

**IMPLEMENTATION MANUAL
FOR THE FY 2010-11
CALIFORNIA HYBRID OFF-ROAD EQUIPMENT
PILOT PROJECT**



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1 INTRODUCTION

In 2007, Governor Schwarzenegger signed into law the *California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007* (AB 118, Statutes of 2007, Chapter 750). AB 118 created the Air Quality Improvement Program (AQIP), a voluntary incentive program administered by the California Air Resources Board (ARB) to fund clean vehicle and equipment projects, air quality research, and/or workforce training. ARB's appropriation for AQIP projects in the FY 2010-11 State Budget is \$40 million. Based on projected revenues for the AQIP in FY 2010-11, ARB estimates about \$30 million will be available for grants.

In June 2010, ARB adopted the AQIP Funding Plan for FY 2010-11 (Funding Plan), which serves as the blueprint for expending FY 2010-11 AQIP funds. The Funding Plan focuses on supporting development and deployment of the advanced technologies needed to meet California's longer-term, post 2020 air quality goals.

The Funding Plan's \$2 million Off-Road Pilot Project helps achieve these long-term goals by helping accelerate deployment of commercialized hybrid construction equipment, as well as testing to determine this equipment's emission benefits. ARB anticipates emissions data and other information learned from this project could provide the foundation for a more comprehensive hybrid equipment voucher project in future AQIP funding years. Project data could also provide a mechanism for fleets to generate credits to demonstrate compliance with ARB's Off-Road Equipment (In-Use) Control Measure (Off-Road Rule). The Off-Road Pilot Project will be administered and implemented through a partnership between ARB and a Grantee or Grantees (Grantee), selected via this competitive ARB Grant Solicitation.

2 PROJECT IMPLEMENTATION

2.1 Project Timeline

The timeline for Of-Road Pilot Project development and implementation are identified in Table B-1 (below).

**Table B-1:
Off-Road Pilot Project Development and Implementation Timeline**

Action Item	Date or Time Period
Solicitation for Project Grantee(s)	March – May 2011
Project Grantee(s) selected	June 1, 2011
Implementation Manual finalized. Grantee(s) begin funding and testing equipment.	Summer 2011
Status Report to ARB Project Liaison.	Mid-2011 – Project Completion

The timeline may be changed at ARB's sole discretion.

2.2 Equipment Deployment Element

The project deployment element provides funding for up to half the incremental cost of fully commercialized hybrid off-road equipment. This project element will help provide the foundation for growth in the hybrid off-road equipment fleet by spurring initial deployment of commercialized (but more expensive) hybrid equipment and providing fleets with experience using and maintaining this new technology. ARB staff has determined, with input from the Off-Road Pilot Project Work Group, that the hybrid Caterpillar D7E dozer and the hybrid Komatsu HB215LC-1 excavator (referred to herein as “project equipment”) are the only hybrid construction equipment that meet the criteria of “fully commercialized” at this time.

The project deployment element will be governed by the following requirements:

- Provide Equal Initial Funding Opportunity: \$350,000 of total deployment funds are to be initially set aside for Caterpillar and Komatsu equipment “purchase vouchers”, respectively. A “purchase voucher” refers to a written notification to the purchasing fleet that the voucher amount is being held by the Grantee for the purchaser to buy a specific piece of hybrid equipment.
- Voucher Amounts: The hybrid Caterpillar D7E and Komatsu HB215LC-1 will have maximum voucher amounts of \$75,000 and \$28,500, respectively.
- Ensure Real Orders: Vouchers are provided upon provision of a dealer Purchase Order for a specific piece of project equipment, and a completed project Terms and Conditions Form (a sample form is included in Attachment 2).
- Ensure Real Orders/Promote Quick Turnaround: No more than \$350,000 in vouchers may be active/non-redeemed at a time for either Caterpillar and Komatsu equipment, respectively (i.e. once each purchase is completed and a voucher is redeemed, another voucher may be issued so all active/non-redeemed vouchers again total up to \$350,000 per manufacturer).
- Promote Quick Turnaround: If vouchers provided for either manufacturer’s equipment total less than \$350,000 as of December 1, 2011, the difference between the voucher total and \$350,000 is no longer held specifically for that manufacturer. For example, if fleets have vouchers for only \$200,000 in Caterpillar equipment orders as of December 1, 2011, these funds would continue to be held for these orders but the remaining \$150,000 would no longer be held specifically for Caterpillar.
- Promote Quick Turnaround: Vouchers expire nine months after they are issued. ARB may renew a voucher for up to three additional months on a case-by-case basis.

ARB, Grantee, and participating equipment fleet duties are described in Sections 3.1, 3.2, and 3.3, respectively.

2.3 Equipment Testing Element

The goals of the Off-Road Pilot Project testing element are to determine the oxide of nitrogen (NOx), particulate matter (PM), total hydrocarbon (THC), carbon monoxide (CO), and carbon dioxide (CO₂) emission benefits of funded equipment relative to its non-hybrid counterpart. To achieve these goals, the project Grantee must complete the following four tasks:

- 1) Characterize Equipment Activity
- 2) Develop Equipment Test Cycles/Sequences of Operations
- 3) Perform In-Use Emissions Testing
- 4) Perform Data Analysis and Reporting of Results

The Emissions Testing Guidance included Attachment 1 of this Implementation Manual provides minimum requirements for completion of each of these four tasks. Grantee requirements for the Off-Road Pilot Project are included in this Implementation Manual, the Grantee funding application, and the executed Grant Agreement with ARB.

3 DUTIES AND REQUIREMENTS

3.1 Air Resources Board

ARB is responsible for:

- Selecting the Grantee.
- Development of the Off-Road Pilot Project Implementation Manual, in coordination with the selected Grantee.
- Participating in regular meetings with the Grantee to discuss project refinements and guide project implementation.
- Review and approval of project elements provided by the Grantee, such as Status Reports and fund disbursement requests.
- Distribution of project funds to the Grantee.
- Project oversight and accountability (in conjunction with the Grantee).
- Meet all applicable requirements of statute, the AQIP Guidelines and Funding Plan, the Off-Road Pilot Project Solicitation, the grant agreement with the Grantee, and the Off-Road Pilot Project Implementation Manual.

ARB shall also designate an ARB Project Liaison as the contact person for coordination with the Grantee. The ARB Project Liaison for the FY 2010-11 Off-Road Pilot Project is Mr. Joe Calavita. Mr. Calavita can be reached by e-mail at jcalavit@arb.ca.gov or by telephone at (916) 445-4586.

3.2 Grantee

The Grantee has three primary project implementation responsibilities – implementation of the equipment deployment element, implementation of the equipment testing and data collection element, and project coordination with, and reporting to, ARB. These responsibilities include but are not limited to the following tasks:

- Develop and implement hybrid equipment deployment and testing as identified in the Off-Road Pilot Project Solicitation and as described in the selected Grantee's project application.
- Develop and implement hybrid equipment testing/data collection, in consultation with ARB, including:
 - Liaison with participating fleets, technology providers, and other partners identified in the Grantee application.
 - Project oversight.
 - Data quality assurance and quality control procedures.
 - Development of protocols describing stakeholder roles and responsibilities.
 - Data collection, evaluation, and reporting to ARB.
- Provide Status Reports to ARB detailing the following:
 - Status of funds encumbered and expended for off-road equipment ordered and purchased, respectively.
 - Status of off-road equipment monitoring, testing, and or data collection efforts as identified in the Grantee's funding application.
- Provide ARB with an Off-Road Pilot Project Final Report that summarizes and evaluates total fund expenditures (including match and in-kind funds), off-road equipment funded, monitoring, testing and/or data collection results and implementation challenges, and recommends potential project improvements.
- Provide ARB with all data, software or other intellectual property developed or purchased by the Grantee as part of the Off-Road Pilot Project (if requested).
- Ensure that it and its partners or subcontractors meet all applicable requirements of State law, AQIP Guidelines and Funding Plan, this solicitation, the Off-Road Pilot Project Implementation Manual, and the Off-Road Pilot Project grant agreement with ARB.

The project Grantee should have flexibility to refine project parameters in coordination with ARB in response to new information as needed to maximize project effectiveness.

Conflict of Interest

The Grantee may have no interest, and shall not acquire any interest, direct or indirect, which will conflict with its ability to impartially complete the project tasks described above. All applicants must disclose any direct or indirect financial interest or situation which may pose an actual, apparent, or potential conflict of interest with its duties at the time of the Off-Road Pilot Project Grantee solicitation. Although applicants are not automatically disqualified due to a potential or appearance of a conflict of interest at the time of the Off-Road Pilot Project Grantee solicitation, ARB may consider the nature and extent of any potential or apparent conflict of interest in evaluating the proposal. The Grantee must immediately advise ARB in writing of any potential new conflicts of interest throughout the grant term.

3.3 Participating Equipment Fleets

California fleets receiving project equipment play a central role in the Off-Road Pilot Project's success. To receive Off-Road Pilot Project equipment, a fleet must:

- Be an individual, business, non-profit, or government entity which is based in California or has a California-based affiliate. An equipment leasing/rental agency based outside of California is also eligible if the equipment is leased/rented to an entity that will meet all applicable project requirements.
- Maintain insurance as required by law. If the purchased equipment is destroyed or otherwise permanently inoperable due to an accident or for any other reason, the Grantee must notify the ARB Project Liaison in writing within two weeks after the equipment becomes inoperable. The written notification must provide proof that the specific funded equipment has become inoperable, including photographs of the inoperable equipment with identifying markings, as well as any applicable insurance or police documentation.
- Commit to operate the equipment 100 percent within California for at least three years after the equipment purchase date.
- Not make or allow any modifications to the equipment's emissions control systems, hardware, software calibrations, or hybrid system. (Vehicle Code Section 27156)
- Be available for follow-up inspection if requested by the Grantee, ARB, or ARB's designee.

The project Grantee must keep written records of the equipment purchased or leased with Off-Road Pilot Project funds – including the equipment invoice, proof of purchase, and equipment lease contract (if applicable) -- for three years after the equipment purchase or lease transaction. The project Grantee must provide ARB or its designee with all requested information related to any equipment purchased with project funds within ten days of ARB's written request for such information. Requested information may include but is not limited to purchase orders or agreements, equipment payment information and related bank records, and purchaser fleet information. A Grantee that submit false information ARB or its designee may be required to return the full equipment funding amount to ARB, and may be excluded from future participation in AQIP projects. In addition, ARB may pursue other remedies available under the law.

4 PROJECT ADMINISTRATION

4.1 Background

This section defines the respective roles of the ARB and the Grantee in administering the Off-Road Pilot Project.

4.2 Disbursement of Project Funding

Funds for equipment deployment, equipment testing, and project administration are to be disbursed based on completion of project tasks as described in Table B-2 (below).

Table B-2: Off-Road Pilot Project Disbursement Schedule

Milestone	Project Administration	Deployment Element	Testing Element
1) Sign Grant Agreement	50 percent		
2) Purchase orders for 25 percent of deployment funds		25 percent	
3) Purchase orders for 50 percent of deployment funds		25 percent	
4) Purchase orders for 75 percent of deployment funds and 25 percent of deployment funds expended on delivered equipment		25 percent	
5) Purchase orders for all deployment funds and 50 percent of deployment funds expended on delivered equipment		15 percent	
6) Testing Element Tasks 1 and 2 complete			50 percent
7) Testing Element Tasks 1 and 2 complete AND 25 percent of deployment funds expended on delivered equipment	25 percent		
8) Testing Element Task 3 complete			25 percent
9) Testing Element Task 4 complete			25 percent
10) Final Project Report and fulfillment of all project commitments	25 percent	10 percent	
TOTAL	100 percent	100 percent	100 percent

Deployment element fund disbursements are based on specific hybrid equipment purchase orders and deliveries. For example, ARB will reimburse the Grantee at project start-up for purchase orders associated with the first 50 percent of project deployment funds (Milestones 2 and 3). However, additional disbursements will be made based upon additional purchase orders AND delivery of the vehicles initially ordered (as identified in Milestones 4 and 5). The project deployment and testing milestones identified in Table 2 do not necessarily have to be met in the order identified above. For example, the Grantee would be eligible to receive 50 percent of Testing Element funds once Testing Element Tasks 1 and 2 are complete (Milestone 6), even if all deployment funds have not yet been expended (Milestone 5).

With the exception of the initial 50 percent of administrative funding provided for project start-up, all funding provided to the Project Manager shall be on a reimbursement basis and cost summaries approved by ARB for completed tasks and/or eligible expenses.

Project administration funds are defined as follows:

- Deployment Element: Any funds not included as part of the direct equipment purchase price (including taxes), such as costs for labor, outreach, travel, consultant fees, and indirect costs, are considered administrative costs.
- Testing Element: Administrative costs include those associated with processing, tracking, and oversight, such as labor or consulting fees necessary to compile and submit status reports to ARB, request project funding, etc... Labor, travel, consultant fees, equipment purchase and other costs associated with data collection or evaluation are considered project costs.

Administrative cost summaries shall describe costs for work completed in the following categories: 1) labor expenses (including staff time and total labor costs); 2) external consultant fees for completed work (if applicable); 3) printing, mailing, travel, and other outreach expenses; and 4) indirect costs. Additional administrative cost categories may be provided to ARB if warranted. Documentation substantiating these costs must be maintained by the Grantee and provided to ARB upon request. ARB is required to expend 100 percent of the funds available through this solicitation prior to June 30, 2013.

4.3 Accounting of State Funds

The Grantee must provide ARB with documentation accounting for the proper expenditure of State funds. The documentation must be provided in Status Reports submitted at least every three months to ARB and a Final Report submitted after all equipment and testing/data collection funding has been expended and prior to the Grantee receiving their last disbursement of administrative funding.

Status Report

The project Grantee must submit Status Reports to ARB at least every three months containing at a minimum the following information:

- Status of funds encumbered and expended for off-road equipment ordered and purchased, respectively.
- Status of off-road equipment monitoring, testing, and or data collection efforts as identified in the Grantee's funding application.
- Remaining grant funding available
- Identified problems or concerns

The Status Report provides a mechanism for the Grantee to justify a need for an additional project funding increment from ARB. The Status Report must be submitted at least every three months, but may be provided on a monthly or bi-monthly basis if

needed to justify additional funding from ARB. The first Status Report must be submitted three months after the grant agreement is fully executed or when requesting additional disbursement of funds, whichever is sooner.

4.3.1 Final Report

The Grantee must submit a Final Report to ARB after all project equipment and testing/data collection funding has been expended. This report must document all equipment funded by the program (which may be provided as summaries of previously submitted Status Reports), completion of all project equipment testing and data collection, and fulfillment of all project commitments.

4.4 Intellectual Property

Any data or other intellectual property developed by the Grantee in the course of administering or implementing the Off-Road Pilot Project are the property of ARB.

4.5 Documentation of Administrative Costs

Administrative funds shall only be used for costs associated with project implementation related tasks outlined in the AQIP Funding Plan, the project solicitation, the Implementation Manual, or grant agreement with the Grantee. Administrative funds shall be used for project administration and outreach including: Grantee staff time; consultant fees (if pre-approved by ARB); printing, mailing, and travel costs; project monitoring and compliance expenses; and indirect costs such as general administrative services, office space, and telephone services.

The Grantee must maintain documentation of project funds used for administration and outreach, including:

- Personnel documentation must make use of timesheets or other labor tracking software. Duty statements or other documentation may also be used to verify the number of staff and actual hours or percent of time staff devoted to project administration and outreach.
- Fees for external consultants must be documented with copies of the consultant contract and invoices. All external consultant fees must be pre-approved by ARB.
- Printing, mailing, and travel expenses must be documented with receipts and/or invoices.
- Any reimbursement for necessary travel and per diem shall be at rates not to exceed those amounts paid to the State's represented employees. No travel outside the State of California shall be reimbursed unless prior written authorization is obtained from ARB. The State's travel and per diem reimbursement amounts may be found online at <http://www.dpa.ca.gov/personnel-policies/travel/hr-staff.htm>. Reimbursement will be at the State travel and per diem amounts that are current as of the date costs are incurred by the Grantee.
- If indirect costs are used to document project administrative costs funded by the project, the Grantee must have an official written policy regarding calculation of

these costs. The Project Administrator must maintain documentation for all costs referenced in the indirect cost calculation formula.

The above documentation, records, and referenced materials must be made available for review during ARB, or its designee, monitoring visits and audits. These records must be retained for a minimum of three years after submittal of the final Off-Road Pilot Project invoice to ARB.

4.6 In-Kind Services

The Grantee is encouraged to contribute in-kind services to improve the project's effectiveness, or match funding to increase the number of equipments funded. Funds expended on in-kind services must meet all the requirements of Section 4 of this Implementation Manual and must be documented in the Off-Road Pilot Project Final Report to ARB.

4.7 Match Funding

Match funding can only be used to increase the number of pieces of project equipment funded, or to increase the direct funding available for project testing. All match funding or equipment funded with match funds must meet the following criteria:

- Funding from other state or federal revenue sources, such as the Carl Moyer Program or other AB 118 programs, may not be counted as match.
- Match funding must meet the same requirements applicable to non-match project funds, and equipment purchased wholly or in part with match funding must meet the same requirements as equipment funded with non-match project funds.

Documentation of match funding expended on eligible equipment or project testing must be retained for a minimum of three years after the match-funding has been expended.

4.8 Earned Interest

Interest earned by the Grantee or its designee on project funds must be reported to ARB. All interest income on project funds, including equipment, testing, and project administration/outreach funding, must be reinvested in the Off-Road Pilot Project to fund additional equipment or equipment testing. The Grantee is responsible for reporting to ARB on all equipment and equipment testing funded with interest earned on project funds.

The Grantee must maintain accounting records (e.g. general ledger) that tracks interest earned and expended on project funds, as follows:

- The calculation of interest must be based on an average daily balance or some other reasonable and demonstrable method of allocating the proceeds from the interest-generating account back into the program.
- The methodology for tracking earned interest must ensure that it is separately identifiable from interest earned on non-project funds.

- The methodology for calculating earned interest must be consistent with how it is calculated for the Grantee's other fiscal programs.
- Earned interest must be fully expended by June 30, 2013.

Documentation of interest earned on project funds must be retained for a minimum of three years after it is generated.

4.9 Fidelity Bond Insurance

ARB encourages the Grantee to maintain Fidelity Bond/Crime Insurance coverage for state-owned property or funding in the care, custody, or control of the Grantee. The policy should include as loss payee the California Air Resources Board and provide insurance against loss of Off-Road Pilot Project funding or property due to employee misconduct. Public entities and non-profit agencies may provide either proof of insurance or bond or a letter of self-insurance.

4.10 Records

Without limitation of the requirement to maintain project accounts in accordance with generally accepted accounting principles, the Grantee must:

- Establish an official file for the Off-Road Pilot Project which shall adequately document all significant actions relative to the project.
- Establish separate accounts which will adequately and accurately depict all amounts received and expended on the Off-Road Pilot Project.
- Establish separate accounts which will adequately and accurately depict all income received which is attributable to the Off-Road Pilot Project.
- Establish an accounting system which will adequately depict final total costs of the Off-Road Pilot Project, including both direct and indirect costs.

If the Grantee charges unallowable costs for project administration or outreach, it shall be required to substitute eligible administration and outreach expenses equal to the dollar amount found ineligible, or return the funds for the unallowable cost to the ARB.

4.11 Oversight and Accountability

ARB has found that project evaluations and program reviews are essential to ensure that incentive program funds are run in accordance with statutory requirements and that State funds are spent transparently and efficiently. The Grantee is responsible for working closely with equipment manufacturers, fleets and ARB to safeguard Off-Road Pilot Project funds from misuse as it implements the Off-Road Pilot Project.

ARB holds the overarching responsibility for Off-Road Pilot Project fund oversight and project accountability and has final authority regarding project parameters. As such, ARB is responsible for monitoring and reviewing the Grantee's implementation of the Off-Road Pilot Project. The Grantee shall allow ARB, the California Bureau of State Audits (BSA), Department of Finance (DOF), or a designated representative the right to review and to copy any records and supporting documentation pertaining to administration or implementation of the Off-Road Pilot Project. The Grantee must

maintain such records for a possible audit for a minimum of three years after final payment from ARB. The Grantee must allow ARB or its designee access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records.

Responsibilities for Off-Road Pilot Project oversight are as follows:

- ARB has primary oversight responsibility for the Off-Road Pilot Project to ensure transparent and efficient implementation, and that AQIP funds are spent consistent with the requirements of statute, the AQIP Guidelines and Funding Plan, the Off-Road Pilot Project solicitation and grant agreement with the Grantee, and this Implementation Manual. ARB reserves the right to conduct a site visit, evaluation, review, or audit the Off-Road Pilot Project for the life of the project grant.
- If the Grantee detects any potentially fraudulent activity by a fleet, partner or other project participant, they shall notify the ARB Project Liaison as soon as possible and work with ARB to determine an appropriate course of action.
- ARB staff or its designees have primary responsibility for conducting project reviews and/or fiscal audits of Off-Road Pilot Project administration and implementation.
- Project fleets, the Grantee, and its subcontractors shall allow ARB, BSA, DOF, or any authorized designee access, during normal business hours, to conduct Off-Road Pilot Project reviews and fiscal audits or other evaluations. Granting of access includes, but is not limited to, reviewing project records, site visits, and other evaluations as needed. Project evaluations or site visits may occur unannounced as ARB staff or its designee deems necessary.

Project Non-Performance

ARB or its designee has the authority to recoup Off-Road Pilot Project funds which were received based upon misinformation or fraud, or for which the Grantee or its subcontractors, a dealership, manufacturer, or participating fleet is in significant or continual non-compliance with this Implementation Manual or State law. ARB also retains the authority to prohibit any entity from participating in the Off-Road Pilot Project due to non-compliance with project requirements.

5 DEFINITIONS

“ARB Project Liaison” for the purposes of this program is the ARB staff person named in this Implementation Manual that serves as the point of contact for coordination with the Off-Road Pilot Project Grantee.

“Earned interest” for the purposes of this program means any interest generated from State AQIP funds provided to the Grantee and held in an interest-bearing account.

“Expend” for the purpose of this program means the payment of funds on an invoice for an eligible equipment.

“Grantee” for the purposes of this program means the entity or entities selected by ARB via competitive solicitation to administer the Off-Road Pilot Project. The Grantee is responsible for ensuring it and its project partners and subcontractors meet all project requirements.

“Hybrid equipment” for the purposes of this program means any equipment that can draw propulsion energy from both of the following on-equipment sources of stored energy:

1) consumable fuel, and 2) a rechargeable energy storage system.

“Incremental cost” for the purposes of this program means the difference in cost between the new hybrid equipment and the comparable new gasoline or diesel fueled equipment that would be purchased to perform the same function.

“In-kind services” for the purposes of this program means payments or contributions made in the form of goods and services, rather than direct monetary contributions.

“Match funding” for the purposes of this program means those funds contributed by the Grantee directly to the Off-Road pilot Project for the sole purposes of funding additional equipments or increasing the equipment voucher amount.

“Non-profit agency” for the purposes of this program means an agency or corporation that does not distribute corporate income to shareholders and is exempt from federal income taxes under Section 501 of the Internal Revenue Code (26 U.S.C.A. § 501).