

San Joaquin Valley Agricultural Equipment Incentive Measure

***Quantifying the Funded Emission Reductions from Moyer,
NRCS, and FARMER Programs to Achieve SIP Credit***

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Executive Summary

This submittal fulfills the State commitment to propose for Board consideration an incentive measure to replace agricultural equipment. The *San Joaquin Valley Agricultural Equipment Incentive Measure* (Valley Incentive Measure) demonstrates how a portion of emission reductions from incentive programs will be quantified toward the State's aggregate commitment to achieve the necessary emission reductions.

In January 2019, the California Air Resources Board (CARB or Board) adopted the San Joaquin Valley Air Pollution Control District's (District) *2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards* (2018 PM2.5 Plan). The 2018 PM2.5 Plan demonstrates how the San Joaquin Valley (Valley) will meet four fine particulate matter (PM2.5) federal national ambient air quality standards (standards) in 2020, 2024, and 2025. The 2018 PM2.5 Plan incorporates emission reductions from the *San Joaquin Valley Supplement to the 2016 State Strategy for the State Implementation Plan* (Valley State SIP Strategy) adopted by the Board in October 2018. The Valley State SIP Strategy builds on existing mobile source controls described in CARB's earlier 2016 State Strategy for the State Implementation Plan (SIP) and includes new measures, both regulatory and incentive, to reduce emissions of oxides of nitrogen (NOx) and directly emitted PM2.5. The 2018 PM2.5 Plan provides the technical foundation for the overall control strategy, local measures for stationary sources, and complementary efforts to help achieve reductions from mobile sources. Together, these planning efforts comprise a comprehensive SIP for the Valley that was submitted to U.S. Environmental Protection Agency (U.S. EPA) on May 9, 2019.

While regulations form the basis of this strategy, and are critical to drive technology development and deployment of the cleanest technologies into the fleets, incentive efforts are needed to accelerate deployment of these cleaner technologies in time to meet the standards. As part of the Valley State SIP Strategy, CARB committed to develop and propose for Board action a measure entitled, *Accelerated Turnover of Agricultural Equipment – Incentive Projects* to use incentive funds to achieve emission reductions in 2024 and 2025 through accelerated turnover of older agricultural equipment to cleaner agricultural equipment. This measure built upon the previous success of the agricultural community using incentives to turn over agricultural equipment as part of an emission reduction commitment for ozone in the Valley.

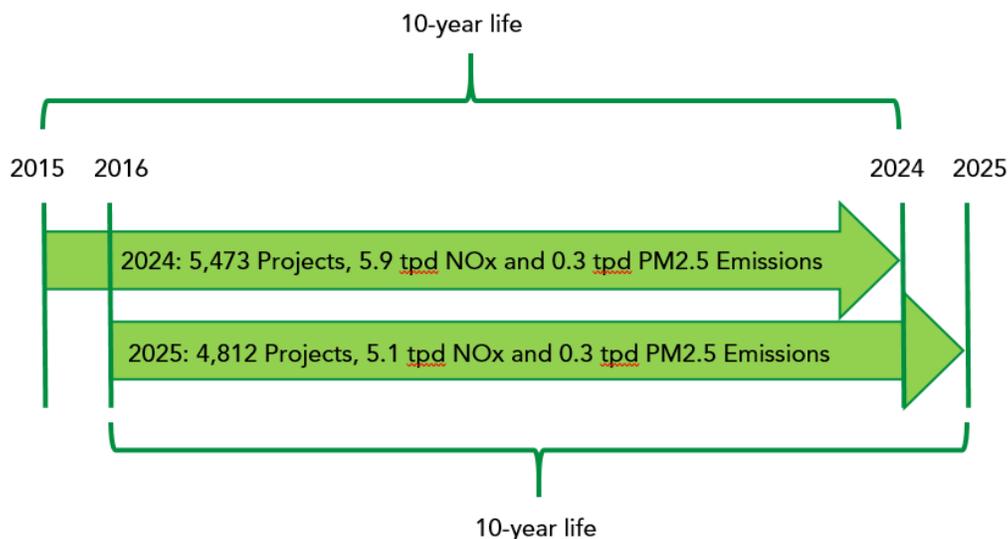
The State identified the potential to reduce 11 tons per day (tpd) of NOx and 0.8 tpd of PM2.5 by accelerating the turnover of older and dirtier agricultural equipment to new and cleaner equipment. CARB staff collaborated with District staff to identify agricultural equipment, captive in the Valley, to turn over using 2015 through 2019 funding and achieve 5.9 tpd of NOx and 0.3 tpd of PM2.5 emission reductions in 2024 and for those same projects translated to 5.1 tpd of NOx and 0.3 tpd of PM2.5 emission reductions in 2025 from this effort. CARB will consider future incentive

measures to quantify emission reductions from future funding and projects not included in this measure.

The following table summarizes the Valley Incentive Measure Enforceable Implementation Reporting Mechanism.

| Source Category: Off-Road Mobile Agricultural Equipment Implementing Agency: CARB and San Joaquin Valley Air Pollution Control District Type of Action: Implemented and Future Incentive-based Emission Reduction Measure | | |
|--|-------|-------|
| Reporting Year | 2024 | 2025 |
| Number of Agricultural Equipment Turned Over (projects) | 5,473 | 4,812 |
| Total NOx Emission Reductions (tpd) | 5.9 | 5.1 |
| Total PM2.5 Emission Reductions (tpd) | 0.3 | 0.3 |

The following figure summarizes why there are differences in the number of projects and emission reductions in the Valley Incentive Measure.



Outline of this document

Chapter 1 provides an introduction to this document and explains how the Valley Incentive Measure will meet the State’s commitment. Then, Chapter 2 outlines U.S. EPA’s requirements for incentive measures to be credited towards a SIP commitment including U.S. EPA’s four integrity elements – surplus, permanent, quantifiable, and enforceable. The remainder of this document demonstrates how the Valley Incentive Measure meets these requirements.

Chapter 3 sets out the funding and legal authority for all three incentive programs used in the Valley Incentive Measure. Then, Chapters 4 through 6 demonstrate how U.S. EPA's integrity measures are met by each incentive program. Chapter 7 outlines the procedures CARB and the District will follow to ensure the public has access to the information necessary to measure and track programmatic results. Chapter 8 explains the technical analysis that forms the basis for the emission reductions quantified for this measure.

Chapter 9 sets forth California's enforceable implementation reporting mechanism for each incentive program and for this measure overall. It is this chapter that, upon adoption, will be California's federally enforceable implementation reporting mechanism that will be submitted into the California SIP.

And finally, Chapter 10 addresses the environmental analysis for the Valley Incentive Measure. Chapter 11 contains the CARB staff's recommendation for Board approval.

Chapter 1. Introduction

California has some of the worst air quality in the nation. Statewide, approximately 60 percent of Californians live in communities that exceed federal ozone and PM_{2.5} standards. Areas that do not attain the standard are designated as nonattainment and classified according to the severity of their air quality problem. Areas with higher pollution levels are given more time to meet the standard, but are also subject to more stringent control requirements. The Valley is one of only five areas in the nation with a Serious classification for the following PM_{2.5} standards: the 65 µg/m³ 24-hour, the 15 µg/m³ annual, the 35 µg/m³ 24-hour, and the 12 µg/m³ annual standards.

The District 2018 PM_{2.5} Plan builds on numerous existing plans and measures adopted by the District and the CARB to address multiple federal air quality standards. Over 174 tpd of NO_x emissions will be reduced through existing measures included in strategies already adopted by the District and CARB by the attainment date. In developing the 2018 PM_{2.5} Plan, the District and CARB have conducted an extensive evaluation of sources of emissions for potential strategies to reduce emissions in the Valley. Along with comprehensive efforts at the District level to reduce emissions, reducing mobile source emissions are critical to attaining the standards. California's mobile source control programs have achieved and will continue to achieve significant NO_x and PM_{2.5} emission reductions. Ongoing implementation of these programs provide a significant down payment for meeting air quality standards.

The federal Clean Air Act (Act) sets out requirements for adoption of air quality standards, as well as the required elements of SIPs, which must demonstrate how a nonattainment area, such as the Valley, will meet the standards by the required attainment deadline. Responsibility for developing and implementing a SIP is shared between CARB and the local air districts. For nonattainment areas, the Act requires affected districts and the State to develop cohesive multi-year plans or SIPs to define actions needed to meet the standards. The air quality plans include various programs to reduce emissions from stationary, area, and mobile sources. Traditionally, SIPs have relied on rules and regulations to improve air quality. However, to meet PM_{2.5} standards in the Valley, rules and regulations must be supplemented with the judicious use of incentive funding to accelerate deployment of the cleanest technologies in time to achieve the standards.

In January 2019, CARB adopted the 2018 PM_{2.5} Plan demonstrating how the Valley will meet the four federal PM_{2.5} standards in 2020, 2024, and 2025. The 2018 PM_{2.5} Plan incorporates emission reductions from the Valley State SIP Strategy adopted by the Board in October 2018. The Valley State SIP Strategy builds on existing mobile source controls described in CARB's earlier 2016 State Strategy for the State Implementation Plan and includes new measures, both regulatory and incentive, to reduce emissions of NO_x and directly emitted PM_{2.5}. The 2018 PM_{2.5} Plan provides

the technical foundation for the overall control strategy, local measures for stationary sources, and complementary efforts to help achieve reductions from mobile sources. Together, these planning efforts comprise a comprehensive SIP that was submitted to U.S. EPA on May 9, 2019.

While regulations form the basis of the strategy, and are critical to drive technology development and deployment of the cleanest technologies into the fleets, incentive efforts are needed to expand deployment of these cleaner technologies in time to meet the standards. As part of the Valley State SIP Strategy, CARB committed to develop and propose for Board action a series of defined new emission reduction measures, and to achieve aggregate emission reductions by certain dates. While the Valley State SIP Strategy included estimates of emission reductions from each of the individual new measures, CARB's overall commitment is to achieve the total emission reductions necessary to attain the federal air quality standards, reflecting the combined reductions from the existing control strategy and new measures. Therefore, each measure may get more or less reductions than those estimated, but the State is still committed to achieving the total aggregate emission reductions identified in the Valley State SIP Strategy.

This submittal fulfills the State commitment to propose the San Joaquin Valley Agricultural Equipment Incentive Measure (Valley Incentive Measure) for Board consideration and demonstrates how a portion of emission reductions from incentive programs will be quantified toward the State's aggregate commitment to achieve the necessary emission reductions. Specifically, the State identified the potential to reduce 11 tpd of NO_x and 0.8 tpd of PM_{2.5} by accelerating the turnover of older and dirtier agricultural equipment to new and cleaner equipment. CARB staff collaborated with District staff to identify agricultural equipment, captive in the Valley, to turn over using 2015 through 2019 funding and achieve the 5.9 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions in 2024 and for those same projects translated to 5.1 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions in 2025 from this effort. CARB will consider future incentive measures to quantify emission reductions from future funding and projects not included in this measure.

California will employ many incentive programs throughout the implementation of the Valley State SIP Strategy and District attainment plans. Historically, emission reductions achieved from implemented incentive programs were credited towards the SIP in a simplified fashion. More recently, transparency needed to ensure the public can replicate that emission reductions are real has revised CARB's approach. CARB has been working closely with the U.S. EPA to ensure incentives are credited appropriately in the SIP to ensure this measure and future submittals by CARB and districts pursuing SIP emission reduction credit from incentive programs are approvable by U.S. EPA. The Valley Incentive Measure meets the requirements established by U.S. EPA.

The Valley Incentive Measure implemented agricultural equipment incentive projects are funded by CARB's Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) and United States Department of Agriculture Natural Resources Conservation Service (NRCS) following each of their respective guidelines. Future agricultural equipment incentive projects are funded by CARB's Funding Agricultural Replacement Measures for Emission Reductions Program (FARMER Program) and follow the FARMER Program Guidelines.

As part of the Valley Incentive Measure, staff have identified groups of incentive projects captive to the Valley and estimated the associated NOx and PM2.5 emission reductions in 2024 and 2025. Implemented incentive projects are those in which the funding has been used and the new piece of agricultural equipment is in place. The following describes the projects used for the two separate reporting years need for the 2018 PM2.5 Plan:

For 2024,

1. Implemented Moyer Program and NRCS agricultural equipment incentive projects post-inspected from January 1, 2015 to April 30, 2019 and
2. Future FARMER Program agricultural equipment incentive projects post-inspected from September 1, 2018 to December 31, 2023.

For 2025,

1. Implemented Moyer Program and NRCS agricultural equipment incentive projects post-inspected from January 1, 2016 to April 30, 2019 and
2. Future FARMER Program agricultural equipment incentive projects post-inspected from September 1, 2018 to December 31, 2024.

The Valley Incentive Measure emission reductions will be credited against CARB's 2024 and 2025 aggregate emission reduction commitment for the 35 µg/m³ 24-hour PM2.5 standard and 12 µg/m³ annual PM2.5 standard, respectively. Additional opportunities to achieve the remaining emission reductions are available in the Valley and staff will continue to identify the remaining emission reductions needed to meet California's commitment.

U.S. EPA guidelines outline the requirements states need to meet in order for emission reductions from incentive projects to be SIP-creditable. **The measure must demonstrate an established funding source and legal authority to implement; document how the State/District have relied upon the incentive measure in the applicable plan; describe procedures for public disclosure of information; describe provisions to measure and track programmatic results; and demonstrate that emission reductions meet U.S. EPA integrity elements: surplus, permanent,**

quantifiable, and enforceable.¹ U.S. EPA guidelines also require that the measure include a publicly-enforceable implementation reporting mechanism to achieve the reductions. The Valley Incentive Measure meets these requirements as detailed in this report.

To ensure the Valley Incentive Measure emission reductions occur, the District and CARB will report and track to ensure that the Valley Incentive Measure is successful and delivers the reductions needed. The public will be able to calculate the emission reductions using widely available methods and assumptions documented in this report, and in a manner that can be replicated. Further, U.S. EPA and the public will be able to determine whether emission reductions attributed to a project adequately covers the period for which those reductions are credited in a SIP per above.

On August 29, 2019, CARB staff held a public workshop to discuss the Valley Incentive Measure and received public input on the development of the measure. After a 30-day public review, the Board will consider the Valley Incentive Measure at its December Board hearing. If adopted, CARB staff will submit the Valley Incentive Measure to U.S. EPA as a revision to the California SIP.

¹ 1 See "Diesel Retrofits: Quantifying and Using Their Emission Benefits in SIPs and Conformity," February 2014 at pages 27-29 ; "Incorporating Emerging and Voluntary Measures in a State Implementation Plan (SIP)," September 2004 at pages 3-4; "Improving Air Quality with Economic Incentive Programs," January 2001 at Section 4.1; and "Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs)," October 24, 1997, at page 6-7

Chapter 2. U.S. EPA Requirements for Incentive Measures

U.S. EPA guidelines outline the requirements states need to meet to get SIP credit for emission reductions from incentive projects. The measure must demonstrate an established funding source and legal authority to implement incentive programs. The resulting emission reductions must also meet four “integrity elements” (surplus, permanent, quantifiable, and enforceable) including provisions that allow the public to measure and track programmatic results.² For a prospective incentive measure, U.S. EPA guidelines also require that the measure include a publicly-enforceable implementation reporting mechanism to achieve the emissions reductions.

U.S. EPA provides guidance on its four integrity elements that is described below.

1. Surplus

As defined by U.S. EPA, emission reductions used to meet air quality attainment requirements are “surplus” if they are not already required by or assumed in the same attainment plan, any other adopted state air quality program, a consent decree, or a federal rule designed to reduce emissions of a criteria pollutant or its precursors (e.g., a new source performance standard or federal mobile source requirement). That is, states cannot claim SIP credit for emission reductions that are already assumed in the existing SIP or that result from any other emission reduction or limitation of a criteria pollutant or precursor that the state is required to have to attain or maintain a National Ambient Air Quality Standard (standard) or satisfy other Act requirements. In the event that economic incentive programs programmatic emission reductions are relied on to meet air quality-related program requirements, the reductions are no longer surplus. Additionally, the emission reductions are surplus only for the remaining useful life of the vehicle, engine, or equipment being replaced.

2. Permanent

As defined by U.S. EPA, emission reductions used to meet air quality attainment requirements are “permanent” if the state and U.S. EPA can ensure that the reductions occur for as long as they are relied upon in the SIP; the time period that the emission reductions are used in the SIP can be no longer than the remaining useful life of the retrofitted or replaced engine, vehicle, or equipment.

3. Quantifiable

As defined by U.S. EPA, emission reductions used to meet air quality attainment requirements are “quantifiable” if they can be measured in a manner that is reliable and replicable by different users.

² See “Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs),” October 24, 1997, at page 6-7; “Improving Air Quality with Economic Incentive Programs,” January 2001 at Section 4.1; “Incorporating Emerging and Voluntary Measures in a State Implementation Plan (SIP),” September 2004 at pages 3-4; and “Diesel Retrofits: Quantifying and Using Their Emission Benefits in SIPs and Conformity,” February 2014 at pages 27-29.

4. Enforceable

As defined by U.S. EPA, emission reductions used to meet air quality attainment requirements are “enforceable” if they are independently verifiable; program violations are defined; those liable can be identified; the state and U.S. EPA may apply penalties and secure appropriate corrective action where applicable; citizens have access to emissions-related information obtained from participating sources; citizens may file suit against a responsible entity for violations; and the required reductions/actions are practicably enforceable consistent with U.S. EPA guidance on practical enforceability.

Chapters 3-9 of this document demonstrate that the Valley Incentive Measure meets U.S. EPA’s requirements to be credited towards California’s SIP commitment in the Valley.

Chapter 3. Funding and Legal Authority for the San Joaquin Valley Agricultural Equipment Incentive Measure

To ensure that incentive emission reductions can be credited toward a future year emission reduction requirement, U.S. EPA requires incentive measures to have an established funding source. The Valley Incentive Measure identified two groups of incentive projects captive to the Valley, implemented and future off-road mobile agricultural replacement. Future agricultural equipment incentive projects for this measure will use the first two funding years, fiscal year (FY) 17/18 and 18/19, of FARMER Program as the established funding source.

Moyer Guidelines

In 1998, California established the Moyer Program when \$25 million was added to the fiscal year 1998-1999 State budget to incentivize lower-emission heavy-duty engines. CARB adopted the first set of Moyer Program guidelines (Moyer Guidelines) in early 1999, and legislation enacted in 1999 formally established the statutory framework for the Moyer Program (Health and Safety Code section 44275, et seq.). The program initially focused on reducing NOx emissions from heavy-duty diesel engines to implement a strategy in the 1994 California SIP that called for early introduction of cleaner engines. The scope of the program has expanded over the years with statutory changes adding targeted pollutants and new source categories.

Legislation enacted in 2004 (Assembly Bill No. (AB) 923, Firebaugh), Senate Bill No. (SB) 1107 (Committee on Budget and Fiscal Review), and AB 1394 (Levine) provided increased and continued funding, while significantly expanding the Moyer Program. AB 923 expanded the Moyer Program to include light-duty vehicle projects and agricultural sources of air pollution as defined in Health and Safety Code section 39011.5(a). Specifically, AB 923 adjusted the tire fee that is assessed on purchasers of new tires. SB 1107 established the smog abatement fee as a funding source, increased the smog abatement fee collected for new registered vehicles, and eliminated a sunset date. Smog abatement fees are collected for new vehicles registered by the Department of Motor Vehicles. Additional legislation enacted in 2004, AB 1394 (Levine), directed CARB to include in the Moyer Program heavy-duty fleet modernization projects that reduce NOx and/or PM10 emissions through the replacement of old trucks.

The Moyer Program was re-authorized in 2013 (AB 8, Perea), with full funding extended through 2023. The Legislature substantially augmented the Moyer Program in 2015 (SB 513, Beall) with new provisions related to cost-effectiveness, fund leveraging, and infrastructure funding. CARB approved updated 2017 Moyer Guidelines at its April 2017 board hearing to address these legislative changes.

Although the Moyer Program has grown in scope, it retains its primary objective of obtaining cost-effective and surplus emission reductions to be credited toward

California's legally-enforceable obligations in the SIP. While following the public process, multiple changes have been made to the program guidelines in response to legislative and regulatory changes. Moyer Guideline changes also ensured that emission reductions funded through the Moyer Program are consistent with the underlying statutory mandates by being "permanent, surplus, quantifiable, and enforceable." CARB is required to make proposed changes to the guidelines available to the public at least 45 days prior to final adoption and is required to hold at least one public meeting to consider public comments before final adoption of any changes. Later sections of this document will demonstrate how the Valley Incentive Measure follows the 2011 and 2017 Moyer Guidelines for SIP creditability.

The Moyer Program has been a successful and popular air quality program. Since the Moyer Program began in 1998 nearly \$1 billion in Moyer Program incentive grants have been used to clean up over 60,000 older engines in California. This has reduced NOx and ROG emissions by more than 183,000 tons, and particulate matter by more than 6,700 tons statewide.

The Moyer Program has been implemented through the cooperative efforts of CARB and the districts. The Health and Safety Code directs CARB to oversee the Moyer Program by managing program funds; developing and revising guidelines, protocols, and criteria for covered vehicle projects; and determining methodologies used for evaluating project cost-effectiveness. CARB distributes State funds to the districts for program implementation each year. The 2011 and 2017 Moyer Guidelines describe requirements for administrative procedures, eligibility criteria for projects in different source categories, cost-effectiveness criteria, and reporting practices. Districts, following the criteria approved in the Board-approved guidelines, provide grants to public and private entities for the incremental cost of cleaner-than-required engines, vehicles, equipment, and emission reduction technologies. The districts followed the 2011 and 2017 Moyer Guidelines to select, fund, and monitor the specific clean air projects within their boundaries.

The districts have flexibility in implementing the Moyer Program. For example, districts may focus their Moyer Program funds on different vehicle categories such as on-road or off-road heavy-duty vehicles. This flexibility allows districts to tailor the use of the Moyer Program funds to meet local air quality objectives while ensuring proper and responsible use of State funds. Additionally, district have the authority to impose additional more stringent requirements than the Moyer Program.³

All California air pollution control and air quality management districts may apply for Moyer Program funds. The allocation of Moyer Program funds reflects updated information on district population and air pollution severity under Health and Safety Code section 44299.2. The Moyer Program currently authorizes \$69 million statewide from smog abatement and tire fees.

³ 2011 Moyer Guidelines Chapter 2, D. and 2017 Moyer Guidelines Chapter 2, E.

Districts participating in the Moyer Program are required to provide matching funds. The district's match requirement is 15 percent of the district's final Moyer Program allocation; districts requesting only the minimum allocation of \$200,000 are exempt from the match requirement. The district can meet its match obligation through funding from a combination of committed projects not used as match for a previous grant; future projects with this in-kind contribution (funds under the air districts budget authority) must be limited to not more than 15 percent of the total match commitment. All projects used to meet match requirements must also follow the 2011 and 2017 Moyer Guidelines.

To ensure that emission reductions span the entire 2024 calendar year from January 1 to December 31, 2024, the project life must also span that time period. Thus, for the 2024 enforceable implementation reporting mechanism, this measure relies upon projects implemented during the 2015 to 2019 calendar years with a ten-year project life.

To ensure that emission reductions span the entire 2025 calendar year from January 1 to December 31, 2025, the project life must also span that time period. Thus, for the 2025 enforceable implementation reporting mechanism, this measure relies upon projects implemented during the 2016 to 2019 calendar years with a ten-year project life.

CARB staff has determined that the Moyer Program provides appropriate legal authority and established funding for the Valley Incentive Measure. To ensure that the projects satisfy U.S. EPA's integrity demonstration elements and are SIP creditable, the Valley Incentive Measure will follow the 2011 and 2017 Moyer Guidelines provided in Appendix B and C, respectively. The Guidelines ensure the projects and associated emission reductions are independently verifiable, quantifiable, surplus, and permanent as discussed below.

The link to the applicable Moyer Guidelines used in the Valley Incentive Measure are below.

- 2011 Moyer Guidelines⁴
<https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>
- 2017 Moyer Guidelines
<https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>

⁴ The 2011 Moyer Guidelines include two dates because the revisions to the 2011 Moyer Guidelines were administration in nature and not significant.

NRCS Guidelines

NRCS is an agency within the United States Department of Agriculture that provides technical assistance to farmers and other private landowners and managers on conservation efforts. One such program through which NRCS fulfills this mission is the Environmental Quality Incentive Program (EQIP), which funds eligible agricultural producers to address, among other things, air quality issues from their operations. EQIP is a voluntary program that enables agricultural producers to secure financial and practical assistance in implementing NRCS-approved conservation practices to improve air quality and agricultural operations simultaneously.

EQIP was first created and funded by the Federal Agriculture Improvement and Reform Act of 1996⁵ and has been reauthorized and modified through subsequent farm bills.⁶ The NRCS has been delegated authority to promulgate regulations to carry out EQIP;⁷ these regulations exist at title 7, part 1466 of the Code of Federal Regulations.⁸ After each farm bill, NRCS updates its regulations as necessary to reflect any modifications made to its programs by the farm bill. NRCS issues interim rules in which the promulgated rules take effect immediately but also are accompanied by a period for the public to submit comments.⁹ After the comment period, NRCS considers and responds to the comments and publishes a final rule.¹⁰ NRCS has issued an interim rule following the 2018 farm bill, but did not make any changes to its EQIP regulations.¹¹

⁵ Pub. L. 104-127, §§ 334, 341 (codified at 16 U.S.C. § 3839aa et seq.).

⁶ Agricultural Improvement Act of 2018, Pub. L. 115-334, §§ 2301–2308, 2501 (codified at 16 U.S.C. § 3839aa et seq.); Agricultural Act of 2014, Pub. L. 113-79, §§ 2201–2208, 2601 (codified at 16 U.S.C. § 3839aa et seq.); Food, Conservation, and Energy Act of 2008, Pub. L. 110-234, §§ 2501–2510, 2701 (codified at 16 U.S.C. § 3839aa et seq.); Farm Security and Rural Investment Act of 2002, Pub. L. 107-171, §§ 2301, 2701 (codified at 16 U.S.C. § 3839aa et seq.).

⁷ See 16 U.S.C. § 3846(a).

⁸ For more information about NRCS's procedures for administering EQIP, see its Conservation Program Manual, Title 440, Part 515,

<https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=42348.wba>. The Conservation Program Manual is internal guidance that NRCS issued and amends as needed by directives, and it is made publicly available. See, e.g., Conservation Program Manual, Title 440, Part 515, § 515.2(A) ("This manual contains NRCS policy and guidance and operating procedures for the administration and implementation of EQIP in accordance with 7 CFR Part 1466 and statute.").

Directives are "[w]ritten communications that initiate or govern actions, conduct, or procedures" of NRCS in conducting its business, and they can be "issued by [the U.S. Department of Agriculture], NRCS, or other Federal agencies that applies to the work of NRCS." NRCS General Manual, Title 120, Part 403, § 403.1, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=34910.wba>.

For more information on the NRCS' rules and procedures regarding directives, see its National Directives Management Manual, Part 503, Subparts A, C, and D,

<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=34110>.

⁹ 16 U.S.C. § 3846(b).

¹⁰ See also USDA Natural Resources Conservation Service, *Farm Bill Rules*,

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farbill/?cid=stelprdb1263599> (last visited October 29, 2019).

¹¹ 84 Fed. Reg. 19,699 (May 6, 2019).

Eligible land for EQIP assistance includes such lands “on which agricultural products, livestock, or forest-related products are produced,” like croplands or rangelands.¹² An applicant for EQIP assistance must have control of the land for the duration of the contract, must be a producer as defined,¹³ must be in compliance with applicable “highly erodible land” and “wetland conservation” provisions,¹⁴ and must agree to submit and implement a plan of operations.¹⁵ The EQIP plan of operations must include conservation objectives and goals, conservation practices to be implemented, and a schedule for implementation.¹⁶ All conservation practices must be approved by NRCS and “carried out in accordance with the applicable NRCS planning and [Field Office Technical Guide] technical requirements.”¹⁷

EQIP participants must also enter into a contract with NRCS.¹⁸ The contract is to identify all conservation practices to be implemented, the schedule of implementation, the operation and maintenance requirements for the practices, and payment allocation.¹⁹ The contract is also to provide that the participant will not engage in any practice on the land that would defeat EQIP’s purpose, will refund any program payments with interest in the event the participant violates the contract, and will provide required information for NRCS to determine compliance with the contract.²⁰

Conservation practices are the substantive core of EQIP.²¹ NRCS is required to develop and provide a list of conservation practices that are eligible for EQIP payments.²² To that end, NRCS has provided in its General Manual²³ conservation practice standards (CPS) establishing the minimum level of quality for planning, operating, and maintaining a conservation practice.²⁴ Each national CPS is maintained

¹² 7 C.F.R. § 1466.6(c).

¹³ 7 C.F.R. § 1466.3.

¹⁴ 7 C.F.R. § 12.1, et seq.

¹⁵ 7 C.F.R. § 1466.6(b).

¹⁶ 7 C.F.R. § 1466.7(c).

¹⁷ 7 C.F.R. § 1466.7(a). NRCS develops and provides a list of eligible conservation practices in its Field Office Technical Guide. *Id.* § 1466.8(a); see also *id.* § 1466.23(a).

¹⁸ 7 C.F.R. § 1466.21(a). More detailed information on how NRCS engages in its contracting and the responsibilities it expects of the contracting parties can be found in NRCS’s Conservation Program Manual, Title 440, Part 512,

<https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=42944.wba>.

¹⁹ 7 C.F.R. § 1466.21(b)(1). NRCS expects each participant “to operate and maintain each conservation practices installed under the contract for its intended purpose for the conservation practice lifetime.” *Id.* § 1466.22(b).

²⁰ 7 C.F.R. § 1466.21(b)(3); see also 16 U.S.C. § 3839aa-4.

²¹ *E.g.*, 16 U.S.C. § 3839aa-2.

²² 7 C.F.R. §§ 1466.8(a), 1466.23(a).

²³ NRCS maintains its General Manual on its website, <https://directives.sc.egov.usda.gov/>. Like the Conservation Program Manual, see *supra* note 4, the General Manual is internal guidance that NRCS issued and amends as needed by directive, and it is made publicly available.

²⁴ NRCS, General Manual, title 450, part 401, subpart B, § 401.11, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=43771.wba>.

in the National Handbook of Conservation Practices (NHCP). The initiation of development or review of a CPS begins with the national discipline lead, who works with an interdisciplinary review or development team to guide the CPS through quality assurance review and internal review from state resource conservationists and engineers and national technology specialists within NRCS.²⁵ The CPS is then published in the Federal Register for public review and comment for at least 30 days.²⁶ After addressing any public comments, NRCS releases the final CPS through a NHCP notice, and the final CPS is included in the NHCP and eligible for EQIP funding.²⁷

If NRCS establishes a new CPS, states may adopt the new national CPS as needed; if NRCS modifies or removes a CPS, then states must accordingly modify or remove the CPS from their Field Office Technical Guide (FOTG).²⁸ The FOTG is the official “NRCS source of resource information and interpretations of guidelines, criteria, and requirements for planning and implementation of conservation practices” at the state and local level.²⁹ The FOTG contains the CPSs adopted by the states, as well as other technical information to achieve the desired resource conservation.³⁰ As noted earlier, the NRCS adopts national CPSs, and the states adopt those applicable to their resources, with any necessary tailoring or modifications, into their FOTG. EQIP participants must then develop and carry out any conservation practices in accordance with the standards in the FOTG.³¹

EQIP project information is generally publicly available, subject to exclusions under the Freedom of Information Act (FOIA),³² the federal Privacy Act,³³ and certain specific provisions.³⁴ One such provision is section 1619 of the Food, Conservation, and Energy Act of 2008, which generally prohibits disclosure of “information provided by

²⁵ NRCS, National Handbook of Conservation Practices, Exhibit 3, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=43930.wba>.

²⁶ NRCS, General Manual, title 450, part 401, subpart B, § 401.19, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=43771.wba>; NRCS, National Handbook of Conservation Practices, Exhibit 3, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=43930.wba>.

²⁷ NRCS, National Handbook of Conservation Practices, Exhibit 3, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=43930.wba>.

²⁸ NRCS, General Manual, title 450, part 401, subpart B, § 401.14, <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=43771.wba>. States may obtain a variance to keep or further modify a CPS to meet the state’s needs. *Id.*

²⁹ 7 C.F.R. § 1466.3.

³⁰ 7 C.F.R. § 1466.3; see also USDA Natural Resources Conservation Service, Field Office Technical Guide (FOTG), <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/fotg/> (last visited October 29, 2019).

³¹ 7 C.F.R. § 1466.7(a); see also *id.* § 1466.8(a).

³² See 7 C.F.R. §§ 1.1–1.25 for FOIA rules and procedures applicable to NRCS.

³³ See 7 C.F.R. §§ 1.110–1.123 for Privacy Act rules and procedures applicable to NRCS. Notably, EQIP is not listed as a program whose system of records has been deemed categorically exempt from public disclosure under the Privacy Act. *Id.* §§ 1.122, 1.123.

³⁴ *E.g.*, NRCS, General Manual, title 260, part 400, subpart A, § 400.4, <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=19208>.

an agricultural producer . . . concerning the agricultural operation, farming or conservation practices, or the land itself, in order to participate in programs of the Department” of Agriculture.³⁵ In order to ensure that sufficient information about EQIP projects is publicly available to confirm emission reductions, NRCS has committed to provide to U.S. EPA, CARB, and the District an annual report containing:

- a. Information regarding emission reductions achieved by individual EQIP projects, including unique project identification numbers, the county in which each project is located, and verification that each "old" (replaced) engine has been destroyed.
- b. Certification by the NRCS California State Conservationist that: (1) emission reductions for each EQIP project identified in the annual report were calculated in accordance with the applicable NRCS conservation practice standards and related guidelines; (2) the annual report does not include any funded project that NRCS has found to be in violation of its EQIP contract; and (3) the information provided in the annual report is true and accurate to the best of his/her knowledge.³⁶

NRCS has in fact provided such information in its annual reports in accordance with the 2014 statement of principles addendum. Its annual reports include identification numbers, the county each project is located in, engine type and model year, and emission data. The California State Conservationist also certifies via letter to U.S. EPA Region IX that the project emission reductions were calculated according to the applicable conservation practices and related guidelines, that the projects in the annual report complied with their EQIP contracts, that the replaced equipment was destroyed, and that the information in the annual report is true and accurate. If requested by U.S. EPA or the District, NRCS also “will provide representative samples of the compliance-related documentation used to compile the annual report,” omitting any individual names.³⁷ This will allow compliance assurance without running afoul of anti-disclosure requirements.

California is fortunate to have received the majority of its EQIP funds to prioritize the replacing of off-road mobile agricultural equipment in California nonattainment areas. From the first projects in 2009 through this day, NRCS has obligated just under \$198 million statewide toward improving diesel-powered off-road mobile agricultural equipment, of which about \$155 million has been directed toward Valley projects.

³⁵ 7 U.S.C. § 8791(b)(2)(A).

³⁶ Addendum to the December 2010 Statement of Principles Regarding the Approach to State Implementation Plan Creditability of Agricultural Equipment Replacement Incentive Programs Implemented by the USDA Natural Resources Conservation Service and the San Joaquin Valley Air Pollution Control District (Mar. 2014).

³⁷ *Id.*

To ensure that emission reductions span the entire 2024 calendar year (from January 1 through December 31, 2024), the project life must also span that time period. Thus, projects implemented during the 2015 to 2019 calendar years with a ten-year project life will be eligible for this measure.

To ensure that emission reductions span the entire 2025 calendar year (from January 1 through December 31, 2025), the project life must also span that time period. Thus, projects implemented during the 2016 to 2019 calendar years with a ten-year project life will be eligible for this measure.

CARB staff has determined that NRCS provides appropriate legal authority and established funding for the Valley Incentive Measure. To ensure that the projects satisfy U.S. EPA's integrity demonstration elements and are SIP creditable, the Valley Incentive Measure will follow the NRCS Guidelines as provided in Appendix D. CARB will make available the information and annual reports from NRCS on applicable EQIP projects within the Valley on CARB's website at <https://ww3.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

Table 3-1 lists the NRCS documentation or NRCS Program Criteria to ensure the projects and associated emission reductions are independently verifiable, quantifiable, surplus, and permanent as discussed below.

Table 3-1: NRCS Program Criteria

| NRCS Document Name | Approval Date |
|--|----------------------|
| 2014 CPS-372 Specification | November 2014 |
| 2013 CPS-372 Operation and Maintenance | August 2013 |
| 2014 CPS-372 Implementation Requirements | November 2014 |
| NRCS California Air Quality Technical Notes 4 – Estimating Emission Reduction for the California State Implementation Plan Annual Report | March 2018 |
| Fiscal Year 2012 Program Description | |
| Fiscal Year 2013 Program Description | |
| Fiscal Year 2014 Program Description | |
| Fiscal Year 2015 Program Description | |
| Fiscal Year 2016 Program Description | |
| Fiscal Year 2017 Program Description | |
| Fiscal Year 2018 Program Description | |
| General Manual Part 512 | October 2006 |
| In-Use Off-Road Mobile Equipment Field Verification Worksheet | October 2013 |
| NRCS Data Certification Letter | October 2019 |
| March 2014 Addendum to December 2010 Statement of Principles | March 2014 |
| December 2010 Statement of Principles | December 2010 |

FARMER Guidelines

In 2017, the California Legislature appropriated funding to CARB for local assistance from three sources: \$85 million from the Greenhouse Gas Reduction Fund (GGRF), \$15 million from the Air Quality Improvement Fund (AQIF), and \$35 million from the Alternative and Renewable Fuel and Vehicle Technology Fund (ARFVTF). AB 109 and AB 134 direct 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 equipment used in agricultural operations.

The Legislature directed the use of monies from the three funds 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 three sources of monies, while designing the new program in light of the statutory requirements ordinarily applicable to the underlying funds, to the extent consistent with this new direction.

CARB staff developed the FARMER Program to meet the Legislature’s objectives and help meet the State’s criteria, toxic, and greenhouse gas emission reduction goals. The FARMER Program Guidelines discuss the funding allocations for air districts, eligible project categories and criteria, program implementation details, and the justification for these investments. On March 23, 2018, CARB staff proposed and the Board approved to allocate 80 percent of FY 2017-18 FARMER Program funding to the District. The substantial amount was allocated to the District due to the high agricultural activity, serious nonattainment status with 24-hour and annual PM2.5 standards, and large population affected by harmful emissions, as compared to other districts. For the remaining 20 percent of FARMER Program funding, CARB staff proposed and the Board approved the following formula to distribute the funds among local air districts. To help ensure the funds are distributed equitably among districts, the formula distributes the remaining funds based on each district’s statewide emissions from farm equipment³⁸ and each district’s air quality and current attainment status with standards.

Tables 3-2a shows the FY 2017-18 funding allocations for the District and the remaining balance for other air districts based on the approved distribution formula. Table 3-2b shows how much of the District funding will go specifically to agricultural equipment considering other types of projects.

Table 3-2a: Approved FARMER District Funding Allocations for FY 2017-18

| Air District | Approved Funding Allocation |
|---|------------------------------------|
| San Joaquin Valley (SJV) | \$108,000,000 |
| Remaining Balance for Other Air Districts | \$27,000,000 |
| Total | \$135,000,000 |

Table 3-2b: SJV FARMER Agricultural Equipment Funding FY 17/18

| | Available Funding |
|---|--------------------------|
| SJV FARMER 17/18 Balance | \$108,000,000 |
| Project Implementation Costs 6.25percent, Agricultural Truck and UTV Projects | \$43,000,000 |
| Agricultural Equipment | \$65,000,000 |

In the Budget Act of 2018, as amended by Senate Bill 856, the California Legislature appropriated an additional \$132 million in fiscal year 2018-2019 for the FARMER Program from two sources: \$112 million from the GGRF and \$20 million from California Tire Recycling Management Fund. On March 4, 2019, CARB solicited allocation of FY 2018-19 FARMER Program funding to the air districts. Table 3-3a shows the FY 2018-19 funding allocations for the District and the remaining balance

³⁸ Based on data from the California Emissions Projection Analysis Model (CEPAM).
<https://www.arb.ca.gov/app/emsmv/fcemssumcat/fcemssumcat2016.php>

for other air districts based on this approved formula. Table 3-3b documents how much funding will go specifically to agricultural equipment in the District.

Table 3-3a: Approved District Funding Allocations for FY 2018-19

| Air District | Approved Funding Allocation |
|---|------------------------------------|
| San Joaquin Valley | \$104,304,000 |
| Remaining Balance for Other Air Districts | \$26,576,000 |
| CARB Administration | \$1,120,000 |
| Total | \$132,000,000 |

Table 3-3b: SJV FARMER Agricultural Equipment Funding FY 18/19

| | Available Funding |
|---|--------------------------|
| SJV FARMER 18/19 Balance | \$104,304,000 |
| Project Implementation Costs 6.25percent, Agricultural Truck and UTV Projects | \$14,304,000 |
| Agricultural Equipment | \$90,000,000 |

For this measure, the estimated emission reductions and number of projects in the 2018 through 2022 timeframe are limited to the amount of funding available to the District. The Valley Incentive Measure utilizes established and approved FARMER funding from FY 17/18 and 18/19. The first two years of approved FARMER funding for the District total to \$212,304,000. The District can charge up to 6.25 percent in implementation costs towards the \$212,304,000. After the implementation costs, the District has approximately \$200,000,000³⁹ for projects. Table 3-2b and 3-3b shows the project distribution of the first two years of FARMER funding with approximately \$155,000,000⁴⁰ for agricultural equipment projects in the Valley. Future FARMER appropriations will be accounted for in future SIP credit measures. These factors produce a conservative number of projects and resulting emission reductions.

To ensure that emission reductions span the entire 2024 calendar year from January 1 to December 31, 2024, the project life must also span that time period. Thus, for the 2024 enforceable implementation reporting mechanism, projects implemented during the 2018 to 2023 calendar years with a ten-year project life will be eligible for this measure.

To ensure that emission reductions span the entire 2025 calendar year from January 1 to December 31, 2025, the project life must also span that time period. Thus, for the 2025 enforceable implementation reporting mechanism, projects implemented during the 2018 to 2024 calendar years with a ten-year project life will be eligible for this measure.

³⁹ \$212,304,000 x 93.75percent = \$199,035,000

⁴⁰ \$65,000,000 + \$90,000,000 = \$155,000,000

CARB staff has determined that the FARMER Program provides appropriate legal authority and established funding for the Valley Incentive Measure. To ensure that the projects satisfy U.S. EPA's integrity demonstration elements and are SIP creditable, the Valley Incentive Measure will follow the FARMER Guidelines provided in Appendix E. The off-road mobile agricultural equipment category in the 2018 FARMER Guidelines follows the 2017 Moyer Guidelines provided in Appendix C. The Guidelines ensure the projects and associated emission reductions are independently verifiable, quantifiable, surplus, and permanent as discussed below.

Chapter 4. Moyer Program Integrity Element Demonstration

A portion of the implemented projects in the Valley Incentive Measure are funded and implemented through the Moyer Program.

Moyer Guidelines - Surplus

The Moyer Guidelines demonstrate the surplus integrity element for implemented projects funded through the Moyer Program.

The requirement for projects funded through the Moyer Program to provide surplus emissions reductions is codified in Health and Safety Code section 44281(b). The following references provide details on how the 2011 and 2017 Moyer Guidelines ensure that emission reductions generated by these projects are not required by any regulation for the duration of the life of the project and the replacement equipment will be operated in the Valley. The 2011 and 2017 Moyer Guideline sections listed below set exclusive requirements for funded projects and ensure that the emission reductions from projects funded under the Moyer Program must not be used for any other emission reduction obligations. Therefore, emission reductions achieved from these projects are not required by any other regulations.

- 2011 Moyer Guidelines, Chapter 2: General Criteria, A-C and G – I
- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, A–D and F–H
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section A. Projects Eligible for Funding
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section A. Projects Eligible for Funding
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 1. General Criteria, (A)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (A) and (Q)

All emission reductions associated with turning over older and dirtier to newer and cleaner agricultural equipment are surplus to District and State regulation because agricultural equipment is not subject to any District or State regulation. These emission reductions are also surplus under U.S. EPA’s definition of the term because they are not assumed in any PM2.5 attainment plan for the Valley and are not otherwise required to meet the Act’s regulatory requirements.

The 2011 and 2017 Moyer Guidelines require verification of proposals prior to contract execution to verify that existing off-road mobile agricultural equipment is fully functional and in operational condition. This pre-inspection verifies that current emission reductions are from in-use equipment and thus assumed to be in excess of normal fleet turnover. A 2008 study prepared for CARB examining off-road engines less than 175 horsepower operating in the California revealed that the “age

distribution for diesel, and especially gasoline, agricultural tractors was particularly skewed toward older units, with the median age being more than 20 years old.”⁴¹

- 2011 Moyer Guidelines, Chapter 3: Program Administration Z. Project Pre-Inspection, 2., (C)
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement C. Project Criteria 2. Existing (Old) Equipment Requirements, (E) and (F)
- 2017 Moyer Guidelines, Chapter 3: Program Administration, W. Project Pre-Inspection, 2. Documentation
- 2017 Moyer Guidelines, Chapter 5: Off-Road Equipment, D. Project Criteria, 4. Equipment Replacement, (E), (1), (2), and (3)

The 2011 and 2017 Moyer Guideline sections listed below require the emission reductions to occur in California. Further, the District requires applicants to operate at least 50 percent within the boundaries of the District. This requirement ensures the resulting emission reductions will occur in the District. To ensure the old engine or vehicle is comparable to its replacement, the 2011 and 2017 Moyer Guidelines have usage-to-usage requirements for horsepower and equipment type. These requirements prevent loss in emission reductions from a larger, higher emitting engine. This criteria supports the surplus integrity element by verifying that emissions reductions are occurring in the Valley.

- 2011 Moyer Guidelines, Chapter 2: General Criteria, Section T
- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, Section S
- District Ag Tractor Replacement Program Guidelines, Program Requirements (Pg. 6)⁴² <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 1. General Criteria, (F), (1)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (L) and (M)
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 2. Existing (Old) Equipment Requirements, (E) and (F)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E), (1) and (2)
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 3. Replacement Equipment Requirements, (B)

⁴¹ “Characterization of the Off-Road Equipment Population”, ARB Contract No. 04-315, Final Report Prepared for: California Air Resources Board and the California Environmental Protection Agency, Prepared by Rick Baker, Principal Investigator Eastern Research Group, Inc., December 2008. Currently available at <http://www.arb.ca.gov/research/apr/past/04-315.pdf>

⁴² District Guidelines contain additional program implementation requirements that are consistent with the Moyer Program requirements. 2011 Moyer Guidelines, Chapter 2. D. and 2017 Moyer Guidelines, Chapter 2, E.

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (J) 4. Equipment Replacement, (F), (1)

Details on how emission reductions are surplus to reductions assumed in the attainment plan can be found in the Technical Analysis section in Chapter 8. The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the Moyer Program meet the criteria for emission reductions to be “surplus” as defined by U.S. EPA guidance.

Moyer Guidelines – Permanent

Moyer guidelines will demonstrate the permanent integrity element for implemented projects funded through the Moyer Program.

Projects funded through the Moyer Program must follow specific guidelines to ensure that the emission reductions are permanent. Project participants enter into a contract with the District that establishes the project details. The replaced vehicle or engine must be operational at the time of replacement and the new engine or vehicle must remain in service for the entire contract term, which must extend to the end of the project life. The replaced engine or vehicle must be destroyed. Visual inspections and photographic documentation ensures that these requirements are met and audits validate the information provided by the project grantee.

Emission reductions from incentive programs are considered permanent if the state and U.S. EPA can ensure that emission reductions are achieved for the entire period that is credited in the SIP. The references in this section assure that the emission reductions in this measure are achieved in the Valley throughout the life of the project which must cover the entire year in which SIP credit is given. Additionally, the projects are monitored throughout the contract and project life.

Recordkeeping, reporting, and application requirements further ensure that historic and future emissions are estimated correctly and properly represented. Pre- and post-inspection references include requirements ensuring the equipment information provided by the project owner is consistent with actual operating equipment and that the existing engine is in usable form and would not have been replaced by natural fleet turnover. These requirements ensure the replaced engine or vehicle is operational and working as described, and the new engine or vehicle has been installed and is ready for use. These requirements ensure that emission reductions from these projects are realized and beyond the normal fleet turnover assumed in the SIP inventory.

- 2011 Moyer Guidelines, Chapter 3: Program Administration, Section W. Application Evaluation and Project Selection, 4. and 6.

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, T. Application Evaluation and Project Selection, 4. Application Tracking and 8. Recordkeeping
- 2011 Moyer Guidelines, Chapter 3: Program Administration, Section CC. Grantee Annual Reporting
- 2017 Moyer Guidelines, Volume I, Chapter 3 Program Administration, Z. Grantee Annual Reporting
- 2011 Moyer Guidelines, Chapter 3: Program Administration, Section Z. Project Pre-Inspection and AA. Project Post-Inspection
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection and X. Project Post-Inspection

The 2011 and 2017 Moyer Guideline sections listed below require verification that the replaced vehicle and/or engine is destroyed and rendered permanently unusable and irreparable. Districts must verify and document through photographic or video evidence that the destroyed engine serial number matches that on the project contract. Salvage certifications must include make, model, year, equipment serial number, engine make, and engine serial number. Districts or approved salvage yards must conduct a salvage inspection for verification. This ensures the replaced vehicle and/or engine is not reused, the new vehicle or engine is operational, and the resulting emission reductions are permanent. The following references specify the requirements for destroying and dismantling the replaced equipment.

- 2011 Moyer Guidelines, Chapter 2: General Criteria, EE.
- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, H
- 2011 Moyer Guidelines, Chapter 3: Program Administration, AA. Project Post-Inspection, 1. and 4.
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, Section X. Project Post-Inspection, 1. Requirement and 4. Verification of Destruction
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 4. Existing Equipment Destruction Requirements
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Roads Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (4) Destruction and Salvage Requirements and (I) Salvage Yard Requirements

The 2011 and 2017 Moyer Guideline sections listed below ensure the emission reduction calculations are based on information originating from the grantee's application, and contractually hold the grantee accountable for the validity of the information provided.

- 2011 Moyer Guidelines, Chapter 3: Program Administration, Section Z. Project Pre-Inspection and Section AA. Project Post-Inspection

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection and X. Project Post-Inspection
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 2. Existing (Old) Equipment Requirements, (E) and (F)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (1) Equipment Ownership and (2) Operational Requirements
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 5. Air District Administrative Requirements, (A)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, 4. Equipment Replacement, (G) Air District Requirements, (1)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, 4. Equipment Replacement, (I) Salvage Yard Requirements, (2) c

The 2011 and 2017 Moyer Guideline sections listed below ensure that the emission reductions are permanent throughout the life of the contract between the grantee and District. The contract requires the grantee to produce documentation proving ownership, operation, and usage. The District will conduct audits to verify that the engine and equipment is still owned by the grantee and meets the operation and usage indicated in the contract. These contract provisions ensure the emissions reductions are permanent.

- 2011 Moyer Guidelines, Chapter 3: Program Administration, Section DD. Air District Audit of Projects
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, Section AA. Air District Audit of Projects
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 2. Existing (Old) Equipment Requirements, (E) and (F)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (1) Equipment Ownership and (2) Operational Requirements
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 5. Air District Administrative Requirements, (G), (H), and (I)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, 4. Equipment Replacement, (G) Air District Requirements, (4) and (5)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, 4. Equipment Replacement, (I) Salvage Yard Requirements, (1)

The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the Moyer Program meet the criteria for emission reductions to be “permanent” as defined by U.S. EPA guidance.

Moyer Guidelines - Quantifiable

Moyer Guidelines will demonstrate the quantifiable integrity element for implemented projects funded through the Moyer Program.

The following information will be provided for every project in the Valley Incentive Measure so the U.S. EPA and the public can verify and replicate each project's associated emission reductions.

- Contract Number
- Guideline
- Purchase Date
- Post Inspection
- Guideline Year
- Component
- Component Option
- Annual Hours
- Current Equipment Unit
- Current Engine Model Year
- Current Equipment Model Year
- Current Engine Fuel
- Current Equipment VIN
- Current Engine Serial #
- Current Engine EPA Family Name
- Function Vocation
- Current Engine HP
- Current Engine Tier
- Current Equipment Make
- Current Equipment Model
- Current Engine Unit
- Current Engine Make
- Current Engine Model
- New Equipment Unit
- New Equipment Make
- New Equipment Model
- New Engine Unit
- New Engine Make
- New Engine Model
- New Engine Model Year
- New Equipment Model Year
- New Engine Fuel
- New Equipment VIN
- New Engine Serial #
- New Engine EPA Family Name
- New Engine HP
- New Engine Tier
- NOx Tons Reduced (lifetime)
- PM Tons Reduced (lifetime)
- Project Life
- Equipment County
- Percent Use In CA
- Percent Use in SJV
- NOx Reduced (tpd)
- PM Reduced (tpd)
- PM2.5 Conversion
- Load Factor Adjustment
- Final NOx Reduced (tpd)
- Final PM2.5 Reduced (tpd)

Emissions reductions are quantifiable if they can be reliably measured or determined, as well as replicated. The Valley Incentive Measure will follow the methodology in the 2011 and 2017 Moyer Guidelines to calculate emission reductions and maintain a publicly-accessible database with the information needed for the calculations. The following references demonstrate that the 2011 and 2017 Moyer Guidelines ensure that the data provided by the applicant in the CARB database is sufficient to accurately determine the emission reductions; the emission factors, as well as all formulas and instructions to calculate emission reductions are publicly available, current and accurate; and that procedures are in place to ensure projects are completed and emission reductions are achieved. For the Valley Incentive Measure, emissions benefits will be calculated in a database and emission factors and calculation methodologies will be maintained by CARB. These factors and methodologies will be made available to the public through the Valley Incentive Measure and a publicly available spreadsheet at <https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

The 2011 and 2017 Moyer Guidelines⁴³ require the District to report project information to CARB sufficient to populate the required data fields and to calculate covered emission reductions and cost effectiveness. To verify the validity of the projects, the information listed below will be collected, publicly available, and reported to U.S. EPA so the individual projects can be identified and the public can calculate the resulting emission reductions. The District ensures the information is complete⁴⁴, correct, and supported by documentation; while CARB will make the information available to the public in the Valley Incentive Measure and <https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>. CARB and the District will retain records for five years after the attainment deadline.

The following sections from the 2011 and 2017 Moyer Guidelines and District Ag Tractor Replacement Program Guideline describe the elements that are vital to properly quantify emission reductions, such as project type, project life, usage, emission reduction equations, and emission factors.

- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section A. Projects Eligible for Funding
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section A. Project Eligible for Funding, 3. Equipment Replacement

⁴³ **2011 Moyer Guidelines, Chapter 3: Program Administration, W. Applicable Evaluation and Project Selection, 4. and 6. and 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, T. Application Evaluation and Project Selection, 4. Application Tracking and 8. Recordkeeping,**

⁴⁴ 2011 Moyer Guidelines, Chapter 3: R. 3. (C), 2011 Moyer Guidelines, Chapter 3, V. 5., 2017 Moyer Guidelines, Chapter 3, M. 4., and 2017 Moyer Guidelines, Chapter 3: Program Administration, S. Requirements for Project Applications 5. Applicant Certification

- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 1. General Criteria, (C) Project Life
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section C. Maximum Eligible Funding Amounts (Determining Grant Amounts), 2. Project Life
- District Ag Tractor Replacement Program Guidelines, Program Requirements (Pg. 6) <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 1. General Criteria, (A)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (A)
- 2011 Moyer Guidelines, Appendix C Cost-Effectiveness Calculation Methodology
- 2017 Moyer Guidelines, Volume I, Appendix C Cost-Effectiveness Calculation Methodology
- 2011 Moyer Guidelines, Appendix D Tables for Emission Reduction and Cost-Effectiveness Calculations
- 2017 Moyer Guidelines, Volume I, Appendix D Tables for Emission Reduction and Cost-Effectiveness Calculations

The 2011 and 2017 Moyer Guidelines and District Ag Tractor Replacement Program Guideline sections listed below identify the project life, load factor, emission factors, and deterioration rates that must be used to determine the emissions from the replaced and new vehicles or engines. The 2011 and 2017 Moyer Guidelines allow a maximum project life of ten years and the Valley Incentive Measure will use a project life of ten years for replacement projects. These requirements ensure that the credited emission reductions will be based on the most current and accurate emission factors and deterioration rates.

- District Agricultural Tractor Replacement Program Guidelines, Program Requirements (Pg. 6) <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 1. General Criteria, (C) Project Life
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section C. Maximum Eligible Funding Amounts (Determining Grant Amounts), 2. Project Life
- 2011 Moyer Guidelines, Appendix D Tables for Emission Reduction and Cost-Effectiveness Calculations
- 2017 Moyer Guidelines, Volume I, Appendix D Tables for Emission Reduction and Cost-Effectiveness Calculations

The equations identified in Appendix C of the 2011 and 2017 Moyer Guidelines, required specific data inputs to calculate the emission reductions from Moyer Program

projects. The 2011 and 2017 Moyer Guideline sections listed below establish the requirements for data input and documentation that grantees must provide. These requirements ensure the data is sufficient for calculating emission reductions.

- 2017 Moyer Guidelines, Volume I, Chapter 2 General Criteria, H
- 2011 Moyer Guidelines, Chapter 3: Program Administration, W. Project Pre-Inspection, 2. Documentation
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection, 2. Documentation
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 2. Existing (Old) Equipment Requirements, (A) and 3. Replacement Equipment Requirements, (J)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (D) and (E)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) and (F)

The 2024 and 2025 emission reductions for this measure will be quantified using the methodology in the 2011 and 2017 Moyer Guidelines. The 2011 and 2017 Moyer Guidelines specify formulas in Volume I, Appendix C: Cost-Effectiveness Calculation Methodology along with the emission factors from Volume I, Appendix D: Tables for Emission Reduction and Cost-Effectiveness Calculations. The appropriate formula and emission factors will be used for each project.

In Appendix A - Methodology and Sample Calculations to this document, Example 1 shows how existing project emission reductions are calculated for the Moyer Program projects included in this measure. The method shown in Example 1 was used to calculate. The 5.9 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions in 2024 and for those same projects translated to 5.1 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions in 2025.

Two for One Projects - Moyer

In addition to the quantification guidelines above for a one to one replacement project, the 2011 and 2017 Moyer Guidelines include the replacement of two (or more) pieces of existing equipment with one piece of replacement equipment is eligible for funding. Each piece of existing equipment must comply with all of the appropriate criteria under the 2011 and 2017 Moyer Guidelines. The replacement equipment must execute the same job as the existing pieces of equipment. For baseline emissions calculation, the annual emissions of the two pieces of equipment are summed. For the replacement equipment emissions calculation, the annual usage of the two pieces of existing equipment is summed for the replacement equipment usage.

- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 1. General Criteria, (F)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (C)

The provisions discussed in this section provide for well-established, publicly available emission factors and calculation methods. Therefore, emission reduction calculations for projects funded under the 2011 and 2017 Moyer Guidelines are reliable and achieved through replicable methods. These provisions meet the criteria for emissions reductions to be “quantifiable” as defined by U.S. EPA guidance.

Moyer Guidelines - Enforceable

Moyer guidelines will demonstrate the enforceable integrity element for implemented projects funded through the Moyer Program.

Emission reductions and required actions are enforceable if they are independently verifiable and practically enforceable consistent with U.S. EPA guidance; program violations are defined; those liable can be fined; the state or U.S. EPA may apply penalties and secure corrective action where applicable; citizens have access to all emission-related information obtained from participating sources; and U.S. EPA and/or citizens may take action against the state. The emission reductions achieved through this measure are enforceable because there will be an enforceable contract between the District and the participant, CARB will maintain a public database of information from these contracts, and CARB is the responsible party for enforcement of this measure and is responsible for achieving the emission reductions from this measure.

The following references detail requirements in the 2011 and 2017 Moyer Guidelines for enforceable contracts, reporting by the grantee, and project inspections. In addition to validating data provided by the applicant, project inspections and audits ensure that contract requirements are met and that the purchased, replaced, and repowered technology type are consistent with the specifications in the contract.

The 2011 and 2017 Moyer Guidelines sections listed below require the District to execute contracts for all selected projects. The 2011 and 2017 Moyer Guidelines go further and describe repercussions for non-compliance with the obligations of the contract. Repercussions for noncompliance include, but are not limited to, cancelling the contract and recapturing project funds. CARB and the District have the authority to seek any remedies available under law for noncompliance. For this measure, each project will be under contract and subject to audit.

- 2011 Moyer Guidelines, Chapter 3: Program Administration, Y. Minimum Contract Requirements, 5. Contract Term and 11. Repercussions for Nonperformance

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, (5) Contract Term and (11) Repercussions for Nonperformance
- 2011 Moyer Guidelines, Chapter 3: Program Administration, EE. Nonperforming Projects
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, BB. Nonperforming Projects

The 2011 and 2017 Moyer Guidelines and District Ag Tractor Replacement Program Guideline sections listed below set forth the specific reporting criteria required of grantees. All contracts must include detailed information on the replaced and new vehicles or engines. The contracts must include a provision that grantees submit annual reports commencing no later than 18 months after project post-inspection and throughout the project implementation phase of the contract.

- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, H
- 2011 Moyer Guidelines, Chapter 3: Program Administration, Y. Minimum Contract Requirements, 6. Project Specifications and 9. Reporting
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, (6) Project Specifications; (9) Reporting
- 2011 Moyer Guidelines, Chapter 3: Program Administration, Y. Minimum Contract Requirements, 9. Reporting
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, Z. Grantee Annual Reporting
- District Ag Tractor Replacement Program Guidelines, Program Requirements (Pg. 6) <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>

The 2011 and 2017 Moyer Guideline sections listed below describe the pre- and post-inspection requirements for funded projects. The visual inspections ensure the emission reductions are verifiable. These requirements ensure that the information provided by the grantee is as described, and confirm the new vehicle or engine is in working condition. As mentioned in the “Permanent – Moyer” section, all replaced vehicles or engines are destroyed and verified through the post-inspection process.

- 2011 Moyer Guidelines, Chapter 3: Program Administration, Y. Minimum Contract Requirements, 10. On-Site Inspections and Audits
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, (10) On-Site Inspections, Audits, and Records
- 2011 Moyer Guidelines, Chapter 3: Program Administration, Z. Project Pre-Inspection and AA. Project Post-Inspection
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection; X. Project Post-Inspection
- 2011 Moyer Guidelines, Chapter 9: Off-Road Equipment Replacement, Section C. Project Criteria, 5. Air District Administrative Requirements, (G), (2), and (H)

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, (D) Project Criteria, 4. Equipment Replacement, (F) Replacement Equipment Requirements, (6) Post-Inspection Requirements

To ensure that emission reductions span the entire 2024 calendar year from January 1 to December 31, 2024, the project life must span that time period. Thus, projects implemented during the 2015 to 2019 calendar year with a ten-year project life will be eligible for this measure. Any project life that ends before or during the 2024 calendar year will not be eligible for SIP credit through this measure. Also, any project that is implemented during the 2024 calendar year will not be eligible for SIP credit through this measure for the 2024 enforceable implementation reporting mechanism.

To ensure that emission reductions span the entire 2025 calendar year from January 1 to December 31, 2025, the project life must span that time period. Thus, projects implemented during the 2016 to 2019 calendar year with a ten-year project life will be eligible for this measure. Any project life that ends before or during the 2025 calendar year will not be eligible for SIP credit through this measure. Also, any project that is implemented during the 2025 calendar year will not be eligible for SIP credit through this measure for the 2025 enforceable implementation reporting mechanism.

The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the Moyer Program meet the criteria for emission reductions to be “enforceable” as defined by U.S. EPA guidance.

Chapter 5. NRCS Integrity Element Demonstration

A portion of the implemented projects in the Valley Incentive Measure were funded and implemented through the NRCS program.

NRCS Guidelines - Surplus

The NRCS guidelines demonstrate the surplus integrity element for implemented projects funded through the NRCS program.

Under the Food Conservation and Energy Act of 2008, the USDA Secretary provides eligible producers with program support to address serious air quality concerns from agricultural operations and help meet regulatory requirements through the EQIP. The National Air Quality Initiative (NAQI) is a voluntary incentive EQIP program with the primary goal to achieve and maintain the health-based standards within designated non-attainment of California. In California, through this program, NRCS has been instrumental in incentivizing the turnover of dirty agricultural equipment.

NRCS in California specify that that the grantee must own the existing equipment for at least 12 months prior to the date of application and operate the equipment during this period exclusively in California. Documentation requirements to further confirm that existing equipment is owned by the grantee and has operated during for the previous 12-months in California. Additionally, Conservation Program Contracting requires that participants have control of the land for the length of the propose contract through deed, lease, or other written authorization. If the grantee does not own the land, the landowner must give written consent to install, operate, and maintain the practice through the lifespan of the practice. Projects with farms located in the Valley were only included. These requirements ensure that a given piece of existing agricultural equipment is tied to a piece of land currently being farmed.

- 2014 CPS-372 Specification, Section III and VIII, Pg. 1 and 4
- NRCS General Manual Title 440, Part 512, Subpart C, Section 512.22
 - FY 2012 Program Description, Pg. 26
 - FY 2013 Program Description, Pg. 14
 - FY 2014 Program Description, Pg. 21
 - FY 2015 Program Description, Pg. 9
 - FY 2016 Program Description, Pg. 11
 - FY 2017 Program Description, Pg. 11
 - FY 2018 Program Description, Pg. 11

NRCS visits the site to evaluate the in-use equipment to verify that existing off-road mobile agricultural equipment is fully functional and in operational condition. This inspection verifies that current emission reductions are from in-use equipment and thus assumed to be in excess of normal fleet turnover. A 2008 study prepared for CARB examining off-road engines less than 175 horsepower operating in the

California revealed that the “age distribution for diesel, and especially gasoline, agricultural tractors was particularly skewed toward older units, with the median age being more than 20 years old.”⁴⁵

- 2014 CPS-372 Specification, Section III, Pg. 1
- Mobile Equipment Field Verification Worksheet

The existing equipment is replaced with the latest U.S. EPA Tier-certified diesel-powered agricultural equipment currently available. NRCS staff verifies the new eligible U.S. EPA Tier-certified diesel engines through CARB Executive Order (or U.S. EPA Certificate of Conformity if an CARB Executive Order is not available) issued for the specific engine. Additionally, like-for-like requires new engines to power equipment that serves the same function and performs equivalent work to the equipment being replaced.

- 2014 CPS-372 Specification, Section III and Section IV, Pg. 2 and 10

The 2014 CPS-372 Specification states “SIP creditable emission reductions must not be required by any air quality rule, regulation, or other local mandate; and not used as marketable credits or to offset any emission banking or trading program.” A rule or regulation does not currently exist for off-road mobile agricultural equipment, so the emission reductions resulting from replacing existing off-road mobile agricultural engines funded under the NRCS-NAQI per CPS-372 are currently surplus from regulation for the 10-year project lifespan.

The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the NRCS Program meet the criteria for emission reductions to be “surplus” as defined by U.S. EPA guidance.

NRCS Guidelines - Permanent

The NRCS guidelines will demonstrate the permanent integrity element for implemented projects funded through the NRCS program.

NRCS inspects in-use to verify that existing off-road mobile agricultural equipment is fully functional, in operational condition. This inspection verifies that current emission reductions are from in-use equipment and thus assumed in excess of normal fleet turnover.

- 2014 CPS-372 Specifications, Section III, Pg. 1

⁴⁵ “Characterization of the Off-Road Equipment Population”, ARB Contract No. 04-315, Final Report Prepared for: California Air Resources Board and the California Environmental Protection Agency, Prepared by Rick Baker, Principal Investigator Eastern Research Group, Inc., December 2008. Currently available at <http://www.arb.ca.gov/research/apr/past/04-315.pdf>

- Mobile Equipment Field Verification Worksheet
- California Supplemental Application Form Worksheets – Existing and New Engine Information
 - FY 2012 Program Description, Pg. 26
 - FY 2013 Program Description, Pg. 14
 - FY 2014 Program Description, Pg. 21
 - FY 2015 Program Description, Pg. 9
 - FY 2016 Program Description, Pg. 11
 - FY 2017 Program Description, Pg. 11
 - FY 2018 Program Description, Pg. 11

NRCS requires that existing equipment and engines be disabled, destroyed, and properly disposed. For projects, funded under CPS-372, the disabled engine must be disposed of and destruction certified by an approved dismantler using a “California Engine Equipment Destruction Certification Worksheet”. This certification must include photographic documentation of the disabled equipment identifying the engine serial number and/or equipment vehicle identification number.

- 2014 CPS-372 Specification, Section VI, Pg. 3
- California Supplemental Application Form Worksheets – Engine/Equipment Destruction Certification
 - FY 2012 Program Description, Pg. 30
 - FY 2013 Program Description, Pg. 14
 - FY 2014 Program Description, Pg. 25
 - FY 2015 Program Description, Pg. 13
 - FY 2016 Program Description, Pg. 15
 - FY 2017 Program Description, Pg. 15
 - FY 2018 Program Description, Pg. 15

2013 CPS-372 Operation and Maintenance (O&M) provides new reporting requirements including annual hours of use and percentage of time within the Valley for the entire 10-year lifespan of the practice, ensuring emission reductions are permanent for the project lifespan.

- 2013 CPS-372 O&M

Details on how emission reductions are surplus to reductions assumed in the attainment plan can be found in the Technical Analysis section in Chapter 8. The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the NRCS Program meet the criteria for emission reductions to be “permanent” as defined by U.S. EPA guidance.

NRCS Guidelines - Quantifiable

NRCS guidelines will demonstrate the quantifiable integrity element for implemented projects funded through the NRCS program.

The following information will be provided for every project in the Valley Incentive Measure so the U.S. EPA and public can verify and replicate each project's associated emission reductions.

- Funding FY
- SIP Reference ID
- County
- Date Certified
- Engine ID
- Engine Code Description
- Equipment Function
- Engine Fuel Type
- Engine Model Year
- Annual Hours Operation
- Horsepower
- Load Factor
- NOx – Emissions Factor
- NOx – Deterioration Rate (2017-2019 projects only)
- PM10 – Emissions Factor
- PM10 – Deterioration Rate (2019, 2018, 2017 projects only)
- NOx-Annual Emissions (tpy)
- PM10 – Annual Emissions (tpy)
- NOx Reduced (tpy)
- PM10 Reduced (tpy)
- NOx Reduced (tpd)
- PM10 Reduced (tpd)
- PM2.5 Conversion
- Load Factor Adjustment
- Final NOx Reduced (tpd)
- Final PM2.5 Reduced (tpd)

Emissions reductions are quantifiable if they can be reliably measured or determined, as well as replicated. The Valley Incentive Measure will follow the methodology in the 2013 and 2018 NRCS CPS 372 – Specification to calculate emission reductions and maintain a publicly-accessible database with the information needed for the calculations. In 2013 and 2018 NRCS CPS 372 – Specification demonstrates that the data provided by the applicant is sufficient to accurately determine the emission reductions; the emission factors, as well as all formulas and instructions to calculate emission reductions are publicly available. For the Valley Incentive Measure, emissions

benefits will be calculated in a database and emission factors and calculation methodologies will be maintained by CARB. These factors and methodologies will be made available to the public through the Valley Incentive Measure and a publicly available spreadsheet at <https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

The sections listed below identify the load factors, emission factors, and deterioration rates that must be used to determine the emissions from the replaced and new vehicles or engines. The NRCS-CA allows a maximum project lifespan of ten years and the Valley Incentive Measure will use a project life of ten years for replacement projects. These requirements ensure that the credited emission reductions will be based on the most current and accurate emission factors and deterioration rates. NRCS specify that source data for specific engines should be used in lieu of default factors if available. NRCS relies on the manufacturer's advertised brake-horsepower (bhp) rating of the replaced and new engine.

- 2013 CPS 372 - Specification, Pg. 2-3, 5-7
- 2018 CPS 372 - Specification, Pg. 2, 4-5, 10-12
- NRCS California Quality Technical Notes 4, Pg. 4- 10

For existing equipment, annual hours is estimated by the grantee. Existing and new equipment annual usage estimates are provided by the grantee through the NRCS application process, and then tracked through ongoing new equipment annual usage reporting and follow-up inspections. For ongoing usage, grantees are required to record and report new engine annual usage to NRCS throughout the 10-year lifespan. This report includes total hour meter reading, annual hours of operation, and percentage of those hours in the Valley based on non-resettable chronometer installed in the power unit. Each Program Description requires grantees to report the in-use engine's actual annual hours of operation to verify hours are real and exaggerating may deem the project ineligible. Additionally, documentation is required to verify the ownership and operation of the in-use equipment and engine. The NRCS General Manual Title 450, Part 407 outline spot checking requirements, which require NRCS to review at least 5 percent of all active projects annually. During this project reviews, NRCS verifies the new equipment is still operational.

- California Supplemental Application Form Worksheets – Existing and New Engine Information
 - FY 2012 Program Description, Pg. 26 and 27, #14 and #22
 - FY 2013 Program Description, Pg. 14
 - FY 2014 Program Description, Pg. 21 and 22, #13 and #21
 - FY 2015 Program Description, Pg. 9 and 10, #13 and #21
 - FY 2016 Program Description, Pg. 11 and 12, #12 and #23
 - FY 2017 Program Description, Pg. 11 and 12, #12 and #23
 - FY 2018 Program Description, Pg. 11 and 12, #12 and #23
- 2013 CPS-372 O&M

- 2014 CPS-372 Implementation Requirement
- 2014 CPS-372 Specification, Pg. 4

In Appendix A - Methodology and Sample Calculations to this document, Example 1 shows how existing project emission reductions are calculated for this measure. Example 1 was used to calculate the 5.9 tpd of NOx and 0.3 tpd of PM2.5 emission reductions in 2024 and for those same projects translated to 5.1 tpd of NOx and 0.3 tpd of PM2.5 emission reductions in 2025

The provisions discussed in this section provide for well-established, publicly available emission factors and calculation methods. Therefore, emission reduction calculations for projects funded under NRCS are reliable and achieved through replicable methods. These provisions meet the criteria for emissions reductions generated through the NRCS Program to be “quantifiable” as defined by U.S. EPA guidance.

NRCS Guidelines - Enforceable

NRCS guidelines will demonstrate the enforceable integrity element for implemented projects funded through the NRCS program.

As described in the “NRCS - Permanent” section of this measure, NRCS requires pre-inspections and post-destruction certifications before funding is distributed. NRCS inspects equipment prior to contract development to verify that existing off-road mobile agricultural equipment is fully functional and in operational condition.

- 2014 CPS-372 Specification, Pg. 1 and 3

NRCS specify that the applicant must own the existing equipment for at least 12 months (24 months since November 2018) prior or to the date of application and operate the equipment during this period exclusively in California. Additionally, Conservation Program Contracting, referenced under NRCS General Manual Title 440, Part 512, Subpart C, Section 512.22 requires that participants have control of the land for the length of the proposed contract through deed, lease, or other written authorization. If the applicant does not own the land, the landowner must give written consent to install, operate, and maintain the practice through the lifespan of the practice. Land ownership and farming activities are confirmed using documents submitted to the Farm Service Agency⁴⁶. These requirements ensure that a given piece of existing agricultural equipment is tied to a piece of land currently being farmed. In November 2013, NRCS added additional documentation requirements to further confirm that existing equipment is owned by the grantee and has operated during for the previous 12-months (24 months since November 2018).

⁴⁶ U.S. EPA supporting documentation on San Joaquin Valley’s Rule 9610 rulemaking: <https://www.regulations.gov/contentStreamer?documentId=EPA-R09-OAR-2013-0754-0014&contentType=pdf>

- 2014 CPS-372 Specification, Pg. 1 and 4

NRCS requires that existing equipment and engines be disabled, destroyed, and properly disposed. For projects funded under CPS-372, the disabled engine must be disposed of and destruction certified by an approved dismantler using a "California Engine Equipment Destruction Certification Worksheet". This certification must include photographic documentation of the disabled equipment identifying the engine serial number and/or equipment vehicle identification number.

- 2014 CPS-372 Specification, Section VI, Pg. 3
- California Supplemental Application Form Worksheets – Engine/Equipment Destruction Certification
 - FY 2012 Program Description, Pg. 30
 - FY 2013 Program Description, Pg. 14
 - FY 2014 Program Description, Pg. 25
 - FY 2015 Program Description, Pg. 13
 - FY 2016 Program Description, Pg. 15
 - FY 2017 Program Description, Pg. 15
 - FY 2018 Program Description, Pg. 15

To ensure maximum emission reductions from the new equipment, NRCS requires the new engine meet the most recent model year emission standards. NRCS staff verifies the new eligible U.S. EPA Tier-certified diesel engines via CARB Executive Order or EPA Certificate of Conformity if a CARB Executive Order is not available.

- 2014 CPS-372 Specification, Pg. 2 and 10

As discussed in the "NRCS – Quantifiable" section above, "NRCS staff assesses the reported baseline usage based on their expertise regarding farming practices, size of farm, etc. (such as row crops, seasonal crops, orchards, or dairy)." For new equipment, annual hours is initially estimated by the grantee, then as reported on usage worksheets submitted annual to NRCS.

- California Supplemental Application Form Worksheets – Existing and New Engine Information
 - FY 2012 Program Description, Pg. 26
 - FY 2013 Program Description, Pg. 14
 - FY 2014 Program Description, Pg. 21
 - FY 2015 Program Description, Pg. 9
 - FY 2016 Program Description, Pg. 11
 - FY 2017 Program Description, Pg. 11
 - FY 2018 Program Description, Pg. 11
 - 2013 CPS-372 O&M
 - 2014 CPS-372 Specification, Pg. 4

The applicable portions of the NRCS guidelines specifically define the required elements of each contract and the type of action that constitute violation of such contract are found in the NRCS General Manual Title 440, Part 512 and 7 CFR Part 1466, Subpart B.

NRCS General Manual Title 440, Part 512, Subpart E and 7 CFR Part 1466.21 identifies what must be contained in an EQIP contract. For example, project contracts must include:

- A unique "contract number";
- The equipment owner's contact;
- The original application submitted by the equipment owner;
- The operation and maintenance agreement associated with the practice and requirement that the practice be maintained consistent with the 2013 CPS 372 O&M for the lifespan of the practice; and
- The equipment owner's agreement to allow ongoing evaluations and audits of equipment by NRCS and/or its agents during the lifespan of the installed practices.

NRCS General Manual Title 440, Part 512, Subpart F, Section 512.57(A) identifies the following as contract violations:

- Participant or land becomes ineligible;
- Participant transfers ownership or loses control of land under contract;
- Participant has violated the terms of the contract and has failed to correct and comply within a reasonable time;
- Participant fails to install, operate, or maintain one or more practices or activities required to meet the contract objectives;
- Participant's actions pose a threat to the health and safety of NRCS employees;
- Participant is determined to have – knowingly misrepresented any fact affecting a program determination; and
- Adopted any scheme or device that tends to defeat the program purpose
- Made any fraudulent representation.

NRCS maintains the ability to apply penalties and secure appropriate corrective action where contract terms are violated, and U.S. EPA maintains the ability to require appropriate corrective actions of CARB where projected emission reductions are not achieved. For example, NRCS General Manual Title 440, Part 512, Subpart F covers Contract Administration and provides for recovering liquidated damages for contract termination. Handling contract violations are address in NRCS General Manual Title 440, Part 512, Subpart H and 7 CFR 1466.26 where violations of contract terms must be corrected by the participant within a reasonable period of time to comply. If the violation continues, the contract may be terminated and future program participation

deferred. The requirements discussed in this section help ensure the integrity element for enforceability for projects funded under these guidelines.

To ensure that emission reductions span the entire 2024 calendar year from January 1 to December 31, 2024, the project life must span that time period. Thus, for the 2024 enforceable implementation reporting mechanism, projects implemented during the 2015 to 2019 calendar year with a ten-year project life will be eligible for this measure. Any project life that ends before or during the 2024 calendar year will not be eligible for SIP credit through this measure. Also, any project that is implemented during the 2024 calendar year will not be eligible for SIP credit through this measure.

To ensure that emission reductions span the entire 2025 calendar year from January 1 to December 31, 2025, the project life must span that time period. Thus, for the 2025 enforceable implementation reporting mechanism, projects implemented during the 2016 to 2019 calendar year with a ten-year project life will be eligible for this measure. Any project life that ends before or during the 2025 calendar year will not be eligible for SIP credit through this measure. Also, any project that is implemented during the 2025 calendar year will not be eligible for SIP credit through this measure.

The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the NRCS Program meet the criteria for emission reductions to be "enforceable" as defined by U.S. EPA guidance.

Chapter 6. FARMER Integrity Element Demonstration

The future projects that are included in the Valley Incentive Measure are funded, and will be implemented, through the FARMER program. The overarching implementation priority for the FARMER Program is directing agricultural investments to support deployment of advance technologies and cleaner diesel technologies needed to meet California's SIP goals. On March 23, 2018, the Board approved staff's recommendation to direct investments primarily to agricultural projects that have been successfully implemented in other incentive programs, such as the Moyer Program.

For off-road mobile agricultural equipment projects, such as those in the Valley Incentive Measure, the 2018 FARMER Guidelines for eligible project categories fall under the 2017 Moyer Guidelines provided that the vehicles and equipment are engaged in agricultural operations.⁴⁷ Therefore, the 2018 FARMER Guidelines follow the 2017 Moyer Guidelines with respect to the off-road mobile agricultural equipment category. Therefore, where relevant, the following integrity element demonstration is based on the 2017 Moyer Guidelines.

FARMER Guidelines - Surplus

The following 2017 Moyer Guidelines demonstrate emission reductions that are not otherwise required by or assumed in the same attainment plan, any other adopted State air quality program, a consent decree, or a federal rule designed to reduce emissions of a criteria pollutant or its precursors (e.g., a new source performance standard or federal mobile source requirement).

The requirement for projects funded through the Moyer Program to provide surplus emissions reductions is codified in Health and Safety Code section 44281(b). The following references provide details on how the 2017 Moyer Guidelines ensure that emission reductions generated by these projects are not required by any regulation for the duration of the life of the project and the replacement equipment will be operated in the Valley. The 2017 Moyer Guideline sections listed below set exclusive requirements for funded projects and ensure that the emission reductions from projects funded under the Moyer Program must not be used for any other emission reduction obligations. Therefore, emission reductions achieved from these projects are not required by any other regulations.

- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, A–D and F–H
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section A. Projects Eligible for Funding

⁴⁷ FARMER Guidelines, 3. Program Framework, 3.2 Eligible Project Categories, 3.2.1 Carl Moyer Program-Eligible Projects

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (A) and (Q)

The 2017 Moyer Guidelines require verification of proposals prior to contract execution to verify that existing off-road mobile agricultural equipment is fully functional and in operational condition. This pre-inspection verifies that current emission reductions are from in-use equipment and thus assumed to be in excess of normal fleet turnover. A 2008 study prepared for CARB examining off-road engines less than 175 horsepower operating in the California revealed that the “age distribution for diesel, and especially gasoline, agricultural tractors was particularly skewed toward older units, with the median age being more than 20 years old.”⁴⁸

- 2017 Moyer Guidelines, Chapter 3: Program Administration, W. Project Pre-Inspection, 2. Documentation
- 2017 Moyer Guidelines, Chapter 5: Off-Road Equipment, D. Project Criteria, 4. Equipment Replacement, (E), (1), (2), and (3)

The 2017 Guideline sections listed below require the emission reductions to occur in California. Further, the District requires applicants to operate at least 50 percent within the boundaries of the District. This requirement ensures the resulting emission reductions will occur in the District. To ensure the old engine or vehicle is comparable to its replacement, the 2017 Moyer Guidelines have usage-to-usage requirements and requires that the replacement equipment serve the same function and perform the same work equivalent as the existing equipment. These requirements ensure that the replacement vehicle is operated in a similar manner as the vehicle or equipment being replaced and that the expected emission reductions are achieved. The horsepower ratings for the new equipment may be more than 125 percent greater than the old piece of equipment, but the usage-to-usage requirements are still maintained. The increase in horsepower may occur because manufacturers are providing comparable equipment with larger horsepower, such as a two row cottonpicker replaced with an eight row cottonpicker, and the older equipment is no longer produced at a similar horsepower rating, or due to additional equipment functionality and features in the replacement equipment (i.e., newer equipment may contain roll bars and other safety features, which requires more power to operate). This criteria supports the surplus integrity element by verifying that emissions reductions are occurring in the Valley.

- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, Section S
- District Ag Tractor Replacement Program Guidelines, Program Requirements (Pg. 6) <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>

⁴⁸ “Characterization of the Off-Road Equipment Population”, ARB Contract No. 04-315, Final Report Prepared for: California Air Resources Board and the California Environmental Protection Agency, Prepared by Rick Baker, Principal Investigator Eastern Research Group, Inc., December 2008. Currently available at <http://www.arb.ca.gov/research/apr/past/04-315.pdf>

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E), (1) and (2)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (J) 4. Equipment Replacement, (F), (1)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (L) and (M)

Details on how emission reductions are surplus to reductions assumed in the attainment plan can be found in the Technical Analysis section in Chapter 8. Based on the above, this measure meets the criteria for emissions reductions to be “surplus” consistent with U.S. EPA guidance.

In addition to the requirements outlined in the 2018 FARMER Guidelines, Moyer Program-eligible projects are required to abide by all project criteria set forth in the 2017 Moyer Guidelines, any future approved Guidelines, and current and future Program Advisories and Mail-outs.

All emission reductions associated with turning over older and dirtier to newer and cleaner agricultural equipment is surplus because agricultural equipment is not subject to any District or State regulation. Based on the above, this measure meets the criteria for emissions reductions to be “surplus” by U.S. EPA guidance.

FARMER Guidelines - Permanent

The following 2017 Moyer Guidelines demonstrate that actions are taken to physically destroy or disable forever the older, dirtier agricultural equipment or vehicle to ensure the reduction of emissions for the duration of the project life.

Emission reductions from incentive programs are considered permanent if the state and U.S. EPA can ensure that emission reductions are achieved for the entire period that is credited in the SIP. The references in this section assure that the emission reductions in this measure are achieved in the Valley throughout the life of the project which must cover the entire year in which SIP credit is given. Additionally, the projects are monitored throughout the contract and project life.

Recordkeeping, reporting, and application requirements further ensure that historic and future emissions are estimated correctly and properly represented. Pre- and post-inspection references include requirements ensuring the equipment information provided by the project owner is consistent with actual operating equipment and that the existing engine is in usable form and would not have been replaced by natural fleet turnover. These requirements ensure the replaced engine or vehicle is operational and working as described, and the new engine or vehicle has been installed and is ready for use. These requirements ensure that emission reductions from these projects are realized and beyond the normal fleet turnover assumed in the SIP inventory.

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, T. Application Evaluation and Project Selection, 2. Creditability, 3. Eligibility, 4. Application Tracking and 8. Recordkeeping
- 2017 Moyer Guidelines, Volume I, Chapter 3 Program Administration, Z. Grantee Annual Reporting
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection and X. Project Post-Inspection

The 2017 Moyer Guideline sections listed below require verification that the replaced vehicle and/or engine is destroyed and rendered permanently unusable and irreparable. Air districts must verify and document through photographic or video evidence that the destroyed engine serial number matches that on the project contract. Salvage certifications must include make, model, year, equipment serial number, engine make, and engine serial number. Air districts or approved salvage yards must conduct a salvage inspection for verification. This ensures the replaced vehicle and/or engine is not reused, the new vehicle or engine is operational, and the resulting emission reductions are permanent. The following references specify the requirements for destroying and dismantling the replaced equipment and/or engines.

- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, H
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, Section X. Project Post-Inspection, 1. Requirement and 4. Verification of Destruction
- 2017 Moyer Guidelines, Volume 1, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (P)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Roads Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (4) Destruction and Salvage Requirements and (I) Salvage Yard Requirements
- Moyer Guidelines, Volume I, Chapter 5: Off-Roads Equipment, Section D. Project Criteria, 4. Equipment Replacement, (G) Air District Requirements, (4) and (5)

The 2017 Moyer Guideline sections listed below ensure the emission reduction calculations are based on information originating from the grantee's application, and contractually hold the grantee accountable for the validity of the information provided.

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection and X. Project Post-Inspection
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (1) Equipment Ownership and (2) Operational Requirements
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (G) Air District Requirements, (4) and (5)

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (I) Salvage Yard Requirements, (2) c

The 2017 Moyer Guideline sections listed below ensure that the emission reductions are permanent throughout the life of the contract between the grantee and District. The District will conduct audits verifying permanent by checking that the engines and equipment paid for are still owned by the grantee, are still operational, and meet usage as indicated in the executed contract. Documentation from the salvage yard certifying destruction of the old equipment ensures the emission reductions are permanent. These contract provisions ensure the emissions reductions are permanent.

- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, (G)
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, Section AA. Air District Audit of Projects
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (1) Equipment Ownership and (2) Operational Requirements
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (G) Air District Requirements, (4) and (5)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (I) Salvage Yard Requirements, (2)

In addition to the requirements outlined in the 2018 FARMER Guidelines, Moyer Program-eligible projects are required to abide by all project criteria set forth in the 2017 Moyer Guidelines, any future approved Guidelines, and current and future Program Advisories and Mail-outs.

The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the 2017 Moyer Program meet the criteria for emission reductions to be “permanent” guidance.

FARMER Guidelines - Quantifiable

The following information will be provided for every project in the Valley Incentive Measure so the U.S. EPA and public can verify and replicate each project's associated emission reductions.

- Contract Number
- Funding
- Purchase Date
- Post Inspection
- Guideline Year
- Component
- Component Option
- Annual Hours
- Current Equipment Unit
- Current Engine Model Year
- Current Equipment Model Year
- Current Engine Fuel
- Current Equipment VIN
- Current Engine Serial #
- Current Engine EPA Family Name
- Function Vocation
- Current Engine HP
- Current Engine Tier
- Current Equipment Make
- Current Equipment Model
- Current Engine Unit
- Current Engine Make
- Current Engine Model
- New Equipment Unit
- New Equipment Make
- New Engine Unit
- New Engine Make
- New Engine Model
- New Engine Model Year
- New Equipment Model Year
- New Engine Fuel
- New Equipment VIN
- New Engine Serial #
- New Engine EPA Family Name
- New Engine HP
- New Engine Tier
- Total Cost
- Grant Amount
- NOx Tons Reduced (lifetime)
- PM Tons Reduced (lifetime)
- Project Life
- Equipment County
- Percent Use In CA
- Percent Use in SJV
- NOx Reduced (tpd)
- PM Reduced (tpd)
- PM2.5 Conversion
- Load Factor Adjustment
- Final NOx Reduced (tpd)
- Final PM2.5 Reduced (tpd)

The following 2017 Moyer Guidelines demonstrate emission reductions can be reliably determined through the use of well-established, publicly available emission factors and calculation methodologies.

Emissions reductions are quantifiable if they can be reliably measured or determined, as well as replicated. The Valley Incentive Measure will follow the methodology in the 2017 Moyer Guidelines to calculate emission reductions and maintain a publicly-accessible database with the information needed for the calculations. The following references demonstrate that the 2017 Moyer Guidelines ensure that the data provided by the applicant in the CARB database is sufficient to accurately determine the emission reductions; the emission factors, as well as all formulas and instructions to calculate emission reductions are publicly available, current and accurate; and that procedures are in place to ensure projects are completed and emission reductions are achieved. For the Valley Incentive Measure, emissions benefits will be calculated in a database and emission factors and calculation methodologies will be maintained by CARB. These factors and methodologies will be made available to the public through the Valley Incentive Measure and a publicly available spreadsheet at <https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

The 2018 FARMER Program Guidelines and 2017 Moyer Guidelines⁴⁹ require the District to report project information to CARB sufficient to populate the required data fields and to calculate covered emission reductions and cost effectiveness. To verify the validity of the projects, the information listed below will be collected, publicly available, and reported to U.S. EPA so the individual projects can be identified and the public can calculate the resulting emission reductions. The District ensures the information is complete⁵⁰, correct, and supported by documentation; while CARB will make the information available to the public in the Valley Incentive Measure and <https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>. CARB and the District will retain records for five years after the attainment deadline.

The following sections from the 2017 Moyer Guidelines and the District Agricultural Tractor Replacement Program Guidelines describe the elements that are vital to properly quantify emission reductions, such as project type, project life, usage, emission reduction equations, and emission factors.

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section A. Project Eligible for Funding, 3. Equipment Replacement

⁴⁹ 2017 Moyer Guidelines, Chapter 3: Program Administration, W. Applicable Evaluation and Project Selection, 4. and 6. and 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, T. Application Evaluation and Project Selection, 4. Application Tracking and 8. Recordkeeping,

⁵⁰ 2017 Moyer Guidelines, Chapter 3: Program Administration, S. Requirements for Project Applications 5. Applicant Certification

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section C. Maximum Eligible Funding Amounts (Determining Grant Amounts), 2. Project Life and 3. Usage
- District Agricultural Tractor Replacement Program Guidelines, Program Requirements (Pg. 6)
<http://valleyair.org/grants/documents/tractor/Guidelines.pdf>
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (A)
- 2017 Moyer Guidelines, Volume I, Appendix C Cost-Effectiveness Calculation Methodology
- 2017 Moyer Guidelines, Volume I, Appendix D Tables for Emission Reduction and Cost-Effectiveness Calculations

The 2017 Moyer Guidelines and District Agricultural Tractor Replacement Program Guidelines sections listed below identify the project life, load factor, emission factors, and deterioration rates that must be used to determine the emissions from the replaced and new vehicles or engines. The 2017 Moyer Guidelines allow a maximum project life of ten years and the Valley Incentive Measure will use a project life of ten years for replacement projects. These requirements ensure that the credited emission reductions will be based on the most current and accurate emission factors and deterioration rates.

- District Agricultural Tractor Replacement Program Guidelines, Program Requirements (Pg. 6)
<http://valleyair.org/grants/documents/tractor/Guidelines.pdf>
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section C. Maximum Eligible Funding Amounts (Determining Grant Amounts), 2. Project Life
- 2017 Moyer Guidelines, Volume I, Appendix D Tables for Emission Reduction and Cost-Effectiveness Calculations

The equations identified in Appendix C of the 2017 Moyer Guidelines, required specific data inputs to calculate the emission reductions from FARMER Program projects. The 2017 Moyer Guideline sections listed below establish the requirements for data input and documentation that grantees must provide. These requirements ensure the data is sufficient for calculating emission reductions.

- 2017 Moyer Guidelines, Volume I, Chapter 2 General Criteria, H
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection, 2. Documentation
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 1. General Criteria, (D) and (E)
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) and (F)

The 2024 and 2025 emission reductions for this measure will be quantified using the methodology in the 2017 Moyer Guidelines. The 2017 Moyer Guidelines specify formulas in Volume I, Appendix C: Cost-Effectiveness Calculation Methodology along with the emission factors from Volume I, Appendix D: Tables for Emission Reduction and Cost-Effectiveness Calculations. The appropriate formula and emission factors will be used for each project.

In Appendix A, Example 2 estimates future agricultural equipment projects associated emission reductions with the first two years of funding allocated to FARMER. The first two years of FARMER was allocated approximately \$212.3 million. The District is allowed to charge up to 6.25percent for implementation costs towards the \$212.3 million. Accounting for implementation costs and other project categories that may be funded (e.g., UTVs and heavy-duty trucks), the District has approximately \$155 million for agricultural vehicle and equipment projects. The 2018 FARMER Guidelines and 2017 Moyer Guidelines will pay up to 80 percent the amount of mobile equipment replacement projects. Based on preliminary data from FARMER projects, the average off-road equipment project cost FARMER is funding is \$75,611. For a per project cost of \$75,611, the first two years of FARMER can fund up to 2,050 agricultural equipment replacement projects. For a conservative estimate of total emission reductions achieved through this measure, staff assumed all projects would be funded at the average project funding levels of \$75,611.

Two for One Projects - FARMER

In addition to the quantification guidelines above for a one to one replacement project, the FARMER Guidelines follow the 2017 Moyer Guidelines which include the replacement of two (or more) pieces of existing equipment with one piece of replacement equipment is eligible for funding. Each piece of existing equipment must comply with all of the appropriate criteria under the FARMER Guidelines. The replacement equipment must execute the same job as the existing pieces of equipment. For baseline emissions calculation, the annual emissions of the two pieces of equipment are summed. For the replacement equipment emissions calculation, the annual usage of the two pieces of existing equipment is summed for the replacement equipment usage.

- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (C)

The FARMER Program further requires districts to report information on all projects funded through the FARMER Program on a semi-annual basis to CARB. District are required to report project information using the reporting template provided by CARB. The reported information must be sufficient to populate the required data fields and to calculate covered emission reductions for equipment types where required. District will ensure the reported information is complete, correct, and supported by documentation.

- 2018 FARMER Guidelines, Section 3.3 Reporting

The provisions discussed in this section provide for well-established, publicly available emission factors and calculation methods. Therefore, emission reduction calculations for projects funded under the FARMER Guidelines are reliable and achieved through replicable methods. These provisions meet the criteria for emissions reductions to be “quantifiable” as defined by U.S. EPA guidance.

In addition to the requirements outlined in the FARMER Guidelines, FARMER Program-eligible projects are required to abide by all project criteria set forth in the 2017 Moyer Guidelines, any future approved Guidelines, and current and future Program Advisories and Mail-outs.

FARMER Guidelines - Enforceable

The following 2017 Moyer Guidelines demonstrate emission reductions and required actions are enforceable if they are independently verifiable and practically enforceable consistent with U.S. EPA guidance.

Emission reductions and required actions are enforceable if they are independently verifiable and practically enforceable consistent with U.S. EPA guidance; program violations are defined; those liable can be fined; the state or U.S. EPA may apply penalties and secure corrective action where applicable; citizens have access to all emission-related information obtained from participating sources; and U.S. EPA and/or citizens may take action against the state. The emission reductions achieved through this measure are enforceable because there will be an enforceable contract between the District and the participant, CARB will maintain a public database of information from these contracts, and CARB is the responsible party for enforcement of this measure and is responsible for achieving the emission reductions from this measure.

The following references detail requirements in the 2017 Moyer Guidelines for enforceable contracts, reporting by the grantee, and project inspections. In addition to validating data provided by the applicant, project inspections and audits ensure that contract requirements are met and that the purchased, replaced, and repowered technology type are consistent with the specifications in the contract.

The 2017 Moyer Guidelines sections listed below require the District to execute contracts for all selected projects. The 2017 Moyer Guidelines go further and describe repercussions for non-compliance with the obligations of the contract. Repercussions for noncompliance include, but are not limited to, cancelling the contract and recapturing project funds. CARB and the District have the authority to seek any remedies available under law for noncompliance. For this measure, each project will be under contract and subject to audit.

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, (5) Contract Term, (10) On-Site Inspections, Audits, and Records, and (11) Repercussions for Nonperformance
- 2017 Moyer Guidelines Volume I, Chapter 3: Program Administration, AA. Air District Audit of Projects and BB. Nonperforming Projects
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, (D) Project Criteria, 4. Equipment Replacement, (G) Air District Requirements

The 2017 Moyer and District Ag Tractor Replacement Program Guidelines sections listed below set forth the specific reporting criteria required of grantees. All contracts must include detailed information on the replaced and new vehicles or engines. The contracts must include a provision that grantees submit annual reports commencing no later than 18 months after project post-inspection and throughout the project implementation phase of the contract.

- 2017 Moyer Guidelines, Volume I, Chapter 2: General Criteria, H
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, (6) Project Specifications; (9) Reporting
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, Z. Grantee Annual Reporting
- District Ag Tractor Replacement Program Guidelines, Program Requirements (Pg. 6) <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>

The 2017 Moyer Guideline sections listed below describe the pre- and post-inspection requirements for funded projects. The visual inspections ensure the emission reductions are verifiable. These requirements ensure that the information provided by the grantee is as described, and confirm the new vehicle or engine is in working condition. As mentioned in the "Permanent – Moyer" section, all replaced vehicles or engines are destroyed and verified through the post-inspection process.

- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, V. Minimum Contract Requirements, (10) On-Site Inspections, Audits, and Records
- 2017 Moyer Guidelines, Volume I, Chapter 3: Program Administration, W. Project Pre-Inspection; X. Project Post-Inspection
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (E) Existing Equipment Requirements, (3) Pre-Inspection Requirements
- 2017 Moyer Guidelines, Volume I, Chapter 5: Off-Road Equipment, Section D. Project Criteria, 4. Equipment Replacement, (F) Replacement Equipment Requirements, (6) Post-Inspection Requirements

The FARMER Program further requires CARB staff to work collaboratively with air district to conduct Incentive Program Reviews to help ensure that air district programs achieve expected emission reductions and are implemented in a manner consistent with the 2017 Moyer Guidelines.

- 2018 FARMER Guidelines, Section 4.3 *Audit and Program Review Procedures*

In addition to the requirements outlined in the 2018 FARMER Guidelines, Moyer Program-eligible projects are required to abide by all project criteria set forth in the 2017 Moyer Guidelines, any future approved Guidelines, and current and future Program Advisories and Mail-outs.

To ensure that emission reductions span the entire 2024 calendar year from January 1 to December 31, 2024, the project life must span that time period. Thus, for the 2024 enforceable implementation reporting mechanism, projects implemented during the 2018 to 2022 calendar year with a ten-year project life will be eligible for this measure. Any project life that ends before or during the 2024 calendar year will not be eligible for SIP credit through this measure. Also, any project that is implemented during the 2024 calendar year will not be eligible for SIP credit through this measure.

To ensure that emission reductions span the entire 2025 calendar year from January 1 to December 31, 2025, the project life must span that time period. Thus, for the 2025 enforceable implementation reporting mechanism, projects implemented during the 2018 to 2022 calendar year with a ten-year project life will be eligible for this measure. Any project life that ends before or during the 2025 calendar year will not be eligible for SIP credit through this measure. Also, any project that is implemented during the 2025 calendar year will not be eligible for SIP credit through this measure.

The provisions discussed in this section are sufficient to ensure that the emission reductions generated through the FARMER Program meet the criteria for emission reductions to be “enforceable” as defined by U.S. EPA guidance.

Chapter 7. Public Disclosure of Information to Measure and Track Programmatic Results

Procedures for Public Disclosure of Information

There are multiple methods the public can use to access information relating to the Moyer, NRCS, and FARMER Guidelines used in the Valley Incentive Measure. The following provisions ensure that U.S. EPA and the public have access to emission data in accordance with the requirements of the Act section 114 and U.S. EPA implementing regulations in 40 CFR 2.301.

Moyer Guidelines

1. All documents created and/or used in implementing the requirements of the Valley Incentive Measure, including emission reductions, shall be kept and maintained by the District and CARB through December 31, 2030 (five years past the December 31, 2025 attainment date) through the CARB database and District recordkeeping. Such records shall be made available to the public upon request to CARB unless otherwise prohibited by the California Public Records Act or other related provisions of law. Such documentation will include the list of project information referred to in the **Chapter 4: Moyer – Quantifiable** section of this measure.
2. Annual reports derived from the CARB database between 2021 and 2024 shall be submitted no later than May 15 of each respective year. The reports will include the quantity of emission reductions achieved through the Valley Incentive Measure. Submitted annual demonstration reports will be made available on CARB's website
<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.
3. All inquiries to obtain this information may be directed to CARB's Implementation of the State SIP Strategy webpage at
<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

NRCS Guidelines

1. Based on the October 28, 2019 letter from NRCS to CARB (Appendix D), all documentation included in the NRCS certified annual reports that is used in the Valley Incentive Measure shall be kept and maintained by CARB through December 31, 2030 (five years past the December 31, 2025 attainment date). Consistent with the California Public Records Act and other related requirements, such records will be made available for public review upon request to CARB. Such documentation will include the list of project

information referred to in the **Chapter 5: NRCS – Quantifiable** section of this measure.

2. Annual reports derived from the NRCS certified annual reports between 2021 and 2024 shall be submitted no later than May 15 of each respective year. The reports will include the quantity of emission reductions achieved through the Valley Incentive Measure. Submitted annual demonstration reports will be made available on CARB's website
<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.
3. All inquiries to obtain this information may be directed to CARB's Implementation of the State SIP Strategy webpage at
<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

FARMER Guidelines

1. All documents created and/or used in implementing the requirements of the Valley Incentive Measure, including emission reductions, shall be kept and maintained by the District and CARB through December 31, 2030 (five years past the December 31, 2025 attainment date) through the CARB database and District recordkeeping. Such records shall be made available to the public upon request to CARB unless otherwise prohibited by the California Public Records Act or other related provisions of law. Such documentation will include the list of project information referred to in the **Chapter 6 FARMER - Quantifiable** section of this measure.
2. Annual reports derived from the CARB database between 2021 and 2024 shall be submitted no later than May 15 of each respective year. The reports will include the quantity of emission reductions achieved through the Valley Incentive Measure. Submitted annual demonstration reports will be made available on CARB's website
<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.
3. All inquiries to obtain this information may be directed to CARB's Implementation of the State SIP Strategy webpage at
<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>.

Provisions to Measure and Track Programmatic Results

Beginning in 2021, the annual reports for the implemented Moyer and NRCS and future FARMER Program projects will be available by May 15 on a CARB website dedicated to this measure. The implemented projects will be publicly available once this measure is released for public comment. The reports and projects will be available to the public so any emission reductions credited towards this measure can be replicated.

CARB shall perform a retrospective assessment to evaluate the overall performance of the efforts toward this measure and develop recommendations for future enhancements to the Moyer, NRCS, and FARMER Program implementation. The assessment will be included in the May 15, 2021 and May 15, 2024 reports, and will include the following:

- Project information and emission reductions from the CARB database for the agricultural equipment put into operation during the time period provided;
- A determination of whether the identified projects are projected to achieve the emission reduction enforceable implementation reporting mechanism in the Valley in 2024 and 2025;
- A discussion of implementation difficulties and potential solutions; and
- A discussion of reasons for changing program guidelines, if any.

Additionally, State law provides CARB with oversight responsibilities and the authority to review incentive programs (Health and Safety Code sections 44291 and 39500) to ensure that those mobile source emission reduction incentive programs actually achieve the expected emission reductions. CARB is required to monitor district programs to ensure that they are conducted in a manner that is consistent with the Health and Safety Code, 2017 Moyer Guidelines and advisories, program grant award and authorizations, and local district requirements.

In addition to audits that focus primarily on the financial aspect of a program, State law prescribes a broader scope for CARB's monitoring of district incentive programs that include an evaluation of the eligibility of projects funded and the emission reductions achieved. As a consequence, CARB incentive program reviews must be performed by staff with technical expertise in emission reduction technologies for a variety of equipment types who are also conversant with State law and CARB program guidelines.

In addition to identifying program deficiencies, incentive program reviews provide CARB with a mechanism for identifying the strengths of district programs. These commendable efforts are shared with other districts and can thus be useful in improving the Moyer Program and FARMER.

Chapter 8. Technical Analyses/Support

CARB will rely on SIP-creditable emission reductions estimated under the Valley Incentive Measure to satisfy the commitment in the Valley State SIP Strategy for CARB to adopt a SIP-creditable measure by 2020 from the accelerated turnover of agricultural equipment. The Valley Incentive Measure will turnover 5,473 in 2024 and 4,812 in 2025 agricultural equipment certified to the current CARB emission standard or Tier 4 final (Tier 4f) engine. The Valley Incentive Measure will reduce emissions by 5.9 tpd of NO_x and 0.3 tpd of PM_{2.5} in 2024 and 5.1 tpd of NO_x and 0.3 tpd of PM_{2.5} in 2025 and be credited against CARB's 2024 and 2025 aggregate emission reduction commitment for the 35 µg/m³ 24-hour standard and the 12 µg/m³ annual standard, respectively.

Since the Valley Incentive Measure relies on voluntary participation to provide emission reductions, the District and CARB took extra reporting and tracking precautions to ensure that the Valley Incentive Measure is successful and delivers the emission reductions. The Valley Incentive Measure relies upon the Moyer Program and NRCS, which are two well-established and publicly vetted incentive programs. The Moyer Program has been a successful and popular air quality program. Since the Moyer Program began in 1998 nearly \$1 billion in Moyer Program incentive grants have been used to clean up over 60,000 older engines in California. This has reduced NO_x and ROG emissions by more than 183,000 tons, and particulate matter by more than 6,700 tons statewide. While NRCS has obligated, from the first projects in 2009 through today, just under \$198 million statewide towards improving diesel-powered off-road mobile agricultural equipment, of which about \$155 million was directed towards Valley projects. The FARMER Program builds upon the Moyer Program and NRCS by providing additional funding towards emission reductions from agricultural related activities. The Valley Incentive Measure utilizes established and approved FARMER funding from FY 17/18 and 18/19. The first two years of approved FARMER funding for the District total to \$212,304,000. After the implementation costs, the District has approximately \$200,000,000⁵¹ for projects. The projected distribution of the first two years of FARMER funding with approximately \$155,000,000⁵² for off-road mobile diesel, agricultural equipment projects.

The agricultural diesel vehicle emissions inventory for the Valley State SIP Strategy, 2018 PM_{2.5} Plan⁵³, and the Valley Incentive Measure are based on CARB's OFFROAD2017 emissions inventory (OFFROAD2017 is based on a variety of sources,

⁵¹ \$212,304,000 x 93.75percent = \$199,035,000

⁵² \$65,000,000 + \$90,000,000 = \$155,000,000

⁵³ SJV 2018 PM_{2.5} Plan, Appendix B, pg. B-40

the agricultural portion is based on the 2011 agricultural emissions inventory)⁵⁴ and a 2012 base year inventory⁵⁵. The 2011 agricultural emission inventory is based on a 2008 survey of agricultural producers, custom operators, and first processors for self-propelled diesel agricultural equipment over 25 horsepower in size. Data on farms and acreage is based on the USDA 2007 Census. This inventory replaces CARB's OFFROAD2007 agricultural inventory and is the product of a close collaboration between CARB, the District, and the agricultural community, who conducted a large-scale outreach operation in an effort to collect and process agricultural equipment data for the entire state of California. Additionally, the 2018 PM2.5 Plan inventory for diesel agricultural equipment refers to the same survey used in the 2011 agricultural emissions inventory.⁵⁶ The 2011 agricultural emissions inventory in the 2018 PM2.5 Plan is based only on the base year inputs and grown from there⁵⁷ and does not reflect the population forecast that includes incentives⁵⁸.

The Valley Incentive Measure projects are surplus to the OFFROAD2017 emissions inventory because the first eligible projects for the Valley Incentive Measure being in 2015, and the survey did not capture incentivized projects. In 2024 and 2025, there are over 83,000 agricultural equipment in the Valley. Figure 8-1 shows how there are over 19,000 tier 0 agricultural tractors available to be turned over in 2024. The Valley Incentive Measure Moyer and NRCS projects identify 3,423 and 2,762 pieces of agricultural equipment in 2024 and 2025, respectively, that will be turned over. There is still a significant amount of older and dirty agricultural equipment to be turned over including the FARMER 2,050 identified by this measure. These agricultural equipment projects are available and can be turned over to cleaner diesel engines. The Moyer Program, NRCS, and FARMER Program all have requirements to fund projects above all regulatory requirements to ensure the emission reductions are surplus. Emission inventories account for regulatory action on all applicable source categories. As to date, there are no regulations affecting the emissions for off-road mobile agricultural equipment. Additionally, the Moyer Program, NRCS, and FARMER Program ensure agricultural equipment is removed during the useful life and replaced with the cleanest technology. Therefore, any Moyer Program, NRCS, and FARMER Program funded project that removes a piece of equipment during its useful life is surplus and creditable towards the SIP emission inventory.

⁵⁴ CARB 2011 Emissions Inventory for Agricultural Diesel Vehicles <https://ww3.arb.ca.gov/msei/ordiesel/ag2011invreport.pdf> and Appendix G Valley Incentive Measure

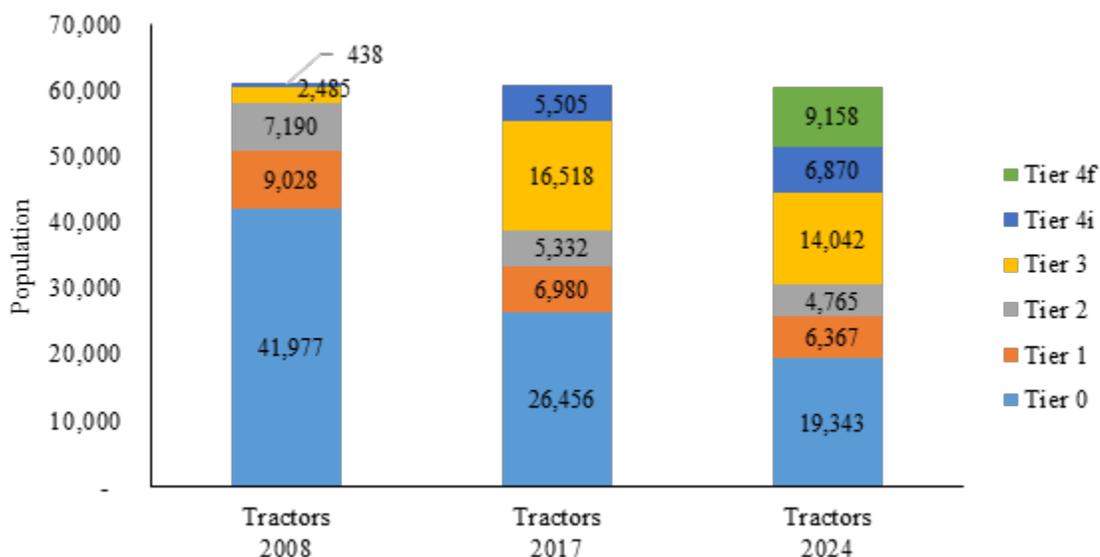
⁵⁵ SJV 2018 PM2.5 Plan, Appendix B, pg. B-18

⁵⁶ Pg. B-40, <http://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/B.pdf>

⁵⁷ As shown in Sections 3, 4, and 5 of the CARB 2011 Emissions Inventory for Agricultural Diesel Vehicles <https://ww3.arb.ca.gov/msei/ordiesel/ag2011invreport.pdf>

⁵⁸ As shown in Sections 2, 6, 7, and 8 of the CARB 2011 Emissions Inventory for Agricultural Diesel Vehicles <https://ww3.arb.ca.gov/msei/ordiesel/ag2011invreport.pdf>

Figure 8-1: San Joaquin Valley Agricultural Tractor Population Tier⁵⁹



The Valley Incentive Measure relies on voluntary participation to meet emission reduction commitments. To ensure the success of the Valley Incentive Measure enforceable implementation reporting mechanism, the District and CARB rely upon well established and publicly vetted Moyer Program, NRCS, and FARMER Program. The Moyer Program and NRCS have continuously funded projects for over 20 and 10 years and still accumulate waiting lists of applicants. The Moyer Program and NRCS have been publicly vetted and described in SIP submissions to U.S. EPA include the District’s Rule 9610. The FARMER Program is a newly created incentive program targeting the turnover of older and dirtier agricultural equipment. The FARMER Program was designed to build upon the success of the Moyer Program by explicitly following the 2017 Moyer Guidelines while providing additional funding for older and dirtier agricultural equipment. By following the Moyer Program, the FARMER Program will continue the successful 20 year legacy of turning over older and dirtier agricultural equipment.

In addition to ensuring successful participation, the Valley Incentive Measure emission reductions are estimated reasonably. The Moyer Program, NRCS, and FARMER Program emission reductions are calculated based on publicly available and replicable equations and inputs. The Moyer Program and NRCS emission reductions will be calculated based on Example 1 and list of project and the corresponding inputs in Appendix F and G. The FARMER Program emission reductions will be estimated projections based on the current project input trends from Appendix F and G and follow Example 2 methodology.

⁵⁹ Figure 7.3 SJV Tractor Population by Tier: CARB 2011 Emissions Inventory for Agricultural Diesel Vehicles <https://ww3.arb.ca.gov/msei/ordiesel/ag2011invreport.pdf>

Chapter 9. Enforceable Implementation Reporting Mechanism

Enforceable Implementation Reporting Mechanism

CARB, as the air pollution control agency for all purposes set forth in federal law, and the District are collaborating to implement the Valley Incentive Measure through three different funding mechanisms: Moyer Program, NRCS, and FARMER Program. Each of these programs are independently funded and administered. As described below, CARB will demonstrate that the equipment replaced under these three programs will reduce emissions and provide the enforceable mechanism for the Valley Incentive Measure to reduce NO_x emissions by at least 5.9 and 5.1 tpd by 2024 and by 2025, respectively, and PM_{2.5} emissions by 0.3 tpd by 2024 and 2025 and credited in the SIP accordingly. The emissions reductions are based on 5,473 projects in 2024 and 4,812 projects in 2025 from Moyer, NRCS, and FARMER Programs combined. However, with specific estimates per incentive program. The reductions from each of the three programs may vary from estimated amounts among each program, and will be described in the demonstration reports to be created and made publicly available under this commitment.

Valley Incentive Measure Enforceable Implementation Reporting Mechanism

A. CARB will do the following:

Confirm that a total of 5.9 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions occurred in 2024 and 5.1 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions occurred in 2025 from off-road mobile, diesel agricultural equipment replacement projects that have been implemented, in accordance with the Moyer, NRCS, and FARMER Program Guidelines and provided to CARB per sections B, C & D below;

1. By December 31, 2023, achieve a total of 5.9 tpd of reductions in NO_x emissions and 0.3 tpd of reduction in PM_{2.5} emissions from the 2024 baseline inventory in the 2018 PM_{2.5} Plan, as detailed in the Valley State SIP Strategy, through implementation of the Moyer, NRCS, and FARMER projects identified in sections B, C, and D below, through substitute incentive projects consistent with paragraph A.4 below, or through other substitute control measures adopted and submitted in accordance with paragraph A.5 below;
2. By December 31, 2024, achieve a total of 5.1 tpd of reductions in NO_x emissions and 0.3 tpd of reduction in PM_{2.5} emissions from the 2025 baseline inventory in the 2018 PM_{2.5} Plan, as detailed in the Valley State SIP Strategy, through implementation of the Moyer, NRCS, and FARMER projects identified in sections B, C, and D below, through substitute incentive projects consistent with paragraph A.4 below, or through other substitute control measures adopted and submitted in accordance with paragraph A.6 below;

3. By May 15 of each year beginning in 2021 and through 2025, submit an annual report to U.S. EPA that includes the following information:
 - a. For 2024,
 - i. Identify the portion of the 5,473 projects funded through previous year by project identification number, project life and implementation date, description of both baseline and new equipment sufficient to independently calculate emission reductions, applicable incentive program guideline, and quantified emission reductions;
 - ii. Determine whether the identified projects are projected to achieve the full 5.9 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions in the Valley in 2024; and
 - b. For 2025,
 - i. Identify the portion of the 4,812 projects funded through previous year by project identification number, project life and implementation date, description of both baseline and new equipment sufficient to independently calculate emission reductions, applicable incentive program guideline, and quantified emission reductions;
 - ii. Determine whether the identified projects are projected to achieve the full 5.1 tpd of NO_x and 0.3 tpd of PM_{2.5} emission reductions in the Valley in 2025.
4. If CARB intends to rely on substitute incentive projects to achieve the emission reductions identified in paragraphs A.3.a.ii or A.3.b.ii, confirm that all such substitute incentive projects are subject to the program criteria identified in paragraphs B.1, C.2, or D.1 (as applicable) and provide, in the annual demonstration report(s) for the relevant year(s), all of the information required in paragraphs B.2.c, C.3.c, and D.2.c for each substitute project.
5. If U.S. EPA determines by August 1, 2022 that information submitted by CARB is insufficient to demonstrate that emission reductions required under Paragraph A.1 will occur on schedule, adopt and submit to U.S. EPA, no later than September 1, 2023, substitute measures and/or rules that will achieve emission reductions addressing the shortfall as expeditiously as practicable and no later than January 1, 2024;
6. If U.S. EPA determines by August 1, 2023 that information submitted by CARB is insufficient to demonstrate that emission reductions required under Paragraph A.2 will occur on schedule, adopt and submit to U.S. EPA, no later than September 1, 2024, substitute measures and/or rules that will achieve emission reductions addressing the shortfall as expeditiously as practicable and no later than January 1, 2025; and

Moyer Enforceable Implementation Reporting Mechanism

CARB and the District are collaborating to implement the Valley Incentive Measure using Moyer Program incentive funds and following the 2011 and 2017 Moyer Guidelines. Through this partnership, the District funds and implements the projects and CARB will track and report on progress to U.S. EPA. This partnership is vital to the success of meeting this incentive measure commitment.

B. CARB will do the following:

1. Monitor District implementation of an estimated 2,380 off-road mobile, diesel agricultural equipment replacement projects through 2024, and an estimated 2,019 such projects through 2025, in accordance with the 2011 Moyer Guidelines, Chapters 2, 3, and 9, and Appendices C and D and 2017 Moyer Guidelines, Chapters 2, 3, and 9, and Appendices C and D;
2. By May 15 of each year beginning in 2021 and through 2025, submit an annual demonstration report to U.S. EPA that includes the following information:
 - a. A description of any changes to the 2011 and 2017 Moyer Guidelines and their related impacts on program integrity;
 - b. A description of CARB and the District's actions during the prior year to monitor selected projects for compliance with Moyer Program requirements;
 - c. Identification of each of the Moyer projects referenced in paragraph A.1 that were implemented through the prior year, by total projects, project identification number, project life and implementation date, description of replaced (baseline) and new equipment sufficient to independently calculate emission reductions, applicable incentive program guideline(s), and quantified emission reductions;
 - d. If the number of projects are less than specified in B.1, information consistent with paragraph A.4 pertaining to the substitute incentive projects that will be implemented to achieve the emission reductions specified in A.1 and A.2 and
 - e. Supporting documentation for the information in the report.
3. By May 15 of each year from 2021 through 2030, make each annual demonstration report described in paragraph B.2 available on CARB's website (<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>) and [available to the public upon request](#).
4. Maintain all annual demonstration reports described in paragraph B.2 through December 31, 2030.

The equipment replacement, recordkeeping, and reporting provisions discussed in this section ensure that Valley Incentive Measure projects are independently verifiable and meet the integrity criteria for SIP emission reductions, as defined by U.S. EPA guidance.

NRCS Enforceable Implementation Reporting Mechanism

CARB, the District, and NRCS are collaborating to implement the Valley Incentive Measure using NRCS Program incentive funds and following the NRCS Guidelines. Through this partnership, NRCS funds and implements the projects and CARB will track and report on progress to U.S. EPA. This partnership is vital to the success of meeting this incentive measure commitment.

C. CARB will do the following:

1. By March 30th of each year beginning in 2020 and through 2025, obtain from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) the latest available certified annual report that NRCS provides to the U.S. Environmental Protection Agency and the San Joaquin Valley Air Pollution Control District consistent with the "Addendum to the December 2010 Statement of Principles Regarding the Approach to State Implementation Plan Creditability of Agricultural Equipment Replacement Incentive Programs Implemented by the USDA Natural Resources Conservation Service and the San Joaquin Valley Air Pollution Control District," March 2014 (NRCS Annual Report);
2. Review the NRCS Annual Report each year to monitor NRCS implementation of an estimated 1,043 off-road mobile, diesel agricultural equipment replacement projects by 2024 and an estimated 743 such projects by 2025, in accordance with the applicable NRCS Program Criteria;
3. By May 15 of each year beginning in 2021 and through 2025, submit an annual demonstration report to U.S. EPA that includes the following information:
 - a. A description of any changes to the NRCS Program Criteria and their related impacts on program integrity;
 - b. A description of NRCS's actions during the prior year to monitor selected projects for compliance with NRCS Program Criteria requirements;
 - c. Identification of the NRCS projects referenced in paragraph C.2 that were implemented through the prior year, by total projects, project identification number, project life and implementation date, description of replaced (baseline) and new equipment sufficient to independently calculate emission reductions, applicable NRCS Program Criteria, and quantified emission reductions;

- d. If the number of projects are less than specified in C.2, information consistent with paragraph A.4 pertaining to the substitute incentive projects that will be implemented to achieve the emission reductions specified in A.1 and A.2; and
 - e. Supporting documentation for the information in the report.
4. By May 15 of each year from 2021 through 2030, make each annual demonstration report described in paragraph C.3 available on CARB's website (<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>) and available to the public upon request.
 5. Maintain all annual demonstration reports described in paragraph C.3 and all NRCS annual reports described in paragraph C.1 through December 31, 2030.

The equipment replacement, recordkeeping, and reporting provisions discussed in this section ensure that Valley Incentive Measure projects are independently verifiable and meet the integrity criteria for SIP emission reductions, as defined by U.S. EPA guidance.

FARMER Enforceable Implementation Reporting Mechanism

For the future funding portion of this measure, CARB and the District are partnering to implement the Valley Incentive Measure using FARMER Program incentive funds and following the 2018 FARMER Guidelines. Through this partnership, the District will fund and implement the projects and CARB will track and report on progress to U.S. EPA.

D. CARB will do the following:

1. Monitor district implementation of an estimated 2,050 off-road mobile, diesel agricultural equipment replacement projects through 2024 and 2025, in accordance with the 2018 FARMER Guidelines;
2. By May 15 of each year beginning in 2021 and through 2025, submit an annual demonstration report to U.S. EPA that includes the following information:
 - a. A description of any changes to the 2018 FARMER Guidelines and their related impacts on program integrity;
 - b. A description of CARB's and the District's actions during the prior year to monitor selected projects for compliance with FARMER Program requirements;
 - c. Identification of the FARMER Program projects referenced in paragraph D.1 that were implemented through the prior year, by total projects, project identification number, project life and implementation date, description of replaced (baseline) and new equipment, sufficient to

- independently calculate emission reductions, applicable incentive program guideline(s), and quantified emission reductions;
- d. If the number of projects are less than specified in D.1, information consistent with paragraph A.4 pertaining to the substitute incentive projects that will be implemented to achieve the emission reductions specified in A.1 and A.2; and
 - e. Supporting documentation for the information in the report.
3. By May 15 of each year from 2021 through 2030, make each annual demonstration report described in paragraph D.2 available on CARB's website (<https://www.arb.ca.gov/planning/sip/imp2016sip/imp2016sip.htm>) and available to the public upon request.
 4. Maintain all annual demonstration reports described in paragraph D.2 through December 31, 2030.

The equipment replacement, recordkeeping, and reporting provisions discussed in this section ensure that Valley Incentive Measure projects are independently verifiable and meet the integrity criteria for SIP emission reductions, as defined by U.S. EPA guidance.

Chapter 10. Environmental Analysis

This section provides the basis for CARB's determination that the proposed measure is exempt from the requirements of the California Environmental Quality Act (CEQA). A brief explanation of this determination is provided below. CARB's regulatory program, which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality, has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of CEQA (14 CCR 15251(d)). Public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. CARB, as a lead agency, prepares a substitute environmental document (referred to as an "Environmental Analysis" or "EA") as part of the report prepared for a proposed action to comply with CEQA (17 CCR 60000-60008). If the proposed measure is approved, a Notice of Exemption will be filed with the Office of the Secretary for the Natural Resources Agency and the State Clearinghouse for public inspection.

CARB has determined that the proposed measure is not a "project" subject to CEQA because it constitutes the creation of a government funding mechanism or other government fiscal activities that do not involve any commitment to any specific project that may result in a potentially significant physical impact on the environment. This measure was developed to quantify and incorporate SIP benefits from the use of existing funds. These existing funds are sourced from the Moyer Program, NRCS, and FARMER Program as described in Funding and Legal Authority for the San Joaquin Valley Agricultural Equipment Incentive Measure. The District selects Moyer and FARMER projects on a first-come, first serve basis, and NRCS projects are selected based on cost-effectiveness.

The proposed measure will use the existing funds to incentivize upgrades to captive fleets operating in the Valley, such as agricultural tractors. The proposed measure would demonstrate that the Accelerated Turnover of Agricultural Equipment Measure committed to in the Valley State SIP Strategy meets the U.S. EPA requirements for a SIP measure, and includes an enforceable implementation reporting mechanism to turnover 5,473 off-road mobile diesel agricultural equipment to cleaner technologies and achieve emission reductions of 5.9 tpd of NO_x and 0.3 tpd of PM_{2.5} in 2024 and 4,812 off-road mobile diesel agricultural equipment to cleaner technologies and achieve emission reductions of 5.1 tpd of NO_x and 0.3 tpd of PM_{2.5} in 2025.

CARB develops the Moyer and FARMER Program guidelines for districts while the districts use the funds to implement the projects. NRCS is developed, funded, and implemented by its own staff. If the District determines that projects other than agricultural equipment are necessary or more cost-effective to meet the emission reduction enforceable mechanism, CARB will submit substitute measures that meet U.S. EPA requirements and achieve the emission reductions. The associated emission

reductions from this measure will contribute towards CARB's aggregate emission reduction commitment in the Valley State SIP Strategy.

Chapter 11. Staff Recommendation

This document demonstrates that the emission reductions from the Valley Incentive Measure meet U.S. EPA guidelines for SIP-creditable emissions reductions and should be credited towards CARB's Valley State SIP Strategy aggregate commitment in 2024 and 2025. Further, the Valley Incentive Measure fulfills CARB's commitment in the Valley State SIP Strategy to consider an Accelerated Turnover of Agricultural Equipment Measure by 2020. Therefore, CARB staff recommends that the Board:

1. Adopt the Valley Incentive Measure Enforceable Implementation Reporting Mechanism as a revision to the California SIP.
2. Direct the Executive Officer to submit the Valley Incentive Measure to U.S. EPA as a revision to the California SIP