

CARL QUICK TUTORIAL

July 2019

*California Air
Resources Board*

Table of Contents

Introduction.....	3
Basics of CARL.....	3
Getting Started with CARL	3
Login/Logout and Change Your Password:	4
Data Entry Flow.....	5
Add and Edit Applicant and Project Information	4
Create New Applicant.....	4
Create New Project	5
Figure 6b: Create New Project	6
.....	6
Edit Project.....	6
Drop Project.....	6
Equipment and Engine Forms.....	7
Enter Equipment and Engine Information	7
Source Categories:.....	9
Non-Calculation Form	9
Figure 7: Non-Calculation Form Option	10
Add or Edit / Drop Equipment to Existing Project.....	10
Active Project	11
Calculations and Results	11
Save District Grant Amount.....	13
Show Calculations.....	13
Administration Information	12
First Administration Page	12
Second Administration Page:	13
Interest and Match In-Kind Forms	16
Report Utility	17
Display or Download Data.....	18
Required Reports	18
Cumulative Report Detailed Information (not required):.....	20
Query Tool	20
Figure 20b: Query Tool Output for CAP.....	21
Project Report	21
Funding and Allocation.....	23
Import and Export Data.....	24
Conclusion.....	24

Introduction

The Clean Air Reporting Log (CARL) is the on-line tracking tool for the Carl Moyer Program and the Community Air Protection incentives program (CAP Incentives). CARL calculates emission reductions, cost-effectiveness, and the maximum grant amount. CARL stores the source factors (emission rates, funding caps, conversion factors, load factors etc.), source category forms, and the calculation algorithms used to calculate emission reductions and cost-effectiveness. CARL is also the reporting tool air districts use to meet their annual reporting requirements. The database provides multiple staff the ability to view, update and add project information real time.

The Carl Moyer Program is a grant program that funds the incremental cost of cleaner-than-required engines, equipment, and other sources of air pollution. The program funds cost-effective projects that get early and/or extra emission reductions. The program is funded through a portion of the smog abatement fee included in the annual registration of newer vehicles and through a small fee on the sale of new tires.

The CAP Incentives support the goals of the Community Air Protection Program that was signed into law in 2017 through Assembly Bill (AB) 617, which directed the California Air Resources Board (CARB) in conjunction with air districts to establish the Community Air Protection Program.

Both programs are statewide and administered by local air districts. The program is governed by Guidelines developed and adopted by CARB in consultation with the districts.

Please note that CARL does not determine project eligibility. It is the district's responsibility to determine eligibility under the terms of the Guidelines, though CARL is often used to support that effort.

Basics of CARL

Getting Started with CARL

You will need a User ID and Password to access CARL. To obtain a User ID and Password, or to reset your password, ask your Moyer Program lead to send a request to carlhelp@arb.ca.gov.

Important Web Links and On-Line Documents:

- CARL Training Web Site: <http://www.arb.ca.gov/app/cmp/training/index.php>
- CARL Production Web Site : <http://www.arb.ca.gov/app/cmp/index.php>

For training, including further work in this Tutorial, we suggest you log into the CARL Training website. All practice and test projects should be entered into the Training tool, while all real projects should be entered into the Production tool.

Note: Firefox is the preferred browser for using CARL.

Login/Logout and Change Your Password:

Click on the above links to go to either the Training or Production website, shown in Figure 1. Enter the User ID and Password you receive from CARL Help.

Figure 1: CARL log in page



A successful login will take you to the CARL Home Page, commonly referred to as the splash page, shown in Figure 2. The CARL splash page has useful links including a link to the Liaison and Source Category Experts contact information, Import and Export Guidance, and Reporting definitions. There are also quick links to the Carl Moyer Guidelines and the Moyer Administration forms.

Along the left margin of the CARL splash page is a gray bar with a series of links to different forms, reports, and features. Once you log in you may change your password by clicking on the Change your Password link, circled in red in Figure 2. We recommend you choose a strong password with a mix of letters and numbers. For security purposes, always remember to log out after you are finished using CARL (Figure 2).

Figure 2: CARL Splash Page

NAVIGATION

- User: arbstaff
- District: RAP Staff
- Active Project: none

USER HELP

- CARL Home
- Contact CarlHelp
- FAQs
- Quick Tutorial

APPLICANT

- Add Applicant
- Edit / Drop Applicant

PROJECT

- Select Active Project
- Create Project
- Edit / Drop Project
- Project History

EQUIPMENT

- Add Equipment
- Add Voucher
- Add TIMBER Project
- Add Lawn and Garden
- Edit / Drop Equipment

ADMINISTRATION

- Update Project Admin Info
- Report Interest & In-Kind Match

REPORTING

- Report Utility

IMPORT/EXPORT

- Import Data
- Export Data

ACCOUNT

- Fiscal Tracking Tool
- Change Password
- Logout

ARB ADMIN

- Change your District
- Quick Calculator Bare
- Quick Calculator in Page

Carl Moyer Program Clean Air Reporting Log (CARL)

The Carl Moyer Memorial Air Quality Standards Attainment Program ("Carl Moyer Program") enacted in Health and Safety Code (HSC) section 44275, et seq. is a grant program that funds the incremental cost of cleaner-than-required engines, equipment, and other sources of air pollution. The Carl Moyer Program complements California's regulatory program by providing incentives to obtain early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately impacted by air pollution.

The Carl Moyer Program Tracking System will calculate emission reductions, cost-effectiveness, and the maximum grant amount. Determining eligibility will still be the responsibility of district staff. In addition, districts will have the ability to update the status of current projects, view past projects and monitor project funding allocations.

If you have questions about the tracking system, please contact carlhelp@arb.ca.gov.

Release Notes:

- CARL Release Notes

Reporting Guidance:

- CARL Required Report Definitions and Triggers

Import Guidance:

- Import and Export User's Guide
- 2011 Guideline - Import Templates
- 2017 Guideline - Import Templates

Other Resources:

- Caterpillar Repower Solutions Report
- Fiscal Tracking Tool - (Quick Tutorial) (Webinar Recording)
- Supplemental Guidance: Mitigation Funds to Co-fund a Moyer Eligible Project

Reporting AB 617 Community Air Protection Incentive Funds - New!

- Webinar Link for May 9, 2019 CAP Reporting Webinar
- Agenda for May 9, 2019 CAP Reporting Webinar
- Presentation for May 9, 2019 CAP Reporting Webinar
- CAP Incentives Reporting Directions
- CAP Incentives Supplemental Reporting and Certification Form
- Jobs - Outreach Reporting Template
- Proposition 18 Reporting Template

Carl Moyer Program Links:

- Carl Moyer Program and Community Air Protection Funds Liaisons and Source Category Contacts
- Carl Moyer Program Guidelines
- Carl Moyer Administration Forms
- Carl Moyer Example Calculations

CARL Database Links:

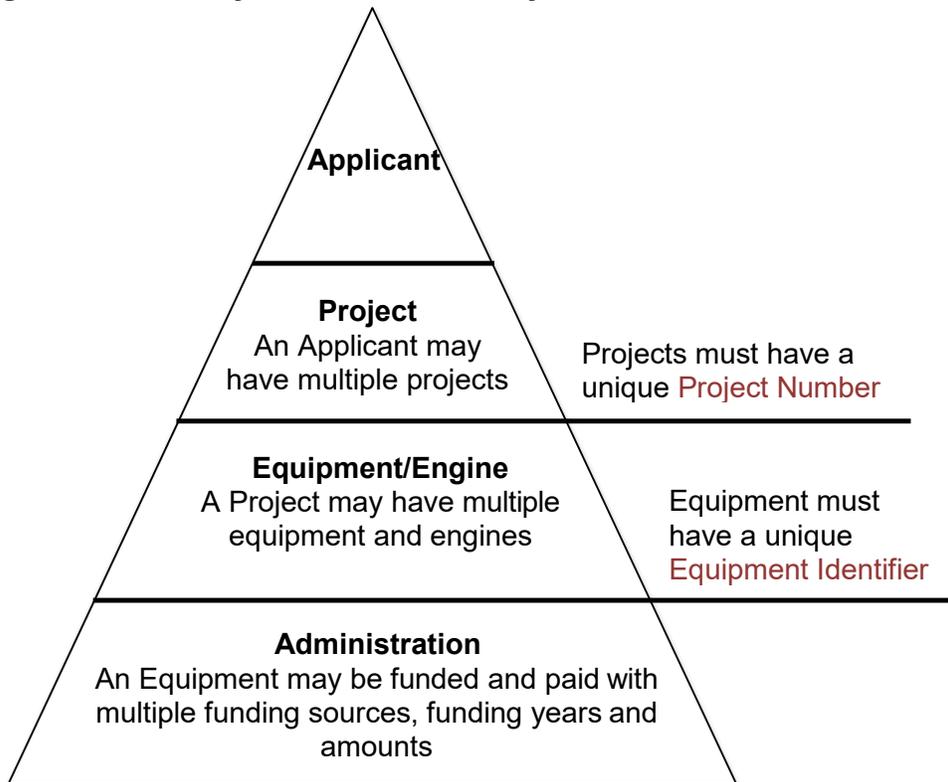
- CARL Training Database
- CARL Production Database

The gray bar provides quick links to key tools such as Frequently Asked Questions, and CARL home, which will bring you back to the splash page. Information about the user and any active project ready for further entry is also provided at the top of the gray bar.

Data Entry Flow

The general data entry flow for CARL is illustrated in the pyramid shown in Figure 3 below. Users typically enter applicant information first, followed by the project data, equipment/engine data, and finally administration data. The equipment/engine forms are custom designed for the different source categories and they calculate the maximum grant amount, emission reductions and cost-effectiveness. The non-calculation form is an exception as it does not do any calculations.

Figure 3: CARL Pyramid of Data Entry



The entry order (applicant, project, equipment, and administration) is the same for all projects you will enter, with a few exceptions. The projects with exceptions On-Road VIP, TIMBER, and Lawn and Garden, will be discussed further in the Equipment and Engine Forms section below.

Add and Edit Applicant and Project Information

Create New Applicant

You must first add applicant information by selecting the Add Applicant link on the gray bar. The Create a New Applicant form is illustrated in Figure 4.

Note: If the applicant already exists in the database, skip ahead to add project data.

Figure 4: Create New Applicant

Create a New Applicant

* Indicates a required field

*Applicant Name:

*Street Address:

*City:

*State:

*Zip Code:

*Country:

*Primary Contact Name:

Primary Contact E-mail (Optional Field):

*Primary Contact Phone Number:

Person with Contract Signing Authority (if different from the Primary Contact):

*Person Who Filled Out Application for Funding (e.g. applicant, contractor, or other entity name):

You can edit or drop applicant information for a previously entered applicant by selecting Edit/Drop Applicant under the Applicant Functions from the gray bar. You can filter and search for specific applicants by name or city, as shown in Figure 5: Query Applicant screenshot. The ability to drop an applicant is limited to applicants that do not have associated projects. If an applicant has a project assigned to it, the user will get a pop-up stating that the applicant cannot be dropped.

Figure 5: Query Applicants

Edit/Drop Applicant

Applicant Name :

Applicant City :

		Applicant Name	Street	City	State
Edit	Drop	Joe Heger Farms	P.O. Box 860	El Centro	CA
Edit	Drop	Joe Public	1765 Cortina School Road	Arbuckle	CA
Edit	Drop	Joe Public	1001 I Street	Sacramento	CA

1 - 3 of 3 applicant sets

Tip: To sort a list alphabetically, simply click on the name of the column you want to sort. For example, to sort by city, click on City at the top of the column.

Create New Project

To add project information go to the Create Project link on the gray bar. A unique project number is required. When you select the guideline year from the pull-down there will be a list of possible guideline versions available.

Note: The guideline version field will default to the most recent version.

If the project will be funded through the CAP Incentives, please select "Yes"

using the radio button in Figure 6a below. This will apply the specific funding limits for the CAP Incentives project categories. For all non-CAP Incentive projects please select “No”.

Lastly, click on Select Applicant to navigate to the appropriate applicant. You can filter by applicant name, applicant city or simply select Query as shown in Figure 6b below.

Note: For CAP Incentive projects, air districts should not edit the project number or the equipment identifier once the project is executed.

Figure 6a: Create New Project

The screenshot shows the 'Create New Project' form with the following details:

- Project Title :** Training - On-Road Replacemen
- Project Number :** ARBTest007
- Guideline Year :** 2017
- Guideline Version :** (blank will default to the latest guideline release) 04/27/2017 - 2017 GL - CE Limit \$30,000/\$100,000, Discount Rate 1%
- 2017 GL - CE Limit:** \$30,000/\$100,000, Discount Rate 1%
- Is this Project CAP Funded?** (highlighted in a red box)
 - Yes
 - No
- Applicant :** (empty field)
- Buttons:** Continue >>, Select Applicant

Figure 6b: Create New Project

The screenshot shows the 'Select an Applicant' form with the following details:

- Select an Applicant** (Section Header)
- Applicant Name :** (text input field)
- Applicant City :** (text input field)
- Query** (button, highlighted in a red box)

Edit Project

Although you can edit some project information using the Edit/Drop Project tool on the gray bar, you may not change the guideline year or guideline version of an existing project. Guideline versions may change emission factors, forms rudiments and calculation algorithms for equipment added to the project. If you need to update a project and equipment to a different guideline version without dropping and reentering the information, please contact carlhelp@arb.ca.gov for assistance.

Drop Project

When you drop a project, CARL will systematically drop all associated equipment, engines, and administration information reported for all equipment in the project. This is useful for on-road VIP and TIMBER projects where editing is limited by design. Users are not allowed to change calculation variables in the on-road VIP and TIMBER forms; however, users can drop and reenter the equipment using the drop project function.

Equipment and Engine Forms

Enter Equipment and Engine Information

When you press Continue on the Create New Project form, you will be routed to a dynamic page which lists projects available in the Moyer program, as shown in Figure 7a. If Off-Road Equipment is selected, the added column shown in Figure 7b appears

Figure 7a: List of Source Category Forms

Guideline Year: 2017

(1a) Select Equipment Category:

On-Road Heavy-Duty Vehicle

Off-Road Equipment

(1b) Select Equipment Technology:

Repower

Replacement

OR

(2) Select Other Type of Project:

Light-Duty Vehicle - Voluntary Accelerated Retirement

Locomotive

Marine Vessel

Non-Calculation Form

Continue >> Reset

Figure 7b: Off-Road Equipment

Guideline Year: 2017		
(1a) Select Equipment Category: <input type="radio"/> On-Road Heavy-Duty Vehicle <input type="radio"/> Off-Road Equipment	<input type="radio"/> Stationary and Portable Agricultural Engines <input checked="" type="radio"/> Off-Road Construction Equipment <input type="radio"/> Off-Road Mobile Agricultural Equipment <input type="radio"/> Off-Road Cargo Handling Equipment <input type="radio"/> Off-Road Airport Ground Support Equipment <input type="radio"/> Off-Road Other Equipment	(1b) Select Equipment Technology: <input type="radio"/> Repower <input type="radio"/> Retrofit <input type="radio"/> Replacement
OR		
(2) Select Other Type of Project: <input type="radio"/> Light-Duty Vehicle - Voluntary Accelerated Retirement <input type="radio"/> Locomotive <input type="radio"/> Marine Vessel <input type="radio"/> Non-Calculation Form		
<input type="button" value="Continue >>"/> <input type="button" value="Reset"/>		

Source Categories:

There are numerous source category forms available in CARL. Below is a list of the general source categories funded under the Moyer and CAP Incentive programs:

- On-Road: heavy duty diesel trucks.
- Off-Road: construction equipment; agricultural equipment including tractors and ag pumps; other off-road equipment.
- Marine: Replacement of engines on marine vessels.
Locomotives: Replacement of engines on locomotives.
- Light duty vehicles: Voluntary accelerated vehicle retirement (VAVR).
- Infrastructure: Electric and alternative fuel infrastructure (*Use the non-calculation form as the Infrastructure form is in progress*)

On-Road and Off-Road Vouchers, TIMBER and Lawn and Garden Forms:

Other source categories include On-Road and Off-Road Voucher programs, TIMBER and Lawn and Garden projects, which all have streamlined data entry forms. These forms include applicant, project, equipment and administration fields on a single form. Fields within the forms are set up to populate key triggers automatically. The forms are accessed from the gray bar, via the Add Voucher, Add TIMBER and Add Lawn and Garden links shown under EQUIPMENT.

Project Types:

Source categories can be further divided into one of four project types:

1. Replacement: Replacement of the equipment and engine (i.e., cab, chassis)
2. Repower: Replacement of an engine with a newer engine.
3. Retrofit: Installation of a retrofit device (a diesel exhaust filter) on an engine.
4. Vehicle Retirement: Scrap of an old vehicle or equipment such as a car or lawnmower.

Non-Calculation Form

For project types that do not fit in one of the established calculation forms, the non-calculation form may be chosen from the options shown in Figure 8. The non-calculation form is a catch-all form that allows data entry without checks. It is a very long form with many fields. The non-calculation form does not do any calculations or factor lookup. Since, it can be difficult for the user to know what fields need to be populated to meet reporting requirements for a source category (some fields are shared while others are exclusive to a category), please check with your liaison or CARL help staff when using the non-calculation form.

Figure 8: Non-Calculation Form Option

CA .GOV

Cal/EPA Home ARB Home Carl Moyer Program Info Local Air Districts

Carl Moyer Program Clean Air Reporting Log (CARL v4.0.190617)

CALIFORNIA AIR RESOURCES BOARD

NAVIGATION

- User: arbstaff
- District: RAP Staff
- Active Project: none

USER HELP

- CARL Home
- Contact CarlHelp
- FAQs
- Quick Tutorial

APPLICANT

- Add Applicant
- Edit / Drop Applicant

PROJECT

- Select Active Project
- Create Project
- Edit / Drop Project
- Project History

EQUIPMENT

- Add Equipment
- Add Voucher
- Add TIMBER Project
- Add Lawn and Garden
- Edit / Drop Equipment

ADMINISTRATION

- Update Project Admin Info
- Report Interest & In-Kind Match

REPORTING

- Report Utility

IMPORT/EXPORT

- Import Data
- Export Data

ACCOUNT

- Fiscal Tracking Tool
- Change Password
- LOGOUT

ARB ADMIN

- Change your District
- Quick Calculator Bare
- Quick Calculator in Page

Carl Moyer Program Clean Air Reporting Log (CARL)

The Carl Moyer Memorial Air Quality Standards Attainment Program ("Carl Moyer Program") enacted in Health and Safety Code (HSC) section 44275, et seq. is a grant program that funds the incremental cost of cleaner-than-required engines, equipment, and other sources of air pollution. The Carl Moyer Program complements California's regulatory program by providing incentives to obtain early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately impacted by air pollution.

The Carl Moyer Program Tracking System will calculate emission reductions, cost-effectiveness, and the maximum grant amount. Determining eligibility will still be the responsibility of district staff. In addition, districts will have the ability to update the status of current projects, view past projects and monitor project funding allocations.

If you have questions about the tracking system, please contact carlhelp@arb.ca.gov.

Release Notes:

- CARL Release Notes

Reporting AB 617 Community Air Protection Incentive Funds: - New!

- Webinar Link for May 9, 2019 CAP Reporting Webinar
- Agenda for May 9, 2019 CAP Reporting Webinar
- Presentation for May 9, 2019 CAP Reporting Webinar
- CAP Incentives Reporting Directions
- CAP Incentives Supplemental Reporting and Certification Form
- Jobs - Outreach Reporting Template
- Proposition 18 Reporting Template

Reporting Guidance:

- CARL Required Report Definitions and Triggers

Import Guidance:

- Import and Export User's Guide
- 2017 Guideline - Import Templates

Carl Moyer Program Links:

- Carl Moyer Program and Community Air Protection Funds Liaisons and Source Category Contacts
- Carl Moyer Program Guidelines
- Carl Moyer Administration Forms
- Carl Moyer Example Calculations

Other Resources:

- Caterpillar Repower Solutions Report
- Fiscal Tracking Tool - (Quick Tutorial) (Webinar Recording)
- Supplemental Guidance: Mitigation Funds to Co-fund a Moyer Eligible Project

CARL Database Links:

- CARL Training Database
- CARL Production Database

Add or Edit / Drop Equipment to Existing Project

To add additional equipment to an existing project, select Add Equipment under EQUIPMENT in the left-hand gray sidebar shown in Figure 9. You will need to browse to the project to which you want to add equipment. You may also edit or drop an existing equipment by using the Edit / Drop Equipment tool.

Figure 9: Add Equipment Link

EQUIPMENT

- Add Equipment
- Add Voucher
- Add TIMBER Project
- Add Lawn and Garden
- Edit / Drop Equipment

Active Project

You may make a project active with the Select Active Project link, under Project on the gray bar. This active project will now be indicated at the top of the gray bar, allowing you to go directly to the equipment and administration information within the project without having to browse to the project every time. You must Reset Active Project when you are ready to move on.

Calculations and Results

CARL will calculate emission reductions, cost-effectiveness, and the maximum grant amount. CARL does not determine eligibility, though it is a tool that can be used to help determine eligibility.

CARL includes a tiered cost-effectiveness approach that allows the Program to more effectively incentivize deployment of cleaner technologies under the 2017 Moyer Guidelines. In addition to a “One-Step” approach applicable to most conventional Moyer projects, a “Two-Step” approach has been implemented to support additional funding for projects providing the cleanest emerging technologies beyond regulatory requirements.

If you choose the Calculation Only button at the bottom of a form, CARL will show you the results without saving the data. In contrast, the Calculate & Save option saves the results and allows the user to update the maximum grant amount with the District Grant Amount, as shown in Figure 10a for One-Step and Figure 10b for Two-Step Calculate and Save Results.

Figure 10a: One- Step Calculate and Save Results

Project number: CARL 123
 Equipment identifier: CARBtest001
 Based On 100 % Operation in California/Air District

	NOx	ROG	PM
Emission Factors (g/ bhp-hr)			
Baseline (Load Factor: 0.38):	4.15	0.11	0.088
Reduced (Load Factor: 0.38):	0.26	0.05	0.009
Deterioration Product (g/ bhp-hr)			
Baseline:	0.2850	0.1045	0.0219
Reduced:	0.0036	0.0110	0.0003
Emissions (tons/ yr)			
Baseline:	0.08	0	0.002
Reduced:	0	0	0
Emission Reductions (tons/ yr)			
Percent Reduction:	94%	72%	92%

Calculated results may not add up due to rounding.

Based on Maximum Grant Amount

Weighted Cost-Effectiveness (\$/ton):	30000.00
Maximum Grant Amount:	\$26594.11
Project Life (years):	8
Discount Rate (%):	1

THE MAXIMUM GRANT AMOUNT FROM THE PREVIOUS EDIT WAS \$26594.11

District Grant Amount currently saved: \$

District Grant Amount: \$ 26594.11

Save District Grant Amount

Show Calculations

Two - Step Calculation

Figure 10b: Two-Step Calculate and Save Results

Step: 1				Step: 2			
Based On 100 % Operation in California/Air District				Based On 100 % Operation in California/Air District			
	NOx	ROG	PM		NOx	ROG	PM
Emission Factors (g/mile)				Emission Factors (g/mile)			
Baseline:	11.66	0.49	0.267	Baseline:	1.76	0.13	0.004
Reduced:	1.76	0.13	0.004	Reduced:	0.18	0.13	0.004
Deterioration Product (g/mile)				Deterioration Product (g/mile)			
Baseline:	0.2058	0.0756	0.0172	Baseline:	0.0410	0.0011	0.0001
Reduced:	0.0234	0.0006	0.0001	Reduced:	0.0042	0.0011	0.0001
Emissions (tons/yr)				Emissions (tons/yr)			
Baseline:	0.04	0	0.001	Baseline:	0.01	0	0
Reduced:	0.01	0	0	Reduced:	0	0	0
Emission Reductions (tons/yr)				Emission Reductions (tons/yr)			
	0.03	0	0.001		0.01	0	0
Percent Reduction:				Percent Reduction:			
	85%	77%	99%		90%	0%	0%
Calculated results may not add up due to rounding.				Calculated results may not add up due to rounding.			
Based on Maximum Grant Amount				Based on Maximum Grant Amount			
Weighted Cost-Effectiveness (\$/ton): 30000.00				Weighted Cost-Effectiveness (\$/ton): 100000.00			
Maximum Grant Amount: \$6246.67				Maximum Grant Amount: \$3588.30			
Project Life (years): 4				Project Life (years): 7			
Discount Rate (%): 1				Discount Rate (%): 1			
Combined Maximum Grant Amount:						\$9834.97	
Overall Cost Effectiveness:						\$40925.82	

Save District Grant Amount

Save District Grant Amount is an import step in the data entry process. CARL will recalculate the cost-effectiveness of the project based on the grant amount, and will limit the amount of funding and payments that can be assigned to the project moving forward. The District Grant Amount cannot be more than the CARL calculated Maximum Grant Amount. You must save the District Grant Amount to be able to move onto the next section and fund the equipment.

Show Calculations

The Show Calculations feature, seen in Figure 11, shows the user the calculations CARL performed to generate the emission reductions, cost-effectiveness, and maximum grant amount. Information shown includes emission rates, load factors, conversion factors, cost percentages used for incremental cost, and the cost-effectiveness and capital recovery factor calculations that were used for the project.

Figure 11: CARL Calculations

Total emission reduction
 = (baseline NOX - reduced NOX) +
 (baseline ROG - reduced ROG, if both ROG factors were found) +
 20 * (baseline PM - reduced PM)
 = (0.0812741 - 0.00483063) + (0.00393084 - 0.00111786) + 20 * (0.00201399 - 0.000170428)
 = 0.11612760416667 tons

Equipment set total reduction = 0.11612760416667 tons

Incremental cost
 = (Equipment Cost Percentage/100%) * (reduced equipment cost)
 = (80%/100%) * (\$250000.00)
 = \$200000.00

The incremental cost was adjusted by 80% according to the equipment category.

Capital recovery factor
 = $(1 + \text{Discount Rate})^{\text{Project Life}} * \text{Discount Rate} / ((1 + \text{Discount Rate})^{\text{Project Life}} - 1)$
 = $(1.01^8 * 0.01 / (1.01^8 - 1))$
 = 0.13069029204332
 = 0.131 after rounding to three decimal places.

Cost effectiveness
 = capital recovery factor * incremental cost / total reduction
 = $0.131 * \$200000.00 / 0.11612760416667 \text{ tons}$
 = \$225613.88558742 /ton
 = \$30000.00 /ton (rounded to two decimal places)

Administration Information

For most project types the next step is entry of administration information. Administration information has to be entered for an equipment to appear in reports and count toward expenditure progress. As mentioned above, administrative information for voucher, TIMBER, and lawn-and-garden projects is entered directly into those forms rather than through the administration pages described below.

First Administration Page

As shown in Figure 12, the first question relates to whether the project will reduce pollution in communities with the most significant exposure to air pollution, as required for 50 percent of Moyer funds in large districts by AB 1390 (Statutes of 2001). Districts may select “yes” if environmental justice criteria are applied to their local Moyer projects, or “no” if that determination has not been made. A choice of “yes” or “no” is required, as the statute has a bearing on most projects statewide.

Funding of projects and equipment requires an executed contract date. The user must enter a Fully-executed Contract Date or Commitment Date on the first administration page, also shown in Figure 12. Note the pull-down at the bottom left that allows you to select specific equipment within a project if there is more than one.

Figure 12: First Administration Page

Project Administration

**Projects for Environmental Justice:*
Will this project reduce pollution in communities with the most significant exposure to air pollution (H&SC § 43023.5)? Yes No

Is this project in a federal non-attainment area? Yes No

Date Application Received:
(MM/DD/YYYY)

Commitment Date:
(Funds approved by the district Board or by a district APCO or other delegated authority)
(MM/DD/YYYY)

**Fully-executed Contract Date:*
(Projects must have an executed contract date to meet progress tracking milestones)
(MM/DD/YYYY)

Contract term expires:(End of project life)
(MM/DD/YYYY)

Project Grant Amount: **\$783755.86**

Project Funding Amount: **\$0.00**

Comments: (Up to 4000 characters)

To enter Funding and Payment Information, select Equipment Identifier and click "Submit":
 (Equipment Identifier)

Second Administration Page:

Users record funding and payment information on the second administration page. You must designate a funding source, funding amount and funding year for the project to appear in any of the reports available in the report utility. This is also where you report the **post-inspection** date and toggle on the **paid-in-full** field necessary to expend and liquidate the project. The three sections available on the second administration page, shown in Figure 13, represent funding, payment and withholding information:

- Funding Information represents funds reserved for an equipment. The user must report the amount of funds, the funding source(s) and funding year(s) assigned to an equipment for reporting purposes. An equipment

with multiple funding sources or years is called “split funded.” The funding amount entered here cannot exceed the Grant Amount entered on the first admin page and shown on the second.

- Payment Information is the amount paid on the equipment. Again, the user must designate the amount, source, and year of funds, but in this case the payment must have a date. As with funding, the user may enter multiple payments. The paid amount for each funding source and year cannot exceed the funding amount entered above it.
- Withholding Information is a place holder for districts to report funds withheld from a project. Sometimes districts withhold funds until the end of the contract term. This is the place to report those funds and include a comment. Withheld funds are included in the liquidated amount.
- Supplemental Form Questions for CAP is the button seen in Figure 14 at the end of the Second Administration page that is used to populate additional information about CAP Incentives projects. The supplemental form can be seen in Figure 15.

Figure 13: Second Administration Page

CA/EPA Home ARB Home Carl Moyer Program Info Local Air Districts

CA.GOV

Carl Moyer Program Clean Air Reporting Log (CARL v4.0.190429)

CALIFORNIA AIR RESOURCES BOARD

NAVIGATION

- User: sasnaashari
- District: ARB Staff
- Active Project: none

USER HELP

- CARL Home
- Contact CarlHelp
- FAQs
- Quick Tutorial

APPLICANT

- Add Applicant
- Edit / Drop Applicant

PROJECT

- Select Active Project
- Create Project
- Edit / Drop Project
- Project History

EQUIPMENT

- Add Equipment
- Add Voucher
- Add TIMBER Project
- Add Lawn and Garden
- Add Offroad Voucher (Beta)
- Edit / Drop Equipment

ADMINISTRATION

- Update Project Admin Info
- Report Interest & In-Kind Match

REPORTING

- Report Utility

Funding, Payments, and Withholds

Equipment Grant Amount: 40000.00

Equipment Identifier: Mack Example 5 on_Road

Post-Inspection Conducted: (MM/DD/YYYY)

Funding Information

Add Funding Remove

1. District: ARB Staff Funding Year: [v]

Funding Source: [v] Funding Amount: \$ []

Total Amount Funded: \$ []

Payment Info

Add Payment

Total Amount Paid: \$ []

Withholding Info

Add Withholding

Total Amount Withheld: \$ []

Comments: (Up to 4000 characters)

Figure 14: Second Administration Page – Supplemental Form Questions for CAP

EQUIPMENT

- [Add Equipment](#)
- [Add Voucher](#)
- [Add TIMBER Project](#)
- [Add Lawn and Garden](#)
- [Edit / Drop Equipment](#)

ADMINISTRATION

- [Update Project Admin Info](#)
- [Report Interest & In-Kind Match](#)

REPORTING

- [Report Utility](#)

Withholding Information

Add Withholding
Remove

Total Amount Withheld: \$

***Is this project Co-Funded?** Yes No

Comments: (Up to 4000 characters)

Enter CAP Supplemental Form Questions and Notes>>
Reset

Figure 15: CARL CAP Funding Administration Form

CARL CAP Funding Administration Form

Location Information

Latitude/Longitude: (e.g., 34.413775, -119.848624)

• Report a latitude/longitude for each project funded with CAP Funds. Google maps provides latitude/longitude when an address is entered. Provide a latitude and longitude for the project in decimal degrees separated by a comma "," (e.g., 34.413775, -119.848624). In order of preference, this is the place of operation if operated at one location for a majority of the time, the place of domicile, or the place of registration. Transit vehicles should provide latitude/longitude for the stop or station in a disadvantaged or low-income community served, consistent with the instructions provided in the benefit criteria table.

Priority Population Project

Based on the location above, please indicate whether this project is located in and will benefit a priority population. Project location may be determined by where the vehicle or equipment is registered, domiciled, or operated a majority of the time. For projects that offer incentives for transit vehicles, at least one stop or station served by the vehicle must be within a disadvantaged or low-income community census tract. For projects located at freight facilities or hubs, the freight facility or hub must be at least partially within a disadvantaged or low-income community census tract. Benefit Criteria Table is defaulted to "Clean Transportation and Equipment" for the first year's projects.

Step 1 - Identify the Priority Population

A. Is the project located within the boundaries of a disadvantaged community census tract? Yes No

B. Is the project located within the boundaries of a Low-income Community census tract or Low-income Household? Yes No

C. Is the project located outside of a disadvantaged community, but within 1/2 mile of the disadvantaged community and within a low-income community census tract (Buffer)? Yes No

Step 2 - Address a Need: Identify an important community or household need and evaluate whether the project provides a benefit that meaningfully addresses that need.

A. Recommended Approach: Host community meetings, workshops, outreach efforts, or public meetings as part of the planning process to engage local residents and community groups for input on community or household needs, and document how the received input was considered in the design and/or selection of projects to address those needs.

Interest and Match In-Kind Forms

To report interest and match in-kind, select the Report Interest and In-Kind Match function located under Administration in the gray bar. Users are walked through the steps to report Interest and Match In-Kind as discussed in the Guidelines.

Figure 16 shows the form to report Interest and Figure 17 shows the form to report Match in-Kind.

Figure 16: Report Interest

Interest, Salvage and Match In-Kind Reporting Form

Select Data

District: **RAP Staff**

Fiscal Year: 2018-2019

Report Carl Moyer Interest
 Report CAP Interest
 Report Salvage Income
 In-Kind Contribution (up to 15% of total match requirement)

Select

Interest and Match In-Kind Reporting Form

An Entry has not (yet) been made for this period.

REPORT CARL MOYER INTEREST

District: **ARB Staff**

Fiscal Year(s) Interest Earned: **2017 to 2018**

Interest reported in the 2018 Yearly Report will be added to the District's Year 20 Target

Update Year 20 Data

* Project Funds:	* Administration Funds:	Total Carl Moyer Interest Earned:
\$ <input style="width: 80%;" type="text" value="20000"/>	\$ <input style="width: 80%;" type="text" value="0.00"/>	\$ 20000.00

Comments: (Up to 4000 characters)

Fields marked * are required. Submit

- For Fiscal Years 2015-16 and later, the administration amount may not exceed 6.25% of total Carl Moyer interest earned if the district has one million or more inhabitants, or 12.50% if the district has less than one million inhabitants.
- For Fiscal Years 2014-15 and earlier, the administration amount may not exceed 5% of total Carl Moyer interest earned if the district has one million or more inhabitants, or 10% if the district has less than one million inhabitants.

Figure 17: Report Match In-Kind

Interest and Match In-Kind Reporting Form

Select Data:

<u>District:</u> ARB Staff	<u>Update Allocation Table:</u> In-Kind Contribution	<u>Funding Year:</u> 17
-------------------------------	---	----------------------------

Update Data:

<u>Match Project Commitment:</u> \$0	<u>*In-Kind Contribution:</u> \$0.00	<u>Total Match Requirement:</u> \$ 0.00
---	---	--

Comments: (Up to 4000 characters)

* The in-kind contribution may not exceed 15% of a district's match requirement.

Report Utility

The Report Utility provides a series of report and query tools that allows the user to view and summarize data in CARL. You access the Report Utility from the left-hand gray bar. The tabs across the top include the Required Reports, Project Report, Query Tool, and Funding and Allocations, illustrated in Figure 18 below. For more information, please visit the CARL Required Report Definitions and Triggers on the CARL splash page.

Figure 18: Report Utility Front Page

CARL Report Utility
Home Refresh ARB Staff

Required Reports
Project Report
Query Tool
Funding and Allocations - GA
Funding and Allocations - FTT

Select a Report Type:

Cumulative Report

Liquidation

Cumulative Report Detailed Information (not required)

Select District(s):

Tehama County APCD

Tuolumne County APCD

Ventura County APCD

Yolo-Solano AQMD

ARB Staff

Funding Year Start:

MY 18 ▼

Funding Year End:

MY 21 ▼

Display or Download Data

You may display the report in CARL or download it to view in Microsoft Excel. To download the data use the Generate CSV button at the bottom of the form that can be seen in Figure 18.

Required Reports

The Required Reports are designed to meet yearly reporting and progress tracking requirements. Available here are the Cumulative Report and the Liquidation Report. These Required Reports use milestone dates, triggers, and funding and payment information to determine the status of projects to be included in report outputs. For a detailed description of the data summarized in the Required Reports, see the “Definitions and Triggers for CARL Cumulative and Liquidation Reports” document posted on the CARL splash page.

The Required Reports default the funding start and end years to what is required for the current reporting cycle. These default years are updated annually, though the user has some flexibility to adjust them. There are three tables in the Cumulative Report shown in Figure 19:

- Table 1: Summary Table provides the sum of executed, expended and liquidated funds by funding year and funding source, as well as the targets by fund source and year.
- Table 2: Progress Tracking shows calculated progress towards key fiscal program milestones.

- Table 3: Funding Year Progress Milestones shows fund execution and liquidation progress toward the program milestones identified in Table 3-5 of the 2017 Moyer Guidelines.
- Table 4: Project Information Table lists project level information. This table sums the funding and payment amounts and concatenates the funding years and sources to display the data by project, rather than by equipment. To see detailed equipment and administration information select the Cumulative Report Detailed Information (not required) toggle, shown in Figure 18 and described below.

Figure 19: Cumulative Report Tables

CARL Moyer Memorial Air Quality Standards Attainment Program DISTRICT YEARLY REPORT Cumulative Tracking Report Lassen County APCD Funding Year 18											
Table 1: Summary Table											
District	Funding Source	Year	TARGET	Executed Funds	Expended Funds	Liquidated Funds	Total Funds (Executed + Expended + Liquidated)	Difference (Total Funds - Target)			
Lassen County APCD	Moyer	17	\$180,000.00	\$0.00	\$0.00	\$180,000.00	\$180,000.00	\$0.00			
Lassen County APCD	RAP	17	\$27,059.30	\$0.00	\$0.00	\$0.00	\$0.00	(\$27,059.30)			
Lassen County APCD	Moyer Interest	17	\$295.23	\$0.00	\$0.00	\$295.23	\$295.23	\$0.00			
Lassen County APCD	Moyer	18	\$180,000.00	\$29,562.00	\$0.00	\$107,646.84	\$137,208.84	(\$42,791.16)			
Lassen County APCD	Moyer Interest	18	\$666.40	\$0.00	\$0.00	\$0.00	\$0.00	(\$666.40)			
Lassen County APCD	Moyer	19	\$175,000.00	\$0.00	\$0.00	\$0.00	\$0.00	(\$175,000.00)			
Lassen County APCD	Moyer Interest	19	\$2,234.54	\$0.00	\$0.00	\$0.00	\$0.00	(\$2,234.54)			
Total			\$565,255.47	\$29,562.00	\$0.00	\$287,942.07	\$317,504.07				
Table 2: Progress Tracking Table											
Progress To Date											
Year 18 Executed Funds Progress ¹			75.95%								
Year 18 Executed Funds Balance ²			(\$43,457.56)								
Year 18 Expended Funds Balance ³			(\$100,078.86)								
Year 17 Liquidated Funds Progress ⁴			138.86%								
Year 17 Liquidated Funds Balance ⁵			(\$27,059.30)								
¹ Year 18 end later funds executed, expended or liquidated divided by the total Year 18 target, expressed as a percentage. ² Sum of Year 18 funds executed, expended or liquidated minus the sum of Year 18 targets. ³ Sum of Year 17 and later expended and liquidated funds minus the sum of Years 17 and 18 targets. If Year 18 grant agreements have not been amended to remove the expenditure deadline, funds shown as a negative number in parentheses are subject to return if not already under contract. ⁴ Year 17 and later funds liquidated divided by the total Year 17 target, expressed as a percentage. ⁵ Sum of Year 17 funds liquidated minus the sum of Year 17 targets.											
Table 3: Funding Year Progress Milestones											
Fiscal Year	Moyer Funding Year	Funds Milestone (%)			District Progress (%)						
2016-17	Year19	50% of project funds under executed contract			0.00%						
2015-16	Year18	100% of project funds under executed contract			100.00%						
		50% of project funds liquidated			78.48%						
2014-15	Year17	75% of project funds liquidated			100.00%						
Table 4: Project Information (Funding Years 17 - 20)											
District	Project Title	Project Number	Equipment Category	Funded Engines	Emission Reductions Units(tons/yr)			Funding Year	Funding Source	Project Amount	Status
					NOx	RDG	PM				
Lassen County APCD	Sacred Heart Ranch Pump	18-17-CMP-05	Stationary and Portable Agricultural Engines	1	0.11	0.04	0.01	18	Moyer	\$29,562.00	Executed
Lassen County APCD	Richard Lewis Tractor	18-16-CMP-08	Off-Road Equipment - Mobile Agricultural	1	0.77	0.09	0.032	17	Moyer	\$7,942.07	Liquidated
Lassen County APCD	David Chelidez Tractor Replace	18-17-CMP-03	Off-Road Equipment - Mobile Agricultural	1	0.15	0.03	0.014	17	Moyer	\$35,000.00	Liquidated

Cumulative Report Detailed Information (not required):

The Cumulative Report Detailed Information output provides a breakdown of project information by equipment and administration details. This report shows payments and funding entries by equipment.

Query Tool

The Query Tool allows you to see all the funded equipment in the database. Some equipment are omitted from the required reports such as equipment funded with non-match or with pre-Year 13 interest; these equipment are visible in the Query tool. The Query tool also shows the contract execution date, post-inspection date, paid-in-full status and the project status of executed, expended and liquidated equipment. The query tool does not show the paid or withheld amounts, but displays funding amounts. Users are able to filter the data based on several variables such as funding year and source category, as illustrated in Figure 20: Query Tool Filters.

Figure 20: Query Tool Filters

The screenshot shows the 'CARL Report Utility' interface with the 'Query Tool' tab selected. The interface includes several filter sections:

- Select a Report Type:** Radio buttons for 'Query Tool (Moyer)', 'Query Tool (CAP)', and 'Query Tool (NRM)'. 'Query Tool (Moyer)' is selected.
- Select District(s):** Radio buttons for 'All' and 'None'. A dropdown menu lists districts: Amador County APCD, Antelope Valley AQMD, Bay Area AQMD, Butte County AQMD, and Calaveras County APCD.
- Funding Year Start:** A dropdown menu set to 'MY 17'.
- Funding Year End:** A dropdown menu set to 'MY 17'.
- Funding Source(s):** Radio buttons for 'All' and 'None'. A dropdown menu lists sources: Moyer, Pooled Rural District Funds, Multi-District/State Reserve, Moyer Interest, and \$2 DMV Moyer-Match.
- Source Category(ies):** Radio buttons for 'All' and 'None'. A dropdown menu lists categories: Auxiliary Power Unit, Car Scrap (VAVR), Forklift, Infrastructure, and Lawn and Garden Equipment.

At the bottom of the filter section are two buttons: 'Display Report' and 'Generate CSV'.

The Query Tool shows the itemized equipment funding amounts by funding source, year and amount, whereas the Required Reports sums it up by project. As a result, equipment that are split funded (funded with more than one funding year or source) are listed multiple times in the query tool; an example is shown in Figure 21a: Query Tool Output for Moyer. That means their emission reductions and number of engines are also listed multiple times. The user must resolve duplication to sum emissions or engine totals. Figure 21b shows the Query Tool output for CAP projects that includes CAP supplemental data fields.

Figure 21a: Query Tool Output for Moyer

use without checking with CARL Help.

Project				Equipment						Emission Reductions Based on Operation in (CA)			Milestone Date		
Title	Number	Report Status	Guideline Year	Identifier	Type	Source Category	Technology	Funded Engines	Project Life	Paid In Full	NOx (tons/yr)	ROG (tons/yr)	PM (tons/yr)	Commitment	Contract Execution
Training - Offroad Repower	ARBtest001	Liquidated	2011	Excavator-1	EX	Off-Road Equipment - Construction	Repower	1	7	Y	0.4876	0.0896	0.0323	02/16/2015	02/16/2015
Training - Offroad Repower	ARBtest001	Liquidated	2011	Excavator-1	EX	Off-Road Equipment - Construction	Repower	1	7	Y	0.4876	0.0896	0.0323	02/16/2015	02/16/2015
Yr13-DanaWharfSportfishing-Mar	12190	Liquidated	2011	1FUPCSEB1YDB06565	HH	On-Road Voucher Incentive Program	Voucher	1	3	Y	0.7000	0.0130	0.0000	10/07/2011	01/27/2012
Total											1.6751	0.1923	0.0645		

Figure 21b: Query Tool Output for CAP

Project										
Title	Number	Report Status	Guideline Year	EJ Project	Priority Population	Latitude/Longitude	Disadvantaged Community	Low-Income Community	Within Buffer	
19MOY112-Off-Road-replacement	19MOY112	Executed	2017	Y	DAC	37.775481, -122.238952	Yes	Yes	No	
19MOY143	1XPFD89X5YN530486	Executed	2018	Y	Low-Income	37.626277, -122.062183	No	Yes	Yes	
19MOY148-Off-Road-replacement	19MOY148	Executed	2017	Y	DAC	37.897647, -122.310990	Yes	No	No	

Project Report

The Project Report provides a summary of a specific project. To get a project report, use the Project Report tab and select your project from the drop-down, as displayed in the Figure 22: Select Project Report. The report outputs a PDF file of key project, equipment and engine information, including details like horsepower, engine model year and emission factors, as shown in Figure 22: Project Report Output.

Figure 22: Select Project Report

CARL Report Utility Home Refresh ARB Staff carlhelp

Required Reports **Project Report** Query Tool Funding and Allocations Old Reports

Select a Project:

- wa14test04 - wa13test02
- wa14test_Timber02 - wa14test_Timber02
- wa15_timber_01 - wa15_timber_01
- wa_timber_01 - wa_timber_01
- 11395 - Y12-B&D EQUIP RENT-OffRd-Rpr
- 11556 - Y12-SOON-Rentrac-OffRdRep
- 12103 - Y13-SUKUT-OffRd - New
- 12173 - Y13-County of LA Sheriff Dept-Emergency/Veh
- 12190 - Yr13-DanaWharfSportfishing-Mar
- 12269 - Yr13-HarborBreeze-Marine
- 12MOY136 - 12MOY136 - Marine Repower Project
- 13MOY10 - 13MOY10 - Off-Road ERP
- ARBtest001 - Training - Offroad Repower
- J4839483 - Test project 35
- example ag pump - example ag pump
- project_report_timbertest01 - project_report_timbertest01

Font style: Arial Minimum Font: 8 Paper size: Letter Paper Orientation: Portrait Preferred

Generate PDF

Figure 23: Project Report Output

Ag Pump Repower to Electric	
Description	Equipment #1
Project type:	Stationary/Portable Agricultural Equipment Repower
Equipment type:	Stationary Agricultural Irrigation Pump
Equipment Baseline/Reduced:	reduced
Equipment Number:	1
Identifier:	01-002-2006
Number of Equipment:	1
Percent Operation in Eastern Kern APCD:	100%
Percent Operation in CA:	100%
Project Life:	5 years
Engine Location or Type:	Main Engine
Baseline Engine Model Year:	1985
Baseline Engine fuel:	Diesel
Annual hours operated:	1500
Baseline Engine (make, model):	John Deere / Deere & Co.
Baseline Engine Horsepower Rating:	233
Baseline Engine Load Factor:	0.65
Baseline NOx Emission Factor:	10.23 g/bhp-hr
Baseline ROG Emission Factor:	1.01 g/bhp-hr
Baseline PM Emission Factor:	0.396 g/bhp-hr
*Baseline NOx emissions (tons/yr):	2.562
*Baseline ROG emissions (tons/yr):	0.253
*Baseline PM emissions (tons/yr):	0.099
Reduced Engine Model Year:	2006
Reduced Engine fuel:	Electric

Funding and Allocation

Funding and Allocations will give information about a district's allocations. When you report interest and in-kind contributions it will also become visible in this report. The report provides a breakdown by funding year, funding source and displays the project amount, administration amount in separate columns. Figure 24 shows the report filters and Figure 25 shows the report outputs.

Figure 24: Funding and Allocation Report

CARL Report Utility

[Required Reports](#)
[Project Report](#)
[Query Tool](#)
[Funding and Allocations](#)

Funding Year Start:

Funding Year End:

Figure 25: Funding and Allocation Report

District	Funding Year	Funding Source	Transaction Type	Project Allocation	Administrative Funds	In-Kind Contribution	Totals
ARB Staff	16	Moyer Interest	REPORT	\$2,456.23	\$0.00	\$0.00	\$2,456.23
ARB Staff	16	Match	ALLOCATE	\$46,017.00	\$0.00	\$0.00	\$46,017.00
ARB Staff	16	Match	ALLOCATE	\$39,117.00	\$0.00	\$6,950.00	\$46,067.00
ARB Staff	16	RAP	REDIRECT	\$12,847.75	\$0.00	\$0.00	\$12,847.75
ARB Staff	16	RAP	REDIRECT	(\$12,847.75)	\$0.00	\$0.00	(\$12,847.75)
ARB Staff	17	Moyer Interest	REPORT	\$2,456.23	\$0.00	\$0.00	\$2,456.23
ARB Staff	18	Moyer Interest	REPORT	\$9,980.00	\$90.00	\$0.00	\$10,070.00
ARB Staff	19	Moyer Interest	REPORT	\$45,000.00	\$414.00	\$0.00	\$45,414.00
ARB Staff	19	Moyer Interest	REPORT	\$45,000.00	\$5,625.00	\$0.00	\$50,625.00
Totals				\$190,026.46	\$6,129.00	\$6,950.00	\$203,105.46

Import and Export Data

For information on the Import and Export function, please see the Import and Export User's Guide and the Import Templates on the CARL splash page.

Conclusion

Districts have been successfully reporting into the CARL database since 2008. The database is supported by a team of staff that are available for help and training. If you have any questions or suggestions, please do not hesitate to contact the CARL team at carlhelp@arb.ca.gov.