Environmental Quality Incentives Program

The Environmental Quality Incentives Program (EQIP) is a voluntary, conservation program administered by NRCS that can provide financial and technical assistance to install conservation practices that address natural resource concerns. The purpose of EQIP is to promote agricultural production, forest management, and environmental quality as compatible goals; to optimize environmental benefits; and to help farmers and ranchers meet Federal, State, Tribal, and local environmental regulations.

EQIP Application Sign-up and Cut-off Dates

NRCS accepts EQIP applications year-round, but establishes cutoff dates to make funding selections for eligible, screened, and ranked applications.

To be ready for EQIP funding consideration, interested applicants will need to: (1) Develop a conservation plan, (2) Submit an application, (3) Meet program eligibility requirements, and (4) Approve their 'EQIP schedule of operations'.

The time needed to complete a conservation plan and process eligibility can vary, from a few weeks to more than a month, depending on the complexity of the farming operation.

Develop a Conservation Plan

A conservation plan includes all practices, regardless of the program's financial assistance, that a producer or landowner has agreed to adopt for the agricultural operation and/or associated agricultural lands. Interested applicants are encouraged to request conservation planning and technical assistance from a local NRCS field office to help with the development of a conservation plan.

Submitting an Application

Interested applicants may apply for EQIP by completing and submitting the application, Form NRCS-CPA-1200, Conservation Program Application, to the NRCS field office in person, by phone, email, or fax in the county which you own land or where you have an agricultural operation or non-industrial private forest land.

Program Eligibility Requirements

In order to be considered eligible for EQIP the applicant must have a vested interest in production agricultural and meet other program eligibility requirements.

'EQIP schedule of operations'

The basis for an application is the 'EQIP schedule of operations' and is derived from the applicant's conservation plan. The EQIP 'schedule of operations' identifies the conservation practices to be implemented, timing of the implementation, practice location, and payment rates.

EQIP Screening, Ranking and Funding

EQIP funding decisions are based on an application evaluation process that includes screening tools and ranking criteria. Screening tools are worksheets used is to prioritize an application based on factors such as: a completed conservation plan; readiness to implement practices; history of contract compliance; and resource priorities addressed in the 'EQIP schedule of operations'. Ranking criteria considers the anticipated benefit of a conservation system, or practice, in the 'EQIP schedule of operations' to a natural resource concern.

About the California Air Quality Initiative for Agricultural Irrigation Engines

Under the Agricultural Act of 2014, the Secretary shall provide eligible producers with technical and financial opportunities to address serious air quality concerns from agricultural operations and help meet regulatory requirements.

In Fiscal Year 2017 (FY2017), the California Air Quality Initiative is designed to help agricultural producers meet air quality compliance requirements and offer opportunities to support practices that address impacts associated with greenhouse gases. Implementing conservation practices that reduce oxides of nitrogen (NOx), volatile organic compounds (VOC) and reactive organic gases (ROG), and particulate matter (PM) emissions from agricultural sources helps achieve and maintain the health- and welfare-based National Ambient Air Quality Standards (NAAQS) in California.

Financial assistance priority is targeted toward areas that have been identified as having significant air quality resource concerns, by being designated by the Environmental Protection Agency (EPA) as "Nonattainment" for the 2008 8-hour Ozone (O_3) NAAQS; "Nonattainment" or predesignated "Attainment (Maintenance Area) for the 2006 or 1997 24-hour PM2.5 NAAQS; "Nonattainment" or predesignated "Attainment (Maintenance Area)" for the 1987 24-hour PM10 NAAQS; and/or "Nonattainment" for the 2012 Annual PM2.5 NAAQS.

These areas experience air pollution levels that persistently exceed the NAAQS established by the Clean Air Act. Funding assistance may also be available to address the air quality resource concerns within areas designated as "Unclassifiable/Attainment" of the Ozone and Particulate Matter NAAQS. Maps illustrating the attainment designations within EPA-Region 9 are included in Figures 1-4 and available on-line at the EPA-Region 9 website at: https://www3.epa.gov/region9/air/maps/.

There are two typical conservation treatments under this EQIP fund pool to improve emissions from in-use engines for irrigation pumping plants:

1. Eliminate air pollution emissions at the source from stationary in-use irrigation pumping plants by removing from service and permanently destroying a fully functional in-use irrigation engine and repower with a new electric motor.
    - The in-use engine is rated at 50 brake-horsepower (bhp) or greater and may be either a spark-ignition engine (e.g. fueled by natural gas, propane, gasoline, etc.) or a nonroad compression-ignition engine (e.g. diesel-fueled engine) meeting Tier 1, Tier 2, or Tier 3 emissions certification.
    - The new electric motor is rated at 25 horsepower or greater, not to exceed 125 percent of the in-use engine baseline horsepower rating.
2. Reduce air pollution emissions from stationary or portable in-use irrigation pumping plants by removing from service and permanently destroying a fully functional in-use nonroad diesel engine and repower with a new nonroad diesel engine.
    - The in-use nonroad diesel engine is rated at 50 bhp or greater and meets Tier 1 or Tier 2 emissions certification.
    - The new nonroad diesel engine is rated at 50 bhp or greater, not to exceed 125 percent of the in-use diesel engine baseline horsepower rating, and meets current model-year Tier 4 emissions certification.

Significant emission reduction benefits are achieved when higher-polluting agricultural irrigation engines are retired earlier than through normal turnover and in-use pumping plants are repowered with new electric motors or new Tier 4 emissions-certified nonroad diesel engines. Repowering with new electric motors essentially eliminates NOx, VOC, PM, and greenhouse gas emissions at the source.

The Tier-level emissions certification for in-use and new nonroad diesel engines are determined by the applicable EPA Engine Family Name and State of California Air Resources Board (ARB) Executive Order (or EPA Certificate of Conformity, when applicable). An emissions-certification label affixed on the engine block will assist with identifying the applicable EPA Engine Family Name. The "L" designation within the EPA Engine Family Name indicates a non-road diesel engine.

The applicable NRCS Conservation Practice Standard (CPS) is CPS 372 – Combustion System Improvement. New electric motors and diesel engines must be sized appropriately to conform to CPS 533 – Pumping Plants criteria and specifications. The CPS 372 practice lifespan is 10 years.

It should be noted that the federal, state, regional and/or local air quality authorities have adopted regulations, including permitting or registration requirements, that apply to in-use and new agricultural irrigation engines. Applicants are therefore advised to consult with the appropriate air quality authority prior to submitting an EQIP application in order to address these regulatory requirements that may apply toward the installation of new and the operation of in-use and new agricultural irrigation engines. New electric motors are not subject to these air quality permitting or registration requirements.

Four worksheets are included at the end of this fund pool description:

1. California In-Use Existing Equipment/Engine (Baseline) Worksheet and Instructions
2. California New Equipment/Engine Worksheet (Proposed) and Instructions
3. California Equipment/Engine Destruction Certification Worksheet
4. California Emissions Calculation Worksheet

The first two worksheets are for the applicant to document the proposed in-use and new electric motor or diesel engine for submittal to the NRCS with an EQIP application. The applicant may use the third worksheet to document the in-use engine destruction and disposal in accordance with CPS 372-Specifications. The fourth worksheet is used by the conservation planner and/or the applicant for calculating the estimated emissions and emission reductions associated with the conservation practice.

Approved NRCS Land Uses

Only approved NRCS land uses are eligible for the California Air Quality EQIP Initiative for Agricultural Irrigation Engines. Approved land uses are:

- Crop: Land used primarily for the production and harvest of annual or perennial field, forage, food, fiber, horticultural, orchard, vineyard, or energy crops.
- Pasture: Land composed of introduced or domesticated native forage species that is used primarily for the production of livestock. Pastures receive periodic renovation and cultural treatments, such as tillage, fertilization, mowing, weed control, and may be irrigated. Pastures are not in rotation with crops.

- Farmstead: Land used for facilities and supporting infrastructure where farming, forestry, animal husbandry, and ranching activities are often initiated. This may include dwellings, equipment storage, plus farm input and output storage and handling facilities.
- Associated Agricultural Lands: Land associated with farms and ranches that are not purposefully managed for food, forage, or fiber and are typically associated with nearby production or conservation lands. This could include incidental areas, such as odd areas, ditches and watercourses, riparian areas, field edges, seasonal and permanent wetlands, and other similar areas.

Resource Concerns for the EQIP Fund Pool

Only applications for agricultural operations that address at least one resource concern listed below will be considered for financial assistance through this EQIP Fund Pool. The descriptions below are general NRCS natural resource definitions, applications should fit within, but do not need to exactly match, these descriptions.

❖ AIR QUALITY IMPACTS – Direct or indirect emissions of compounds to the atmosphere that impact air quality.

- Emissions of Particulate Matter (PM) and PM Precursors: Particulate Matter is classified by its size where PM2.5 and PM10 have an aerodynamic diameter less than 2.5 and 10 micrometers, respectively. PM2.5 is directly emitted to the atmosphere by combustion processes such as from diesel engine exhaust and open burning, and to a lesser degree by mechanical means such as dust from vehicle traffic on unpaved roads or tillage activities. PM2.5 is also formed in the atmosphere by chemical reactions of PM precursor gases that primarily include oxides of nitrogen (NOx) and ammonia (NH_3). Sources of these PM2.5 precursor gases can be from combustion activities, fertilizer application, and animal operations. Much of PM10 is mechanically generated and directly emitted to the atmosphere by actions that disaggregate the soil such as tillage operations, unpaved roads and field travel, animal movement, harvesting activities, bulk material storage and handling, and wind erosion. Visible PM emissions are typically geologic in origin and range in different sizes that may include PM2.5 and PM10.
- Emissions of Ozone Precursors: Ozone (O_3) precursor gases are oxides of nitrogen (NOx) and volatile organic compounds (VOCs) pollutants. Ambient ozone is formed in the atmosphere through a photochemical reaction of NOx and VOC pollutants in the presence of sunlight, where its reactivity can be influenced by ambient heat. Exposure to ambient ozone can cause adverse impacts to public health, plants and animals. Sources of NOx and VOC emissions are from naturally occurring "biogenic sources" and from "anthropogenic sources" that include livestock activities, pesticide application, solvent and gasoline storage and use, nitrification/denitrification processes, and combustion from boilers, engines and open burning.
- Emissions of Greenhouse Gases (GHGs): Direct or indirect emissions of greenhouse gases (GHG), primarily carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), that accumulate in the atmosphere can have a potent impact on the climate. Activities from crop fertilization (natural and synthetic), tillage and agricultural soils management, manure management, livestock enteric fermentation, combustion activities, rice cultivation, and land-use conversion all contribute to excess agricultural GHG emissions into the atmosphere. Fuel consumption as an energy source contributes to atmospheric CO_2. Soil tillage is also a CO_2 contributor by increasing the rate of soil organic matter

decomposition and releasing soil carbon into the atmosphere. Methane is produced as part of the normal digestive processes in animals and through anaerobic decomposition of manure and managed waste. A portion of nitrogen fertilizer applied to crops and grasslands emit N_2O by volatilization through the nitrification/denitrification process.

Eligible NRCS Conservation Practices

All conservation practices planned for financial assistance must be included in the 'EQIP schedule of operations' and address a resource concern identified in this EQIP Fund Pool. NRCS conservation practices eligible for financial assistance through this EQIP Fund Pool are listed in the below table.

For more information about NRCS conservation practices visit the following website link for NRCS conservation practice standards:
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/?cid=NRCSDEV11_001020

Table 1. Eligible Conservation Practices

Practice Code	Conservation Practice Name	Practice Units	Lifespan (Years)
372	Combustion System Improvement	no	10

The Combustion System Improvement Practice Standard and more information are available on-line at:

- CPS 372 – Combustion System Improvement:
  http://efotg.sc.egov.usda.gov/references/public/CA/372-std-09-2010.pdf
- CPS 372 – Specifications:
  http://efotg.sc.egov.usda.gov/references/public/CA/372-spec-ca-11-14.doc
- CPS 372 – Operations and Maintenance
  http://efotg.sc.egov.usda.gov/references/public/CA/372A-OM-ca-8-13.doc
- CPS 372 – Implementation Requirements
  http://efotg.sc.egov.usda.gov/references/public/CA/372-IR-ca-11-14.docx
- CA Air Quality Tech Note 1 – Glossary for California Off-Road Agricultural Engines
  https://efotg.sc.egov.usda.gov/references/public/CA/TN_AQ01_CPS372-EngineGlossary_11-16.pdf
- CA Air Quality Tech Note 2 – Engine Family and Tier-Certified Emission Standards
  http://efotg.sc.egov.usda.gov/references/public/CA/TN-AQ02-CPS372_EngineFamilyName-TIER_Standards.pdf

Figure 1: Designations in EPA Region 9 for the 2008 8-hour Ozone NAAQS
(as of August 4, 2016)

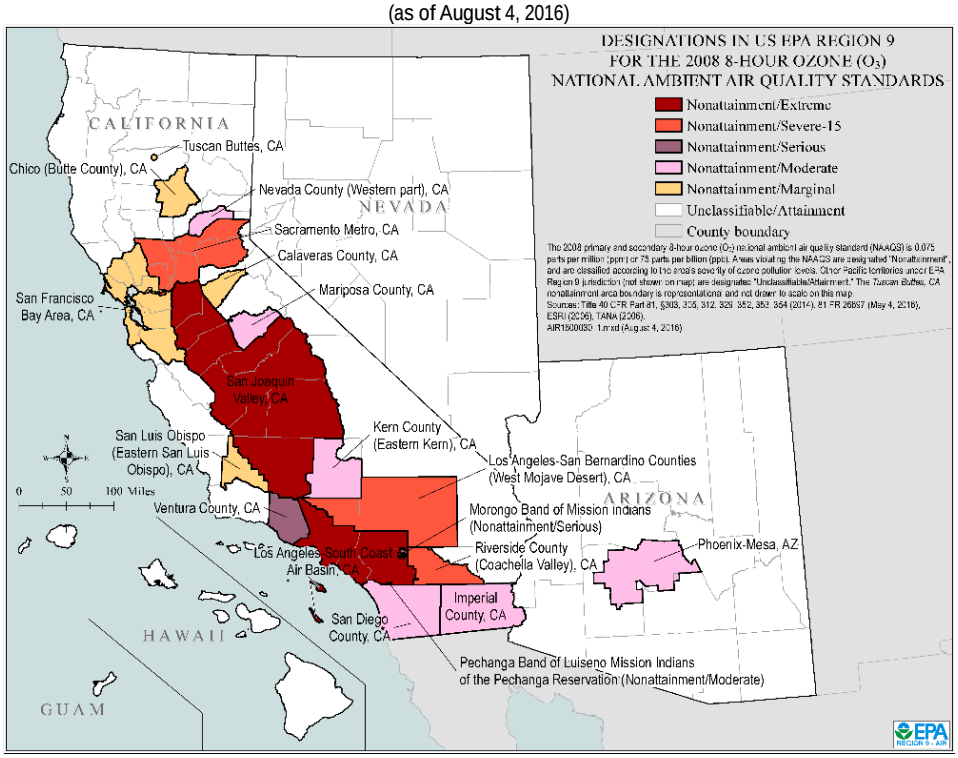


Figure 2: Designations in EPA Region 9 for the 2006 and 1997 24-hour PM2.5 NAAQS
(as of February 16, 2016)

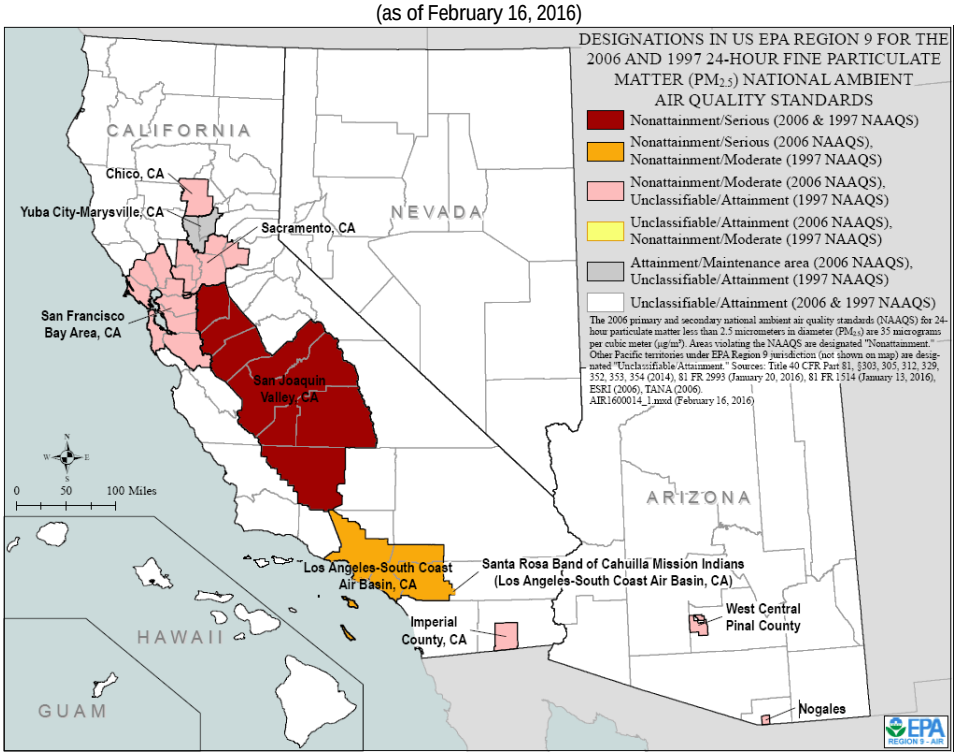


Figure 3: Designations in EPA Region 9 for the 1987 24-hour PM10 NAAQS
(as of December 8, 2015)

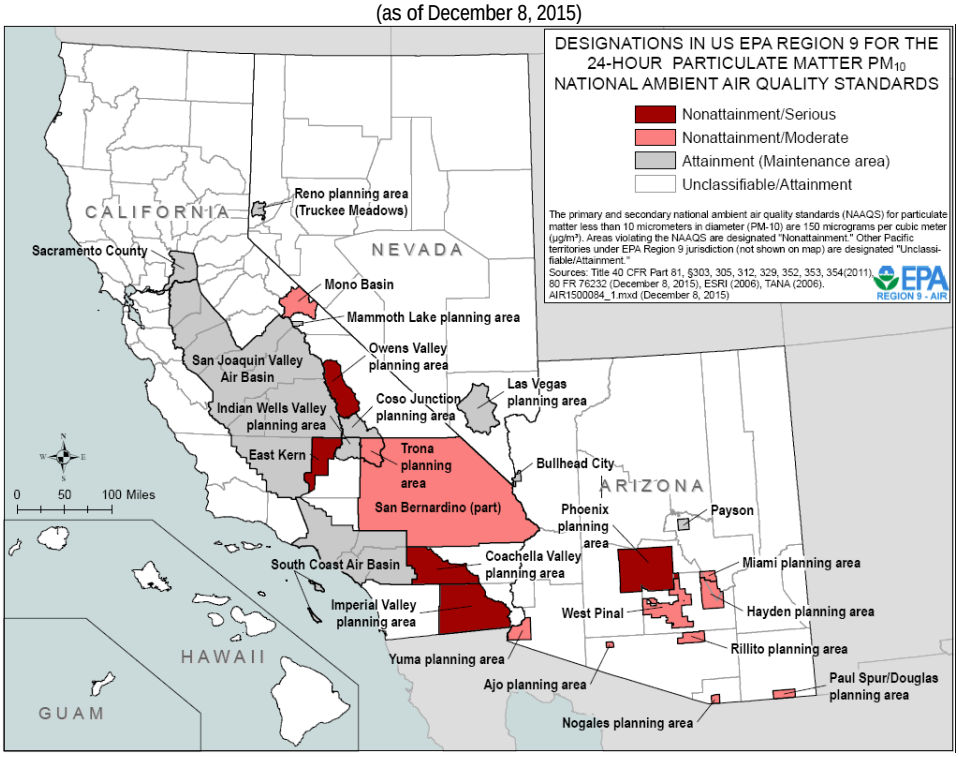
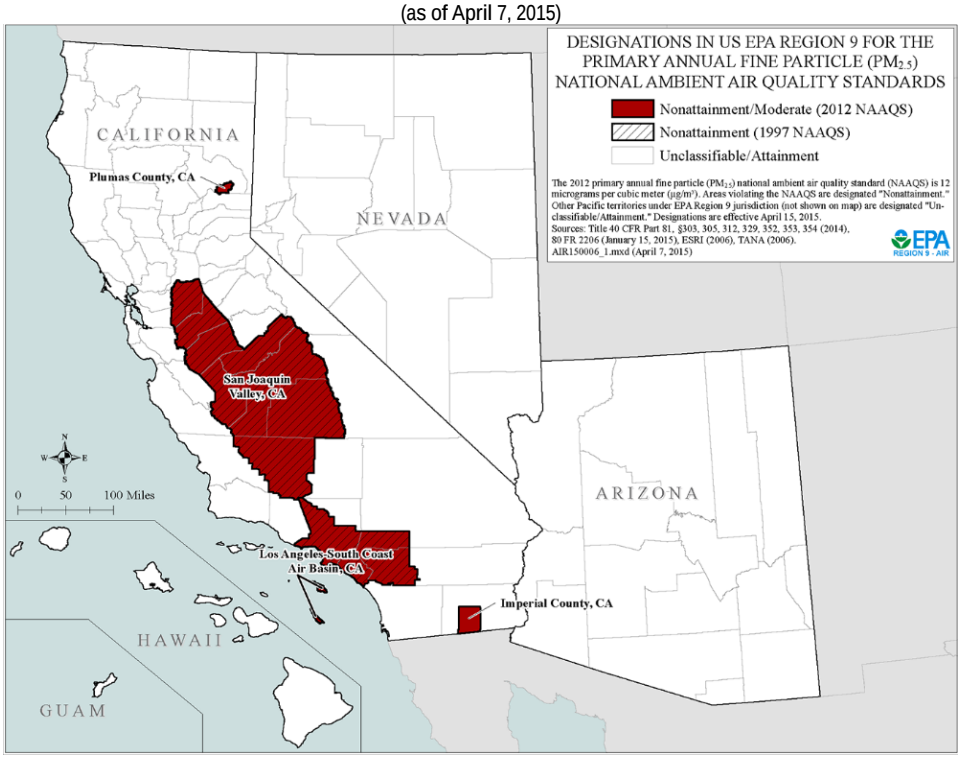


Figure 4: Designations in EPA Region 9 for the 2012 and 1997 Annual PM2.5 NAAQS
(as of April 7, 2015)



Source for Figures 1-4: EPA Region 9: https://www3.epa.gov/region9/air/maps/

NRCS Field Office Contact Information

For more information about EQIP, how to apply and program eligibility, interested applicants should contact a NRCS field office in the county which you own land or where you have an agricultural operation.

NRCS Office	Phone Number	NRCS Office	Phone Number
Alturas Service Center	(530) 233-4137	Modesto Service Center	(209) 491-9320
Auburn Service Center	(530) 885-6505	Napa Field Office	(707) 252-4189
Bakersfield Service Center	(530) 336-0967	Oroville Service Center	(530) 534-0112
Bishop Field Office	(760) 872-6111	Oxnard Field Office	(805) 984-2358
Blythe Field Office	(760) 922-3446	Petaluma Service Center	(707) 794-1242
Capitola LPO	(831) 475-1967	Placerville Field Office	(530) 295-5630
Colusa Service Center	(530) 458-2931	Quincy LPO	(530) 283-7511
Concord Service Center	(925) 672-4577	Red Bluff Service Center	(530) 527-3013
Del Norte LPO	(707) 487-7630	Redding Service Center	(530) 226-2560
El Centro Service Center	(760) 352-7886	Redlands Field Office	(909) 799-7407
Elk Grove Service Center	(916) 714-1104	Salinas Service Center	(831) 424-1036
Escondido Field Office	(760) 745-2061	San Jacinto LPO	(951) 654-7139
Eureka Service Center	(707) 442-6058	Santa Maria Service Center	(805) 928-9269
Fresno Service Center	(559) 276-7494	Sonora LPO	(209) 984-0500
Grass Valley Field Office	(530) 272-3417	So. Lake Tahoe Field Office	(530) 543-1501
Half Moon Bay LPO	(650) 726-4660	Stockton Service Center	(209) 472-7127
Hanford Service Center	(559) 584-9209	Susanville Service Center	(530) 257-7272
Hollister Service Center	(831) 637-4360	Templeton Service Center	(805) 434-0396
Hoopa LPO	(707) 486-7439	Tulelake Basin Project Office	(530) 667-4247
Indio Service Center	(760) 347-3675	Ukiah Service Center	(707) 468-9223
Jackson LPO	(209) 223-6535	Victorville Service Center	(760) 843-6882
Lakeport LPO	(707) 263-4180	Vacaville Service Center	(707) 448-0106
Lancaster Service Center	(661) 945-2604	Visalia Service Center	(559) 734-8732
Livermore LPO	(925) 371-0154	Weaverville Service Center	(530) 623-3991
Madera Service Center	(559) 674-4628	Willows Service Center	(530) 934-4601
Mariposa LPO	(209) 966-3431	Woodland Service Center	(530) 662-2037
McArthur LPO	(530) 336-5604	Yreka Service Center	(530) 842-6123
Merced Service Center	(209) 722-4119	Yuba City Service Center	(530) 674-1461

BASELINE IN-USE EQUIPMENT AND ENGINE WORKSHEET

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

The applicant is to complete a separate worksheet for each in-use equipment/engine
See Instructions on the back before answering questions below

Applicant Name:

1. Report the total acres this equipment/engine serves:	2. Years operated on these acres:

3. Fuel Type	4. Emissions Tier Level:	5. Describe the in-use equipment (check one):	
☐ Diesel ☐ B20 diesel ☐ B100 biodiesel ☐ Other:	☐ Non-Tier ☐ Tier 1 ☐ Tier 2	☐ Wheeled Tractor ☐ Rubber-Tired Loader ☐ Tracked Tractor ☐ Rough-Terrain Forklift ☐ Bulldozer	☐ Stationary Diesel-Powered Irrigation ☐ Portable Diesel-Powered Irrigation ☐ Other:

6. Name of Equipment/Engine Owner:	7. Year Purchased:

8. Equipment Manufacturer	14. Engine Manufacturer
9. Equipment Model:	15. Engine Model:
10. Equipment Model Year:	16. Engine Model Year:
11. Equipment VIN:	17. Engine Serial No:
12. Annual Hours of Operation:	18. Engine Horsepower (bhp):
13. Annual Fuel Usage (gal/year):	19. PTO Horsepower: *(if applicable)*

20. EPA Engine Family Name:
(For Tier 1 or 2, attach the ARB Executive Order)

21. Months in Operation:

☐ January	☐ February	☐ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☐ December

☐ Operates throughout the year

22. The planned location on where the equipment/engine will be scrapped and properly disposed:

23. *The applicant is to provide two documents verifying engine and equipment ownership and one document verifying the equipment/engine operations over the previous 12-consecutive month period prior to the submittal of this worksheet and EQIP application.*

24. Additional Information:

Instructions

BASELINE IN-USE EQUIPMENT AND ENGINE WORKSHEET

1. Report the total acres this equipment/engine serves: The total acres this off-road mobile agricultural equipment operates on or the total acres being irrigated from the well powered by this diesel engine.
2. Years Operated on these acres: Approximate length of time the engine & equipment has been operating at this location.
3. Fuel Type: All fuels must be suitable for use in a compression-ignition engine and meet California Air Resources Board (CARB) standards. "Diesel" is represented as petroleum-based "CARB diesel" and may be blended with up to 5% biodiesel (B5). "B20 diesel" is petroleum-based CARB diesel blend of up to 20% biodiesel. "B100" is non petroleum-based biodiesel. More information on California diesel fuels may be found at: http://www.arb.ca.gov/fuels/diesel/diesel.htm.
4. Emissions Tier Level: Select "Non-Tier" for non-emissions certified or uncontrolled emissions diesel engines. Select "Tier 1" or "Tier 2" for emissions-certified diesel engines. Please consult your engine vendor.
5. Describe the in-use equipment: Check the box that best describes the in-use equipment. If "other", please describe (e.g. forage harvester, combine, sprayer, shaker, etc.).
6. Name of Equipment/Engine Owner: Identify ownership (see No. 23).
7. Year Purchased: The year the equipment was purchased by the owner (see No. 6 and No. 23)
8. Equipment Manufacturer: The equipment make. For example, Case IH, John Deere, Massey Fergusson, Ford, etc.
9. Equipment Model: The manufacturer's equipment model designation. For example, 1600, 3300, 294S, etc.
10. Equipment Model Year: The year in which the equipment was manufactured.
11. Equipment VIN: The equipment Vehicle or Product Identification Number (not the engine serial number).
12. Annual Hours of Operation: Report the engine's actual annual hours of operation on the acres reported, which will be used for estimating baseline operations. *Exaggerating hours may affect the project screening and ranking, or deem the project ineligible.*
13. Annual Fuel Usage (gal/year): The amount of fuel use yearly in gallons. Annual fuel consumption may be used for estimating the baseline annual hours of operation.
14. Engine Manufacturer: The make of the diesel engine (e.g. Cummins, John Deere, Perkins, Caterpillar, Fiat, Ford, etc.)
15. Engine Model: The model number of the in-use engine. For example, 6BTA5.9C.
16. Engine Model Year: The year the engine was manufactured (this can be different than the equipment model year).
17. Engine Serial No.: The engine serial number listed on the engine block or engine identification label.
18. Engine Horsepower (bhp): The manufacturer's rated advertised brake (or gross) horsepower. Do not report "net", "peak" or "PTO" horsepower. If not available, estimate engine horsepower by multiplying the PTO horsepower by 1.20.
19. PTO Horsepower: The advertised PTO horsepower if the equipment is equipped with a power take-off unit (e.g. a tractor).
20. EPA Engine Family Name: *Only for Tier 1 or 2 -certified diesel engines*. Identify the engine family name assigned by the EPA. If available, attach the applicable CARB Executive Order for this engine, which should be available through your engine vendor or on-line at: www.arb.ca.gov/msprog/offroad/cert/cert.php.
21. Months in Operation: Select whether the in-use engine operates throughout the year or on specific months.
22. The planned location on where equipment/engine will be scrapped and properly disposed: Identify where the equipment/engine is planned for final destruction and disposal. Knocking a hole in the block only disables the engine and does not render the engine and equipment as being destroyed. Destruction and final disposal is at a mutually approved metal scrap yard location in California.
23. Ownership and Operations Verification: Provide two documents verifying ownership and one document verifying operation status for the existing equipment/engine. Ownership documents may include bill of sale, insurance records, bank appraisals, maintenance or service records, general ledgers, fuel records, or other documents. Operations documents may include maintenance or service records, usage records, routine inspections, hour meter reading logs, historical fuel usage logs, or other documents. Please refer to CPS 372-Specifications for more information.
24. Additional Information: Include any information pertinent to this equipment/engine, including and not limited to: evaluating other alternatives, whether incentive funds from other public or private programs are being sought in addition to this application, and/or attach applicable permits or documentation from a local air district.

PROPOSED NEW EQUIPMENT AND ENGINE/MOTOR WORKSHEET

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

The applicant is to complete a separate worksheet for each new equipment/engine/motor
See Instructions on the back before answering questions below

Applicant Name:

1. Report the total acres this equipment/engine/motor will serve:

2. Identify the county or counties this equipment/engine/motor will operate and the percent use for each county listed:

3. Fuel Type
- ☐ Diesel
- ☐ B20 diesel
- ☐ B100 biodiesel
- ☐ Electric
- ☐ Other:

4. Emissions Tier-Level:
- ☐ Tier 3
- ☐ Tier 4 Interim
- ☐ Tier 4 Final
- ☐ Electric:

5. Describe the new equipment (check one):
- ☐ Wheeled Tractor
- ☐ Rubber-Tired Loader
- ☐ Tracked Tractor
- ☐ Rough-Terrain Forklift
- ☐ Bulldozer
- ☐ Stationary Diesel-Powered Irrigation
- ☐ Portable Diesel-Powered Irrigation
- ☐ Electric-Powered Irrigation
- ☐ Other:

6. Equipment Manufacturer:	12. Engine/Motor Manufacturer:
7. Equipment Model:	13. Engine/Motor Model:
8. Equipment Model Year:	14. Engine/Motor Serial No.:
9. Equipment VIN:	15. Engine/Motor Model Year:
10. Annual Hours of Operation:	16. Engine (bhp) or Motor Horsepower:
11. Annual Fuel Usage (gal/year):	17. PTO Horsepower: *(if applicable)*

18. EPA Engine Family Name:
(Attach the applicable ARB Executive Order)

19. Months in Operation:

☐ Operates throughout the year

- ☐ January
- ☐ February
- ☐ March
- ☐ April
- ☐ May
- ☐ June
- ☐ July
- ☐ August
- ☐ September
- ☐ October
- ☐ November
- ☐ December

20. Cost Estimate of the New Equipment/Engine/Motor:

21. Describe the fuel source (i.e. location of fuel storage and dispensing system):

Instructions

PROPOSED NEW EQUIPMENT AND ENGINE/MOTOR WORKSHEET

1. Report the total acres this equipment/engine/motor will serve: The total acres the proposed off-road mobile agricultural equipment will operate on or the total acres to be irrigated by the well powered by the proposed diesel engine or electric motor.
2. Identify the county or counties where this equipment/engine/motor will operate and the percent use for each county: Report 100% if the engine and equipment will operate only in a single county. For multiple counties, estimate percent annual usage for each county by dividing the hours of use in each county by the total annual hours and multiplying by 100.
3. Fuel Type: All fuels must be suitable for use in a compression-ignition engine and meet California Air Resources Board (CARB) standards. "Diesel" is represented as petroleum-based "CARB diesel" and may be blended with up to 5% biodiesel (B5). "B20 diesel" is petroleum-based CARB diesel blend of up to 20% biodiesel. "B100" is non petroleum-based biodiesel. More information on California diesel fuels may be found at: http://www.arb.ca.gov/fuels/diesel/diesel.htm. Select "Electric" for a new irrigation motor.
4. Emissions Tier Level: Select the appropriate Tier-level emissions certification of the new diesel engine. Select "Electric" for a new irrigation motor.
5. Describe the new equipment: Check the box that best describes the new equipment. If "other", please describe (e.g. forage harvesters, combines, sprayers, shakers, etc.). *A new engine powers equipment that will serve the same function and perform the same work to the equipment that's being replaced*. Replacements are intended to reduce emissions of air pollution and not for any production related purpose.
6. Equipment Manufacturer: The equipment make. For example, Case IH, John Deere, Massey Fergusson, Ford, etc.
7. Equipment Model: The manufacturer's equipment designation. For example, 1600, 3300, 294S, etc.
8. Equipment Model Year: The year in which the equipment was manufactured.
9. Equipment VIN: The equipment Vehicle or Product Identification Number (not the engine serial number).
10. Annual Hours of Operation: Report the engine's actual total annual hours of operation on the total acres reported. Exaggerating hours may affect the project screening or ranking, or deem the project ineligible.
11. Annual Fuel Usage (gal/year): The amount of fuel use yearly in gallons. Annual fuel consumption may be used for estimating the baseline annual hours of operation.
12. Engine/Motor Manufacturer: The make of the diesel engine or electric motor. Diesel engine examples include: Cummins, John Deere, Fiat, Caterpillar, etc.
13. Engine/Motor Model: The model number of the in-use engine. For example, 6BTA5.9C.
14. Engine/Motor Serial No.: The engine serial number listed on the engine block or engine ID label.
15. Engine/Motor Model Year: The year the engine was manufactured.
16. Engine (bhp) or Motor Horsepower: For diesel engines, the manufacturer's rated advertised brake (or gross) horsepower. Do not report "net", "peak", "drawbar" or "PTO" horsepower, and do not estimate new engine horsepower by multiplying PTO horsepower by 1.20. For electric motors, report the rated motor horsepower.
17. PTO Horsepower: The advertised PTO horsepower if the equipment is equipped with a power take-off unit (e.g. a tractor).
18. EPA Engine Family Name: Identify the engine family name assigned by the EPA and attach the applicable CARB Executive Order for this diesel engine, which should be available through your engine vendor or on-line at: www.arb.ca.gov/msprog/offroad/cert/cert.php.
19. Months in Operation: Select whether the equipment/engine/motor will operate throughout the year or by the month.
20. Cost Estimate of the New Equipment/Engine/Motor: Please attach an estimate that clearly itemizes the costs.
21. Describe the fuel source: Describe how the fuel or electricity will be supplied to the new engine. If the diesel engine will be fueled by biofuel or biofuel blends, please identify the vendor supplying the fuel

ENGINE/EQUIPMENT DESTRUCTION CERTIFICATION WORKSHEET
California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

This worksheet serves to document that the engine/equipment identified below has been disabled by placing a hole in the block, permanently destroyed by shearing, crushing, or shredding into scrap metal, and properly disposed of as scrap metal at a California facility. No engine, drive-train components, hydraulics, and other essential engine or equipment components were or will be parted-out, used or sold as parts, or used to build or rebuild other engines or equipment. The completed certification worksheet shall be signed and submitted to the NRCS Field Office after destruction and final disposal.

Participant Name:	
EQIP Contract Number:	
Equipment Manufacturer and Model:	Engine Manufacturer and Model:
Equipment Type:	Engine Model Year:
Equipment VIN:	Engine Serial No.
Equipment Model Year:	☐ Diesel Engine ☐ Spark-Ignition Engine
Date engine/equipment was disabled:	
Engine/Equipment Owner's Name (Print):	
Owner's Signature:	Date:

The engine/equipment identified above were delivered for destruction and disposal at:

Destruction Facility Name:		
Address:		
City:	State:	Zip Code:
Date engine/equipment was destroyed and scrapped:		

The engine/equipment has been destroyed and scrapped.

Destruction Facility Contact Name (Print):	Phone No:
Contact Signature:	Date:

Attach date stamped photographs of the engine/equipment pre- and post-demolition that includes clearly identifiable engine serial number and vehicle identification number.

This page is intentionally left blank.

Engine Emissions Calculations Worksheet

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

Producer Name: Date:

In-Use Engine Emissions Calculations

In-Use Engine: Manufacturer: _____

Model Year Engine: _____ Fuel Type: _____

Equipment Type: _____

Serial Number: _____

Baseline Emissions		NOx	ROG	PM10	
Rated Brake Horsepower:					bhp
Annual Hours of Operation:	x				Hours/Year
Emission Factors:	x				g/bhp-hr
Load Factor:	x				
Conversion to Tons:	÷	907,200	907,200	907,200	Grams/Ton
Annual Emissions (EE)	=				Tons/Year

New Engine Emissions Calculations (Report as zero emissions if electric)

New Engine: Manufacturer: _____

Model Year Engine: _____ Fuel Type: _____

Equipment Type: _____

Serial Number (if available): _____

New Engine Emissions		NOx	ROG	PM10	
Rated Brake Horsepower:					bhp
Annual Hours of Operation:	x				Hours/Year
Emission Factors:	x				g/bhp-hr
Load Factor:	x				
Conversion to Tons:	÷	907,200	907,200	907,200	Grams/Ton
Annual Emissions (NE)	=				Tons/Year

Calculation Results

	NOx	ROG	PM10	
Annual Emission Reductions: (EE) – (NE) =				Tons/Year
Percent Emission Reductions: [(EE – NE) / (EE)] x 100 =				%