2024 Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program Guidelines

This page intentionally left blank.

Table of Contents

I. Preface 1

II. Guiding Principles/Program Overview 1

(a) Introduction 1

(b) Guiding Principles 5

(c) Program Framework 7

III. General Project Requirements 9

(a) General Criteria 9

IV. Program Administration 11

(a) Background 11

(b) Grant Fund Allocation and Solicitation 12

(c) Air District Applications for Grant Funds 12

(d) Policies and Procedures 13

(e) Interdistrict Redirection of Grant Funds 15

(f) Air District Project Implementation Funds 15

(g) Accounting Principles 16

(h) Co-Funding 18

(i) Semi-Annual Reporting 20

(j) Close Out Report 21

(k) Progress Tracking 22

(l) Funding Year Liquidation 22

(m) Return and Reallocation of Funds 22

(n) Program Nonperformance 23

(o) Incentive Program Reviews and Desk Reviews 24

(p) Requirements for Project Applications 25

(q) Application Evaluation and Project Selection 27

(r) Case-by-Case Determination Process 28

(s) Minimum Contract Requirements....29
(t) Project Inspections....34
(u) Project Pre-Inspection....34
(v) Project Post-Inspection....37
(w) Destruction and Salvage Requirements....38
(x) Project Invoice and Payment....41
(y) Participant Annual Reporting....43
(z) Air District Audit of Projects....44
(aa) Nonperforming Projects....44
V. Eligible Off-Road Projects....46
(a) Projects Eligible for Funding....46
(b) Maximum Eligible Funding Amounts....46
(c) General Project Criteria....48
(d) Repower Project Criteria....51
(e) Equipment Replacement Project Criteria....52
(f) Projects subject to the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) (Cal. Code Regs., tit. 13, §§ 2449 *et. seq.*)....58
(g) Projects subject to the Large Spark Ignition Engine Fleet Requirements (LSI Fleet Regulation) (Cal. Code Regs., tit. 13, §§ 2775 *et. seq.*)....59
(h) Projects subject to the Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater (Portable Engine ATCM) (Cal. Code Regs., tit. 17, §§ 93116 *et. seq.*)....60
(i) Projects subject to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles (Truck and Bus Regulation) (Cal. Code Regs., tit. 13, § 2025)....60
VI. Eligible On-Road Projects....60
(a) Projects Eligible for Funding....61
(b) Maximum Eligible Funding Amounts....61
(c) Project Criteria....61
VII. Zero-Emission Agricultural Utility Terrain Vehicles (UTV)....72

(a) Projects Eligible for Funding 72
(b) Maximum Eligible Funding Amounts 73
(c) Participant Requirements 73
(d) Optional Zero-Emission Agricultural UTV Administrative Process 74
VIII. Used Agricultural Equipment for Small Producers 75
(a) Projects Eligible for Funding 75
(b) Maximum Eligible Funding Amounts 75
(c) Project Criteria 75
(d) Used Equipment Eligibility Evaluation Criteria 75
IX. Advanced Technology Demonstration Projects 77
(a) Projects Eligible for Funding 77
(b) Project Criteria 78
X. Future Guideline Updates 78
Appendix A: Quantification Methodology 79
(a) Introduction 79
(b) Criteria Pollutant and Toxic Air Contaminant Emission Reductions 79
(c) Cost-Effectiveness Calculations 83
Appendix B – Emission Factors, Load Factors, and Other Reference Tables 85

I. Preface

In September 2017, Governor Brown signed into law Assembly Bill (AB) 134 (Committee on Budget, Chapter 254, Statutes of 2017) and AB 109 (Ting, Chapter 249, Statutes of 2017), which appropriated $135 million from the State Budget for Fiscal Year (FY) 2017-18 to the California Air Resources Board (CARB or Board) for reducing criteria, toxic, and greenhouse gas emissions from the agricultural sector. In response to this appropriation, CARB developed the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program Guidelines (Guidelines), which were approved by the Board in March 2018.

The FARMER Program Guidelines direct funding to local air districts to administer agricultural vehicle and equipment incentive projects, which provide concurrent criteria, toxic, and GHG emission reductions. The FARMER Program Guidelines also describe air district funding allocations, eligible project categories and criteria, program implementation details, justification for these investments, and provide CARB Executive Officer authority to add or modify project categories and criteria as needed.

Since 2018, the Executive Officer, through the authority delegated to them by the Board, authorized updates to the FARMER Program Guidelines three times through Executive Officer memos, adding a total of five new project categories and modifying four of the existing project categories. The proposed changes for 2024 are extensive and comprehensive, thus staff are seeking Board input and approval.

CARB staff have developed 2024 FARMER Program Guidelines that incorporate the previously added and modified project categories into a single comprehensive document that no longer references the Carl Moyer Air Quality Standards Attainment (Carl Moyer) Program. These Guidelines also include administrative requirements and methodology to calculate emission reductions for the FARMER projects. Further, the proposed Guidelines provide additional flexibility to existing project categories, encourage zero-emission vehicle and equipment deployment, provide additional support for small farms, account for efficiency improvements in agricultural equipment, and streamline air district implementation of the program. The Guidelines outline CARB's plans for expending FARMER Program funds in a manner consistent with the legislative direction from past budget bills, existing statutes, and regulations. The Guidelines describe air district funding allocations, eligible project categories and criteria, program implementation details, and the justification for these investments.

II. Guiding Principles/Program Overview

(a) Introduction

California's agricultural industry consists of approximately 69,000 farms and ranches, producing many agricultural commodities that supply 99% or more of the nation's

agricultural exports.[1] Producers, custom operators, first processors, and rental companies in the agricultural industry own and operate approximately 118,500 pieces of off-road, diesel fueled, mobile agricultural equipment statewide[2], in addition to stationary equipment, such as agricultural pump engines, and on-road vehicles, such as heavy-duty trucks, used in agricultural operations.

Agricultural equipment are a source of air pollution and reducing these emissions is necessary to meet federal ozone and particulate matter (PM) air quality standards. Additionally, the agricultural industry is often one of the first to experience the impacts of climate change and is a critical component for addressing greenhouse gas emissions and climate impacts. Most farms are also surrounded by disadvantaged and low-income communities and employ many of the residents living in these communities.

History of Agricultural Incentives

Since 1998, CARB has partnered with local air districts and industry to successfully administer incentives that support the transition to the cleanest available technologies through the Carl Moyer Program. The Carl Moyer Program provides funding for cleaner-than-required vehicles, equipment, and engines used in various sectors, including agriculture. The Carl Moyer Program set the foundation for long-term emission reduction programs that assist in meeting the State's clean air goals.

In recognition of CARB's history of success with incentives, the Legislature has provided additional funding appropriations to CARB to develop and oversee new incentive programs, such as the Air Quality Improvement Program, Low Carbon Transportation Program, FARMER Program, and Community Air Protection incentives. The goals of CARB's portfolio of incentive programs include promoting clean transportation, supporting air quality and climate objectives, and providing benefits to disadvantaged and low-income communities and households.

The FARMER Program focuses on investments that support the agricultural sector's transition to the cleanest available technologies, which are some of the most cost-effective projects for criteria pollutant and toxic air contaminant emission reductions.[3] In addition, investments from the FARMER Program also achieve concurrent reductions in greenhouse gas emissions. The FARMER Program is further complemented by significant private investments as well as the Carl Moyer Program, Clean Off-Road Equipment Voucher Project (CORE), and local and federal incentive

---

[1] *California Agricultural Statistics Review 2021-2022*, *https://www.cdfa.ca.gov/Statistics/PDFs/2022_Ag_Stats_Review.pdf*

[2] Off-Road Emissions Inventory, *https://arb.ca.gov/emfac/offroad/emissions-inventory/*

[3] Cost-Benefit Analysis of Mobile Source Incentive Programs. *https://ww2.arb.ca.gov/sites/default/files/2023-10/Appendix%20F%20fy2023_24_funding_plan.pdf*

funding to support the deployment of zero-emission equipment and the cleanest available combustion technologies used in agriculture.

Between the FARMER Program's inception in 2018 and March 2024, the FARMER Program has implemented $515 million in funds, which were matched with $521 million in private investments, to fund over 10,000 agricultural equipment replacement projects. Approximately 37% of the projects included zero-emission replacements and introduced zero-emission advanced technologies in the agricultural sector. Overall, these projects are expected to result in reductions of over 28,000 tons of oxides of nitrogen (NOx) and 1,650 tons of PM2.5 (particulate matter that is 2.5 microns or smaller) emissions, providing significant air quality benefits to impacted areas, including in disadvantaged and low-income communities. These projects are also expected to reduce 388,000 metric tons of carbon dioxide equivalent emissions, which will help reduce the impacts of climate change. These benefits are further supported by additional reductions through the Carl Moyer Program[4] and CORE[5].

Agricultural equipment replacement projects have been proven to achieve cost-effective emission reductions and have provided documented emission reduction credit towards meeting National Ambient Air Quality Standards. For example, in the 2018 San Joaquin Valley PM2.5 State Implementation Plan, there was a measure to achieve 11 tons per day of NOx reductions from agricultural equipment turnover, which included a regulatory backstop if the 11 tons per day commitment was not met. The agricultural industry advocated for funding at the local, state and federal level and through the resulting agricultural equipment turnover, the measure was able to exceed the 11 tons per day commitment.

Need for Continued Emission Reductions from the Agricultural Sector

Without accounting for incentive projects after 2018, off-road, mobile agricultural equipment is expected to account for 5.2% of the NOx emissions from mobile sources and 5.1% of the PM2.5 emissions from mobile sources statewide[6] in 2025, as shown in Figures 1 and 2 below. In the SJV, off road, mobile agricultural equipment continues to play a role in the air quality challenges due to the region's large agricultural economy. In the current emissions inventory, off-road, mobile agricultural equipment accounts for 20.1% of the NOx emissions from mobile sources and 17.2% of the PM2.5 emissions from mobile sources in the SJV air basin, also shown below.

---

[4] Carl Moyer Program: Statistics and Reports. *https://ww2.arb.ca.gov/carl-moyer-program-statistics-and-reports*

[5] CORE Voucher Funding Map. *https://californiacore.org/voucher-funding-map/*

[6] California Emissions Projection Analysis Model (CEPAM) version: CEPAM2019v1.03. *https://ww2.arb.ca.gov/criteria-pollutant-emission-inventory-data*

Figure 1: NOx Emissions Inventory

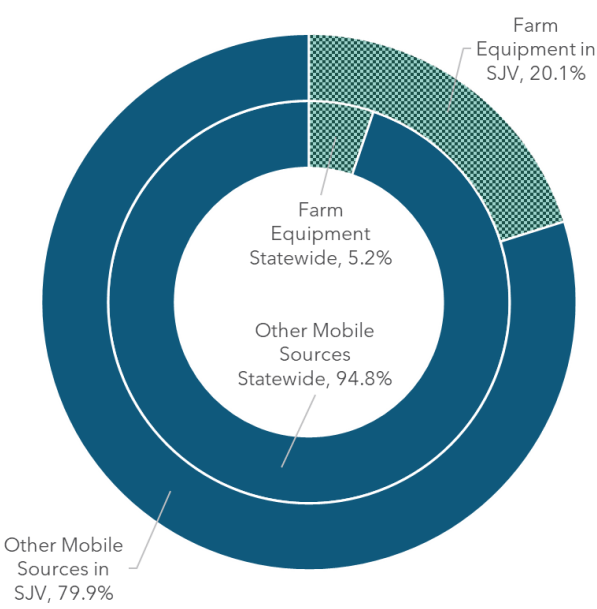
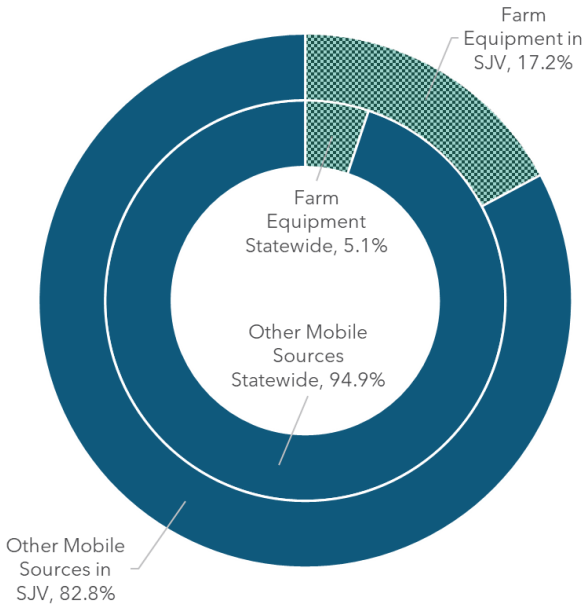


Figure 2: PM2.5 Emissions Inventory



Increasingly stringent new engine standards for off-road equipment will reduce emissions from mobile agricultural equipment over time, however, most mobile agricultural equipment is operated for several decades due to the equipment's durability and relatively low cost to maintain. Incentives provide the opportunity for farmers to purchase newer and cleaner equipment than they would be able to afford otherwise, accelerating agricultural equipment turnover, while also reducing the financial risk of adopting advanced technologies. Further, incentives for equipment replacement projects require the existing, higher-emitting equipment to be scrapped and without that requirement, the old equipment would likely continue to operate in some capacity. Surveys of FARMER projects have shown that 96% of vehicles and equipment would not have been scrapped and replaced without incentive funding. Therefore, incentives for purchasing the cleanest available agricultural vehicles and equipment are a successful way to achieve the immediate criteria, toxic, and greenhouse gas emission reductions from the agricultural sector, which help meet National Ambient Air Quality Standards in nonattainment areas, California's climate change goals, and greenhouse gas emission reduction targets.

CARB is committed to getting emission reductions from off-road agricultural equipment using whatever approaches are most effective. CARB has found that incentive-based approaches, where the agricultural industry pays at least half the cost, has worked well because it provides farmers the flexibility to replace equipment when it makes financial sense while still supporting emission reduction goals. These incentives allow small farms to purchase the latest equipment when they can afford

them and to date, a third of projects funded through the FARMER Program have occurred at small farms of 100 acres or less.

Should FARMER continue to receive funding in future years, CARB estimates that for every $100 million spent on agricultural equipment projects (e.g., tractors), 5,400 tons of NOx, 285 tons of PM2.5, and 57,000 metric tons of carbon dioxide equivalent emissions will be reduced.

(b) Guiding Principles

Since 2017, the Legislature has appropriated funding to CARB from a variety of funding sources including: the Greenhouse Gas Reduction Fund (GGRF), the Air Quality Improvement Fund, the Alternative and Renewable Fuel and Vehicle Technology Fund, the California Tire Recycling Management Fund, the Air Pollution Control Fund, and the General Fund. The budget language directs that the funds shall be used to:

> *Reduce agricultural sector emissions by providing grants, rebates, and other financial incentives for agricultural harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors, and other diesel equipment used in agricultural operations.*

The Legislature directed the use of monies from the various funding sources for identical purposes, "notwithstanding" other statutory requirements. Such legislative direction generally requires administrative agencies to carry out the Legislature's new intent, while giving effect to applicable existing statutory provisions. CARB understands the Legislature to have directed CARB to establish a combined program addressing the sources of monies to the extent consistent with this direction.

This section of the Guidelines discusses how CARB will implement the Legislature's direction, while supporting the underlying purposes of the various funding sources used to support the FARMER Program.

Emission Reductions from Agricultural Operations

In past budget bills that contained appropriations for FARMER, the Legislature appropriated funding to reduce agricultural sector emissions by providing financial incentives for vehicles and equipment used in agricultural operations. CARB interprets the term "agricultural sector emissions" to allow for reductions of criteria, toxic, and GHG pollutants, consistent with the Health and Safety Code's broad definition of "air pollutant."

The FARMER Program was developed to provide funding for vehicle and equipment projects that are used in "agricultural operations," as defined by CARB's in-use regulations, such as the Regulation for In-Use Off Road Diesel-Fueled Fleets (Off-Road Regulation) and the Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation. Consistent with these regulations, a vehicle or equipment that is used for both

agricultural and nonagricultural operations is only considered to be a vehicle engaged in agricultural operations if more than half of its annual operating hours are for agricultural operations.

The Goals of the FARMER Program

The overarching implementation priority for the FARMER Program is directing agricultural investments to support the deployment of advanced technologies and cleaner diesel technologies needed to meet California's State Implementation Plan (SIP) and climate change goals. These investments may be considered for SIP credit when the emission reductions from these projects are surplus, quantifiable, enforceable, and permanent, as defined below.

- "Surplus" means emission reductions that are not otherwise required by any federal, state, or local regulation, or other legal mandate, and are in excess of the baseline emission inventory, attainment year, and progress milestone year forecasts that include adopted regulations.
- "Quantifiable" means emission reductions can be reliably determined through well-established, publicly available emission factors and calculation methodologies.
- "Enforceable" means emission reductions are enforceable if the incentive program guidelines include provisions for ensuring the following:
    - The emission reductions are independently and practicably verifiable through reporting, inspections, monitoring, and other mechanisms;
    - Incentive program requirements are defined through legally binding contracts, including identifying the party or parties responsible for ensuring that emission reductions are achieved;
    - Funding recipients are obligated to provide all records needed to demonstrate that emission reductions are achieved; and
    - The air district provides public access to all emissions-related information for reductions claimed.
- "Permanent" means actions are taken to physically destroy or disable forever the older, dirtier agricultural vehicle or equipment to ensure the reduction of emissions for the duration of the project life.

An additional priority for the FARMER Program is to direct investments to projects within and benefiting disadvantaged and low-income communities. CARB staff sets a program target of investing a minimum of 50% of the total program funds for projects within and benefitting disadvantaged communities and a minimum of 5% of the total program funds for projects within and benefitting low-income communities, based on the current version of the CalEnviroScreen model at the time funding is awarded to air districts.

(c) Program Framework

Since 2018, CARB, local air districts, and the agricultural industry have partnered to successfully administer over $760 million in incentive funds to clean up over 9,600 agricultural vehicles, engines, and equipment through the FARMER Program. To continue this partnership and provide local assistance throughout the State, staff will continue to work with local air districts to administer and implement the FARMER Program.

(1) Distribution of Funds

CARB allocates 80% of FARMER Program funding to the San Joaquin Valley Air Pollution Control District (SJVAPCD) due to the district's high agricultural activity, extreme nonattainment status with National Ambient Air Quality Standards for ozone, and large population affected by harmful emissions, as compared to other air districts. For the remaining 20% of FARMER Program funding, a formula is used to distribute the funds among local air districts. To help ensure the funds are distributed equitably among air districts, the formula distributes the remaining funds based on each district's statewide emissions from farm equipment and each district's air quality and current attainment status with National Ambient Air Quality Standards.

All air districts except for SJVAPCD are included in this formula to determine the appropriate funding levels. Air districts with at least 1% of the statewide emissions from farm equipment are eligible to receive a direct allocation based on the results of this distribution formula. However, there is still a need for agricultural emission reductions in air districts with less than 1% of the statewide emissions from farm equipment. As such, these air districts' funding is combined into a Shared Allocation Pool (SAP) in which eligible applicants within these SAP air districts have equal access to FARMER funding.

With this formula for the air districts other than SJVAPCD, 75% of the funds are distributed based on each air district's share of statewide NOx and PM emissions from farm equipment and 25% of the funds are distributed based on each air district's air quality and attainment status. To distribute funds based on air quality and attainment status, the formula uses a "severity point" system, similar to the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program), which provides air districts points on a scale from one to seven for attainment with the most recently promulgated standard for ozone averaged over eight hours, one point for air districts with PM emissions exceeding 1,000 tons, and one point for air districts that are impacted by emissions from Mexico. The points are then summed and funds are distributed based on each air district's share of points.

In addition, Section IV(m), Return and Reallocation of Funds, contains information on the process for reallocating funds among air districts if there is the potential risk that the funding will not be spent before the expenditure deadline.

(2) Shared Allocation Pool for Air Districts with Less than 1%

This shared allocation of FARMER Program funding represents a partnership between air districts with less than 1% of the statewide emissions from agricultural equipment to ensure those districts have access to FARMER funding and streamline implementation of the FARMER Program. Staff recommends that one of these air districts be the administrator of the SAP on behalf of these air districts. This facilitates air district participation by streamlining the grant administrative process and by encouraging the pooling of financial and technical resources. These consolidated resources lower the threshold for participation in the FARMER Program and maximize project funding in air districts with lower agricultural equipment populations.

Individual projects funded from this shared allocation are subject to all applicable requirements within the FARMER Program Guidelines.

Roles and Responsibilities among these partners are as follows:

(A) CARB notifies the SAP administrator of funds designated to the SAP.

(B) The SAP administrator approves receipt of funds via resolution or minute order approved by their governing board.

(C) The SAP administrator must sign a grant agreement with CARB to accept funds for this shared allocation, maintain a Policies and Procedures Manual, and are responsible for all grant obligations, such as contracts with participants for project implementation, project inspections, monitoring, and reporting.

(D) The SAP administrator establishes criteria for project selection and approves projects.

(E) The SAP administrator provides outreach, prepares the application and project solicitation, performs initial application screening, ensures project eligibility, ranks projects based on project selection criteria, selects projects, and determines recipient air districts.

III. General Project Requirements

(a) General Criteria

The criteria listed below apply to all FARMER projects. In addition to the criteria below, FARMER projects must also meet all the applicable project and program administration criteria.

(1) Air districts are responsible for ensuring all FARMER Program requirements are met.

(2) Emission reductions obtained from projects funded though the FARMER Program must not be required by any federal, State, or local rule or regulation, memorandum of agreement, memorandum of understanding, settlement agreement, mitigation requirement, or other legal mandate.

(3) If a FARMER project contract has not been fully executed prior to the adoption date of a rule or regulation by an air district governing board or CARB (or the promulgation date of a federal regulation), the air district must consider the rule or regulation when evaluating a project's eligibility.

(4) An air district must consider all applicable rules or regulations when determining eligibility for a project. If an existing contract is amended to increase the total FARMER Program funding of the project, then the air district must reevaluate eligibility and consider all applicable rules or regulations. If the total dollars do not increase, then the air district does not need to reevaluate eligibility.

(5) A grant applicant subject to regulation(s) may be eligible to receive funding through the FARMER Program if the applicant has met all current compliance requirements of the applicable regulation(s) and documentation of regulatory compliance must be provided by applicants to air districts prior to funding.

(6) Participating air districts retain the authority to impose additional more stringent requirements.

(7) The replacement vehicle, equipment, or engine must remain in service for the entire contract term. Throughout the contract term, the emission reductions funded by the FARMER Program must not be used to generate credits or compliance extensions and must be excluded when determining regulatory compliance.

(8) CARB and air districts shall take all appropriate and necessary actions to ensure that emission reductions achieved from a FARMER project are creditable by the United States Environmental Protection Agency (U.S. EPA) to the appropriate emission reduction objectives in the SIP and are enforceable, surplus, quantifiable, and permanent.

(9) CARB will provide protocols for calculating emission reductions in the State from representative project types over the life of the project.

(10) Engines operating under flexibility provided by enforcement discretion or other advisory issued by CARB, an air district, or U.S. EPA are not eligible for funding.

(11) Projects funded by the FARMER Program must be included when determining the size of the fleet for regulatory compliance when applicable.

(12) Projects selected for funding must be within cost-effectiveness limits per weighted ton of NOx, reactive organic gases (ROG), and PM reduced and/or within maximum grant amounts, as required by the project category. Project grant amounts must be calculated in accordance with CARB-approved quantification methodology for the FARMER Program.

(13) FARMER Program grants must not exceed a project's eligible cost.

(14) FARMER projects co-funded with Moyer Program and other public incentive funds must meet all requirements of the contributing programs.

(15) At least 75% of a project's total activity over the project life must occur in California. Activity outside of California is excluded from the emission reductions used to determine grant funding and SIP emission benefits.

(16) Project engines must use only the fuel allowed by the engine certification during the project life. Fuel additives are prohibited unless specifically allowed in the engine certification.

(17) Replacement vehicles and/or engines must be certified by CARB, except for zero-emission off-road equipment. If a CARB certification process does not exist or if engines are preempted from CARB certification, then an engine must be certified to Federal standards when applicable. For the purposes of the FARMER Program, a technology granted a conditional certification by CARB is considered certified.

(18) In circumstances where an eligible vehicle or piece of equipment has more than one engine, the air district may choose to base the cost-effectiveness calculation on overall vehicle or equipment emission reductions rather than on a per engine basis. The project must meet the current project cost-effectiveness limit when required by the project category.

(19) Funding is not available for projects where a spark-ignition engine (e.g., a propane or gasoline engine) is replaced with a diesel engine.

(20) For a repower project, the installation of the engine must be completed in a manner that does not void the engine warranty provided by the manufacturer or any remaining warranty provided by the equipment/vehicle manufacturer.

(21) Air districts and CARB reserve the right to deny funding to applicants that have previously received funds and did not meet the terms and conditions of the funding agreement.

(22) CARB may update the cost-effectiveness limit and capital recovery factors as needed through an Executive Officer memo or program advisory.

(23) CARB may approve, on a case-by-case basis, projects that vary from the requirements of these Guidelines or that do not meet all eligibility criteria in the Guidelines. Projects with case-by-case approvals must provide emission reductions in California for the full contract term. Additional information regarding approval of case-by-case projects is found in Section IV(r), Case-by-Case Determination Process.

(24) CARB may modify the FARMER Program Guidelines as needed with Executive Officer approval. To modify the FARMER Program Guidelines, CARB would be required to first hold a public meeting to establish the criteria and consider public input.

IV. Program Administration

This section describes the administrative requirements that CARB, air districts, and interested parties must follow to ensure that FARMER projects achieve emission reductions.

(a) Background

An air district may choose to require more stringent administrative procedures when implementing its local program. Additionally, some project categories include additional administrative requirements.

These Guidelines must be used for all projects funded with FY 2025-26 and subsequent years' funds. The 2018 FARMER Program Guidelines may be utilized for previous year funds after the Board approval date, and applied to projects for which contracts are fully executed after the Board approval date. When an air district begins applying the 2024 FARMER Program Guidelines to projects, it must continue to apply only the 2024 FARMER Program Guidelines to all subsequently funded projects. CARB will follow these 2024 FARMER Program Guidelines for administration of the FARMER Program following Board approval.

For projects funded using FY 2023-24 and previously awarded funds, an air district may use either the 2018 FARMER Program Guidelines or these 2024 FARMER Program Guidelines, with any applicable program memos and/or advisories. An air district may not apply elements of both Guidelines to a project.

(b) Grant Fund Allocation and Solicitation

(1) Grant Funds Notification: Upon appropriation of FARMER Program funding, CARB will send a solicitation memo to each air district's Air Pollution Control Officer (APCO) with notification that FARMER Program funds for that year are available. The letter will include the application for funds and a tentative allocation of program funds for air districts showing a breakdown of project and project implementation funds.

(2) Tentative and Final Funds Allocation: After the FARMER Program receives a final budget appropriation for the current fiscal year, a tentative funding allocation for air districts will be determined by CARB following the allocation formula described in Section II(c)(1), Distribution of Funds. Following receipt and review of air district applications, CARB will determine a final funding allocation that redistributes any funds declined by air districts to other air districts that have requested additional funds.

(c) Air District Applications for Grant Funds

(1) Air District Options: An air district may consider the following options upon receiving the solicitation:

(A) Accept the tentative allocation in full without change.

(B) Accept the tentative allocation but request additional funds.

(C) Accept less than the tentative allocation.

(D) Accept the tentative allocation and authorize the funds to be designated to the SAP or a lead air district for the current year.

(E) Decline an allocation. In this case the air district's share of funds will be redistributed with the final funding allocation.

(2) Application and Resolution: An air district accepting or designating FARMER Program funds will provide CARB a completed application indicating the option chosen above and signed by the APCO by the deadline specified in the solicitation memo. The application must include a board resolution or minute order that supports the option chosen. For air districts accepting funds, the resolution or minute order must commit the district to participate in the FARMER Program, accept FARMER Program funds, follow the requirements of the FARMER Program, and maintain a FARMER Program Policies and Procedures manual that meet the requirements of the following section. If the air district's governing board is unable to consider the FARMER Program application within the 60

calendar days following the solicitation letter, the application must indicate when a resolution or minute order will be considered by the district's governing board.

(d) Policies and Procedures

To remain eligible for FARMER Program funding, an air district must maintain a FARMER Program Policies and Procedures manual. The manual must focus on the air district's local implementation of the FARMER Program Guidelines, including roles and responsibilities within the district and local application of FARMER Program policies. Air district staff must review the manual at least once a year, update the manual when a change to a policy or procedure has occurred or changes to the guidelines are made, and make it available when requested by CARB staff or a member of the public. The manual must include at least the following elements:

(1) Roles and responsibilities within the air district for program implementation, including staff or positions responsible for: responding to CARB funding solicitations; evaluation, selection, and inspection of projects; and obtaining governing board approval for program participation and projects to be funded. For the SAP administrator, the Policies and Procedures Manual must include the roles and responsibilities of the SAP administrator, any subcontractors, and participating air districts involved in the SAP for program implementation.

(2) Identification of the project categories supported by the air district's or the SAP's FARMER Program, and the schedule for solicitation and review of applications to be submitted under these project categories.

(3) Except for advanced technology demonstration projects, procedures for implementing all project categories, which include:

(A) Development of participant contracts, which must include a generic statement of work.

(B) Memoranda of understanding (MOU) or agreements with dealerships (if applicable), salvage yards (if applicable), and on-road vehicle dismantlers.

(C) Inspections (pre-, post-, and salvage). The required digital format for the inspection photographs must be specified.

(D) Reimbursement procedures.

(E) Monitoring and enforcement considerations.

(F) If applicable, for air districts that contract with dealers and salvage yards, the off-road equipment replacement plan must identify the air district's requirements for dealer and/or salvage yard contracts, and the process for oversight and review of program requirements that are expected of each entity, and the repercussions for non-compliance with the terms of the

contract for each entity. For air districts that contract with dealer(s), liaison training must be provided to the dealership staff.

(4) Procedures for project selection, including cost-effectiveness or other criteria applied to rank projects, or whether projects are selected in order of application receipt (first-come, first-served); and any procedures that vary by project category.

(5) Procedures for notifying successful applicants of their grant awards, and for notifying applicants who have not been awarded grants.

(6) Where applicable, project selection procedures that ensure priority for funding projects that are within and benefiting disadvantaged communities and low-income households or communities, consistent with AB 1550 (Gomez, Chapter 369, Statutes of 2016).

(7) The method for calculating interest earned on FARMER Program funds held by the air district.

(8) Procedures for project participants to submit invoices and receive payment, including itemization required to limit reimbursement to eligible costs, conditions for progress or partial payment, and practices for withheld payments pending participant reporting.

(9) Methods the air district will use to verify the destruction of vehicles, equipment, and/or engines when required, consistent with the minimum standards specified in these Guidelines.

(10) Methods the air district will use to store and retrieve digital photographs documenting project inspections along with associated project-specific information.

(11) Procedures, schedules and required content for participant reports.

(12) The types of acceptable documentation for establishing historical annual usage, and procedures for considering and granting usage waiver requests, including supporting information to be provided by the participant.

(13) Procedures for working with participants to gain full compliance with contracts and program requirements for nonperforming projects.

(14) Any air district program requirements that are more stringent than those specified in FARMER Program Guidelines and memos.

(15) Any CARB approvals of air district program elements that vary from those required by FARMER Program Guidelines and memos (e.g., methods of ensuring destruction that vary from those specified in these guidelines).

(e) Interdistrict Redirection of Grant Funds

If an air district falls behind schedule and is unable to resume the schedule described in the FARMER grant agreement, CARB reserves the right to redirect funds to other districts with demand and/or reduce future allocations. To facilitate district-to-district redirection of FARMER Program funds and ensure an appropriate audit trail when grant funds are redirected to another air district, the following conditions apply:

(1) Resolutions or minute orders from both air districts that show Board approvals of the redirection must be provided to CARB.

(2) An MOU between the two air districts addressing the items listed below must be provided to CARB. This can take the form of a letter signed by both air district APCOs.

(A) Spells out the details and conditions of the redirection of funds.

(B) Confirms that the transferring air district remains formally liable to CARB for the transferred funds. However, the receiving air district must indemnify and hold harmless both the transferring air district and CARB.

(C) Identifies the funding year and the associated liquidation deadline for the redirected funds.

(D) Specifies how and when payment will be made from the air district under grant with CARB to the air district receiving the funds. CARB will only disburse funds to the air district under an executed grant agreement with CARB.

(f) Air District Project Implementation Funds

(1) Air District Funding: FARMER Program grant agreements specify the maximum amount of project implementation funds available to air districts.

(2) Allowable Costs: Table 1 lists allowable project implementation costs and documentation that the air district is required to maintain for the FARMER Program. Air districts will make available the documentation shown in the table for review during CARB or other State agency monitoring visits, reviews, and audits. Such administrative records for a given funding year must be retained for a minimum of five years following the applicable funding year's liquidation deadline.

Table 1: Project Implementation Costs and Documentation

Allowable Cost	Required Documentation
Air District Staff Time	Staff time must be supported by timesheets or output of labor tracking software.

Allowable Cost	Required Documentation
External Subcontractor Fees	Subcontractor contract(s) and invoices.
Printing, Mailing, Records Retention, and Other Outreach Costs	Receipts and invoices. Copies of solicitations and outreach materials indicating availability of grants.
Travel Expenses	Receipts and invoices. Any reimbursement for necessary travel and per diem must be at rates not to exceed those amounts paid to the State's represented employees. No travel outside the State of California will be reimbursed unless prior written authorization is obtained from CARB. Reimbursement must be at the State travel and per diem amounts that are current as of the date costs are incurred.
Equipment, Supplies, or Other Expenses to Directly Support Program Implementation	Receipts and invoices.
Indirect Costs	Indirect cost calculation methodologies must be described or cited in the Policies and Procedures Manual or local administrative manual, and calculated costs must be documented.

(3) Mitigation for Unallowable Costs: An air district that charges unallowable costs for project implementation or outreach must substitute eligible project implementation and outreach expenses equal to the dollar amount found ineligible or return the funds for the unallowable cost to CARB.

(g) Accounting Principles

Air districts must establish accounting practices for FARMER Program funds consistent with the requirements below.

(1) FARMER Program Funds Account: FARMER Program funds must be accounted for as separate funds within the air district's general ledger following generally accepted accounting principles (GAAP).

(2) Required Financial Records: Without limitation of the requirement to maintain program accounts in accordance with GAAP, air districts must:

(A) Establish an official file for the FARMER Program, which must adequately document all significant actions relative to the program.

(B) Establish separate accounts, which must adequately depict all amounts received and expended on FARMER projects.

(C) Establish separate accounts, which must adequately and accurately depict all income received which is attributable to the FARMER Program, including interest accrued on funds held by the air district, subcontractors, and if applicable, participating air districts within the SAP.

(D) Establish an accounting system, which must adequately depict final total costs of the FARMER Program, including both direct and indirect costs.

(3) Earned Interest

(A) Air districts must track interest accrued on any funds received. Interest earned on FARMER Program funding must be deposited in the FARMER Program funds account and used to fund FARMER Program-eligible projects, to fund project implementation up to the portion provided for in the associated FARMER Program grant agreement with CARB, or be remitted to CARB. Unused earned interest must be rolled over to any subsequent fiscal year FARMER grant agreement and would be subject to the terms of the subsequent grant agreement. Should the air district not sign another FARMER grant agreement with CARB, the air district must remit to CARB any unused earned interest by the deadline specified in the grant agreement.

(B) "Earned interest" means any interest earnings generated from grant funds held by the air district in interest-bearing accounts.

1. Funds are required to be held in an interest-bearing account and when interest is earned by the air district on FARMER Program funds, the earnings must be reported to CARB. All interest income on FARMER Program funds must be reinvested in and used for eligible grant-related expenses or returned to CARB. Earned interest that is reinvested in the FARMER Program is not included as part of the total grant amount from CARB. Air districts are responsible for reporting to CARB all program expenditures funded with interest earned on FARMER Program funds.

2. Air districts must maintain accounting records (e.g., general ledger) that tracks interest earned, expended, or returned on FARMER Program funds as follows:

a. The calculation of interest must be based on an average daily balance or some other reasonable and demonstrable method.

b. Interest earned must be separately identifiable from the grant funding.

c. The methodology for calculating earned interest must be consistent with how it is calculated for the air district's other fiscal programs.

d. Documentation of interest earned and expenditures made on those funds or returned to CARB must be retained for a minimum of three years after it is generated and reported to CARB in semi-annual reports.

(C) When invested, FARMER Program funds should receive equitable pro-rated interest earned on the total funds invested. As State funds, FARMER Program funds may be invested only in accounts or instruments that reflect the risk appetite of the State. For reference see Office of the State Treasurer Local Agency Investment Guidelines. Any loss from investments not made in accordance with standards set forth in California Government Codes must be covered by the air district.

(4) Recapture and Salvage Revenue: Revenues earned or collected by the air district through FARMER Program resources, including revenues obtained through salvage and sale of scrapped equipment, must be reported and retained as a supplemental source of funds for FARMER projects. If recaptured funds or salvage revenues are invested, such revenues must meet the requirements of Section IV(g)(3)(C) above. Air districts are not required to earn funds through program actions, or expected to base business decisions on their ability to generate returns or collect funds through program activity.

(5) Expenditures for FARMER Projects: All project expenditures of FARMER Program funds must meet the current FARMER Program Guidelines at the time of contract execution, including any revisions to those Guidelines in effect at the time of contract execution.

(6) Records Retention

Grant receipts and expenditure documents including invoices, contracts, vouchers, personnel, and payroll records should be retained for five years after the grant liquidation period or the last recorded grant transaction, whichever is later.

(h) Co-Funding

(1) Purpose: This section specifies requirements that apply when multiple funding sources are proposed to support a FARMER Program-eligible project. There is no

limit on the number of co-funding sources to fund a project as long as total project costs are not exceeded, and the applicant cost share requirement is met for the FARMER Program.

(2) Designation of Non-FARMER Program Funds

Funds other than FARMER Program grant funds may be used to co-fund FARMER Program-eligible projects, when all program criteria associated with each funding source are met. Funding sources are grouped into the following categories:

(A) Federal funds.[7]

(B) State funds.[8]

(C) Local funds.[9]

(D) Penalty funds.[10]

(E) Other applied funds.

(3) Mitigation funds may be used to co-fund a FARMER project if an air district submits a request for a case-by-case determination in accordance with Section IV(r), Case-by-Case Determination Process, and receives CARB approval.

(4) Moyer Program funds, Moyer Program-required air district match funds, and AB 923 $2 California Department of Motor Vehicle (DMV) Fees used to co-fund FARMER projects are required to be included in the project's cost-effectiveness calculations when applicable. Funds from sources other than those listed here are not required to be included in FARMER project cost-effectiveness calculations unless required by the applicable program guidelines.

(5) Applicant Cost Share: An applicant that is not a public entity must provide at least 15% of a project's FARMER Program eligible cost from non-public sources. The applicant cost share cannot be covered through in-kind contributions. An air district may request a case-by-case determination from CARB to waive all or part of an applicant's cost share, in accordance with Section IV(r), Case-by-Case Determination Process. In its waiver request, an air district must identify the

---

[7] Federal funds are awards of financial assistance to an individual or organization from the U.S. government to carry out a government authorized purpose, and not provided as personal benefits or assistance from the government.

[8] State funds are funds provided by a State agency for the purpose of co-funding projects under the FARMER Program. State agencies include every State office, department, bureau, board, commission, the University of California, and the California State University.

[9] Local funds are funds provided by any unit of local government including a publicly owned utility and joint powers authority.

[10] Penalty funds are funds paid to an enforcing entity as a result of enforcement action brought against a violator of a local, State, or federal law, ordinance, regulation, or rule.

source(s) and amount(s) of the proposed project's funding and explain the reasons for the cost share waiver, discussing at a minimum either or both of the following factors:

(A) The public benefit of the project that is above and beyond the emission reductions achieved.

(B) How the project will advance newer and cleaner technology.

(6) Applicant Disclosure and Payment

The sum of project funding from all sources may not exceed the total project cost. Applicants must disclose all sources of funding applied for at the time of the FARMER project application, and again when submitting each invoice to the air district, prior to payment of FARMER Program grant funds. An air district may not issue payment of FARMER Program grant funds until all funding sources have been identified and verified and the air district can ensure that the sum of the grants awarded to the project, including both FARMER Program and non-FARMER Program funds, does not exceed the total project cost.

(7) Emission Reductions: All emission reductions achieved from a project with multiple funding sources will be pro-rated based on the contributing funding amount and pro-rated reductions will be credited as reductions from the FARMER Program to ensure proper accounting of emission reductions.

(8) Reporting of Project Data: For co-funded projects, an air district must report to CARB consistent with the reporting requirements of Section IV(i)(2), Reporting Requirements, below and must include other co-funding sources and funding amounts. When reporting non-FARMER project funding sources to CARB, air districts must categorize these funding sources as other federal, state, or local funds, as applicable.

(i) Semi-Annual Reporting

(1) Reporting Schedule

Semi-annual reports must be submitted in accordance with the following schedule:

(A) By April 30 for air districts receiving direct allocations and by May 15 for the SAP, which covers data through March 31, and

(B) By October 31 for air districts receiving direct allocations and by November 15 for the SAP, which covers data through September 30.

Semi-annual reports must continue until all funding has been liquidated, whichever comes first. These reports may also be used to accompany grant disbursement requests.

(2) Reporting Requirements

Reports must be submitted electronically, using the reporting mechanism or template provided by CARB for the FARMER Program, and at a minimum, must contain the following information:

(A) Reporting period, title of program, air district name, and date of submission.

(B) Summary of all projects under contract with funding from active FARMER Program grants.

(C) Statement of work expected to be completed by the next progress report.

(D) Notification of any problems encountered and an assessment of their effects on the project's outcome.

(E) Applicants' responses to questions regarding farm size and program effectiveness, as described in Section IV(p)(7), Additional Application Information.

(F) Project data necessary to calculate emission reduction benefits, track benefits to AB 1550 populations, and satisfy the requirements of the FARMER Program.

(G) Summary of any project implementation funds expended and any interest earned during the reporting period, in the format approved by CARB.

(H) If the air district falls behind the schedule described in the associated FARMER Program grant agreement, an explanation of the reasons and a detailed explanation of how the air district plans to resume the schedule.

(j) Close Out Report

Once all funding has been liquidated for a fiscal year, the air district must notify CARB when submitting their final semi-annual report. Upon CARB's approval of the air district's semi-annual report showing that all funding has been liquidated, the air district must provide the following:

(1) A signed certification from the APCO or its designee stating that the project and fiscal information contained within the close-out report is, to the best of their knowledge, accurate and complete. The APCO must also certify that the air district will continue to monitor any contracted projects through the completion of their contracted project life.

(2) A summary of additional funds available to the FARMER Program. These funds may be rolled over to any subsequent fiscal year FARMER grant agreement and would be subject to the terms of the subsequent grant agreement. The summary must include, but is not limited to, the following sources:

(A) The amount of any interest accrued on FARMER Program funds held in local accounts.

(B) Funds recaptured from liquidated projects, including funds provided back to the air district following CARB enforcement actions, identified by project name and funding year.

(C) Non-grant revenue earned for the FARMER Program by the air district, such as from the sale of scrapped vehicles, equipment, or engines.

(3) A list of any projects identified as nonperforming and a brief narrative of any related enforcement actions.

(4) The close-out report must be submitted no later than the date specified in the grant agreement.

(k) Progress Tracking

To support timely emission reductions and track progress towards statutory fund expenditure requirements, air districts and CARB will work together to meet the recommended progress milestones included in FARMER Program grant agreements. Upon grant execution, the air district must make every effort to meet the schedule in the grant agreement. If an air district falls behind and is unable to resume the schedule, CARB reserves the right to reduce the dollar amount of future FARMER Program allocations and/or redirect funds to other districts with demand as described in Section IV(e), Interdistrict Redirection of Grant Funds.

(l) Funding Year Liquidation

Air districts must liquidate FARMER Program funds by the date specified in the FARMER Program grant agreement for the associated fiscal year. Any grant funds not liquidated by the deadline specified in the grant agreement must be returned to CARB following the procedures described in the following section.

(m) Return and Reallocation of Funds

(1) Return of Unliquidated Funds: If the close-out report identifies a liquidation shortfall that cannot be resolved through reassignment of liquidated funds from more recent years, the air district must submit and CARB must receive a check for the shortfall amount by August 15 (i.e., 45 calendar days after the June 30 liquidation deadline). CARB will provide instructions for the return of funds upon receipt of a close-out report documenting a liquidation shortfall. No additional disbursements will be made to the air district until funds subject to return have been received by CARB.

(2) Return of Other Funds: An air district choosing to remit to CARB all or a portion of earned interest, or to return other funds following consultation with CARB, may do so following instructions provided by CARB.

(n) Program Nonperformance

(1) Monitoring Nonperformance: CARB monitors air district programs to ensure that participating air districts conduct their programs consistent with the criteria and guidelines established by the Board. Program nonperformance is an air district's noncompliance with FARMER Program Guidelines that is not corrected by the air district in a timely or satisfactory fashion. CARB may become aware of possible air district nonperformance through semi-annual reports, Incentive Program Reviews, air district self-reporting, or other means. Examples of program noncompliance with FARMER Program Guidelines or statute include, but are not limited to, the following:

(A) Failure to return unliquidated funds within 45 calendar days of the liquidation deadline.

(B) Misuse of FARMER Program funds, including funding of ineligible projects.

(C) Insufficient or improper program oversight and enforcement, including widespread deficiencies in project contracting, inspections, reviews, or audits.

(D) Insufficient, incomplete, or inaccurate project documentation.

(E) Failure to submit timely and accurate reports to CARB.

(F) Other noncompliance with FARMER Program Guidelines.

(2) Nonperformance Procedures: When CARB determines that an air district program is not complying with FARMER Program Guidelines, the CARB liaison and manager will work with air district staff to understand the issues and develop a plan and timeline to resolve them. If the CARB Branch Chief determines that the issues related to program nonperformance have not been resolved, CARB will send by email to the air district program contact a program nonperformance notification, that contains the following:

(A) Description of the unresolved issues, including pertinent details such as names of involved persons and projects, dates, dollar amounts, and citations of relevant program guidelines sections, Health and Safety Code sections, and regulations.

(B) Possible solutions to the problem, if some have been identified, and/or an offer of CARB assistance.

(C) Arrangements for a possible meeting between the CARB Branch Chief and the air district APCO to agree on a plan and timeline for resolving the problem. The plan and timeline shall be recorded by the CARB air district liaison and emailed to the air district APCO within seven calendar days of the meeting.

(3) Withholding of Funds by CARB: Lacking satisfactory resolution of the issues that have resulted in the nonperformance notification, CARB's Executive Officer will determine if the nonperformance warrants withholding funds that have been granted to the air district and not yet awarded to approved projects. If so, CARB will send a letter of FARMER Program non-performance to the air district APCO. The letter will set a public meeting to be held at the air district's offices (or other appropriate facility within the air district). The purpose of the meeting will be to consider public comments prior to withholding any funds.

(o) Incentive Program Reviews and Desk Reviews

(1) Purpose: CARB conducts Incentive Program Reviews and desk reviews to help ensure that air district programs achieve expected emission reductions and are implemented in a manner consistent with these Guidelines. CARB Incentive Program Reviews and desk reviews place emphasis on collaboration with the affected air district in the review process. Features of this approach include a joint initial review of project files, ongoing and regular communication with air district staff throughout the file review process, and where possible an opportunity for districts to correct problems prior to their inclusion as findings in the final report.

(2) Incentive Program Reviews

An Incentive Program Review may be conducted by CARB or a qualified third-party under contract with CARB. CARB staff directs the process, with each review carried out in close consultation with air district staff, and as well as third-party auditors. CARB uses a risk-based approach to select specific air district incentive programs and projects to review, with the review typically covering a period of five or more fiscal years.

Air districts are selected for Incentive Program Reviews based on identified need or incentive program funding amounts. CARB's objective is to review air districts receiving at least 85 percent of FARMER Program funds over a five-year period. Air district implementation of other incentive programs will be selected for review, when appropriate, as part of the Incentive Program Review.

Most reviews of grantee incentive programs are conducted in two parts: a program review and a financial compliance audit or fiscal review. The separate fiscal audit may be carried concurrently or following the program review. The third-party auditors will conduct these audits in accordance with Generally Accepted Government Auditing Standards and will prepare reports on the results

of the audits including any findings. CARB retains final authority with respect to corrective measures and follow-up, in consultation with the air district. The Incentive Program Review will result in a report along with air district response, and related documents that will be made available to the public on CARB's website.

(3) Desk Reviews

Air district desk reviews are meant to be informal spot checks that provide CARB staff insight into an air district's program implementation and an opportunity to provide the air district with recommendations for improvement. Desk reviews may include in-person visits by CARB FARMER Program staff and may be requested by the air district.

Desk reviews will not take the place of an Incentive Program Review but may be used to prepare an air district for an Incentive Program Review. Results from desk reviews are not published in a publicly available report.

(4) More information on the Incentive Program Reviews and desk review process is available at: *https://ww2.arb.ca.gov/carl-moyer-program-incentives-program-oversight*.

(5) Air District Responsibilities

(A) Participate in entrance and exit interviews.

(B) Support collaborative review and open communication with CARB staff.

(C) Ensure that program files and other requested information are available to CARB staff and the third-party auditor to review.

(D) Fully and promptly mitigate deficiencies identified during the review.

(E) Resolve any disagreements.

(F) Request assistance from CARB as necessary.

(p) Requirements for Project Applications

(1) Reporting Data Required: Project applications must include the information needed for calculation of project cost-effectiveness.

(2) Baseline Usage: Project applications must include documentation of baseline vehicle, equipment, or engine usage, such as miles traveled, hours operated, or fuel consumed per year, for 24 months when available or as specified in the project category criteria. This information will be used to evaluate project cost-effectiveness and the maximum grant award amount.

(3) Active-Duty Military Applicants: If an applicant has been on active military duty at any time during the previous 24 months, documentation prior to deployment and covering the same length of time as the deployment period may be used to meet the title, registration, usage, and operation in California requirements. The applicant must submit a copy of DD Form 214, Certificate of Release or Discharge from Active Duty to verify military service during the deployment period.

(4) Third-Party Signature: Applications must include a signature and date section for third parties. A third-party may complete an application or part of an application on an owner's behalf if the vehicle, equipment, or engine owner signs and dates the application.

(5) Applicant Certification

Project applications must include language informing the applicant that by signing and submitting the application, the applicant certifies under penalty of perjury that the information in the application is accurate and true. In addition, the application must include the following statements that the applicant or the applicant's designee must certify as accurate and true:

(A) A disclosure statement, consistent with Section IV(h)(6), Applicant Disclosure and Payment, specifying whether the applicant has applied for incentive funds to any other entity or program for the same vehicle or equipment (for example, repowering of the same engine). The applicant must disclose to whom other applications were submitted, whether funds have been awarded or may be awarded, and the amount or potential amount of other funding.

(B) A regulatory compliance statement certifying that the applicant is currently in compliance with all federal, State, and local air quality rules and regulations at time of application submittal and is not aware of any outstanding or pending enforcement actions.

(C) A description of the business operations and how the equipment is used is required for off-road equipment replacement projects with the following equipment types: construction-type equipment (crawlers, backhoes, loaders, dozers, and graders), forklifts, and other agricultural.

(6) Applicant Nondisclosure: An applicant who is found to have applied for or received incentive funds from another entity or program for the same project without disclosing that information as required by these Guidelines shall be disqualified from funding for that project from all sources within the control of an air district or CARB. The air district or CARB may also seek civil penalties for such nondisclosure.

(7) Additional Application Information

Applicants must provide additional information as required by the air district's application, including, but not limited to, farm size information and question(s) regarding program effectiveness.

(8) Subsequent Applications: An applicant may reapply for project funding if a previous application for the same project has been rejected by the air district and is no longer being considered for funding.

(q) Application Evaluation and Project Selection

(1) Review for Completeness: Air districts must review all applications for completeness upon receipt and notify an applicant within 30 calendar days of receipt if the application is not complete. The air district must make every effort to clearly state to the applicant what is required to make the application complete. The application and all correspondence with the applicant should be kept in the applicant's project file. Additionally, the record of each project's rating and ranking as applicable, receipt date, and other project selection criteria must be maintained with the project file.

(2) Eligibility: Air districts must ensure that the selected projects are eligible. This should include checking to ensure the project meets the minimum requirements in the appropriate project category, including:

(A) Documentation of historical vehicle, equipment, or engine usage.

(B) Documentation of project costs.

(C) Engine Executive Orders, if applicable.

(D) Proof of a vehicle compliance check as needed for on-road projects.

(E) Other documentation identified in the project category criteria.

(3) Application Tracking: Air districts must have a system for tracking applications.

(4) Project Selection: After reviewing applications for project eligibility, the air district must follow its Policies and Procedures Manual in selecting projects to fund. Projects approved for funding must meet all applicable requirements of these Guidelines.

(5) Project Evaluation: An air district must evaluate projects to ensure each project selected for funding meets the emission reduction and cost-effectiveness requirements of the FARMER Program as applicable.

(6) Recordkeeping

The air district must maintain a file for each project selected for funding. Files may be retained in an electronic format if complete and easily accessible. Unless otherwise specified by the project category or in Section IV(g)(6), Records Retention, project files must be retained three years following the end of the contract term. In the event final payment has not been issued prior to the end of the contract term, the three-year clock is restarted upon final payment. Applications for unfunded projects must be kept a minimum of 24 months following the solicitation period, or 24 months from receipt if there is not a specified solicitation period.

(7) Subsequent Application and Double-Counting: FARMER Program participants that received funding and are still under contract may not apply for funding for the same project from the FARMER Program or any other program.

(A) If an air district chooses to amend a contract to reduce the term, the amended project must be cost-effective during the reduced project implementation phase of the contract term, based on the cost-effectiveness values and limit that applied when the original contract was executed. If an air district agrees to accept a prorated repayment of the FARMER Program grant, the repayment and amended contract execution must both occur prior to the execution of any new contract for funding.

(B) Emissions reductions from previously funded projects must not be included as emissions benefits of any subsequent project for the FARMER Program.

(r) Case-by-Case Determination Process

(1) Limitations: CARB staff may approve on a case-by-case basis a vehicle or equipment replacement, repower, or supporting infrastructure project that varies from specific requirements of these Guidelines. Case-by-case approvals also may not result in an exceedance of the applicable cost-effectiveness limit or maximum allowable funding amount, reduce program transparency, or cause a violation of law or regulation. Air districts are required to request a case-by-case determination even if they believe a project is like previously approved case-by-case projects.

(2) Procedure: An air district may request CARB review of the project for a case-by-case determination using the procedure below. After receipt of all information needed, CARB will respond to the air district within 14 calendar days with a determination or estimated date of determination.

(A) The air district will submit the following to the FARMER Program air district liaison:

1. A summary of the request, with reference(s) to the pertinent area(s) of the Guidelines for which the air district is asking for additional guidance and approval.

2. Documents providing information essential to the determination, including, but not limited to, baseline and replacement engine information; the associated CARB engine Executive Orders and/or U.S. EPA Certificates of Conformity for baseline and replacement engines; other related applicant information from a completed application.

3. Other information and documents as requested by FARMER Program staff.

(B) CARB will make one of the following determinations:

1. Approved. Approval of a project does not imply or equate to "blanket approval" of other similar projects.

2. Not Approved. Non-approval of a project does not imply or equate to "blanket non-approval" of other similar projects.

3. No Action / Case-by-Case Approval Not Required. CARB evaluation concludes that a case-by-case determination is not required as the request already conforms to the requirements or intent of the Guidelines.

(3) Recordkeeping: Air districts must keep a copy of the determination, either approved or not approved, in the project file.

(4) After Contract Execution: Air districts should always attempt to request a case-by-case determination prior to contract execution. CARB will consider requests for case-by-case determination after contract execution only when an unforeseen event leads to a project or program element that varies from the requirements of these Guidelines.

(s) Minimum Contract Requirements

(1) General Requirements: Air districts participating in the FARMER Program must execute contracts with prospective participants who will receive funds under the FARMER Program unless otherwise specified in the project category criteria. All FARMER Program project contracts must include the elements described in this section. Projects funded by the FARMER Program may not be used to generate a compliance extension or credit for regulatory compliance. All executed project contracts and contract amendments must be kept in the air district's project files.

(2) Party Names and Date: All contracts must state the name of the air district and the participant as parties to the contract. Contracts must include signature blocks with an area for the dates the contract is signed, or the execution date must otherwise be clearly indicated in the contract. In any case where digital signature is used in lieu of original signature, the digital signature must comply with California Government Code section 16.5 and Title 2, California Code of Regulations (CCR), sections 22000 – 22005.

(3) Notices: All contracts must include contact information for both parties to the contract, including how to send and receive notices.

(4) Funds from Other Sources

(A) Applicants must certify that they have disclosed all funding sources that they have applied for or received for a project, and that the applicant will notify the air district of additional sources of funding received for the total cost of the project, including any sources that become available after contract execution.

(B) Participants receiving public funding from multiple sources must meet all criteria associated with each funding source and/or funding program used to fund the project.

(C) A participant that is not a public entity must provide at least 15% of a project's FARMER-eligible costs from non-public sources (see Section IV(h), Co-Funding). The contract must prohibit the participant from receiving grants and other funds that exceed the total project cost.

(D) Participants may receive FARMER Program funding from multiple air districts for the same project if these entities are coordinating to jointly fund portions of the project. The contract must list the entities involved and funding provided.

(5) Contract Term

All contracts must specify the beginning and end date of the contract (contract term). The contract term shall include two timeframes "project initiation" and "project implementation" to ensure that the air district and CARB can fully enforce the contract during the life of the FARMER Program-funded project.

(A) Project Initiation: Project initiation is the timeframe starting with the date of execution of the contract to the date the replacement vehicle, equipment, or engine is purchased with a binding purchase order. The contract must include a specified timeframe in which project initiation will occur so that the project is implemented in a reasonable timeframe. The project initiation period is up to one year from contract execution but may be extended with prior written approval from the air district.

(B) Project Implementation: The project implementation timeframe is the second part of the contract term. The project implementation phase begins when the new vehicle, equipment, or engine is placed into service and must continue for a minimum of three years or the minimum term specified by the project category criteria. The contract must specify that the participant is required to operate and maintain their FARMER Program-funded project according to the terms of the contract.

(6) Project Specifications

All contracts must include detailed information on the baseline and replacement vehicles, equipment, and/or engines that were used in the project cost-effectiveness calculation. This requirement may be met by including the project application as an attachment to the contract if the application is accurate and complete.

(A) A program-eligible replacement vehicle, equipment and/or engine that is verified or certified to achieve equivalent or greater reductions than the original project replacement vehicle, equipment and/or engine may be substituted with prior approval of the air district.

(B) When at least 24 months of documented historic usage is provided for the baseline vehicle, equipment, or engine, such as miles traveled, hours operated, or fuel consumed, minimum annual usage is not required to be in the contract. It is preferred that 24 months of documented historic usage is provided by the applicant; however, if this documentation is not available, the air district may choose to estimate the usage for the baseline engine based on information provided by the applicant and a minimum annual usage requirement must be included in the contract.

1. The types of acceptable documentation for establishing historical annual usage must be clearly defined in each air district's Policies and Procedures Manual and may be subject to CARB approval.

2. Additional forms of documentation to verify historical annual usage that are not included in an air district's Policies and Procedures Manual can be evaluated and approved by CARB on a case-by-case basis.

(C) Contracts must also contain a statement that the project complies with the FARMER Program Guidelines and that the participant will meet the following requirements:

1. Certify that the participant's fleet, engine(s), and/or equipment/vehicle is in compliance with all applicable federal, State, and local air quality rules and regulations at time of contract execution.

2. Maintain compliance with all applicable federal, State, and local air quality rules and regulations for the full contract term.

3. For repower projects, the installation of the engine must be completed in a manner such that it does not void the engine warranty provided by the manufacturer and any remaining warranty provided by the equipment/vehicle manufacturer.

(D) Contracts must specify the following:

1. Projects funded by the FARMER Program must be included when defining the size of the fleet for determining regulatory requirements when applicable.

2. Throughout the contract term, projects funded by the FARMER Program must not be used to generate regulatory compliance credits or extensions and must be excluded when determining regulatory compliance.

(7) Maintenance: All contracts must require the participant to maintain the replacement vehicle, equipment, and/or engine according to the manufacturer's specifications for the contract term and include a prohibition on engine tampering. The participant must maintain a working hour meter on the replacement equipment for projects that use hours of operation as a means of calculating emission reductions and cost-effectiveness. If the hour meter fails, the participant must notify the air district within 30 calendar days and remain responsible for validating any hours not recorded by the hour meter. The participant must either repair or replace the nonoperating meter or provide other documentation of equipment operating hours acceptable to the air district.

(8) Payment: Before a FARMER Program payment may be made to a project participant, the project contract must be executed, an eligible invoice must be received by the air district, and the project post-inspection must be successfully completed to document the completion of the work specified in the invoice. The equipment must be operational before the final payment is issued. All contracts must include the following payment terms:

(A) Maximum Contract Amount: The maximum contract amount must not exceed the maximum funding level corresponding to the current program cost-effectiveness limit, nor may the maximum contract amount exceed the project incremental cost. The maximum contract amount must also comply with any funding caps and other criteria for the specific project category as identified in these Guidelines.

(B) Itemized Invoices: Payment terms must require itemized invoices from the engine or equipment supplier for repower projects, paid invoices from the

vehicle owner for new vehicles, and satisfactory post-inspection by the air district prior to payment of the owner's invoice. An invoice payment for a specific vehicle, equipment, or engine may not exceed the amount indicated on the project contract for that vehicle, equipment, or engine. The contract should be clear that the air district will pay the lower of the contract amount or the final invoice amount. Invoices must meet the minimum requirements of Section IV(x), Project Invoice and Payment, to be eligible for FARMER Program funding.

(9) Reporting: All contracts must include a provision for participants to submit annual reports commencing no later than 18 months after project post-inspection and continuing annually thereafter throughout the project implementation phase of the contract. The air district must include the dates the participant's Annual Report is due.

(A) During the project implementation phase, the air district is responsible for monitoring the project to assure the project is operational and the project emissions reductions are realized.

(B) The contract must inform the participant that noncompliance with the reporting requirements will require on-site monitoring or inspection(s).

(10) On-Site Inspections, Audits and Records: All contracts must include language that allows the air district, CARB, or their designee to conduct an inspection or audit of the project, including the vehicle, equipment, or engine and associated records, during the project life. Contracts must also require the owner to maintain and retain usage and other records associated with the project for a minimum of one year after the end of the project life.

(11) Repercussions for Nonperformance: Air districts must include repercussions for non-compliance with the obligations of the contract.

(A) The contract must specify that by executing the contract, the participant understands and agrees to operate the vehicle, equipment, and/or engine according to the terms of the contract and to cooperate with the air district and CARB in implementation, monitoring, enforcement, and other efforts to ensure the emission benefits are real, quantifiable, surplus, and enforceable.

(B) The contract must describe the repercussions to the participant for noncompliance with contract requirements, including, but not limited to, cancelling the contract and recapturing project funds in proportion to any loss of emission reductions or underutilization as agreed to in the contract.

(C) The contract must inform the participant that CARB and the air district have the authority to seek any remedies available under the law for

noncompliance with FARMER Program requirements and nonperformance with the contract.

(D) The contract must state that CARB, as an intended third-party beneficiary, reserves the right to enforce the terms of the contract at any time during the contract term to ensure emission reductions are obtained.

(t) Project Inspections

Project inspections must be conducted in person or remotely and must fulfill the requirements outlined in Section IV(u); Project Pre-Inspection; Section IV(v), Project Post-Inspection; and Section IV(w), Destruction and Salvage Requirements. For remote pre- and post-inspections, a live video must be streamed to the air district to verify that the vehicle, equipment, and/or engine is operational. The required photographs must also be submitted to verify that the video accurately represents and authenticates the vehicle or equipment and engine live streamed during video inspection. The live video streaming must be done through a method approved by the air district (e.g., Zoom, FaceTime, Microsoft Teams).

(u) Project Pre-Inspection

(1) To confirm a project's eligibility, a pre-inspection must be completed by air district staff (in-person or remotely) prior to contract execution, unless otherwise stated in the project category requirements.

(2) Pre-Inspection Requirements

For replacement projects, pre-inspection must verify the operational condition of the baseline vehicle or equipment. For off-road replacement projects, the pre-inspection must verify, at a minimum, the following items:

(A) Tires in usable condition (able to hold air, sufficient tread or tracks, etc.).

(B) Steering wheel operational.

(C) Equipment able to start up and move backwards and forwards.

(D) Buckets, blades, rollers, etc. are working, if applicable.

(E) Undercarriage structurally sound.

(F) Fuel tank in usable condition.

(G) No parts stripped.

(H) Equipment not vandalized.

(3) Pre-Inspection Documentation

The pre-inspection form and information to be documented must include, at a minimum, the following:

(A) Information regarding the baseline vehicle, equipment, or engine as needed to uniquely identify, establish eligibility, provide a basis for emission calculations, populate FARMER reports, and ensure contract enforceability. Such information includes (as applicable) make, model, year, horsepower, fuel type, engine family, engine tier, serial number, vehicle identification number (VIN), and any additional information pertinent to the project. Engines without a visible and legible serial number must be uniquely identified by having the engine block stamped with a FARMER project number or alternative permanent marking such as an engine tag.

(B) The project hour meter or odometer reading if used in the project cost-effectiveness calculation. Air district staff must verify that stated project usage is reasonable given the hour meter or odometer reading.

(C) Verification that the engine is operational (with a start-up) and that the engine is working as described in the application (document function and use).

(D) Photo documentation of the vehicle, equipment, or engine information in the digital format required by the air district. The photos must include the legible serial number of the vehicle, equipment, and/or engine (if available) and/or any other identifying markings. For replacement projects, clear and legible photographs of the baseline vehicle or equipment must include the views listed below.

a. Right Side - hood down.

b. Front - hood down.

c. Left Side - hood down.

d. Rear.

e. VIN tag (inside vehicle or on frame rail) for on-road projects.

f. Equipment serial number for off-road projects.

g. Engine serial number and engine information, if available (make, model year, engine family) - either tag or stamp on block.

h. License plate for on-road projects.

i. DOORS (the reporting tool for CARB's in-use off-road regulations) Equipment Identification Number (EIN), for off-road projects subject to DOORS reporting requirements.

j. Left and right side of engine for on-road projects.

k. Any implements or attachments necessary to perform equivalent work as the replacement for off-road projects.

(E) Other relevant information including, but not limited to:

1. Name of inspector;

2. Date of inspection;

3. Name and contact information of vehicle, equipment, or engine owner; and

4. Location of the vehicle, equipment, or engine.

(4) Compliance Certification

By the time of pre-inspection, the air district must obtain certification and submission of supporting documentation from the applicant verifying compliance with any applicable rules or regulations affecting the engine(s), vehicle, or equipment for which they are requesting funding.

(5) Recordkeeping: The air district must maintain a copy of the completed pre-inspection form in the air district's project file.

(6) Pre-Inspection after Contract Execution: The project pre-inspection must be completed prior to a project contract execution and the information in the contract must be consistent with the information gathered during the pre-inspection. An air district may apply to CARB for approval to conduct pre-inspections after contract execution only on a case-by-case basis. Case-by-case approval of such a procedure will depend upon the following conditions being met:

(A) The air district describes the program benefits it would achieve by conducting pre-inspections after contract signature.

(B) The project contract includes language to indicate contract terms may be adjusted or the contract may be deemed void based upon information collected during the pre-inspection. The air district must also include a process for informing the prospective participant of such.

(C) The air district's Policies and Procedures Manual clearly specifies the process for conducting pre-inspections after contract execution and any additional procedures as required by the air district. Work on the project engine, vehicle, or equipment may not commence until after the pre-inspection.

(v) Project Post-Inspection

(1) Post-Inspection Requirements

An air district must gather and document post-inspection information on all projects funded by the FARMER Program, unless otherwise specified in the project category requirements.

(A) The air district will conduct a post-inspection (in-person or remotely) after it receives notice that the vehicle, equipment, or engine is available for post-inspection.

(B) The inspector must record, at a minimum, information regarding the replacement vehicles, equipment, and/or engines as needed to uniquely identify, establish eligibility, provide a basis for emission calculations, and ensure contract enforceability. Information sufficient to populate all required fields in the FARMER report must be recorded. Submersible pump inspections may have the applicant take a picture of the motor name plate information including, make, model, and serial number prior to installation inside the irrigation well. The air district will verify the make, model, and horsepower rating information with the project invoice.

(C) The replacement vehicle, equipment, or engine must be operational and match what was specified in the contract. The inspector must visually witness engine startups and operation for all mobile projects.

(2) Post-Inspection Documentation

(A) The vehicle, equipment, or engine information must be documented with photographs. The photographs must include the serial number of the vehicle, equipment, or engine (if legible) and/or any other identifying markings.

1. For off-road replacement projects, the post-inspection must include clear photographs of the following views:

   a. Pictures(s) of full equipment.

   b. Equipment serial number.

   c. Engine serial number and engine information.

   d. Retrofit (if available).

   e. Hour meter reading.

   f. Any implements or attachments necessary to perform equivalent work as the baseline equipment.

2. For on-road replacement projects, the post-inspection must include clear photographs of the following views:

    a. At least one side of the vehicle.

    b. VIN Tag – inside vehicle or on frame rail.

    c. Engine serial number and engine information – tag (or primary motive power components).

    d. License plate.

    e. Odometer reading.

    f. Left and right side of engine.

    g. Modifications (if any).

(B) The post-inspection form must also contain other relevant information including, but not limited to:

1. Name of inspector.

2. Date of inspection.

3. Name and contact information of engine or equipment owner.

4. Location of the engine or equipment.

(C) The air district must maintain a copy of the completed post-inspection form in the air district's project file.

(3) Electric Motors: Post-inspection of a replacement electric motor must also include recording of the serial number of the variable frequency drive if the project includes one.

(4) Consistency with Contract: The air district must verify that the information collected in the post-inspection is consistent with the project contract.

(5) Post-inspection of the replacement vehicle or equipment must be completed prior to the payment of funds.

(w) Destruction and Salvage Requirements

(1) Vehicle and equipment replacement projects require the baseline vehicle/equipment and engine to be destroyed to permanently remove it from service.

(2) For off-road replacement and repower projects, destruction of the equipment must occur either at an air district-approved salvage yard or at another facility in conjunction with an air district salvage inspection. For on-road replacement

projects, destruction of the vehicle must occur at an air district-approved dismantler.

(3) For replacement projects, both the baseline vehicle/equipment, and engine must be destroyed and rendered useless as described in Section IV(w)(7), Vehicle and Equipment Destruction, and Section IV(w)(8), Engine Destruction. For repower projects, the baseline engine must be destroyed and rendered useless as described in Section IV(w)(8), Engine Destruction.

(4) The baseline vehicle/equipment and engine must be destroyed within 90 calendar days of being replaced and documentation of the destruction must be provided to the air district within 30 calendar days of destruction. At an air district's discretion, zero-emission replacement and repower projects where the baseline vehicle or equipment is destroyed after 90 calendar days, but within six months may be approved with reasonable justification and must be documented in the project file.

(5) Funding is not available for the salvage of any baseline vehicles, equipment, or engines.

(6) The baseline vehicle or equipment salvage value will be negotiated between the applicant, dealership, and/or the dismantler/salvage yard.

(7) Vehicle and Equipment Destruction

At minimum, the destruction must include the following elements.

(A) For on-road replacement projects, both frame rails must be completely severed between the front and rear axles. Upon request of the air district, CARB may approve an alternative disposition for the baseline vehicle.

(B) For off-road replacement projects, the destruction method of the equipment will vary depending on the structure of the equipment.

1. Equipment with permanent frame rails running the length of the equipment: complete cuts of both frame rails between the front and rear axles.

2. Equipment with removable/bolt-on frame rails: structural damage, with cuts or otherwise, that renders the main body of the equipment inoperable and unrepairable.

3. Equipment without frame rails: structural damage, with cuts or otherwise, that renders the main body of the equipment inoperable and unrepairable.

4. Articulated equipment: damage, cuts or otherwise, to the articulation joints of front and rear halves of the equipment so that neither half can be joined.

5. Other equivalent methods of destruction are acceptable if approved by the air district.

6. In addition to the destruction methods described above, any implements or attachments must be rendered inoperable and unrepairable as determined by the air district.

(8) Engine Destruction

At a minimum, the destruction of an engine must include:

(A) A hole in the engine block with a diameter of at least three inches at the narrowest point. The hole must be irregularly shaped (i.e. no symmetrical squares or circles).

(B) A section of the oil pan flange must be removed as part of the hole or have a line cut through it that connects the hole.

Alternative methods of destruction (e.g., crushing the engine block) are acceptable if approved by the air district.

(9) Salvage Inspections

(A) A salvage inspection of the baseline vehicle or equipment must be performed by the air district, a contracted salvage yard, or a contracted dismantler, unless otherwise specified by the project category requirements.

(B) Air districts which perform their own salvage inspections must be notified within 14 calendar days of destruction so that a salvage inspection can occur.

(C) Salvage inspections must include clear photographs as described below.

1. For off-road projects, these photographs must include:

a. DOORS EIN, if applicable.

b. Equipment serial number.

c. Engine serial number either stamped on the block or on the tag.

d. Destroyed engine block as described in Section IV(w)(8), Engine Destruction.

e. Cut structural components as described in Section IV(w)(7), Vehicle and Equipment Destruction.

f. Destroyed implements or attachments, if applicable.

g. Other views dependent on the method of equipment destruction.

2. For on-road projects, these photographs must include:

a. Front, right, and left side of vehicle with hood down including license plate if available.

b. Vehicle Identification Number (VIN) tag.

c. Engine serial number either stamped on the block or on the tag.

d. Destroyed engine block as described in Section IV(w)(8), Engine Destruction.

e. Cut structural components as described in Section IV(w)(7), Vehicle and Equipment Destruction.

f. Odometer Reading.

(D) Salvage inspection of the baseline vehicle or equipment must be completed prior to issuing funds.

(10) Verification of Engine Destruction: The air district must verify that the baseline engine is destroyed and rendered permanently inoperable and removed from service, consistent with requirements in the project category criteria of these Guidelines and with the air district's Policies and Procedures Manual.

(A) Air district staff must verify and document through photographic or video evidence that the destroyed engine serial number matches that on the project contract.

(B) Air district staff must verify that engines without a visible and legible serial number are uniquely identified by the correct air district stamp or other permanent marking prior to engine destruction.

(x) Project Invoice and Payment

(1) Prior to Payment: Except as specified below, an air district will make payment for a project or equipment only after air district post-inspection finds the project or equipment in place and operational, and the district receives an invoice itemized in sufficient detail to ensure that only completed and eligible project costs are reimbursed, and other sources and amounts of funding for the project are reviewed to ensure the sum of all project funds does not exceed the total project cost (per Section IV(h), Co-Funding). Exceptions are limited to progress or partial payments in cases where the participant provides the air district with sufficient evidence of completing milestones specified in the contract, consistent with conditions specified in air district Policies and Procedures. The air district must maintain a clear record of progress payments in the project file and in records of

the district administration or fiscal unit. Progress payments include final payments that are withheld until all reporting requirements are met (also known as "withheld payments").

(2) Eligible Costs: Taxes and costs associated with the delivery of replacement vehicles, equipment, and engines are eligible for funding at the air district's discretion. Parts and labor on engine repower projects are eligible for funding only if they are required to ensure the effective installation and functioning of the new engine and are not part of typical vehicle or equipment maintenance or repair. For labor expenses paid, the invoice must detail the number of hours charged and the hourly wage. See project category criteria for additional eligible costs.

(3) Limitations on Applicant Action before Air District Approval: An applicant may not make a down payment on a replacement vehicle, equipment, or engine prior to contract execution or approval by the air district governing board or board designee. Dealers and applicants ordering engines, equipment, or vehicles prior to air district approval of grant applications assume all financial risk and are in no way ensured program funds. An applicant may not receive engines, equipment, or vehicles, nor may work begin on a repower project, until the project contract is fully executed, unless the air district has provided the applicant with written notification that any work performed is not guaranteed funding until a contract is executed.

(4) Invoice Procedures: The air district will maintain copies of all invoices and documentation of payment in the project file or otherwise keep copies on-site at the air district office and ensure documents are readily available. Invoices must be evaluated for consistency with the information gathered during the project post-inspection.

(5) Regulatory Compliance: Where a contract requires a participant to demonstrate that specific regulatory compliance requirements have been met to receive funding, air districts may not pay invoices until the participant has provided documentation that the requirements have been met. Should a compliance check indicate that there is an outstanding violation with any vehicle or equipment in the applicant's fleet, no payment may be made until the applicant provides proof to the air district that each violation has been corrected and each fine has been paid. A project participant may demonstrate compliance via a detailed letter signed by the vehicle or equipment owner or legal representative or, if the regulation requires CARB (or the air district) to certify compliance, through CARB (or air district) certification. For more information, see the associated project category chapter. Air districts are not to be held liable if a participant falsifies this documentation.

(6) Payment Recipients: Payments typically will be made directly to the participant. Payments may be made directly to a dealer or distributor only if such payment arrangements are specified in the contract.

(y) Participant Annual Reporting

(1) Annual Reporting Requirement: Air districts will require all participants to submit annual reports within 18 months of the project post-inspection and annually thereafter for the term of the contract.

(2) Report Format: The air district will prescribe a format for the project annual report, to include the following information:

(A) Participant name, address, and telephone number.

(B) Information needed to uniquely identify the replacement vehicle, equipment, or engine, such as engine make, model, horsepower, and serial number.

(C) Estimated percentage of time the vehicle or equipment has been operated in California since the previous annual report.

(D) Readings of the usage device (e.g., hour meter, odometer, or electronic monitoring unit).

(E) Except for projects in which usage is not required to be specified in the contract (as allowed per Section IV(s)(6), Project Specifications), if usage is more than 30% below that identified in the project application, the participant must describe any conditions that are likely to have affected project usage, such as weather, permits, or major maintenance. In instances where annual usage is significantly lower than the contracted level due to unforeseen circumstances beyond the control of the participant, the participant may request a waiver from the air district per Section IV(aa)(3), Minimum Usage Requirements).

(3) Air District Review: The air district will review the annual report for completeness, accuracy, and reported usage, and will maintain in the project file a copy of the report that is initialed and dated by the reviewing staff. An air district choosing an alternative method to indicate its review and approval of annual reports will specify the method in its Policies and Procedures Manual.

(4) Unsatisfactory Reporting:

If an annual report is incomplete, inaccurate, or late, the air district will make a reasonable attempt to obtain a complete and accurate report from the participant and document this in the project file. If the air district is unable to obtain the report, the air district will identify the project for audit as described in Section IV(z), Air District Audit of Projects.

(5) Subsequent Grants: Participants that have not submitted complete required reports will not be granted funds for new FARMER Program projects until all reports are satisfactorily submitted.

(z) Air District Audit of Projects

(1) Requirement: The air district will conduct audits of projects funded with FARMER Program funds. On an annual basis these audits will include 5% of active projects or 20 active projects (whichever is less), including any audits conducted following unsatisfactory annual reporting as described in Section IV(y)(4), Unsatisfactory Reporting.

(2) Project Audits: Audits must be completed in-person by air district staff and will, at a minimum, include an inspection that verifies that the vehicle, equipment, and/or engine paid for are still owned by the participant named in the contract, are still operational in the same vehicle or equipment, and meet the mileage, fuel usage, or hours of operation indicated in the executed contract. This must be performed by checking the serial number of the engine; witnessing the operation of the engine; and checking the usage meter or fuel receipts.

(aa) Nonperforming Projects

(1) Requirement: The air district will work with nonperforming project participants to ensure FARMER Program project requirements are met and emission reductions are achieved, consistent with procedures outlined in the district Policies and Procedures Manual. The air district must take appropriate action to ensure emission reductions are realized for projects. Air districts may consider unforeseen circumstances beyond the participant's control in determining repercussions for nonperformance.

(2) Recapturing Funds: The air district must establish a mechanism to assure the participants fulfill all contractual obligations, including owning and operating the funded vehicles, equipment, and engines for the contract term and completing annual reports. When an air district is not successful in gaining participant compliance with the usage and program requirements specified in a contract, the district will make all reasonable efforts to resolve any issues. If the air district is unable to resolve any remaining issues and those remaining issues result in a breach of the grant agreement, the air district must make all reasonable efforts to recapture FARMER Program funds from the participant. Recaptured funds will be reassigned to projects that achieve the shortfall in emission reductions or usage. The air district's efforts to recapture funds may be guided by circumstances such as suspected or actual fraud or misuse of funds, the amount of FARMER Program funding involved, or the ability of the participant to repay the funds.

(3) Minimum Usage Requirements

The air district must evaluate whether usage requirements are being met at 24 months after the beginning of or halfway through the project implementation phase of the contract term, whichever is longer, and at the end of the contract term. When average usage for a replacement vehicle, equipment, or engine is less than 70% of the activity required in the contract, the air district may choose, but is not limited to, the options below to address underutilization.

(A) Extend the contract term to a point at which the average annual usage over the project implementation phase of the contract term supports the grant amount and ensures emission reductions achieved by the project are within the maximum allowable cost-effectiveness level for the project life.

(B) Return funds in proportion to the loss in emission reductions.

(C) Transfer ownership of the replacement vehicle, equipment, or engine to another entity committed to complying with the contract terms.

(D) Recalculate and verify a project is within the cost-effectiveness limit based on the reported usage, consistent with the limit and methodology in effect on the date of contract execution and prior to the end of the contract. If the project is no longer within the maximum allowable cost-effectiveness limit, the air district must choose another option to address underutilization.

(E) Grant a usage waiver, without penalty, to the participant for a defined time period. The participant must demonstrate to the air district's satisfaction that the replacement vehicle, equipment, or engine is not being underutilized in favor of operating other, higher-polluting vehicles, equipment, or engines and that the underutilization was due to unforeseen conditions beyond the participant's control.

1. The conditions under which a waiver may be issued include, but are not limited to, the following:

    a. A decrease in usage due to economic recession;

    b. Unforeseen fluctuations in water allocations or pumping needs for agricultural irrigation pump engines; or

    c. Significant land fallowing for off-road agricultural equipment and agricultural irrigation pump engines.

2. To be considered for a waiver, the participant must provide a written request to the air district along with documentation that substantiates the need for the waiver and verifies that higher-polluting equipment is not consequently receiving more use.

a. The air district will specify the length of time for which the waiver is valid. The waiver will not exempt the participant from any contract requirement to provide annual usage reports.

b. The waiver will be documented in writing, approved by the APCO or designee, and included in the project file.

3. For projects in which usage waivers are granted, air districts must extend the contract as necessary and monitor the projects until the average annual usage meets at least 70% of the usage required by the contract over a minimum of three years, excluding the time period covered by the waiver.

(4) Funds Recaptured Following CARB Enforcement: Program funds recaptured from a project participant as a result of a settlement agreement executed by CARB shall be returned to the air district that granted the funds.

V. Eligible Off-Road Projects

This chapter describes the minimum criteria and requirements for FARMER Program mobile, portable, and stationary off-road compression-ignition (diesel) and spark-ignition projects.

(a) Projects Eligible for Funding

(1) The following off-road equipment projects may be eligible for funding.

(A) Repower of Baseline Equipment: The replacement of the baseline engine with a newer emission-certified engine or zero-emission technology instead of rebuilding the baseline engine to its original specifications.

(B) Equipment Replacement: The purchase of new or used equipment with an engine certified to or cleaner than the current emission standard or Tier to replace an older, fully functional piece of equipment that is to be scrapped.

(b) Maximum Eligible Funding Amounts

(1) Maximum Eligible Funding Amounts

Table 2 summarizes the maximum eligible funding for each project type.

Table 2: Maximum Percentage Eligible for Off-Road Projects

Project Type	Maximum Funding Amount
Repowers	85% of the eligible costs
Mobile or Portable Combustion Equipment Replacement	80% of the eligible costs

Project Type	Maximum Funding Amount
Zero-Emission Equipment Replacement	85% of the eligible costs

In addition to the maximum eligible funding amounts for each project type above, all off-road projects in this section are subject to the cost-effectiveness limits specified in Table 3. Grant amounts must be evaluated on a 10-year project life, consistent with Health and Safety Code (HSC) § 44282.5(a), and must not exceed the cost-effectiveness limits below.

Table 3: Cost-Effectiveness Limits for Off-Road Projects

Project Type	Cost-Effectiveness Limit ($/weighted ton)
Mobile, Combustion Equipment Replacement and Repowers	$60,000
Zero-Emission Equipment Replacement and Repowers	$120,000

(2) Contract Term

The minimum allowable project implementation phase of the contract term for off-road projects is three years.

(3) Project Life

In accordance with HSC § 44282.5, farm equipment[11] may be eligible for funding up to the compliance date of an applicable in-use regulation and shall be deemed to have a minimum 10-year project life. Farm equipment projects must be under a fully executed contract and must be operational prior to the applicable compliance date.

(4) Usage

Cost-effectiveness calculations must be hour-based. Calculation of funding amounts must be based on the average of a minimum of the two most recent years of documented equipment usage, when available. For projects in which the two most recent years of documented usage are not available, the minimum

[11] For mobile equipment, farm equipment is defined as equipment used in "agricultural operations" as defined under title 13, CCR, section 2449(c)(1). For portable and stationary engines, farm equipment includes the agricultural sources defined in HSC section 39011.5.

annual usage is required to be specified in the contract, as described in Section IV(s)(6), Project Specifications. Fleet averages cannot be used. All replacement equipment or engines must have a fully operational hour meter for the duration of the contract term. If during the contract term, the hour meter fails for any reason, the hour meter must be repaired or replaced within 30 days at the owner's expense.

(c) General Project Criteria

The minimum criteria for off-road projects are listed below. Unless otherwise stated, all provisions in this section must be met for a project to be deemed eligible.

(1) Projects with baseline and replacement diesel and spark-ignition engines greater than or equal to 25 horsepower on mobile or portable off-road equipment and stationary agricultural equipment are eligible. Mobile agricultural tractor projects with baseline diesel and spark-ignition engines greater than or equal to 20 horsepower are also eligible when replaced with zero-emission.

(2) Equipment used exclusively in agricultural operations is eligible for funding. A piece of equipment that is used for both agricultural and non-agricultural operations is eligible only if over half of its annual operating hours are for agricultural operations.

(A) For baseline diesel equipment, "agricultural operations" are defined consistent with title 13, CCR, section 2449(c)(1), as follows:

"Agricultural operations" means (1) the growing or harvesting of crops from soil (including forest operations) and the raising of plants at wholesale nurseries, but not retail nurseries), or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution, or (2) agricultural crop preparation services such as packinghouses, cotton gins, nut hullers and processors, dehydrators, and feed and grain mills. Agricultural crop preparation services include only the first processing after harvest, not subsequent processing, canning, or other similar activities. For forest operations, agricultural crop preparation services include milling, peeling, producing particleboard and medium density fiberboard, and producing woody landscape materials.

(B) For baseline spark-ignition equipment, "agricultural operations" and "agricultural crop preparation services" are defined consistent with title 13, CCR, section 2775(d)(3) and section 2775(d)(2), as follows:

"Agricultural Operations" means (1) the growing or harvesting of crops from soil (including forest operations) and the raising of plants at wholesale nurseries, but not retail nurseries, or the raising of fowl or animals for the

primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution, or (2) agricultural crop preparation services.

"Agricultural Crop Preparation Services" means packinghouses, cotton gins, nut hullers and processors, dehydrators, feed and grain mills, and other related activities that fall within the United States Census Bureau NAICS (North American Industry Classification System) definition for Industry 115114 – "Postharvest Crop Activities," as published in the North American Industry Classification System – United States, 2002. For forest operations, "Agricultural Crop Preparation Services" means milling, peeling, producing particleboard and medium density fiberboard, and producing woody landscape materials and other related activities that fall within the United States Census Bureau NAICS definition for Industries 321113 (Sawmills) and 321219 (Reconstituted Wood Product Manufacturing)," as published in the North American Industry Classification System – United States, 2007.

(3) Horsepower for a baseline or replacement equipment or engine must be determined based on the engine label, manual, engine records, or other verifiable records. For baseline equipment in which the actual engine horsepower cannot be determined based upon the engine label, manual, and engine records, air districts may determine baseline engine horsepower by the following formula: Engine horsepower = Power Take Off (PTO) horsepower x 120%.

(4) Future annual hours of equipment operation for determining emission reductions must be based on documented usage of the baseline equipment or specified in the contract.

(5) The certification emission standard and/or Tier designation for the baseline engine (if applicable) and the new engine must be determined from the CARB Executive Order or U.S. EPA Certificate of Conformity (for federally preempted engines) issued for that engine. CARB Executive Orders for off-road engines may be found at *https://ww2.arb.ca.gov/new-vehicle-and-engine-certification-executive-orders*.

(6) The baseline emission rates for flexibility engines as detailed in CCR, title 13, section 2423(d) must be determined based upon the standard or Tier associated with the actual reference family listed on the emission control information label of the baseline equipment or in the Executive Order associated with the engine family name. The CARB Executive Order for these engines indicates that the engines are certified under the flexibility provision. Air districts must retain this documentation in the project file.

(7) Replacement equipment eligible for off-road projects must contain engine(s) that are certified to or cleaner than the current applicable standard or Tier. If repowering or replacing with an engine meeting the current applicable standard is technically infeasible, unsafe, or not available when the air district commits to the proposed project, the engine must meet the previously applicable emission standard. The air district shall determine eligibility of repower and replacement projects using an engine certified to a previous emission standard using the criteria listed below:

(A) At the applicant's request, confirmation of availability of an engine meeting the most recent emission standards or Tier may be limited to the same manufacturer as the baseline engine.

(B) If the air district and the applicant do not execute a contract for the project within six months of project commitment, then the air district must recheck for the availability of engines meeting the current standard.

(C) Documentation that engines meeting the current applicable standards are unavailable must be included in the air district's project file. Acceptable documentation that engines meeting the most recent emission standards are unavailable include:

1. Verifiable information from the engine manufacturer, engine distributor, and/or engine dealer regarding the unavailability of engines meeting the current emission standards or Tier.

2. Confirmation (a written declaration by the air district is acceptable) that engines from a specific manufacturer are not certified to the current emission standards or Tier.

3. For repower projects, a written statement of reason(s) provided by the engine manufacturer verifying that a particular piece of equipment cannot accommodate an engine meeting current standards without major modifications or safety risks. The letter must include information on the equipment being repowered, the engine being replaced, the reason why an engine meeting the currently applicable standard cannot be used (including applicable supporting documentation), and the proposed replacement engine. Air districts must retain the written statement of reasons in the project files.

4. For repower projects, the engine manufacturer has provided CARB with sufficient information on engine and/or equipment models for which repowers are available, and engine and/or equipment models for which repowers are not available or feasible. Engine manufacturers who are interested in pursuing this option should contact CARB. CARB staff will

maintain a list of such engines and/or equipment models and make that list available to air district staff.

(8) The maximum horsepower for the replacement equipment or engine is 25 horsepower greater than or 35% greater than the manufacturer rated horsepower for the baseline equipment or engine, whichever is greater.

(A) In limited situations, such as where equipment in the original horsepower range is not available or the higher horsepower equipment will result in equal or lower annual emissions, the air district may approve a greater increase in horsepower.

(B) In addition to the limited situations described above, replacement equipment or engines may be funded with a greater horsepower increase at an air district's discretion. The eligible funding amount for these projects must be based upon the cost of an equipment or engine whose horsepower is no higher than 25 horsepower greater than or 35% greater than the baseline horsepower, whichever is greater, unless the equipment or engine with the higher horsepower is less expensive. The applicant must pay the additional costs associated with the higher horsepower engine if applicable, and the emission reduction calculation must be based upon the funded (higher horsepower) engine. The air district's project file must include documentation of the cost of the funded (higher horsepower) equipment as well as the method used to determine the basis for the project grant amount (e.g., dealership cost estimate of lower horsepower equipment or a dollar per horsepower methodology).

(9) Zero-emission equipment is eligible for funding provided it can serve the same function and perform the same work as the equipment that it is replacing.

(10) No funds will be issued for maintenance or repairs related to the operation of the baseline or replacement equipment. The participant takes sole responsibility for ensuring that the equipment and/or engine is in operational condition throughout the agreement period.

(11) For portable/stationary agricultural projects, State and air district rules impacting agricultural sources must be considered when determining whether projects provide emission reductions prior to regulatory requirements. FARMER Program eligibility may be based on the requirements of the local rule if the local rule meets the requirements of Health and Safety Code section 39666(d).

(d) Repower Project Criteria

(1) New engines manufactured under the "Flexibility Provisions for Equipment Manufacturers" as detailed in CCR, title 13, section 2423(d), are ineligible for funding to repower equipment.

(2) Repower to convert to zero-emission technology is eligible for funding. Except for stationary agricultural equipment, zero-emission repower projects must include a three-year or 5,000-hour warranty. The warranty must cover zero-emission system parts and labor.

(3) Variable frequency drives (VFD) may be eligible for funding provided the air district reports VFD cost and serial number information to CARB.

(4) Ineligible repower costs include tires, axles, paint, brakes, and mufflers.

(5) In stationary electric motor projects, the participant must provide documentation of application or payment to the local utility company for power installation.

(6) An electric motor on an agricultural irrigation pump project that is under contract may be considered for invoice payment once the motor has been delivered to the project site, and the motor has been connected to the electricity grid.

(7) For portable/stationary agricultural projects, only engines currently compliant or exempt from Portable or Stationary Airborne Toxic Control Measure (ATCM) and local rules are eligible to be repowered.

(e) Equipment Replacement Project Criteria

(1) Equipment replacement projects are limited to mobile and portable equipment.

(2) The replacement of two (or more) pieces of baseline equipment with one piece of replacement equipment is eligible for funding. All baseline and replacement equipment must comply with all the appropriate criteria in this section. The replacement equipment must serve the same function and perform the same work equivalent as the baseline equipment. For baseline emissions calculation, the annual emissions of the two pieces of baseline equipment are summed. For the replacement equipment emissions calculation, the annual usage of the two pieces of baseline equipment is summed for the replacement equipment usage. The horsepower rating for the replacement equipment's engine must not be greater than 25 horsepower more than (or 35% greater than the manufacturer rated horsepower, whichever is greater) the engine with the higher horsepower in the two (or more) baseline equipment unless the participant pays for the horsepower upgrade as specified in Section V(c)(8)(B).

(3) If air districts use equipment dealers in implementing the equipment replacement program, reimbursement cannot be issued until all necessary documentation is received and approved by the air district. This includes warranty requirements and all other equipment replacement requirements.

(4) Baseline Equipment Requirements

(A) Equipment Ownership

The applicant must have owned and operated the baseline equipment in California for the previous 24 months. The applicant must provide documentation of the following specific to the baseline equipment (select one):

1. Bill of sale for the baseline equipment (preferred).
2. Tax depreciation logs.
3. Property tax records.
4. Equipment insurance records.
5. Bank appraisals for equipment.
6. Maintenance/service records.
7. General ledgers.
8. Fuel records specific to the baseline equipment that identify the equipment owner.
9. Other documentation approved by CARB.

(B) Operational Requirements

The baseline equipment must be in operational condition to qualify for funding. A pre-inspection of the baseline equipment must be performed prior to funding to verify the operational status of the equipment. In addition, the applicant must provide documentation to demonstrate that the equipment was operational for the previous year. The following types of documents are acceptable:

1. Revenue and usage records that identify operational, standby, and down hours for the equipment.
2. Routine inspections which document the operating condition of the baseline equipment (Occupational Safety and Health Administration or workplace required).
3. Employee timesheets linked to specific equipment use.
4. Preventative maintenance/service records tied to specific hours of equipment use.
5. Repair work orders specific to the equipment.
6. Other documents approved by CARB.

(5) Replacement Equipment Requirements

(A) The replacement equipment must serve the same function and perform the same work equivalent as the baseline equipment (e.g., replacement of an agricultural tractor with another agricultural tractor or replacement of a tractor and sprayer with a mobile sprayer).

(B) For projects where the baseline equipment type varies from the replacement equipment, the following provisions must be met:

1. The applicant must provide a detailed description of how the replacement equipment will serve the same function and perform the same work equivalent as the baseline. The air district must maintain this detailed description as documentation in the project file.

2. Usage documentation of at least the most recent 24 months of equipment usage for the baseline equipment must be provided by the applicant for the following types of projects:

    a. Baseline equipment is replaced with equipment that has additional functionality (e.g., a mobile sprayer replaced with a tractor and PTO-driven sprayer).

    b. A single baseline equipment is replaced with multiple zero-emission equipment.

(C) Eligible Costs

1. Items essential to the operation of the equipment (e.g., a charger and extra battery pack for zero-emission equipment) and the minimum attachments normally sold with the original equipment, as determined by the air district.

2. Implements necessary for the replacement to perform the same work and serve the same function as the baseline.

(D) Equipment owners may remove non-emission related body components and place them on the replacement equipment if the components do not exist on the replacement equipment and are not part of the paid components for the replacement equipment.

(E) For projects in which the replacement equipment can perform additional work per hour and be documented through a measurable physical characteristic, the hours of use for the replacement equipment may be adjusted from the baseline equipment's usage, according to the efficiency factor described in the CARB-approved quantification methodology for the FARMER Program.

(F) Warranty Requirements

1. All new or used replacement equipment must have a minimum one-year or 1,600-hour powertrain warranty, whichever comes first. The warranty must cover parts and labor. A separate supplemental minimum one-year or 1,600-hour power- and drivetrain warranty must be purchased if the equipment does not have one.

2. Supplemental or extended warranty costs for zero-emission replacements are eligible for funding, but not for replacements powered by diesel or spark-ignited engines.

3. It is recommended that the highest-grade warranty be purchased to avoid expensive repairs in the future.

4. Warranty documentation must be provided to the air district.

(G) Air districts may fund equipment replacement projects through a regional program administered by a designated air district. The designated air district could be either an air district located within the regional program or a large air district located outside of the regional program. A regional equipment replacement implementation plan must be established, containing all the required components as required in an individual air district's off-road equipment replacement procedures manual. A regional equipment replacement procedures manual must also contain a detailed description of the funding mechanism among the participating air districts. All air districts participating in the regional program must sign the regional equipment replacement implementation plan and must adhere to all the requirements specified in such regional implementation procedures.

(H) Air districts are encouraged but are not required to establish contracts with dealers and salvage yards for participation in the program.

(I) Air districts must ensure the following are performed:

1. Pre-inspection of the baseline equipment. This may be performed by an air district approved dealer.

2. Verification that the replacement equipment proof of sale and proof of financing (if applicable) have been received from the dealer or participant.

3. Post-inspection of the replacement equipment. This may be performed by an air district approved dealer.

4. Salvage inspection of the baseline equipment. This may be performed by an approved salvage yard.

5. Verification that all post-inspection of replacement equipment and salvage inspection of baseline equipment were completed, and all

documentation is submitted and approved prior to disbursement of funds.

(J) The air district is allowed to make full payment to the dealer at the time the dealer delivers the replacement equipment to the applicant under the following framework:

1. The air district must complete the pre-inspection of the baseline equipment and post-inspection of the replacement equipment to make sure that all equipment complies with program requirements.

2. The air district must sign a contract with the dealer and the salvage yard that contains, at a minimum, the program requirements that are expected of each entity and the repercussions for non-compliance with the terms of the contract for each entity. This shall include, but is not limited to, the requirement that the dealer delivers the baseline equipment to a qualified salvage yard within 30 calendar days of the dealer's receipt of the baseline equipment.

3. The air district must ensure the equipment is scrapped within 60 calendar days of the salvage yard's receipt of the equipment through salvage inspection with the salvage yard to properly document-t the destruction of the baseline equipment in accordance with Section IV(w), Destruction and Salvage Requirements.

(6) Contracted Dealer Requirements

(A) Equipment dealers that enter into a contract with an air district must:

1. Provide basic information to potential applicants about the equipment replacement category. Air districts must also provide liaison training to dealership staff.

2. Inform potential applicants of rights and responsibilities as outlined in the air district and CARB guidelines.

3. Help the potential applicants correctly complete the application. It is important that the participant understands the meaning of the program and the subsequent air district contract if approved for funding. The air district will provide all forms and certificates as appendices to the application.

4. Ensure that an application package is complete. The dealer must verify that all the following items are included in the application package:

a. A signed and complete application.

b. All documentation as required in Sections V(e)(4)(A), Equipment Ownership, and V(e)(4)(B), Operational Requirements.

c. The following information must also be included in the documentation:

i. Make.

ii. Model.

iii. Model year.

iv. Equipment serial number.

v. Engine make.

vi. Engine serial number.

vii. Expected delivery date of baseline equipment.

viii. Documentation of replacement equipment warranty (if applicable).

5. Submit the completed application package to the air district.

(B) After the application and all required documentation have been approved by the air district, the dealer must provide the air district with proof of sale and if applicable, proof of financing of the replacement equipment. The financing package will enable the air district to determine the reimbursement costs that may be accrued in case the participant defaults on the contracted performance requirements. Proof of project financing can be a document showing the lender and the amount loaned, which at a minimum is a copy of the check given to the dealer equal to the portion of the project that was not FARMER Program funded. Proof of project financing is always required unless the participant paid cash for the portion of the project that was not FARMER Program funded.

(C) Prior to releasing the replacement equipment to the participant, the dealer must have documentation of an air district pre-inspection of the baseline equipment and the post-inspection of the replacement equipment. Alternatively, if approved by the air district to do pre- and post-inspections, the dealer must verify that photographs of the baseline equipment and the replacement equipment, as described in Sections IV(u)(3), Pre-Inspection Documentation, and IV(v)(2), Post-Inspection Documentation, are approved by the air district prior to releasing the equipment.

(D) The dealer must provide documentation certifying that the baseline equipment will be received by a contracted salvage yard within 30 calendar days.

(7) Contracted Salvage Yard Requirements

(A) Equipment salvage yards must enter into an agreement with the air district to qualify for participation.

(B) Contracted salvage yard(s) must:

1. Destroy the baseline equipment and engine within 60 calendar days of receiving the baseline equipment in accordance with the program guidelines.

2. Provide the air district with all photographs required under the air district's salvage inspections requirements per Section IV(w)(9), Salvage Inspections, within 14 calendar days of destroying the baseline equipment.

3. For each project, provide the following information:

a. Make.

b. Model.

c. Model year.

d. Serial number.

e. Engine make.

f. Engine serial number.

g. Delivery date of the baseline equipment.

4. Submit a completed certificate of equipment destruction or other similarly approved documentation to the air district.

(f) Projects subject to the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) (Cal. Code Regs., tit. 13, §§ 2449 *et. seq.*)

(1) The baseline and replacement equipment must be reported in DOORS when it is used a majority of the time, but not exclusively, in agricultural operations.

(2) Fleets must be in compliance with the regulation in order to be eligible for and receive funding.

(A) Applicants must submit information regarding fleet size and compliance status. All documentation submitted must be signed and dated by the

applicant and include language certifying that the fleet list provided is accurate and complete. Air districts are not required to validate submitted information and will not be held liable if fleet owners falsify fleet information. However, if an air district suspects that the data submitted is falsified, the matter should be referred to CARB. The following information shall be submitted at the time of application:

1. DOORS ID of the fleet.
2. DOORS EIN of the baseline equipment.
3. Documentation from DOORS showing the baseline equipment is reported as 51-99% agriculture.
4. Documentation demonstrating compliance with the Off-Road Regulation.

(B) For projects with replacement equipment used the majority of time for agricultural operations, applicants must report the replacement equipment as funded equipment in DOORS and submit to the air district the DOORS EIN of the replacement equipment no later than at post-inspection of replacement equipment.

(C) Applicants are not required to submit DOORS information on off-road vehicles used 100% of the time for agricultural operations as defined by the Off-Road Regulation.

(D) No emission reductions achieved from a funded project can count towards a fleet's regulatory requirements for the duration of the contract term.

(g) Projects subject to the Large Spark Ignition Engine Fleet Requirements (LSI Fleet Regulation) (Cal. Code Regs., tit. 13, §§ 2775 *et. seq.*)

(1) Agricultural Crop Preparation Services (ACPS) fleets must be in compliance with the regulation in order to be eligible for and receive funding.

(2) Rental or leased LSI equipment are not eligible for funding.

(3) Fleets with LSI equipment not subject to the LSI Fleet Regulation, including but not limited to the equipment below, are eligible for funding.

(A) Agricultural crop preparation non-forklift equipment and pre-1990 forklifts.

(B) Forklifts used exclusively in fields to harvest and maintain crops.

(C) Small fleets (one to three forklifts and/or one to three sweeper/scrubbers) engaged in agricultural operations.

(4) If applicable, applicants must submit to the air district the DOORS EIN of the replacement equipment no later than at post-inspection of the replacement equipment.

(5) Applicants are not required to submit information on exempted equipment.

(h) Projects subject to the Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater (Portable Engine ATCM) (Cal. Code Regs., tit. 17, §§ 93116 *et. seq.*)

(1) Portable diesel engines 50 horsepower or greater that are used in agricultural operations the majority of the time, in forestry operations, or in rental businesses are subject to the Portable Engine ATCM.

(2) To be eligible for FARMER funding, diesel engines regulated under the Portable Engine ATCM must be permitted or registered in an air district or registered in the Portable Equipment Registration Program. If the portable engine is not required to be permitted or registered, documentation must be included in the project file from the air district stating that a permit or registration is not required to operate in the air district.

(3) To be eligible for funding, fleets must be fully compliant with the current regulatory requirements.

(i) Projects subject to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles (Truck and Bus Regulation) (Cal. Code Regs., tit. 13, § 2025)

This regulation impacts the eligibility of all on-road heavy-duty diesel-fueled and alternative diesel-fueled vehicles operated in California with a manufacturer's gross vehicle weight rating (GVWR) greater than 14,000 pounds. Although this regulation primarily affects vehicles with on-road engines, some vehicles with off-road engines are also covered. Any application for FARMER Program funding to replace a vehicle with an off-road engine that is subject to an on-road regulation (e.g., off-road yard trucks used primarily in agricultural operations) must currently be in compliance with the Truck and Bus regulation and comply with all off-road project criteria described in this section.

VI. Eligible On-Road Projects

This chapter describes the minimum criteria and requirements for FARMER Program on-road heavy-duty vehicle replacement projects. Air districts with board-approved Truck

Trade-Up Programs may also utilize FARMER Program funding on trade-up transactions involving agricultural vehicles after receiving CARB approval of the air district's Truck Trade-Up Program criteria.

(a) Projects Eligible for Funding

Heavy-duty vehicle replacements (i.e., vehicles with a gross vehicle weight rating greater than 14,000 pounds) used in agricultural operations are eligible for funding. Heavy-duty vehicle replacements are the replacement of an older, dirtier vehicle with a newer, cleaner one.

(b) Maximum Eligible Funding Amounts

The information contained in this section shall be used to determine the funding amount for which any given heavy-duty on-road project is eligible.

(1) The FARMER Program provides up to 65% of the purchase price of an eligible replacement vehicle, including used vehicles.

(2) State Funding Limits

Funding for an on-road heavy-duty project includes funds from all State sources including the FARMER Program. The maximum percentage of eligible cost represents the maximum funding available for the project. If the project is co-funded with other State funds, the funding cap represents the maximum amount of funds from all State sources that can be applied to the project. Federal, local, or other non-State grant funds can be used in addition to the funding caps stated in this section if the criteria for co-funded projects in Section IV(h), Co-Funding, are satisfied.

(3) Expenses Eligible for Funding

Upgrades to replacement vehicles that add to the cost may be eligible for funding upon determination of the air district. Otherwise, FARMER Program funding may only be used to fund the "base model" that will serve the same function as the baseline vehicle.

(c) Project Criteria

(1) General Criteria

(A) Weight Class Range

1. The replacement vehicle must be in the same weight class as the baseline vehicle. A MHD vehicle can replace a HHD vehicle if they both have the same axle configuration (e.g. a baseline HHD vehicle with two axles can be replaced with a MHD vehicle with two axles).

2. Baseline and replacement on-road heavy-duty vehicles (with GVWR over 14,000 lbs.) must be powered by an engine certified to the applicable heavy-duty intended service class as shown on the engine certification Executive Order. However, the following cases may be allowed:

    a. MHD engines may be installed in HHD vehicles with GVWR up to 36,300 lbs. (10% higher than 33,000 lbs. GVWR) with written warranty verification by the engine and chassis manufacturer. A copy of the written warranty verification must be maintained in the air district project file.

    b. HHD engines may be installed in MHD vehicles if necessary for vocational purposes but only if the GVWR are within 10% of the HHD intended service class (i.e., GVWR of 29,701 lbs. or greater).

(B) Annual Usage

1. At least 51% of the total annual mileage must be accrued in California. Only mileage accrued in California can be used to determine emission reductions.

2. Emission reductions must be based on annual mileage for the previous 24 months. Applicants must submit conclusive documentation of the baseline vehicle's mileage such as logbooks, and maintenance records maintained for individual vehicles, or CHP inspection reports.

(C) Compliance Check

Before contract execution, air districts must evaluate projects for regulatory compliance through one of the methods described below.

1. During the pre-inspection, air districts must verify that the baseline vehicle contains a model year 2010 or newer engine.

2. Applicants must provide the air district with a printout from the Truck Regulations Compliance and Reporting System (TRUCRS) documenting that the vehicle is compliant under one of the following provisions:

    a. Low-use exemption.

    b. NOx exempt area extension.

(D) Obtaining Financing: The participant may obtain financing to assist in the purchase of the replacement vehicle.

(E) The baseline vehicle must be based in California as shown through vehicle registration. Air districts have the option to limit eligibility to applicants that

reside within the district's air basin or operate their vehicles within specified air basins.

(F) The baseline and replacement vehicle must operate as an "agricultural vehicle" as defined in the Truck and Bus regulation.

(2) Participant Requirements

(A) Ownership

The participant must currently be the sole owner of the baseline vehicle, documented through a copy of the baseline vehicle title. The title must show no active lienholders. The title need not be a California title. In addition, the participant must have owned and operated the vehicle over the previous 24 months. If the title does not show sole ownership for the previous 24 months, the applicant must be listed as one of the owners or shown as a registered owner on registration documentation for the previous 24 months. If the baseline vehicle title is not available, then all three of the following must be used as alternative documentation until a duplicate title is received from the California DMV:

1. A copy of the current and valid vehicle registration,
2. A copy of the DMV Vehicle Registration Record (printout), and
3. A copy of the DMV receipt for duplicate title request. A copy of the duplicate title must be received by the air district before contract execution. If it is unclear whether a vehicle is owned or leased by a participant, the air district will determine whether the vehicle is eligible.

(B) The participant must submit conclusive documentation (logbooks, maintenance records, tax records, etc.) of annual miles traveled in California for the previous 24 months and certify that at least 51% of total usage has been in California.

(C) Participants may only apply to one air district at a time for each project.

(D) The participant must be the sole registered owner of the replacement vehicle for three years or the duration of the contract term, whichever is longer. Throughout the contract term, the participant must annually:

1. Provide registration and proof of insurance to the air district.
2. Provide reports that include items specified by the air district which may include miles driven in the air district and in California, and details regarding maintenance and servicing.

3. Operate the vehicle within California for at least the percentage of time specified in the contract.

(E) Report accident or loss of vehicle: If the replacement vehicle is in an accident or is stolen, the accident or theft must be reported to the air district within 14 calendar days. The participant must provide the police report, a letter from the insurance company regarding the accident or theft, and other information requested by the air district. The participant must repair the vehicle and return it to operation, if possible. If the vehicle is totaled, the participant and the air district staff must come to an agreement regarding any requirements that still need to be met. If the participant will continue the business, efforts should be made to obtain a substitute vehicle that can take over the terms of the contract. The substitute vehicle must be at least as clean as the original FARMER Program funded vehicle, be in the same weight class, and cannot have more miles than would have been accumulated based on the mileage used to determine the funding amount, or no more than 600,000 miles for HHD vehicles, 350,000 miles for MHD vehicles, and 250,000 miles for LHD vehicles.

(F) If, during the life of the contract, the participant wishes to sell the replacement vehicle, the administering air district must approve the vehicle ownership change prior to its sale. The new owner must be willing to assume program obligations with the air district and comply with the terms and conditions outlined in the FARMER Program Guidelines.

(G) Any change of ownership, change in registration status, or change of mailing address during the contract term must be reported to the air district within 14 calendar days.

(3) Baseline Vehicle and Engine Requirements

(A) The baseline vehicle must currently operate on diesel fuel.

(B) The baseline vehicle must currently be in compliance with CARB's Truck and Bus regulation under one of the following provisions:

1. Low-Use Exemption.

2. NOx Exempt Area Extension.

3. Engine Model Year Schedule.

(C) The baseline vehicle must either be:

1. Currently registered and have been registered in California for the past 24 months supported by documentation showing no lapses (except for seasonal vehicles and those eligible under the military service provision); or

2. Must have been registered in California for the previous eight consecutive months with supporting documentation supplemented by alternate documentation showing California operation for the past 24 months.

California International Registration Plan (IRP) documents are acceptable.

(D) If the baseline vehicle operates seasonally, then the baseline vehicle may be eligible to participate if it has been registered in California for three to six continuous months per 12-month period for the previous 24 months. DMV partial year registration documentation for each period the vehicle was registered must be included with the application.

(E) The participant must provide proof of insurance for the baseline vehicle for the previous 24 months.

(F) The baseline vehicle must meet the criteria for either a LHD vehicle, MHD vehicle, or HHD vehicle, as defined below:

1. LHD vehicles must have a manufacturer GVWR of 14,001-19,500 lbs.

2. MHD vehicles must have a manufacturer GVWR of 19,501-33,000 lbs.

3. HHD vehicles must have a manufacturer GVWR of 33,001 lbs. or greater.

GVWR may be documented with a photo of the vehicle manufacturer tag or a copy of the manufacturer build sheet.

(G) Engine Verification

1. The air district file must include a copy of the baseline engine Executive Order. If an Executive Order is not available, the air district may request approval of alternative documentation on a case-by-case basis.

2. If the baseline vehicle engine tag is missing, then verification of the engine information can be satisfied with the engine serial number. The participant must provide verification of the engine make, model, model year, engine serial number, and horsepower from the manufacturer.

(H) Operation of Baseline Vehicle After Approval: If the baseline vehicle is in an accident or has an engine failure after receiving approval from the air district but prior to replacement, then the baseline vehicle will still be eligible for receiving funds from the program if all other on-road requirements have been met.

(4) Replacement Vehicle Requirements

(A) Replacement Heavy-Duty Vehicle Eligibility

1. The replacement vehicle must have a GVWR of 14,001 pounds or greater.

2. The replacement vehicle's engine must be certified to or cleaner than the 2010 model year NOx emission standard of 0.20 grams per brake horsepower-hour (g/bhp-hr). Zero-emission replacement vehicles are eligible for funding.

3. The replacement vehicle must be purchased from a dealership – no private party transactions are permitted.

4. Used, replacement vehicle must have less than the miles indicated below on the odometer:

    a. Class 8 vehicles (GVWR of 33,001 pounds or greater) and Class 7 vehicles (GVWR of 26,001 to 33,000 pounds) with heavy heavy-duty (HHD) engines must have less than 650,000 miles.

    b. Class 7 vehicles (GVWR of 26,001 to 33,000 pounds) with medium heavy duty (MHD) engines must have less than 350,000 miles.

    c. Class 4-6 vehicles (GVWR of 14,001 to 26,000 pounds) must have less than 25,000 miles.

(B) Body and Axle Configuration: The replacement vehicle must have the same axle and body configuration as the baseline vehicle. The air district may allow changes at its discretion.

(C) Title: The replacement vehicle must have a clean title prior to purchase. The replacement vehicle must not have a salvage title and must not have been in an accident, repaired, and became available for resale.

(D) California Registration: The replacement vehicle must be registered in California or in the California IRP.

(E) The participant must maintain insurance coverage for the replaced vehicle as required by law for the duration of the contract term. The participant is encouraged to have replacement value insurance coverage to ensure complete repair or replacement in the event of major damage to the vehicle. If the vehicle is not repaired and/or replaced during the contract term, the applicant must return prorated funds based on the proportion of time the vehicle was not operated by the participant divided by the contract term.

(F) Warranty requirements: The following warranty requirements apply:

1. For new diesel vehicle replacements, all participants must purchase a minimum of a one-year or 100,000-mile major component engine warranty for the new replacement vehicle. The warranty must cover parts

and labor. If the purchase of a new replacement vehicle already includes a minimum one-year or 100,000-mile warranty as specified above, a separate supplemental warranty is not required. However, it is recommended that the highest-grade warranty be purchased to avoid expensive repairs in the future.

2. New electric vehicles must have a minimum warranty period of three years or 50,000 miles. The warranty must cover the motor, drivetrain, battery or energy storage, and parts and labor.

3. No FARMER Program funds will be issued for maintenance or repairs related to the operation of the vehicle. The participant takes sole responsibility for ensuring that the vehicle is in operational condition throughout the agreement period.

(G) Engine and Emission Control Modifications: Emission controls on the replacement vehicle's engine cannot be modified except as permitted by law. Unauthorized modification to engine performance including, but not limited to, changes in horsepower, emission characteristics, engine emission components (not including repairs with like-original equipment manufacturers replacement parts), and modifications to the engine's emission control function or the electronic monitoring unit are not allowed.

(H) Service: At least one California service provider approved by the manufacturer must be available to repair and service the replacement vehicle.

(5) Air District Requirements

(A) Air districts are encouraged but not required to have agreements or MOUs with vehicle dealerships. However, agreements or MOUs with participating dismantlers are required. Agreements or MOUs, should contain, at a minimum, the program requirements (including, but not limited to, the requirement that the dealer delivers the baseline vehicle to a qualified dismantler within 60 calendar days of the date that the baseline vehicle was turned in to the dealer by the applicant) that are expected of each entity and the repercussions for noncompliance with the terms of the agreement or MOU for each entity. State funds must not be provided by the air district for any dismantler or material costs, including hazardous waste abatement fees, labor costs, fines, permits, or other charges resulting from destruction or disposal.

(B) Reimbursement: To ensure that an application package is complete, the following items must be included and complete prior to reimbursement:

1. Signed and completed application and fully executed contract.

2. Documentation showing that the baseline vehicle is fully operational. If documentation is provided by a dealership, the air district reserves the right to audit the dealership's record of inspection.

3. Invoices of the purchase and all work performed. If work was performed on the replacement vehicle, the invoices must include all engine, transmission, engine horsepower derating, body and other work performed on the replacement vehicle.

4. Digital photographs of the pre-inspection, post-inspection, and destruction and any associated inspection documentation. If a contractor conducts any inspections, the air district will specify the required digital format. Reimbursement will not be processed until all photographs are received and verified by the air district. All photographs must be clear, and all VIN and engine serial numbers must be legible.

5. Dealer/Provider/Installer certification that the baseline vehicle and engine will be delivered to a qualified dismantler within 60 calendar days of receipt. The certification must include the make, model, year, VIN, engine make, engine serial number, and the date the engine or vehicle is expected to be delivered to the dismantler. The location of the dismantler yard where the vehicle and engine will be destroyed must also be provided.

6. Documentation of replacement vehicle warranty and registration (if applicable).

7. Proof of Project Financing: The financing package will enable the air district to determine the reimbursement costs that may be accrued for nonperforming projects. Proof of project financing can be a document showing the lender and the amount loaned, which at a minimum is a copy of the check given to the dealer equal to the portion of the project that was not FARMER Program funded. Proof of project financing is always required unless the participant paid cash for the portion of the project that was not FARMER Program funded.

8. For replacements, dealerships must possess pre-inspection documentation of the baseline and replacement vehicles prior to releasing the replacement vehicle to the participant. If the air district conducts the inspections, the dealership must receive approval from the district before releasing the replacement vehicle. Upon request of the air district, CARB may waive inspection requirements.

9. Proof of sale after the application and all required documentation have been approved by the air district.

10. Copy of Title of Baseline Vehicle: For replacement projects, the title must be signed and dated by the applicant.

(C) A third-party (e.g., engine dealer or distributor) may complete an application or part of an application on an owner's behalf only if the vehicle owner signs and agrees to the application. Applications must include a signature section for third parties. The third-party signature section must include signature and date lines, and sections for the third-party to disclose how much they are being paid, if anything, to complete the application and the source of funds used to pay them. To make the FARMER Program accessible to all potential applicants, including those that cannot afford to hire third-party assistance, air districts are encouraged to provide assistance to applicants.

(D) Air districts must ensure the vehicle and engine are scrapped within 60 calendar days of the dismantler's receipt of the vehicle in accordance with the requirements in Section IV(w), Destruction and Salvage Requirements. This must be confirmed through post-inspection by the air district or an air district-approved contractor.

(E) Inspections: Pre-, post-, and dismantle inspections must be performed for each project.

(F) Inspection documentation must be maintained for each project as specified in Section IV(u)(3), Pre-Inspection Documentation, Section IV(v)(2), Post-Inspection Documentation, and Section IV(w)(9), Salvage Inspections. Air districts may enter into a contract, written agreement, or MOU with a contractor to perform project inspections (pre-inspections, post-inspections, or dismantle inspections). If an air district chooses to use contractors to perform inspections, air district staff must conduct and document at least one inspection on each project without the use of a contractor. Air districts must ensure all inspection requirements are met and shall retain legal responsibility for full compliance with the inspection provisions of these Guidelines, regardless of the use of contractors. Air districts that do not conduct 100% of required inspections themselves must audit 5% of each type of inspection (pre-, post-, and dismantle inspections). Audits should be done randomly and occur throughout the implementation timeline of the air district.

(G) Air districts must perform compliance checks as described in Section VI(c)(1)(C), Compliance Check.

(6) Dealership Requirements

(A) Dealerships must ensure that they meet the following minimum qualifications and continue to meet these qualifications throughout participation in the Program:

1. Dealership has had a valid business license issued in California for a minimum of the last 24 months.

2. Dealership has had a valid vehicle dealership license with DMV for a minimum of the last 24 months. The installer is authorized by the manufacturer.

3. Dealership/Installer agrees to allow the air district or CARB to inspect vehicles or audit program records covered under the FARMER Program Guidelines during normal business hours.

(B) Dealerships and installers must submit all supporting documentation required under the Guidelines and if applicable, air district agreement for each project. Once all dealership/installer requirements have been met, reimbursement will be issued to the dealer/installer according to the agreement or MOU, when applicable.

(C) Dealerships and installers must possess pre-inspection documentation of the baseline and replacement vehicles and engines prior to releasing the replacement vehicle and engine to the participant. If the agreement or MOU specifies that the air district or other third-party will perform any inspections, the dealership/installer must receive air district approval before releasing the replacement vehicle and engine. Upon request of the air district, CARB may waive inspection requirements.

(D) For replacements, the dealership must ensure the baseline vehicle is in similar condition as found in the pre-inspection. The dealer should reject the condition of the baseline vehicle if it is deemed unroadworthy or if parts were stripped from the baseline vehicle (except for parts essential to vocation that will be installed on the replacement vehicle). Reimbursement to the dealer or release of funds to the participant will be withheld until the dealer (or air district) approves of the condition of the baseline vehicle and it is delivered to the dealership.

(E) The dealer or installer must deliver the baseline vehicle and engine to a qualified dismantler within 60 calendar days of delivering the replacement vehicle and engine to the participant. The dealer or installer must immediately notify the air district of the location and date of delivery of the baseline vehicle and engine to the dismantler. The participating dismantler may also pick up the baseline vehicle and engine.

(F) Use of Vehicle Pending Destruction: The dealer/installer may not use or permit the use of the baseline vehicle except when necessary to move it for destruction or storage.

(7) Dismantler Requirements

(A) The baseline vehicle must be dismantled. Destruction of the baseline vehicle's chassis and engine permanently removes the old, high-emitting vehicle from service. The baseline vehicle and engine specified in the application must be dismantled and may not be substituted with a different vehicle.

(B) To participate in the program, dismantlers must:

1. Enter into an agreement with the air district.
2. Be licensed by DMV as a dismantler for at least the previous 24 months.
3. Have had a valid business license issued in California for a minimum of the last 24 months.
4. Possess a current, valid California Environmental Protection Agency Hazardous Materials Generators Permit.
5. Be in compliance with all local, State, and federal laws and regulations.

(C) The dismantler must do the following for each vehicle and engine:

1. Dismantle the baseline vehicle in accordance with the requirements in Section IV(w), Destruction and Salvage Requirements, within 60 calendar days of receipt. Upon dismantler request, the air district may approve an extension.
2. Air district staff or the dismantler must take photographs of the destroyed engine and severed frame rails. Dismantler photographs of the destroyed engine block and severed frame rails must be provided to the air district within 14 calendar days of dismantling the vehicle.
3. Prepare and submit to DMV either a “Non-Repairable Vehicle Certificate” using an “Application for Salvage Certificate or Non-Repairable Vehicle Certificate” (REG 488C), or a “Notice of Acquisition/Report of Vehicle To Be Dismantled” (REG 42) ensuring the VIN can never be registered again in California. Within 90 calendar days of the dismantle inspection date, the dismantler must provide verification to the air district that the baseline vehicle has been registered with DMV as non-revivable with a type transaction code L10 or C26 on the DMV Reconciliation transaction receipt or other DMV documentation that satisfies this requirement.

(D) Dismantler Inspection: Once the air district is notified, a dismantler inspection will be scheduled and photos documenting the destruction of the engine will be taken in accordance with the Guidelines. The dismantler shall not move the vehicle off their property or part out a vehicle until a dismantler

inspection by the air district or a designated contractor has been performed and given approval by the air district.

(E) Use of Vehicle Pending Destruction: The dismantler may not use or permit the use of the baseline vehicle except when necessary to move it for destruction or storage.

VII. Zero-Emission Agricultural Utility Terrain Vehicles (UTV)

This chapter describes the minimum criteria and requirements for zero-emission UTV projects in the FARMER Program.

(a) Projects Eligible for Funding

(1) Baseline Requirements

(A) The applicant must have owned and operated the baseline vehicle or equipment in California for the previous 24 months.

(B) At minimum, the baseline vehicle or equipment must have an engine model year five years prior to the year of the funding application.

(C) The baseline vehicle or equipment must be a tractor less than 25 horsepower or a UTV and powered by an internal combustion engine.

(2) Replacement UTV Requirements

To be eligible for the Zero-Emission Agricultural UTV project category, the replacement UTV model must meet the following criteria:

(A) New: The vehicle must be a new vehicle, as defined in the California Vehicle Code Section 430, meaning a vehicle constructed entirely from new parts that has never been the subject of a retail sale, or registered with the department, or registered with the appropriate agency or authority of any other state, District of Columbia, territory, or possession of the United States, or foreign State, province, or country.

(B) Zero-Emission: The vehicle must emit zero tailpipe emissions from its onboard source of power (such as all-electric or hydrogen fuel cell vehicles) and may not undergo any modification that would allow propulsion by any other means.

(C) Vehicle Specifications and Performance Thresholds: Eligible UTVs must have a towing capacity of 500 pounds or greater and a total vehicle weight of 700 pounds or greater.

(D) Warranty Provisions: The vehicle drivetrain, including applicable energy storage tanks or battery packs, must be covered by a manufacturer warranty

for a minimum of one year. Prior to approving a project, CARB or the air district may request that the manufacturer provide copies of representative vehicle and battery warranties and a description of the manufacturer's plans to provide warranty and routine vehicle service.

(b) Maximum Eligible Funding Amounts

The FARMER Program provides up to $13,500 or 75% of the eligible costs for a new, zero-emission agricultural UTV, whichever is less. If the UTV has an extended warranty option, the extended warranty may be included as an eligible cost.

(c) Participant Requirements

To receive funding for the purchase of a new, zero-emission agricultural UTV, the vehicle purchaser is required to:

(1) Show proof of California residency or proof that the agricultural operation for which the UTV would be used occurs in California.

(2) Self-certify that the UTV would be used exclusively for California agricultural operations.

(3) Enter into a contractual agreement with the air district for a minimum of three years.

(4) Keep the vehicle and meet all applicable project requirements for the duration of the contract.

(5) Provide the air district with past maintenance records and/or service history on the UTV or tractor with less than 25 horsepower that would be replaced with a new zero-emission UTV.

(6) Surrender the baseline UTV or tractor with less than 25 horsepower, as identified in the pre-inspection, to be permanently destroyed by an air district-approved dismantler/salvage yard.

(7) Not purchase, make payments toward, and/or take possession of the replacement UTV prior to receiving a fully executed contract from the air district.

(8) Not make or allow any modifications to the vehicle systems, including motor and other hardware, the addition of auxiliary power sources, or changes to the software calibrations.

(9) Commit that any emission reductions generated by the purchased UTV will not be used as marketable emission reduction credits, to offset any emission reduction obligation of any person or entity, or to generate a compliance extension or extra credit for determining regulatory compliance.

(10) Be available for follow-up inspection(s), if requested by the air district, CARB, or CARB's designee for the purposes of project oversight and accountability; and

(11) Install and maintain an operational hour meter on the replacement UTV and submit annual reports to the air district that includes the hours of operation on the replacement zero-emission UTV and any other pertinent information requested by the air district for the duration of the project life. If during the project life, the hour meter fails for any reason, the hour meter must be repaired or replaced as soon as possible at the owner's expense.

(d) Optional Zero-Emission Agricultural UTV Administrative Process

Air districts also have the option to utilize the following administrative process to streamline implementation of this project category. This optional process does not require inspections by air district staff, but projects may be subject to air district audit as specified in Section IV(z), Air District Audit of Projects.

(1) The participant submits a completed application to their air district, using the application provided by the air district.

(2) Upon approval of the application package, the air district issues a voucher or contracts with the participant.

(3) The participant purchases the eligible replacement zero-emission UTV. This purchase must be made after a voucher is issued or a contract is executed.

(4) The participant has the baseline UTV or tractor scrapped, destroyed, or otherwise rendered permanently inoperable by an air district-approved dismantler/salvage yard. The participant must comply with all applicable scrap requirements in Section IV(w), Destruction and Salvage Requirements.

(5) The participant may then submit a claim to the air district for payment along with the following documentation:

(A) Signed voucher;

(B) Signed Certificate of Destruction from the dismantler/salvage yard, or other documentation confirming that the baseline UTV was rendered permanently inoperable;

(C) Invoice for the replacement UTV purchase from the dealership;

(D) Proof of payment for the replacement UTV; and

(E) Photo of the replacement UTV.

(6) Upon submittal and approval of the complete payment claim package, the air district may then issue a payment check to the participant.

VIII. Used Agricultural Equipment for Small Producers

This section describes the minimum criteria and requirements for used agricultural equipment projects for small producers as defined by the air district.

(a) Projects Eligible for Funding

Used off-road equipment replacements owned by small producers are eligible for funding.

(b) Maximum Eligible Funding Amounts

Maximum incentive level must be based on a cost-effectiveness limit of $60,000 per weighted ton of emission reductions, up to 80% of the replacement equipment cost.

(c) Project Criteria

(1) Baseline equipment must be Tier 0 (uncontrolled) or Tier 1 off-road equipment.

(2) Replacement equipment must be Tier 3 or cleaner and must have a functional hour meter with less than 10,000 hours recorded on the hour meter.

(3) The air district must define a farm size limit for this category in their FARMER Policies and Procedures Manual.

(4) Replacement equipment must be purchased through an original equipment manufacturer (OEM) dealer.

(5) Replacement equipment is not required to meet the warranty requirements for off-road replacement equipment included in Section V(e)(5)(F), Warranty Requirements. Instead, replacement equipment must pass an eligibility evaluation by the dealer. This evaluation must cover the components described in Section VIII(d), Used Equipment Eligibility Evaluation Criteria. If any components are found to be in critical condition, repairs must be made before the equipment is deemed eligible for funding.

(6) The OEM dealer must certify that they have evaluated the equipment to ensure that all emission control components are in working condition and have not been tampered with.

(7) Unless otherwise specified in the criteria above, projects funded through this category must meet all applicable requirements for off-road equipment replacement projects in these Guidelines.

(d) Used Equipment Eligibility Evaluation Criteria

Dealers must evaluate used equipment for program eligibility according to the criteria below.

Status	Definition
A	Good condition
B	Operational with signs of wear
C	Critical – must repair
S	Passed inspection – service provided

Status				Safety Equipment
A	B	C	S	
-	-	-	-	Seat Belts
-	-	-	-	Rollover Protection
-	-	-	-	Warning/Flashing Lights
-	-	-	-	Decals in Place (e.g., SMV)
-	-	-	-	Other Audible Sounds
-	-	-	-	Horn
-	-	-	-	Brake Pedal Interlock
-	-	-	-	PTO Shield in Place
-	-	-	-	Reflectors
-	-	-	-	Mirrors (if applicable)
-	-	-	-	Other Equipment (if applicable)

Status				Engine
A	B	C	S	
-	-	-	-	Engine Oil/Filter
-	-	-	-	Clean DPF, Check for Exhaust Smoke
-	-	-	-	Unusual Noise
-	-	-	-	Turbo Charger (if applicable)
-	-	-	-	Intake System
-	-	-	-	Muffler/Exhaust System
-	-	-	-	High & Low Idle Speed
-	-	-	-	Fuel Pumps & Fuel Lines/Clamps
-	-	-	-	Run Unit on Dyno for 2 Hours
-	-	-	-	Fuel Shut Off System
-	-	-	-	Fuel Throttle Linkage
-	-	-	-	Fuel Tank
-	-	-	-	Fuel Cap
-	-	-	-	Belts/Tensioner
-	-	-	-	Cold Starting Aids/Block Heater
-	-	-	-	Check Fault Codes/History & Repair
-	-	-	-	Other Components (if applicable)

Status				Leaks
A	B	C	S	
-	-	-	-	Oil
-	-	-	-	Coolant
-	-	-	-	Fuel

Status				Electrical
A	B	C	S	
-	-	-	-	Neutral Starting Switch
-	-	-	-	Connections
-	-	-	-	Battery Fluid
-	-	-	-	Battery Hold Down
-	-	-	-	Battery Voltage
-	-	-	-	Battery Area Clear/Clean
-	-	-	-	Starter
-	-	-	-	Alternator
-	-	-	-	Wipers
-	-	-	-	Heat/AC Fan (if applicable)
-	-	-	-	Turn Signals
-	-	-	-	Lights
-	-	-	-	Differential Lock
-	-	-	-	Instrumentation/Warning Lights
-	-	-	-	MFD Switch (if applicable)
-	-	-	-	Other Components (if applicable)

Status				Steering System
A	B	C	S	
-	-	-	-	Hoses
-	-	-	-	Cylinder/Valves
-	-	-	-	Tie Rods/Knuckles
-	-	-	-	Operational
-	-	-	-	Front Wheel Toe In
-	-	-	-	Tilt & Telescope
-	-	-	-	Other Components (if applicable)

Status				Power Train
A	B	C	S	
-	-	-	-	Planetary Oil
-	-	-	-	Differential Oil
-	-	-	-	Check for All Gears
-	-	-	-	Wheel Spacing (By Request)
-	-	-	-	Wheel Lugs
-	-	-	-	Tires/Pressure
-	-	-	-	Hydrostatic Transmission
-	-	-	-	Other Components (if applicable)

Status				Brake System
A	B	C	S	
-	-	-	-	Manual & Power
-	-	-	-	Linkage/Control
-	-	-	-	Lines/Hoses
-	-	-	-	Parking Brake/Lock
-	-	-	-	Other Components (if applicable)

Status				Cooling System
A	B	C	S	
-	-	-	-	Radiator Core
-	-	-	-	Hoses/Clamps/Radiator Cap
-	-	-	-	Water Pump
-	-	-	-	Fan Assembly
-	-	-	-	Coolant/_____°
-	-	-	-	Coolant Recovery
-	-	-	-	Other Components (if applicable)

Status				Hydraulic
A	B	C	S	
-	-	-	-	Oil Level
-	-	-	-	Lines/Hoses
-	-	-	-	Control/Linkage
-	-	-	-	Oil Cooler
-	-	-	-	Cylinders/Valves
-	-	-	-	Reservoir
-	-	-	-	Operational
-	-	-	-	Proper Detent
-	-	-	-	Quick Couplers
-	-	-	-	Other Components (if applicable)

-Status				Hitch/PTO Area
A	B	C	S	
-	-	-	-	Inspect Hitch Members
-	-	-	-	Upper Link Operational
-	-	-	-	Proper Height
-	-	-	-	Engage/Disengage

Status				Additional Maintenance
A	B	C	S	
-	-	-	-	Lube Grease
-	-	-	-	Engine Air Filters
-	-	-	-	Engine Fuel Filters
-	-	-	-	Hydraulic Filters
-	-	-	-	Wheel Bearings
-	-	-	-	Engine Valve Lash Adjustment
-	-	-	-	Fuel Injectors
-	-	-	-	Coolant/Filters
-	-	-	-	Cab Filters
-	-	-	-	Clean A/C Condenser
-	-	-	-	A/C Check
-	-	-	-	Other Components (if applicable)

Status				Miscellaneous
A	B	C	S	
-	-	-	-	Welds/Frames
-	-	-	-	Exterior Condition
-	-	-	-	Seat Operates/Condition
-	-	-	-	Fire Extinguisher (if equipped)

Status				Fluid Analysis
A	B	C	S	
-	-	-	-	Engine
-	-	-	-	Hydrostatic/Transmission
-	-	-	-	MFD Front Differential
-	-	-	-	MFD Outboard Planetaries
-	-	-	-	Coolant

IX. Advanced Technology Demonstration Projects

(a) Projects Eligible for Funding

Advanced technology vehicles and equipment used in agricultural operations are currently eligible for FARMER Program funding when an older vehicle or piece of equipment is scrapped in exchange. However, some vehicles and equipment need additional field demonstrations to test their viability or determine whether they can serve the same function and perform the same work as the vehicles or equipment it would replace. Demonstrations of sustainable farming solutions that encompass advanced technology vehicles, equipment, and supporting infrastructure at a farm may also be needed. Under this project category, air districts may develop and fund demonstration projects, with CARB approval, without a requirement to scrap existing vehicles or equipment.

(b) Project Criteria

(1) Air districts must develop a competitive solicitation through a public process and receive CARB approval to begin soliciting for projects.

(2) Eligible projects must reduce greenhouse gas and criteria pollutant emissions and emission reductions must be quantified using CARB-approved quantification methodology.

(3) Eligible advanced technologies must be used in agricultural operations.

(4) Projects must include a data collection component as described in the solicitation.

(5) Projects must meet all applicable statutory requirements and support the goals of the FARMER Program.

(6) Selected demonstration projects must be approved by CARB before receiving funding.

(7) CARB reserves the right to deny funding to projects that do not meet statutory requirements or support the goals of the FARMER Program.

X. Future Guideline Updates

These 2024 FARMER Program Guidelines continue to set the foundation for a long-term program to reduce agricultural sector emissions. As additional funding is allocated to the FARMER Program in the future, CARB staff will evaluate whether there is enough flexibility in the FARMER Program Guidelines to continue funding cost-effective and/or innovative agricultural projects or if program updates are needed. If staff determines that program updates are needed, staff will conduct a public meeting to solicit input prior to requesting Executive Officer approval.

Appendix A: Quantification Methodology

(a) Introduction

This appendix provides guidance for calculating the estimated criteria pollutant and toxic air contaminant emission reductions for projects eligible under the FARMER Program Guidelines.

(b) Criteria Pollutant and Toxic Air Contaminant Emission Reductions

In the FARMER Program, the criteria pollutant and toxic air contaminant emission reductions are calculated for each project for the following pollutants: oxides of nitrogen (NOx), reactive organic gases (ROG), and particulate matter (PM). These calculations require multiple steps as described in more detail below, and the approach differs by project category.

(1) Efficiency Factor

Some off-road replacement projects may include replacement equipment that can perform additional work per hour, which can be verified through physical characteristics, such as harvesters that can operate across more rows per pass or a sprayer with a wider applicator. For these projects, an efficiency factor may be applied to the baseline annual activity to calculate the adjusted annual activity for the replacement equipment, as described in Formula 1 and Formula 2 below. For projects that do not provide an efficiency improvement, the efficiency factor is one and the replacement annual activity is the same as the baseline annual activity.

Formula 1: Efficiency Factor

$$Efficiency\ Factor = \frac{replacement\ characteristic}{baseline\ characteristic}$$

Formula 2: Adjusted Annual Activity for the Replacement

$$Adjusted\ Annual\ Activity\ (replacement) = \frac{baseline\ annual\ activity}{efficiency\ factor}$$

For example, a baseline harvester that operates 600 hours per year and picks 4 rows of a commodity per pass is replaced with a new harvester that picks 6 rows per pass. This project would have an efficiency factor of 1.5 and the adjusted annual activity for the replacement would be 400 hours per year. Another example is a sprayer with a total boom width of 90 feet and operates 800 hours per year that is replaced with a sprayer with a total boom width of 120 feet. This

project would have an efficiency factor of 1.33 and the adjusted annual activity for the replacement would be 600 hours per year.

(2) Emission Rates

The emission rate for a given vehicle, equipment, or engine is calculated by summing the zero-mile or zero-hour emission factor and the emissions associated with the deterioration of the engine.

Engine deterioration is based on total activity, up to the limits specified in the following table. Total activity can be calculated using Formula 3, Formula 4, and Formula 5 below. Annual activity is in miles (mi) for on-road vehicles and hours (hr) for off-road equipment and engines.

Table A-1: Total Activity

Engine Category	Model Year	Total Activity Limit
On-Road Diesel (LHD, MHD, and HHD)	All model years	800,000 miles
Off-Road Diesel	All model years	12,000 hours
Off-Road Large Spark-Ignition (greater than or equal to 25 hp)	2007 and newer	5,000 hours
	2006 and older	3,500 hours
Off-Road Spark-Ignition (<25 hp)	All	1,000 hours
UTVs	All	N/A

Formula 3: Total Activity for the Baseline

$$Total\ Activity\ (baseline) = \left(first\ year\ of\ operation - engine\ model\ year + \left(\frac{project\ life}{2} \right) \right) * annual\ activity$$

Formula 4: Total Activity for the New Replacement

$$Total\ Activity\ (new\ replacement) = \left(\frac{project\ life}{2} \right) * adjusted\ annual\ activity$$

Formula 5: Total Activity for the Used Replacement

$$Total\ Activity\ (used\ replacement) = \left(\left(\frac{project\ life}{2}\right) * adjusted\ annual\ activity\right) + hour\ or\ odomoter\ reading$$

Once the total activity has been calculated, the emissions associated with the deterioration of the engine (the deterioration product) may be calculated using Formula 6 and Formula 7 below. Deterioration rates are included in Appendix B and are in units of grams per mile per 10,000 miles (g/mi-10,000 mi) for on-road vehicles and in grams per brake horsepower-hour per hour (g/bhp-hr-hr) for off-road equipment and engines.

Formula 6: On-Road Deterioration Product

$$Deterioration\ Product\ (on\text{-}road) = Deterioration\ Rate\ (g/mi\text{-}10{,}000\ mi) * \frac{Total\ Activity\ (mi)}{10{,}000}$$

Formula 7: Off-Road Deterioration Product

$$Deterioration\ Product\ (off\text{-}road) = Deterioration\ Rate\ (g/bhp\text{-}hr\text{-}hr) * Total\ Activity\ (hr)$$

The emission rate for the baseline or replacement vehicle, equipment, or engine is then calculated by summing the zero-mile or zero-hour emission factor and the deterioration product, as shown in Formula 8. For on-road vehicles, emission rates are in units of grams per mile (g/mi) and for off-road equipment and engines, emission rates are in grams per brake horsepower-hour (g/bhp-hr). NOx emission rates are provided in Appendix B for 2013 model year or newer on-road vehicles based on the total activity calculated for the vehicle. Emission factors and deterioration rates for all other eligible vehicles, equipment, and engines are included in Appendix B.

Formula 8: Baseline or Replacement Emission Rate

$$Emission\ Rate\ (g/bhp\text{-}hr\ \ or\ g/mi) = emission\ factor + deterioration\ product$$

(3) Annual Emissions

Once the emission rate has been calculated, the annual emissions in tons per year (tpy) for both the baseline and replacement vehicle, equipment, or engine may be

calculated using Formula 9 and Formula 10 below. Load factors for off-road equipment are included in Appendix B.

Formula 9: Annual Emissions for On-Road Vehicles

$$\begin{aligned} &Annual\ Emissions\ (tpy) \\ &\quad = emission\ rate\ (g/mi) * annual\ activity\ (mi/year) \\ &\quad * percentage\ operation\ in\ California * \left(\frac{1\ ton}{907{,}200\ g}\right) \end{aligned}$$

Formula 10: Annual Emissions for Off-Road Equipment and Engines

$$\begin{aligned} &Annual\ Emissions\ (tpy) \\ &\quad = emission\ rate\ (g/bhp\text{-}hr) * max\ horsepower\ (hp) * load\ factor \\ &\quad * annual\ or\ adjusted\ annual\ activity\ (hr/year) \\ &\quad * percentage\ operation\ in\ California * \left(\frac{1\ ton}{907{,}200\ g}\right) \end{aligned}$$

(4) Annual Emission Reductions

Once the annual emissions of the baseline and replacement vehicle, equipment, or engine has been calculated, annual emission reductions for each pollutant may be calculated using Formula 11 below.

Formula 11: Annual Emission Reductions

$$\begin{aligned} &Annual\ Emission\ Reductions\ (tpy) \\ &\quad = baseline\ annual\ emissions - replacement\ annual\ emissions \end{aligned}$$

For projects that include multiple baseline vehicles, equipment, or engines, the annual emissions for the baselines are calculated individually following the steps outlined above and then summed together for the baseline annual emissions in Formula 11 above.

When calculating cost-effectiveness and potential grant amounts, annual emission reductions should be rounded to five decimal places for each pollutant.

(5) Lifetime Emission Reductions

To calculate the emission reductions over the life of the project, the annual emission reductions for the project are multiplied by the project life, as shown in Formula 12 below.

Formula 12: Lifetime Emission Reductions

$$Lifetime\ Emission\ Reductions\ (tons) = annual\ emission\ reductions * project\ life$$

(c) Cost-Effectiveness Calculations

The quantification methodology described below must be applied to ensure final grant amounts meet the cost-effectiveness limit requirement and do not exceed the maximum funding percentage or any other funding caps. The maximum grant amount for any project is the lowest of the three following calculations:

- The potential grant amount based on the maximum percentage of eligible costs;
- The potential grant amount at the cost-effectiveness limit (if applicable); and
- The potential grant amount based on the maximum dollar amount specified in the associated project category criteria.

The calculations for the first two options are described in more detail below.

(1) Calculating the Potential Grant Amount Based on the Maximum Percentage of Eligible Costs

Some project categories include a funding cap based on the maximum percentage of the eligible costs. To calculate the potential grant amount for these projects, the project's total eligible costs are multiplied by the maximum percentage of eligible cost, as shown in Formula 13 below.

Formula 13: Potential Grant Amount at Maximum Percentage of Eligible Costs

$$Potential\ Grant\ Amount\ (\$) = eligible\ costs\ (\$) * max\ percentage\ of\ eligible\ cost$$

(2) Calculating the Potential Grant Amount at the Cost-Effectiveness Limit

There are also some project categories that are subject to cost-effectiveness limits, which identifies the maximum amount of funding that can be provided for each weighted ton of emission reductions achieved by the project. To calculate the potential grant amount for these projects based on a cost-effectiveness limit, a capital recovery factor (CRF) must be applied. CRFs are based on a discount rate, which may vary from year to year. An interest rate and project life are used to determine the rate at which earnings could be reasonably expected to accrue if the same funds were invested over that length of time. CRF values can be calculated using Formula 14 below or referenced in Table B-13 in Appendix B, which lists CRF values at various project lives and discount rates.

Formula 14: Capital Recovery Factor (CRF)

$$CRF = \frac{(1 + discount\ rate)^{project\ life} * discount\ rate}{(1 + discount\ rate)^{project\ life} - 1}$$

Once the CRF is known, the potential grant amount can be calculated by multiplying the cost-effectiveness limit by the estimated annual emission reductions (in weighted tons per year), and then dividing it by the CRF value. These calculations are described in Formula 15 and Formula 16 below.

Formula 15: Weighted Annual Emission Reductions

$$Weighted\ Annual\ Emission\ Reductions\ (weighted\ tons\ per\ year) = NOx\ (tpy) + ROG\ (tpy) + (20 * PM(tpy))$$

Formula 16: Potential Grant Amount at the Cost-Effectiveness Limit

$$Potential\ Grant\ Amount\ (\$) = \frac{cost\text{-}effectiveness\ limit\ * weighted\ annual\ emission\ reductions}{CRF}$$

A project's cost-effectiveness in dollars per weighted ton may also be calculated by multiplying the potential grant amount by the CRF value and dividing by the weighted annual emission reductions.

Formula 17: Project Cost-Effectiveness

$$Cost\text{-}Effectiveness\ (\$/weighted\ ton) = \frac{potential\ grant\ amount * CRF}{weighted\ annual\ emission\ reductions}$$

Appendix B – Emission Factors, Load Factors, and Other Reference Tables

This appendix presents tables summarizing the data needed to calculate the emission reductions and cost-effectiveness of potential projects. Included are data such as Emission Factors (EF), Deterioration Rates (DR), load factors, and other conversion factors used in the calculations discussed in Appendix A: Quantification Methodology.

Table B-1: Heavy-Duty On-Road Vehicles
Gross Vehicle Weight Rating (GVWR) 14,001 to 33,000 pounds (lbs.)
2012 Model Years and Older
EFs in grams per mile (g/mi) and DRs in g/mi-10,000 miles

Engine Model Year	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
Pre-1986	15.611	0.0329	1.2343	0.070334	0.98973	0.039268
1986 – 1989	15.388	0.0441	0.9694	0.083579	1.07516	0.034997
1990 – 1992	11.506	0.0577	0.5139	0.043670	0.59075	0.026867
1993 – 1996	11.304	0.0678	0.3811	0.050308	0.33587	0.017876
1997 – 2001	11.115	0.0772	0.3882	0.049955	0.36765	0.016222
2002 – 2005	7.637	0.0765	0.3869	0.036274	0.25256	0.009848
2006	6.721	0.0677	0.3520	0.028642	0.18869	0.007311
2007	4.811	0.0411	0.2583	0.010424	0.02389	0.001178
2007+ (0.21-0.50 g/bhp-hr NOx Family Emission Limits)	1.700	0.0673	0.0569	0.002078	0.00441	0.000310
2008	4.739	0.0401	0.2548	0.009733	0.01765	0.000946
2009	4.273	0.0450	0.2193	0.008359	0.01527	0.000832
2010	2.146	0.0673	0.0569	0.002078	0.00441	0.000310
2011	1.553	0.0735	0.0117	0.000329	0.00139	0.000165
2012	1.546	0.0727	0.0117	0.000317	0.00139	0.000159

Table B-2: Heavy-Duty On-Road Vehicles
GVWR 14,001 to 33,000 lbs.
2013 Model Years and Newer
EFs and Emission Rates (ER) in grams per mile (g/mi) and DRs in g/mi-10,000 miles

Total Activity (miles)	Engine Model Year	Emission Standard (g/bhp-hr)	NOx ER[12]	ROG EF	ROG DR	PM EF	PM DR
0 – 49,999	2013+	0.20 NOx	0.3889	0.0055	0.000218	0.00159	0.000061
	2016+	0.10 NOx	0.2907	0.0055	0.000218	0.00159	0.000061
	2016+	0.05 NOx	0.2527	0.0055	0.000218	0.00159	0.000061
	2016+	0.02 NOx and 0.01 PM	0.2299	0.0055	0.000218	0.00159	0.000061
	2023+	0.02 NOx and 0.005 PM	0.2299	0.0055	0.000218	0.00080	0.000061
50,000 – 99,999	2013+	0.20 NOx	0.5062	0.0055	0.000218	0.00159	0.000061
	2016+	0.10 NOx	0.3969	0.0055	0.000218	0.00159	0.000061
	2016+	0.05 NOx	0.3589	0.0055	0.000218	0.00159	0.000061
	2016+	0.02 NOx and 0.01 PM	0.3362	0.0055	0.000218	0.00159	0.000061
	2023+	0.02 NOx and 0.005 PM	0.3362	0.0055	0.000218	0.00080	0.000061
100,000 – 199,999	2013+	0.20 NOx	0.6084	0.0055	0.000218	0.00159	0.000061
	2016+	0.10 NOx	0.4895	0.0055	0.000218	0.00159	0.000061
	2016+	0.05 NOx	0.4516	0.0055	0.000218	0.00159	0.000061
	2016+	0.02 NOx and 0.01 PM	0.4288	0.0055	0.000218	0.00159	0.000061
	2023+	0.02 NOx and 0.005 PM	0.4288	0.0055	0.000218	0.00080	0.000061
200,000 – 399,999	2013+	0.20 NOx	0.7402	0.0055	0.000218	0.00159	0.000061
	2016+	0.10 NOx	0.6089	0.0055	0.000218	0.00159	0.000061
	2016+	0.05 NOx	0.5709	0.0055	0.000218	0.00159	0.000061
	2016+	0.02 NOx and 0.01 PM	0.5481	0.0055	0.000218	0.00159	0.000061
	2023+	0.02 NOx and 0.005 PM	0.5481	0.0055	0.000218	0.00080	0.000061
400,000+	2013+	0.20 NOx	0.8055	0.0055	0.000218	0.00159	0.000061
	2016+	0.10 NOx	0.6680	0.0055	0.000218	0.00159	0.000061

[12] For engine model years 2013 and newer, the NOx ER is based on the midpoint of the total activity range, except for the ER for vehicles with a total activity of 400,000+ miles, which is based on 400,000 miles.

Total Activity (miles)	Engine Model Year	Emission Standard (g/bhp-hr)	NOx ER[12]	ROG EF	ROG DR	PM EF	PM DR
	2016+	0.05 NOx	0.6300	0.0055	0.000218	0.00159	0.000061
	2016+	0.02 NOx and 0.01 PM	0.6073	0.0055	0.000218	0.00159	0.000061
	2023+	0.02 NOx and 0.005 PM	0.6073	0.0055	0.000218	0.00080	0.000061

Table B-3: Heavy-Duty On-Road Vehicles
GVWR 33,001 lbs. and Greater
2012 Model Years and Older
EFs in g/mi and DRs in g/mi-10,000 mi

Engine Model Year	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
Pre-1986	22.980	0.0194	1.9074	0.043474	1.74999	0.027773
1986 – 1989	22.651	0.0260	1.4980	0.051661	1.90103	0.024752
1990 – 1992	19.618	0.0394	1.0937	0.037179	0.79736	0.014505
1993 – 1996	19.274	0.0462	0.8112	0.042831	0.52406	0.011158
1997 – 2001	18.952	0.0527	0.8262	0.042530	0.57404	0.010132
2002 – 2005	13.027	0.0522	0.6915	0.025986	0.38682	0.006035
2006	11.465	0.0478	0.6459	0.021163	0.28865	0.004512
2007	8.208	0.0347	0.5416	0.010666	0.03803	0.000901
2007+ (0.21-0.50 g/bhp-hr NOx Family Emission Limits)	2.860	0.0574	0.1200	0.002192	0.00737	0.000262
2008	8.085	0.0342	0.5376	0.010268	0.02853	0.000765
2009	7.290	0.0384	0.4627	0.008819	0.02473	0.000674
2010	3.660	0.0574	0.1200	0.002192	0.00737	0.000262
2011	2.650	0.0627	0.0247	0.000348	0.00254	0.000147
2012	2.654	0.0609	0.0247	0.000334	0.00254	0.000142

Table B-4: Heavy-Duty On-Road Vehicles
GVWR 14,001 to 33,000 lbs.
2013 Model Years and Newer
EFs and Emission Rates (ER) in grams per mile (g/mi) and DRs in g/mi-10,000 miles

Total Activity (miles)	Engine Model Year	Emission Standard (g/bhp-hr)	NOx ER[13]	ROG EF	ROG DR	PM EF	PM DR
0 – 49,999	2013 - 2015	0.20 NOx	1.537	0.0168	0.000150	0.00411	0.000154
	2016+	0.20 NOx	1.537	0.0136	0.000121	0.00293	0.000110
	2016+	0.10 NOx	1.149	0.0136	0.000121	0.00293	0.000110
	2016+	0.05 NOx	0.999	0.0136	0.000121	0.00293	0.000110
	2016+	0.02 NOx and 0.01 PM	0.909	0.0136	0.000121	0.00293	0.000110
	2023+	0.02 NOx and 0.005 PM	0.909	0.0136	0.000121	0.00147	0.000055
50,000 – 99,999	2013 - 2015	0.20 NOx	2.001	0.0168	0.000150	0.00411	0.000154
	2016+	0.20 NOx	2.001	0.0136	0.000121	0.00293	0.000110
	2016+	0.10 NOx	1.569	0.0136	0.000121	0.00293	0.000110
	2016+	0.05 NOx	1.419	0.0136	0.000121	0.00293	0.000110
	2016+	0.02 NOx and 0.01 PM	1.329	0.0136	0.000121	0.00293	0.000110
	2023+	0.02 NOx and 0.005 PM	1.329	0.0136	0.000121	0.00147	0.000055
100,000 – 199,999	2013 - 2015	0.20 NOx	2.405	0.0168	0.000150	0.00411	0.000154
	2016+	0.20 NOx	2.405	0.0136	0.000121	0.00293	0.000110
	2016+	0.10 NOx	1.935	0.0136	0.000121	0.00293	0.000110
	2016+	0.05 NOx	1.785	0.0136	0.000121	0.00293	0.000110
	2016+	0.02 NOx and 0.01 PM	1.695	0.0136	0.000121	0.00293	0.000110
	2023+	0.02 NOx and 0.005 PM	1.695	0.0136	0.000121	0.00147	0.000055
200,000 – 399,999	2013 - 2015	0.20 NOx	2.926	0.0168	0.000150	0.00411	0.000154
	2016+	0.20 NOx	2.926	0.0136	0.000121	0.00293	0.000110
	2016+	0.10 NOx	2.407	0.0136	0.000121	0.00293	0.000110
	2016+	0.05 NOx	2.257	0.0136	0.000121	0.00293	0.000110

[13] For engine model years 2013 and newer, the NOx ER is based on the midpoint of the total activity range, except for the ER for vehicles with a total activity of 400,000+ miles, which is based on 400,000 miles.

Total Activity (miles)	Engine Model Year	Emission Standard (g/bhp-hr)	NOx ER[13]	ROG EF	ROG DR	PM EF	PM DR
	2016+	0.02 NOx and 0.01 PM	2.167	0.0136	0.000121	0.00293	0.000110
	2023+	0.02 NOx and 0.005 PM	2.167	0.0136	0.000121	0.00147	0.000055
400,000+	2013 - 2015	0.20 NOx	3.184	0.0168	0.000150	0.00411	0.000154
	2016+	0.20 NOx	3.184	0.0136	0.000121	0.00293	0.000110
	2016+	0.10 NOx	2.640	0.0136	0.000121	0.00293	0.000110
	2016+	0.05 NOx	2.490	0.0136	0.000121	0.00293	0.000110
	2016+	0.02 NOx and 0.01 PM	2.400	0.0136	0.000121	0.00293	0.000110
	2023+	0.02 NOx and 0.005 PM	2.400	0.0136	0.000121	0.00147	0.000055

Table B-5: Off-Road Diesel Engine Load Factors

Category	Equipment Type	Load Factor
Agriculture	Agricultural Tractors	0.48
	Agricultural UTVs	0.40
	Bale Wagons/Balers	0.50
	Chippers/Stump Grinders	0.73
	Combine Harvesters	0.44
	Cotton Pickers	0.44
	Crawler/Backhoe/Loader/Dozer/Grader	0.40
	Forage and Silage Harvesters	0.44
	Forklifts	0.40
	Generator Sets	0.74
	Hay Squeeze/Stack Retrievers	0.42
	Hydro Power Units	0.48
	Irrigation Pumps	0.65
	Nut Harvesters	0.44
	Other Harvesters	0.44
	Other Agricultural Equipment	0.40
	Sprayers/Spray Rigs	0.42
	Swathers/Windrowers/Hay Conditioners	0.48
Forestry	Extraction Equipment[14]	0.52
	Manufacturing Equipment[15]	0.26
	Road Maintenance and Construction Equipment[16]	0.54

[14] For forestry operations, extraction equipment includes boom trucks, carriers, chippers, de-limbers, dozer/skidders, dozer/track skidders, feller bunchers, forwarders, front end loaders, and grinders.

[15] For forestry operations, manufacturing equipment includes forklifts, lifts, straddle buggies, telehandlers, and tink bucket loaders.

[16] For forestry operations, road maintenance and construction equipment includes backhoes, cranes, dozers, dump trucks, excavators, graders, loaders/backhoes, Pawling and Harnischfeger (P&H) cranes, rollers, and sweepers.

Table B-6: Uncontrolled (Tier 0) Off-Road Diesel Engines
EFs in grams per brake horsepower-hour (g/bhp-hr) and
DRs in grams per brake horsepower-hour-hour (g/bhp-hr-hr)

Horsepower (HP)	Engine Model Year	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
0 – 24.9	Pre-1988	6.5100	0	2.0038	0.0002559	0.5396	0
	1988+	6.5100	0	1.9284	0.0002464	0.5396	0
25 – 49.9	Pre-1988	6.5100	0.0000977	2.0038	0.0002559	0.5396	0.0000418
	1988+	6.3803	0.0000976	1.9284	0.0002464	0.5148	0.0000399
50 – 119.9	Pre-1988	12.0900	0.0002799	1.5682	0.0000725	0.5964	0.0000434
	1988+	7.7209	0.0001783	1.0781	0.0000499	0.5126	0.0000373
120+	Pre-1979	10.2300	0.0001966	0.9975	0.0000395	0.3820	0.0000233
	1980-1987	10.2300	0.0001966	0.9730	0.0000385	0.3820	0.0000233
	1988+	7.2467	0.0001401	0.7405	0.0000254	0.2726	0.0000133

Table B-7: Controlled Off-Road Diesel Engines
EFs in g/bhp-hr and DRs in g/bhp-hr-hr

HP	Tier	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
0 – 24.9	Tier 1	5.1212	0	1.4026	0.0001825	0.2664	0
	Tier 2	3.9071	0	0.3086	0.0000646	0.2314	0
	Tier 4 Final	3.6754	0	0.1089	0.0000436	0.1298	0
25 – 49.9	Tier 1	4.7854	0.0000888	1.5791	0.0002015	0.2362	0.0000183
	Tier 2	4.2185	0.0000824	0.4057	0.0000751	0.1889	0.0000147
	Tier 4 Interim	4.1968	0.0000874	0.1089	0.0000436	0.1437	0.0000110
	Tier 4 Final	2.6363	0.0000549	0.1089	0.0000436	0.0210	0.0000023
50 – 74.9	Tier 1	4.9168	0.0001140	1.0781	0.0000499	0.1989	0.0000145
	Tier 2	4.1666	0.0000669	0.3049	0.0000318	0.1409	0.0000103
	Tier 3	2.7884	0.0000367	0.1089	0.0000272	0.1409	0.0000103
	Tier 4 Interim	2.7884	0.0000367	0.1089	0.0000272	0.1468	0.0000108
	Tier 4 Final	2.6132	0.0000343	0.1089	0.0000272	0.0143	0.0000013

HP	Tier	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
75 – 99.9	Tier 1	5.8850	0.0001363	1.0781	0.0000499	0.2659	0.0000194
	Tier 2	4.0499	0.0000651	0.3049	0.0000318	0.1418	0.0000104
	Tier 3	2.7179	0.0000357	0.1089	0.0000272	0.1648	0.0000121
	Tier 4 Interim	2.4825	0.0000327	0.0980	0.0000236	0.1207	0.0000056
	Tier 4 Final	0.4187	0.0000055	0.0545	0.0000127	0.0332	0.0000015
100 – 174.9	Tier 1	5.3454	0.0001240	0.7405	0.0000343	0.1259	0.0000092
	Tier 2	4.0828	0.0000655	0.2369	0.0000287	0.1126	0.0000081
	Tier 3	2.6486	0.0000346	0.1089	0.0000272	0.1257	0.0000090
	Tier 4 Interim	2.0575	0.0000268	0.0980	0.0000236	0.0609	0.0000028
	Tier 4 Final	0.2527	0.0000033	0.0545	0.0000127	0.0103	0.0000005
175 – 299.9	Tier 1	5.3614	0.0001244	0.3485	0.0000161	0.1270	0.0000067
	Tier 2	4.3330	0.0000707	0.1634	0.0000246	0.0972	0.0000052
	Tier 3	2.7596	0.0000369	0.1133	0.0000270	0.0868	0.0000044
	Tier 4 Interim	1.4762	0.0000192	0.0762	0.0000199	0.0453	0.0000017
	Tier 4 Final	0.1717	0.0000023	0.0545	0.0000127	0.0101	0.0000004
300 – 749.9	Tier 1	5.5375	0.0000921	0.3485	0.0000122	0.1054	0.0000056
	Tier 2	4.5226	0.0000645	0.1699	0.0000233	0.0783	0.0000042
	Tier 3	2.7447	0.0000356	0.1089	0.0000272	0.0907	0.0000046
	Tier 4 Interim	1.3879	0.0000181	0.0731	0.0000189	0.0597	0.0000022
	Tier 4 Final	0.2087	0.0000028	0.0545	0.0000127	0.0128	0.0000005
750+	Tier 1	5.4294	0.0000903	0.3485	0.0000122	0.1078	0.0000057
	Tier 2	3.7726	0.0000524	0.1459	0.0000248	0.0912	0.0000048
	Tier 4 Interim	3.0681	0.0000398	0.1089	0.0000272	0.0767	0.0000036
	Tier 4 Final	1.6251	0.0000210	0.0545	0.0000127	0.0202	0.0000011

Table B-8: Off-Road Spark-Ignition (SI) Engine Load Factors

Category	Equipment Type	Load Factor
Agriculture	Agricultural Tractors (25 hp or less)	0.38
	Agricultural Tractors (greater than 25 hp)	0.62
	Bale Wagons/Balers	0.55
	Combine Harvesters	0.74
	Chippers/Stump Grinders	0.78
	Generator Sets	0.68
	Forklifts	0.55
	Irrigation Pumps	0.65
	Other Agricultural Equipment	0.55
	Sprayers	0.50
	Swathers	0.52
Forestry	Shredders	0.80

Table B-9: Off-Road Spark-Ignited Gasoline Engines
EFs in g/bhp-hr and DRs in g/bhp-hr-hr

HP	Engine Model Year	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
0 – 25	2-Stroke, All Model Years	0.2919	0	30.6805	0	0.6500	0
	4-Stroke, All Model Years	1.9047	0	4.6391	0	0.0125	0
25.1 – 50	Uncontrolled, pre-2004	8.0100	0.0000406	3.3464	0.0003667	0.0600	0
	Controlled, 2001-2006	1.3300	0.0004710	0.7171	0.0001707	0.0600	0
	Controlled, 2007-2009	0.8867	0.0001190	0.4781	0.0000642	0.0600	0
	Controlled, 2010+	0.2660	0.0000250	0.1434	0.0000135	0.0600	0
50.1 – 75	Uncontrolled, pre-2004	9.9250	0.0000504	2.8436	0.0003115	0.0600	0
	Controlled, 2001-2006	1.5550	0.0003390	0.4899	0.0001263	0.0600	0
	Controlled, 2007-2009	1.0283	0.0000925	0.3047	0.0000695	0.0600	0
	Controlled, 2010+	0.3080	0.0000275	0.0869	0.0000138	0.0600	0
75.1 – 100	Uncontrolled, pre-2004	11.8400	0.0000601	2.3407	0.0002554	0.0600	0
	Controlled, 2001-2006	1.7800	0.0002070	0.2626	0.0000822	0.0600	0
	Controlled, 2007-2009	1.1700	0.0000660	0.1313	0.0000747	0.0600	0
	Controlled, 2010+	0.3500	0.0000300	0.0303	0.0000141	0.0600	0
100.1+	Uncontrolled, pre-2004	12.9400	0.0001270	1.4329	0.0000369	0.0600	0
	Controlled, 2001-2006	1.9400	0.0002780	0.1616	0.0001030	0.0600	0
	Controlled, 2007-2009	1.1700	0.0000660	0.1313	0.0000747	0.0600	0
	Controlled, 2010+	0.3500	0.0000300	0.0303	0.0000141	0.0600	0

Table B-10: Off-Road Spark-Ignited Alternative-Fueled Engines
EFs in g/bhp-hr and DRs in g/bhp-hr-hr

HP	Engine Model Year	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
0 – 25	Pre-1995	1.770	0.0004410	0.3564	0.0003708	0.0900	0.0000937
	1995-1998	8.440	0.0004410	0.1404	0.0003708	0.9000	0.0000937
	1999+	2.700	0.0004410	0.0450	0.0003708	0.2500	0.0000937
25.1 – 50	Uncontrolled, pre-2004	13.000	0.0000662	0.1242	0.0000136	0.0600	0
	Controlled, 2001-2006	1.950	0.0002760	0.0126	0.0000095	0.0600	0
	Controlled, 2007-2009	1.300	0.0000011	0.0084	0.0000155	0.0600	0
	Controlled, 2010+	0.390	0.0000002	0.0025	0.0000033	0.0600	0
50.1 – 75	Uncontrolled, pre-2004	11.765	0.0000598	0.1319	0.0000144	0.0600	0
	Controlled, 2001-2006	1.765	0.0003130	0.0135	0.0000095	0.0600	0
	Controlled, 2007-2009	1.170	0.0000068	0.0087	0.0000098	0.0600	0
	Controlled, 2010+	0.350	0.0000191	0.0026	0.0000023	0.0600	0
75.1 – 100	Uncontrolled, pre-2004	10.530	0.0000533	0.1395	0.0000152	0.0600	0
	Controlled, 2001-2006	1.580	0.0003500	0.0144	0.0000093	0.0600	0
	Controlled, 2007-2009	1.040	0.0000125	0.0090	0.0000042	0.0600	0
	Controlled, 2010+	0.310	0.0000380	0.0027	0.0000013	0.0600	0
100.1+	Uncontrolled, pre-2004	10.510	0.0001040	0.1242	0.0000032	0.0600	0
	Controlled, 2001-2006	1.580	0.0002640	0.0126	0.0000095	0.0600	0
	Controlled, 2007-2009	1.040	0.0000125	0.0090	0.0000042	0.0600	0
	Controlled, 2010+	0.310	0.0000380	0.0027	0.0000013	0.0600	0

Table B-11: Gasoline Agricultural Utility Terrain Vehicle (UTV) Load Factors

Equipment Type	Load Factor
Agricultural UTVs	0.40

Table B-12: Gasoline Agricultural UTVs
EFs in g/bhp-hr and DRs in g/bhp-hr-hr

Engine	HP	Engine Model Year	NOx EF	NOx DR	ROG EF	ROG DR	PM EF	PM DR
2-Stroke	All	All	0.0559	0	196.230	0	2.3860	0
4-Stroke, Carbureted or Fuel-Injected	All	Pre-1998	3.5799	0	20.598	0.0004183	0.3409	0
4-Stroke, Carbureted	0 – 5	1998+	1.7198	0	3.672	0.0004791	0.3409	0
4-Stroke, Fuel-Injected	0 – 5	1998+	2.5171	0	1.836	0.0004791	0.3409	0
4-Stroke, Carbureted	5.1 – 15	1998+	2.6682	0	3.902	0.0004791	0.3409	0
4-Stroke, Fuel-Injected	5.1 – 15	1998+	4.1050	0	2.410	0.0004791	0.3409	0
4-Stroke, Carbureted	15.1 – 25	1998+	2.6493	0	4.246	0.0004791	0.3409	0
4-Stroke, Fuel-Injected	15.1 – 25	1998+	4.5975	0	4.705	0.0004791	0.3409	0
4-Stroke, Carbureted	25.1+	1998+	4.4605	0	4.131	0.0004791	0.3409	0
4-Stroke, Fuel-Injected	25.1 – 50	1998+	4.9064	0	3.098	0.0004791	0.3409	0
4-Stroke, Fuel-Injected	50.1+	1998+	3.8037	0	3.098	0.0004791	0.3409	0

Table B-13: Capital Recovery Factors (CRF)

Project Life	CRF at 1% Discount Rate	CRF at 2% Discount Rate	CRF at 3% Discount Rate	CRF at 4% Discount Rate
1	1.010	1.020	1.030	1.040
2	0.508	0.515	0.523	0.530
3	0.340	0.347	0.354	0.360
4	0.256	0.263	0.269	0.275
5	0.206	0.212	0.218	0.225
6	0.173	0.179	0.185	0.191
7	0.149	0.155	0.161	0.167
8	0.131	0.137	0.142	0.149
9	0.117	0.123	0.128	0.134
10	0.106	0.111	0.117	0.123