

To: Richard Corey
Executive Officer
California Air Resources Board

Through: Steve Cliff, Ph.D.
Deputy Executive Officer




From: Jack Kitowski, Chief
Mobile Source Control Division

Date: October 21, 2019

Subject: APPROVAL OF MODIFICATIONS TO EXISTING PROJECT CATEGORIES
AND AN ADDITIONAL PROJECT CATEGORY IN THE FUNDING
AGRICULTURAL REPLACEMENT MEASURES FOR EMISSION
REDUCTIONS (FARMER) PROGRAM

The purpose of this memo is to request your concurrence with staff's recommendations for modifications to three existing project categories and an additional project category in the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program. The FARMER Program Guidelines were approved by the Board in March 2018. As part of the Guidelines, the Board granted the California Air Resources Board's (CARB) Executive Officer authority to approve additional project categories and make modifications to existing project categories as needed (Resolution 18-13).

Staff received public feedback and requests to include an additional project category for agricultural demonstration projects, as well as requests to modify the project criteria for zero-emission agricultural utility terrain vehicles (UTV), heavy-duty trucks, and the Off-Road Mobile Agricultural Equipment Trade-Up (Ag Trade-Up) Pilot Project. Staff held a public work group in August 2019 to discuss staff's proposals for the additional and modified project categories, as summarized below and described further in the attached document.

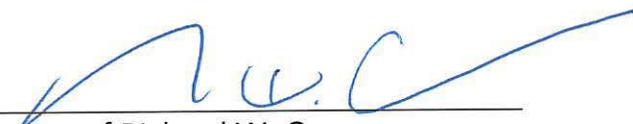
- **Modified Category for Zero-Emission Agricultural UTVs:** Under the existing program, there are not currently any opportunities to replace tractors less than 25 horsepower through FARMER. Staff is proposing to expand the eligibility criteria to allow tractors with less than 25 horsepower to be replaced with zero-

emission UTVs since tractors less than 25 horsepower typically do the job of UTVs. Staff is also proposing to require that zero-emission UTV models have a minimum 1-year manufacturer warranty to be eligible and to implement a maximum incentive limit of \$13,500 or 75 percent, whichever is less.

- **Modified Category for Heavy-Duty Agricultural Trucks:** The Heavy-Duty Agricultural Truck project category was added to the FARMER Program in September 2018 and includes opportunities to fund used, replacement trucks meeting the 2010 oxides of nitrogen (NOx) emission standard of 0.20 grams per brake horsepower-hour. Staff is proposing to modify this category to set the mileage limit for used Class 7 trucks, based on the intended service class of the engine installed.
- **Modified Category for the Off-Road Mobile Agricultural Equipment Trade-Up (Ag Trade-Up) Pilot Project:** The Ag Trade-Up Pilot Project is currently an existing project category for the San Joaquin Valley Air Pollution Control District to administer, while CARB and district staff assess the feasibility of this project category as a new incentive model. Based on feedback received, staff is proposing to modify the participant and vehicle eligibility criteria by allowing the purchase of a warranty as an eligible cost with the repairs for the reconditioned equipment, increasing the maximum hour limit on used equipment to 10,000 hours, prohibiting trade-up transactions from occurring within fleets, and increasing the minimum cost share requirement to \$2,500 for the participant receiving the reconditioned equipment.
- **Additional Category for Advanced Technology Demonstration Projects:** Some advanced technology vehicles and equipment need field demonstrations to test the vehicle or equipment's viability or determine whether it can serve the same function and perform the same work as the vehicle 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 new project category, districts may develop and fund demonstration projects, with CARB approval, without a requirement to scrap existing vehicles or equipment.

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Upon your approval of these project categories, staff will post the attached document on the FARMER Program website and districts will be able to begin funding these additional or modified project categories immediately. If you concur with these recommendations, please sign below and return to me.



Signature of Richard W. Corey
Executive Officer

10/27/2019

Date

Attachment

cc: Erin Uchida
Staff Air Pollution Specialist
Mobile Source Control Division

Evan Powers
Air Pollution Specialist
Mobile Source Control Division

Kersey Manlicic
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**Funding Agricultural Replacement Measures for Emission
Reductions (FARMER) Program
Modified and Additional Project Categories
October 2019**

The modified and additional project category requirements described below summarizes the original project categories requirements from the FARMER Program Guidelines approved by the Board March 22, 2018 and the September 24, 2018 memo approved by the California Air Resources Board's (CARB) Executive Officer, and includes any additional changes to those project categories.

Districts may choose to require more stringent administrative procedures in implementing their local program. The modified and additional project category criteria described below must be used for projects funded with fiscal year 2019-20 FARMER Program funds and subsequent years' funds. For projects funded using fiscal year 2017-18 and fiscal year 2018-19 funds, an air district may use either the criteria in the FARMER Program Guidelines approved by the Board March 22, 2018, the criteria in the September 24, 2018 FARMER Program memo, or the criteria below. When a district begins using the project category criteria below, it must continue to apply this criteria to all subsequently funded projects in that project category.

1. Modified Zero-Emission Agricultural Utility Terrain Vehicles (UTV) Project Category

The Zero-Emission Agricultural UTV project category was added to the FARMER Program to encourage and accelerate the use of off-road, zero-emission UTVs used in agricultural operations by providing rebates for the purchase of new zero-emission vehicles. The existing project category requires that a conventionally-fueled (e.g., gasoline or diesel) UTV is scrapped in exchange for an incentive for a zero-emission model. However, there are not currently any funding opportunities to replace internal combustion engine-powered tractors with less than 25 horsepower within the FARMER Program. Additionally, under the existing project category, there is no upper limit for the incentive amount and the replacement zero-emission UTV is required to have a manufacturer warranty, but the minimum warranty period is not specified.

Under this modified Zero-Emission Agricultural UTV project category, tractors less than 25 horsepower are eligible to be replaced with zero-emission UTVs, zero-emission UTV models must have a minimum 1-year manufacturer warranty to be eligible, and the maximum incentive amount is capped at \$13,500 or 75 percent of the eligible costs for the new, zero-emission UTV, whichever is less.

Eligible Vehicles

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

- 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.
- 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.
- 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.
- Warranty Provisions: The vehicle drivetrain, including applicable energy storage tanks or battery packs, must be covered by a manufacturer warranty for a minimum of 1 year. Prior to approving a project, CARB or the 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.

Maximum Eligible Funding Amounts

The FARMER Program provides up to \$13,500 or 75 percent 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.

Participant Requirements

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

- Be an individual, business, non-profit, or government entity that can show proof of California residency or proof that the agricultural operation for which the UTV would be used occurs in California;
- Self-certify that the UTV would be used exclusively for California agricultural operations;
- Enter into a contractual agreement with the District for a minimum of 3 years;

- Keep the vehicle and meet all applicable project requirements for the duration of the contract;
- Provide the 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;
- Surrender the used UTV or tractor with less than 25 horsepower, as identified in the pre-inspection, to be permanently destroyed by a District-approved dismantler;
- Not purchase, make payments toward, and/or take possession of the new UTV prior to receiving a fully executed contract from the District;
- 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;
- 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;
- Be available for follow-up inspection(s), if requested by the District, CARB, or CARB's designee for the purposes of project oversight and accountability; and
- Install and maintain an operational hour meter on the new UTV and submit annual reports to the District that includes the hours of operation on the new zero-emission UTV and any other pertinent information requested by the 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.

Optional Zero-Emission Agricultural UTV Administrative Process

Districts also have the option to utilize the following administrative process in order to streamline implementation of this project category:

- The participant submits a completed application to their air district, using the application provided by the air district.
- Upon approval of the application package, the District issues a voucher and contracts with the participant.
- The participant purchases the new, eligible zero-emission UTV.
- The participant has the old UTV or tractor scrapped, destroyed, or otherwise rendered permanently inoperable by a District-approved dismantler. The participant must comply with all applicable scrap requirements within the FARMER Program Guidelines.

- The participant may then submit a claim to the District for payment along with the following documentation:
 - Signed voucher;
 - Signed Certificate of Destruction from the dismantler, or other documentation confirming that the old UTV was rendered permanently inoperable;
 - Invoice for the new equipment purchase from the dealership;
 - Proof of payment for the new UTV; and
 - Photo of the new UTV.
- Upon submittal and approval of the complete payment claim package, the District may then issue a payment check to the participant.

2. Modified Heavy-Duty Agricultural Truck Project Category

Heavy-duty trucks (Class 4 - 8) are eligible under the existing FARMER Program Guidelines, but because of the seasonal nature of the agricultural industry, agricultural trucks do not accrue many miles, therefore, limiting funding amounts for these trucks under traditional incentive funding mechanisms. Additionally, many specialized agricultural trucks are more expensive due to the specialized equipment they contain, further reducing the incremental funding levels they may receive through other incentive programs.

CARB staff worked with air districts, industry representatives, and other stakeholders to develop a category to support the replacement of heavy-duty trucks used in agricultural operations, including incentives for used trucks, which was added to the FARMER Program in September 2018. The modified criteria below sets the mileage limit for Class 7 trucks, based on the intended service class of the engine installed.

Eligible Vehicles

- All replacement trucks must:
 - Meet the 2010 NO_x emission standards of 0.20 grams per brake horsepower-hour (g/bhp-hr) or cleaner;
 - Be purchased from a dealership – no private party transactions are permitted; and
 - Have a gross vehicle weight rating (GVWR) of 14,001 pounds or greater.
- New, replacement trucks are subject to the warranty requirements in the 2017 Carl Moyer Program Guidelines.

- Used, replacement trucks must have less than the miles indicated below on the odometer:
 - Class 8 trucks (GVWR of 33,001 pounds or greater) and Class 7 trucks (GVWR of 26,001 to 33,000 pounds) with heavy heavy-duty (HHD) engines¹ must have less than 650,000 miles;
 - Class 7 trucks (GVWR of 26,001 to 33,000 pounds) with medium heavy-duty (MHD) engines must have less than 350,000 miles; and
 - Class 4-6 trucks (GVWR of 14,001 to 26,000 pounds) must have less than 25,000 miles.

Maximum Eligible Funding Amounts

The FARMER Program provides up to 65 percent of the purchase price of an eligible replacement truck, including used trucks. Upgrades to new trucks that add to the cost of the truck 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 older truck.

Participant Requirements

- Trucks must currently be in compliance with CARB’s Truck and Bus Regulation under one of the following provisions:
 - Agricultural Vehicle Extension;
 - Low-Use Exemption;
 - Specialty Agricultural Vehicle Extension; or
 - Engine Model Year Schedule and the truck must operate as an “agricultural vehicle” as defined in the Truck and Bus Regulation.
- Current trucks must have a gross vehicle weight rating (GVWR) of 14,001 pounds or greater.
- Participants must maintain ownership of the replacement truck for 3 years.
 - If, during the life of the contract, the participant wishes to sell the replacement truck, the administering air district must approve the truck 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.
- Participants must meet all applicable requirements for heavy-duty trucks in the FARMER Program Guidelines, 2017 Carl Moyer Program Guidelines and any future approved Guidelines, and current and future Program Advisories and Mail-Outs.

¹ Engines used in heavy-duty vehicles are divided into additional service classes by GVWR. HHD engines are intended for use in vehicles greater than 33,000 pounds and MHD engines are intended for use in vehicles between 14,000 and 33,000 pounds.

Districts with board-approved Truck Trade-Up Programs may also utilize FARMER Program funding on trade-up transactions involving agricultural trucks after receiving CARB approval of the District's Truck Trade-Up Program criteria.

3. Modified Off-Road Mobile Agricultural Equipment Trade-Up (Ag Trade-Up) Pilot Project Category

The Ag Trade-Up Pilot Project is an eligible project category for the San Joaquin Valley Air Pollution Control District to administer. The Ag Trade-Up Pilot Project provides CARB an opportunity to continue evaluating the feasibility of a new incentive model, intended for owners of high-emitting, off-road mobile agricultural equipment that are not well served by existing incentive programs. Owners of small and mid-sized farms may not have accessed incentive funds in the past due to low equipment usage or the inability to purchase new equipment, even with assistance from other incentive programs. This project category provides an excellent opportunity for these farmers to affordably upgrade their older mobile agricultural equipment.

The trade-up concept is a two-step transaction in which the owner of uncontrolled (Tier 0) or Tier 1 equipment to scrap that equipment in exchange for a previously used and reconditioned piece of cleaner diesel equipment (Tier 2 or Tier 3), at little out-of-pocket cost. The used equipment comes from another owner who relinquishes the equipment in exchange for an incentive to purchase new agricultural equipment with the cleanest engine technology available (Tier 4 Interim or Tier 4 Final).

The San Joaquin Valley Air Pollution Control District has been administering this pilot project since June 2016 and is working with CARB to assess this new incentive model in a San Joaquin Valley-wide scale. Based on recommendations from the San Joaquin Valley Air Pollution Control District, industry representatives, and other stakeholders, staff developed the modified criteria below.

Under the modified Trade-Up criteria, the purchase of a warranty may be included as an eligible cost with the repairs, the maximum hour limit on the used equipment is increased to expand potential equipment eligibility, trade-up transactions are prohibited from occurring within a fleet, and the minimum cost-share requirement is increased from \$850 to \$2,500 for the participant receiving the used, reconditioned equipment.

Other districts may also implement this project category upon CARB approval of their policy and procedures manual for this category.

Eligible Vehicles

- The new Tier 4 equipment purchased in part with incentive funding must:
 - Be Tier 4 mobile, self-propelled off-road agricultural equipment with a diesel-powered engine greater than or equal to 25 horsepower.
 - The certification emission standard and/or Tier designation for the engine must be determined from the CARB Executive Order issued for that engine.
 - Not have been previously owned and be designated as new by the dealer at the time of purchase. Used equipment are not eligible for funding as replacement equipment.
 - Equipment that served as rentals, were previously leased, or were floor/demonstration models may be eligible on a case-by-case basis determined by the District staff prior to funding. Documentation from the dealer may be required.
 - Have an operating hour meter to record annual usage in hours.

- The Tier 2/Tier 3 equipment to be reconditioned for trade-up must:
 - Be Tier 2 or Tier 3 mobile, self-propelled off-road agricultural equipment with a diesel-powered engine greater than or equal to 25 horsepower.
 - Have less than 10,000 hours on the hour meter.
 - Include maintenance records kept by the owner to ensure the equipment is operable and able to be used for the duration of the project life, as stated in the contract.
 - Be in good operating condition, meet Occupational Safety and Health Administration (OSHA) requirements, and pass the eligibility evaluation conducted by the District or its subcontractor.
 - Not be part of the same fleet as the high-emitting equipment.

- The old, high-emitting equipment to be scrapped must:
 - Be uncontrolled (Tier 0) or Tier 1 mobile, self-propelled off-road agricultural equipment with a diesel-powered engine greater than or equal to 25 horsepower.
 - Have been owned and operated in California for the previous 2 years and must currently be in operating condition.
 - Operating condition will be verified through an inspection process conducted by District staff or its subcontractor.
 - If selected for funding, the beneficiary may be required to submit documentation demonstrating that the Tier 0 or Tier 1 equipment has been in operational condition for the previous year.
 - Not be part of the same fleet as the Tier 2 or 3 equipment to be reconditioned.

Maximum Eligible Funding Amounts

The FARMER Program provides:

- Up to 80 percent of the cost of the new Tier 4 replacement equipment;
- Up to \$6,000 for warranty and repairs for Tier 2 or Tier 3 equipment; and
- Up to \$1,500 for transportation and assessment of the Tier 2 or Tier 3 equipment.

Participants must provide:

- At least 20 percent of the cost of the Tier 4 replacement equipment and cash or financed loans may be used to fulfill this match requirement.
- \$2,500 for warranty and repair costs for the reconditioned Tier 2 or Tier 3 equipment, based on the maximum allowable warranty and repair cost of \$8,500.
 - If warranty and repair costs exceed \$8,500, participants are responsible for covering any additional repair costs.

Participant Requirements

Participants receiving the Tier 4 replacement equipment must:

- Enter into a contractual agreement with the District;
- Provide the District with past maintenance records and/or service history on the Tier 2 or Tier 3 equipment;
- Not purchase, make payments toward, and/or take possession of the new equipment prior to receiving a fully executed contract from the District;
- Agree to a project life (time period in which the applicant is required to own, operate, and maintain the equipment) of no less than 10 years from the date in which the new equipment is received;
- Remain the owner of the new equipment throughout the full term of the agreement;
- Maintain the replacement equipment in accordance with manufacturer specifications;
- Maintain replacement value insurance for the replacement equipment through the full term of the agreement;
- Operate 100% of the replacement equipment's annual hours within the District boundaries;
- Purchase a minimum of a one-year or a 1,600-hour power and drivetrain warranty for the replacement equipment. The warranty must cover parts and labor; and
- Install and maintain an operational hour meter on the new equipment.
 - 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.

Participants receiving the reconditioned Tier 2 or Tier 3 equipment must:

- Enter into a contractual agreement with the District;
- Not take possession of the Tier 2 or Tier 3 equipment prior to receiving a fully executed contract from the District;
- Agree to a project life of no less than 3 years and up to 10 years from the date in which the Tier 2 or Tier 3 equipment is received;
- Remain the owner of the reconditioned equipment throughout the full term of the agreement;
- Maintain the Tier 2 or Tier 3 equipment in accordance with manufacturer specifications;
- Maintain replacement value insurance for the Tier 2 or Tier 3 equipment through the full term of the agreement;
- Operate 100% of the Tier 2 or Tier 3 equipment's annual hours within the District boundaries;
- Surrender the Tier 0 or Tier 1 equipment, as identified in the pre-inspection, to the District's subcontractor to be permanently destroyed by a District-approved dismantler;
- Agree to not receive money for the scrap value of the Tier 0 or Tier 1 equipment;
- Submit annual reports to the District that includes information on the Tier 2 or Tier 3 equipment's hours of operation, maintenance, and any other pertinent information requested by the District on a form provided by the District for the duration of the project life; and
- Release the previous owner of the Tier 2 or Tier 3 equipment and the District of any and all liability that could foreseeably arise as a result of the agreement.

In addition to the requirements described above, projects funded under the Off-Road Mobile Agricultural Equipment Trade-Up Pilot Project must meet all reporting and recordkeeping requirements described in the FARMER Program Guidelines, the 2017 Carl Moyer Program Guidelines and any future approved Guidelines, and current and future Program Advisories and Mail-Outs.

4. New Advanced Technology Demonstration Project Category

Advanced technology vehicles and equipment used in agricultural operations are currently eligible for FARMER Program funding on a case-by-case basis under the Carl Moyer Program-eligible project category when an existing vehicle or equipment is scrapped in exchange. However, some advanced technology vehicles and equipment need additional field demonstrations to test the vehicle or equipment's viability or determine whether it can serve the same function and perform the same work as the vehicle 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 new project category, districts may develop and fund demonstration projects, with CARB approval, without a requirement to scrap existing vehicles or equipment.

Guiding Principles

- Eligible projects must reduce greenhouse gas and criteria pollutant emissions and emission reductions must be quantified.
- Eligible advanced technologies must be used in agricultural operations.
- Projects must include a data collection component.
- Projects must meet all applicable statutory requirements.
- Districts must develop a competitive solicitation through a public process and receive CARB approval to begin soliciting for projects.
- Selected demonstration projects must be approved by CARB before receiving funding.