requests will be made, at what amounts, and the deliverables associated with each milestone.
- e. Identify the entities that will be using the equipment, strategies, or vessel and how the Grantee will ensure data will be reported as required to CARB.
- f. Describe the disposition of funded equipment or vessels after the end of the proposed project.
- g. Identify the resources (e.g., equipment, machine and electronic shops, field and laboratory facilities, materials, etc.) to be used at each of the freight facilities that are part of the proposed project. Describe only those resources that are directly applicable to the proposed work. List important items of equipment already available for this project. If proposing an equipment acquisition, describe comparable equipment, if any, already at the freight facility and explain how they will work in concert during the project.
- h. Identify any fueling, charging, or other related infrastructure already in place that will be utilized by the proposed equipment or vessels during the

proposed demonstration project and the agreements that are planned or already in place to utilize the existing infrastructure.

- i. Specify if any mobile refueling will be included in the project and agreements that are planned or already in place to provide mobile refueling to funded equipment or vessel.
- j. Identify any infrastructure, including charging and refueling infrastructure that will need to be installed to allow proper use of the equipment or vessel identified in the project and a brief description of the process for planning and installation. Identify the entities that will be doing the infrastructure installation and at what cost. Describe plans, if any, for future use of charging and refueling stations following the demonstration project.
- k. For proposals that include installation of a hydrogen refueling station to be funded as part of the project, provide a description of how all of the components of the Hydrogen Refueling Station Requirements (Appendix C) will be met. The proposal must include overall station performance parameters including, but not limited to, fuel quality, metering accuracy, fueling protocol, pressures, storage, compression, daily throughput, hourly peak throughput, and a plan to maintain and verify the same.
- l. For proposals that include a land based, grid connected infrastructure installation to be funded as part of the project, include information showing the infrastructure is designed and engineered to match the specific minimum fueling/charging needs of the proposed equipment or vessel. The proposal must include a template illustrating parameters that must be met, in addition to a "space or area" where parameters that must be supplied or provided by the applicant will be placed appropriate to the equipment being served. Details must be provided explaining the existing similar infrastructure where the funded infrastructure is proposed to be sited (e.g., existing electrical infrastructure where proposed equipment is to be sited).
- m. The work plan must clearly and concisely detail how the project will address safety concerns due to the combustible nature of the cargo. The explanation must include a detailed step by step process for the hazardous operations assessment and certification from a marine classification society. The explanation should include anticipated timelines for the start and completion of tasks.

4. Budget, Match Funding, and Financial Capabilities – Maximum 10 points

- a. Provide a clear and concise project budget that lists all expenditures and source of those funds in a logical sequence that leads to on-time completion of the project (see sample budget in Appendix A, Attachment 4).

Administrative fees may not exceed 5 percent of the total amount awarded by CARB.

- b. Indicate the source of funding, CARB funds, cash match, and in-kind match, for each task, the amount of the funds for each task, and the amount of funds that are being used as match for the project. Funds that are identified as match must also indicate what entity is providing the match and if the match is part of the cash match or in-kind match.
- c. Demonstrate in letter of commitment that the Grantee and/or technology manufacturer(s) will be financially capable of providing the minimum 25 percent match requirement of the total project budget (including the 10 percent cash requirement exclusive of in-kind contributions). Higher match pledges will be scored higher. See Section VI Required Match Funds for more information.
- d. Describe each financial contribution to the project (match funding or other leveraged funding) in addition to describing other current and pending funding sources for the required cost share match. Identify if all or a portion of the match funding is dependent upon successful grant award under any other solicitation.
- e. Attach Letter(s) of Commitment from each project partner stating that it is committed to providing a specific minimum dollar amount of cost sharing as part of the match funding requirement or as other leveraged funding. Letters must be signed by the person authorized by the entity to commit the expenditure of funds.

5. Potential Emissions Reduction Benefits and Cost Effectiveness – Maximum 10 Points

- a. Describe in Appendix A, Attachment 3 the estimated emissions reductions of GHG, criteria pollutant (NO_x, PM_{2.5} and ROG), and toxic air contaminant emissions (DPM) as determined by using the methodology in Appendix D. Combined weighted criteria pollutant and PM_{2.5} emissions reductions are to be based on exhaust emissions (tank to wheel) and calculated in tons reduced per year. The GHG emissions reductions from the control system power source or from the vessel are to be based on life cycle analysis (well to wheel) and calculated in metric tons of CO₂ equivalent reduced per year. Emissions reduction calculations are required for two scenarios:
 - During the actual proposed project over a two-year time frame.
 - Two-year post after the end of the proposed project with a useful life of ten years.

- b. **Show all math used in calculations.** Cite all sources and explain all variables used in the calculations that are not included in Appendix D.
- c. Describe the utility of the innovative technology to help California achieve its climate change and air quality goals by reducing GHG, criteria pollutant, and toxic air contaminant emissions, particularly in disadvantaged communities.
- d. If an alternative methodology is used to calculate the emissions reductions for this project, all math should be shown and all values should be cited. Alternative methodologies will not be used to score the project but may provide insight to the scoring team on the potential emissions reductions of the project.

Summarized the expected emissions reductions for the entire project as described in Appendix D.

6. Technology and Innovation – Maximum 20 points

- a. Identify and describe all the technological innovations that are included in the proposed project. If a proposed technology is a component of a device, process or strategy, also describe the device, process or strategy. Descriptions should be understandable to reviewers who are not expert in the field. Cite (but do not include) patents if needed. Describe exactly what part of the technology is innovative, how it is innovative, and how it works.
- b. Describe what safety measures are in place to ensure safe operation and maintenance of the equipment or facility improvements during operations, battery charging, refueling, maintenance, and other operational parameters. Identify any specific issues that first responders, such as firefighters, police, etc., should be aware of if an emergency is encountered, either due to internal or external forces, with equipment, facility improvements and Electric Vehicle Supply Equipment (EVSE)/refueling equipment funded under this demonstration.
- c. Explain the technical advantages of the innovations proposed as part of the project, and document performance claims.
- d. Describe what type of emissions testing has already been done on the proposed technology(ies), if applicable.

7. Potential for Market Penetration and Commercialization of the Technology – Maximum 20 points

- a. For projects that contain pre-commercial technologies, define target markets and explain why the targeted industries would buy the innovation after a

successful demonstration of the technology. Both markets within and outside of California should be considered.

- b. Describe the recent and expected growth or decline of the each of the targeted end-users, including equipment and facilities.
- c. Identify the specific market for the proposed technology and describe its size and potential for growth.
- d. Describe any specific barriers to entry or expansion.
- e. Describe the commercialization plan for the proposed adaptation of capture and control system technology to tankers.
- f. Describe how the manufacturer plans to expand production of the equipment/technology.
- g. Describe the process and procedure to develop and execute a hazard assessment of the proposed technology
- h. Describe what steps will be followed to gain CARB certification or verification of the proposed adaptation of capture and control system technology to tankers if needed.
- i. Describe what steps will be followed to gain United States Coast Guard, relevant classification societies, or other required certification or verification of the proposed adaptation of capture and control system technology to tankers if needed.
- e. Describe the economic benefits or costs that a California business could expect if they operated advanced technology equipment and facility improvements that are part of the proposed project.
- j. Describe any special training that will be required for installation and maintenance personnel.

8. Application Completeness – Maximum 10 points

- a. Applications that are clear, concise, and include all of the requested information will be scored higher than those that are unclear or missing information. Do not make a declaration as to application completeness in your submittal.
- b. Provide a written affirmation in the Project Narrative that all parties participating in the proposed project have read and agree to abide by the Sample Grant Agreement that is included in this Solicitation packet as Appendix B, and confirm that they are committing to fulfill obligations detailed in the application package.

9. Timeline for Project Completion – Maximum 15 points

- a. Provide a project schedule including the milestones as described in the Project Narrative and Work Plan section of Appendix A (Attachment 2). Both a tabular and graphic display (such as a Gantt chart) of the project schedule is preferred, but at a minimum, a tabular display is required. Information must include task duration, start and completion dates, and expected time to secure materials and construction services, in addition to the milestones being clearly identified.
- b. Demonstrate that all work will be completed by January 1, 2025.

10. Optional Extra Credit Scoring Criteria – Maximum 10 points

- a. Include in the project application all completed CEQA documents.
- b. Include documentation of early engagement with international classification societies.
- c. Include strategies or identify control equipment that can reduce carbon emissions from the vessel.
- d. Provide evidence of sub-agreements being in place or Describe how the sub-agreements with all project partners are already in place at the time of application submittal.
- e. Include documented commitments from local Community Base Organizations that are part of the proposed project team, indicate the level of support, and if any formal agreements have been executed.

XVI. GRANTEE SELECTION

The successful Grantee will be required to sign a Grant Agreement with CARB to fulfill the administrative duties and technical duties associated with the project (see Appendix B, Sample Grant Agreement).¹⁹ Signed Grant Agreements and approved governing board resolutions must be returned to CARB no later than the deadline described in the Solicitation Timeline in Section XIII of this Solicitation. If project Grant Agreements and approved governing board resolutions are not returned by the deadline, CARB, in its sole discretion, may deny the grant application and can redirect funds to another submitted application to this Solicitation or to another project in the FY 2019-2020 Funding Plan as needed. If, in CARB's sole discretion, no submitted project proposal meets the goals of this Solicitation, FY 2019-2020 Funding Plan, or AQIP Guidelines, no selection of a Grantee or technology manufacturer will be required to be made, and funding can be directed to another project identified in the FY 2019-2020 Funding Plan as needed.

CARB, in its sole discretion, may make minor changes to proposed project milestones, work plan, or disbursement schedules in consultation with the applicant, for inclusion in the Grant Agreement.

NOTE: All CEQA requirements must be completed by December 31, 2020 and sub-agreements with all project partners must be executed by February 1, 2021.

¹⁹ As noted above, the Grant Agreement may not be executed unless and until any required CEQA review has been completed. For a project where an agency other than CARB is serving as lead CEQA agency, the applicant must submit any required final CEQA documents by December 31, 2020 (prior to execution of the Grant Agreement). If an applicant fails to meet this requirement, CARB may deny the grant application. CARB will independently review any CEQA documentation provided by the applicant. CARB may modify any Grant Agreement based upon information produced from the CEQA environmental review process. If CARB in its sole discretion finds a project's CEQA documentation inadequate, CARB retains absolute sole discretion to either (1) modify the grant agreement as necessary to comply with CEQA, (2) select other feasible alternatives to avoid significant environmental impacts, or (3) deny the grant application. No legal obligations will exist unless and until the parties have executed and delivered a mutually acceptable Grant Agreement, as informed by information produced from the CEQA environmental review process (to the extent applicable). See Appendix E for additional information.

XVII. IMPLEMENTATION PROCESS

A. Meetings

Before work begins, a kick-off meeting will be held in Sacramento between the Grantee, the technology manufacturer(s), end-users, data collection and analysis provider and CARB project management staff. The kick-off meeting may be held in an alternate location or occur via telephone or video conference, with prior approval from CARB. The purpose of this meeting will be to discuss the work plan, details of task performance, the project schedule, any changes to the project team, and any issues that may need resolution before CARB-funded work begins. Project update meetings to discuss the project's progress will be held as often as needed, but typically monthly or at CARB's discretion. These meetings can occur via telephone or video conference calls upon approval of the CARB Project Liaison. Project update meetings are the responsibility of the Grantee to schedule and prepare a meeting agenda. Project update meetings need to contain, but are not limited to:

- Agenda for the meeting with conference call information.
- Update of the status of the project.
- Discussion of any difficulties encountered since the last project update meeting.
- Discussion on any deliverables that are nearing a due date.
- Notification of any pending disbursement requests.
- Schedule of the next project update meeting.

Site visits by CARB staff may be required at CARB's sole discretion. A final meeting, or conference call pending CARB Project Liaison approval, will be held at the conclusion of the project to review the results and discuss the status of commercialization plans. The grantee may be required to give a presentation to CARB at the conclusion of the project to discuss the findings of the project.

B. Project Funding Procedure

In order to receive a disbursement, the Grantee must submit a grant disbursement request to CARB. The Grant Disbursement Request Form (Appendix B, Exhibit C) must be signed by the party authorized and designated in the Grant Agreement, mailed or submitted electronically to CARB and must include all information to substantiate the eligibility of costs to be reimbursed. GGRF grant funds will only be issued for equipment, vessel, facility improvements and other eligible components that are identified in the Project Narrative and Work Plan included in the application package, memorialized in the signed Grant Agreement, and that have already been rendered. A detailed invoice will be required. A Progress Report on the status of the project to date, including the milestones and associated deliverables for which the disbursement request is requesting reimbursement, is required for all disbursement requests. The advance of grant funds will not be allowed in any cases. All disbursements, including administration and project funding are made on a

reimbursement basis after expenses are incurred by the Grantee or other project partners.

Disbursements will be made following the procedure described in the signed Grant Agreement.

NOTE: The Application package including the Budget submitted by an Applicant, if selected for funding, will be incorporated by reference as part of the Grant Agreement. Costs associated with project implementation detailed in the Application must consider the time frame of the proposed project and may cover an increase in costs that take into account inflation or planned cost of living increases. The application submitted will be the actual costs for the project and will not be amended due to faulty estimations by the applicant, increases in costs due to inflation or other reasons that have not been covered in the proposed budget.

C. Reporting and Monitoring Requirements

The Grantee must submit numbered status reports accompanying grant disbursement requests to CARB at least every three months, but may submit on a monthly basis if necessary for more frequent invoicing with prior approval from CARB. These reports must be approved by CARB and must contain the following information, at a minimum, in either Microsoft Word or PDF, as a single electronic file:

1. Project Status Report number, title of project, name of Grantee, date of submission, and project grant number.
2. Summary of work completed since the last progress report, noting progress toward completion of tasks and milestones identified in the work plan.
3. Statement of work expected to be completed by the next progress report.
4. Notification of problems encountered and an assessment of their effects on the project's outcome.
5. Data collected from equipment since the last data reporting.
6. A detailed list of both cash and in-kind match expenditures, by milestone during the reporting period.
7. Itemized invoice showing all costs for which reimbursement is being requested.
8. Discussion of the project's adherence to the project timeline.

A final report is required at the end of the project and must include:

1. A description of the project's goals and objectives, methods, results of the demonstration, and future application of the technology.
2. An update on the commercialization prospects of any funded technology.
3. An update on broader acceptance of any technologies that are the part of the project.
4. Efforts by the project team to use the proposed project as a showcase of the funded technologies and strategies.

5. Identification of any certifications received for funded aspects of the project such as CARB certification, United State Coast Guard approval and others.

Final reports will be made public and posted on CARB's website. Final reports should meet CARB's requirements for Americans with Disabilities Act accessibility²⁰. Requests for additional information may be required by CARB, at its sole discretion, to evaluate reports and to determine if a monthly, quarterly, or final report is complete.

If the Grantee plans on pursuing official verification or certification of the emissions reducing potential for its proposed technology, the Grantee must submit documentation in support of that verification or certification to CARB's Project Liaison. Any supporting documentation sent to CARB, U.S. EPA, or any other government agency or certification society granting certification or verification, must be concurrently submitted to the Project Liaison assigned to the project, as identified in the Grant Agreement (see Appendix B).

Changes in the project budget, re-definition of deliverables, or extension of the project schedule may not be possible and should be avoided. In cases where minor changes are allowed, they must be approved in advance and in writing by CARB and may require a grant amendment. Once a grant is in place, minor changes to the work to be done or other project scope changes may be considered by CARB, in consultation with the Grantee or technology manufacturer(s). CARB reserves the right to terminate a grant if CARB determines, in its sole discretion, that the objectives cannot be reached or that the Grantee, technology manufacturer(s), or their subcontractors cannot or will not perform the required work in a timely manner, as specified in Section 6 of the Grant Agreement.

The Grantee end-users and technology manufacturer(s) must allow CARB, the California Department of Finance, the California Bureau of State Audits, or any authorized designee access, during normal business hours, to conduct reviews and fiscal audits or other evaluations. Access includes, but is not limited to, reviewing project records, site visits, interviews, and other evaluations as needed. Project evaluations or site visits may occur unannounced as CARB staff or its designee deem necessary.

XVIII. ADMINISTRATION

A. Cost of Developing Application

The Applicant is responsible for the cost of developing an Application, and this cost cannot be charged to the State. In addition, CARB is not liable for any costs incurred during environmental review or as a result of withdrawing a proposed award or canceling the Solicitation.

²⁰ <https://dor.ca.gov/Home/resourcesforcreatingaccessiblecontent#word>

B. Errors

If an Applicant discovers any ambiguity, conflict, discrepancy, omission, or other error in the Solicitation, the Applicant shall immediately notify the CARB of such error in writing and request modification or clarification of the document. CARB shall not be responsible for failure to correct errors.

C. Immaterial Defect

CARB may waive any immaterial defect or deviation contained in an Applicant's application. CARB's waiver shall in no way modify the Application or excuse the successful Applicant from full compliance.

D. Disposition of Applicant's Documents

All applications and related material submitted in response to this Solicitation become a part of the property of the State and public record.

E. Applicant's Admonishment

This solicitation contains the instructions governing the requirements for funding to be submitted by interested Applicants, including the format in which the information is to be submitted, the material to be included, the requirements which must be met to be eligible for consideration, and Applicant responsibilities. Applicants must take the responsibility to carefully read the entire Solicitation, ask appropriate questions in a timely manner, submit all required responses in a complete manner by the required date and time, and make sure that all procedures and requirements of the Solicitation are followed and appropriately addressed.

F. Agreement Requirements

The content of this Solicitation and each grant Recipient's application shall be incorporated by reference into the final agreement. See the sample Agreement terms and conditions included in this Solicitation.

G. CARB Reserves the Right to Negotiate with Applicant

CARB reserves the right to negotiate with Applicants to modify the project scope, the level of funding, or both. If the CARB is unable to successfully negotiate and execute a funding agreement with an Applicant, the CARB, at its sole discretion, reserves the right to withdraw the pending award and fund the next highest ranked eligible project. This does not limit CARB's ability to withdraw a proposed award for other reasons, including for no cause.

H. No Agreement Until Signed

No agreement between CARB and the successful Applicant is in effect until the agreement is signed by the Recipient and signed by the authorized CARB representative. Costs are only subject to reimbursement by CARB after execution; no costs incurred prior to execution of the agreement are reimbursable using CARB funds.

I. No Modifications to the General Provisions

Because time is of the essence, if an Applicant at any time, including after Preliminary Grantee Selection, attempts to negotiate, or otherwise seeks modification of, the General Provisions (attached as Appendix B, Sample Grant Agreement, Section XI), CARB may reject an application or withdraw a proposed award. This does not alter or limit CARB's ability to withdraw a proposed award for other reasons, including failure of a third party agency to complete CEQA review, or for no cause.

J. Payment of Prevailing Wages

All applicants must read and pay particular attention to Appendix B, Sample Grant Agreement Section XIV.T entitled "Prevailing wages and labor compliance". Prevailing wage rates can be significantly higher than non-prevailing wage rates. Failure to pay legally-required prevailing wage rates can result in substantial damages and financial penalties, termination of the grant agreement, disruption of projects, and other complications.

K. Solicitation Cancellation And Amendments

CARB reserves the right to do any of the following:

- Cancel this solicitation
- Revise the amount of funds available under this solicitation
- Amend this solicitation as needed
- Reject any or all proposals received in response to this solicitation

L. Remedies for Non Performance

In the case of non-performance, remedies detailed in this section may be utilized at CARB's discretion. Examples of non-performance include, but are not limited to: misuse of funding for ineligible expenses; failure to comply with program guidelines or requirements; inability to meet performance requirements or schedule milestones; and failure to comply with the terms and conditions identified in legal agreements.

Remedies may include:

- CARB may seek to resolve the dispute directly with the grantee, or involve a third-party mediator,
- CARB may issue a stop work order
- CARB may terminate the agreement at its sole discretion
- CARB may recover grant funds, spent and unspent, to the degree they have been spent or are being spent inappropriately
- CARB may withhold funds from payment
- CARB may take civil actions.