Aftermarket Parts, Retrofits, and Component Certification and Compliance Fee Workshop

November 21, 2019

1 PM

El Monte, CA

Agenda

- Background on California's Mobile Sources Categories and Fee Authorities
- CARB cost calculations
- CARB Mobile Source Certification, Audit, and Compliance Program Costs and Fee Discussion
  - Aftermarket Parts (B,C,D,K series)
  - Evaporative Components (G, RM,Q series)
  - Retrofits (DE series)
  - Alt. Control Tech. (e.g. Bonnets) for at-berth regulation (AB series)
- Next Steps

CALIFORNIA AIR RESOURCES BOARD

Background

Why a new fee?

- Only 1/3 of the mobile source (MS) executive order holders pay a fee
- Over 4,000 MS applications/executive orders received and issued each year from all categories
- Legislature moving toward certification activities funded by certification recipients
- Facilitate quicker certification turn around

HSC 43019.1

New Off-Road, Aftermarket Parts, Components Fees

- Authority provided by SB 854 in 2018
- CARB may adopt a schedule of fees to cover all or a portion of the state board's reasonable costs associated with the certification, audit, and compliance as authorized pursuant to HSC 38560*, 43013 and 43018, and subdivision (h) of Section 27156 of the Vehicle Code.

*Fee authority applies to both criteria and GHG executive orders.

CALIFORNIA AIR RESOURCES BOARD

HSC 43019.1

New Off-Road, Aftermarket Parts, Components Fees (continued)

- Includes categories not covered by current mobile source fees (HSC 43019: on-road vehicles, engines and motorcycles)
- Such categories may include:
  - Off-road engines and equipment
  - Non-vehicular engines and equipment
  - Aftermarket parts
  - Emissions control components

HSC 43019.1

New Off-Road, Aftermarket Parts, Components Fees (continued)

- Fee assessment considers:
  - impacts on manufacturers
  - company size
  - number of certifications requested and consistency with prior-year certifications
  - category complexity
  - product's potential impact on emissions
  - potential change in number of certifications issued
  - impacts on processing time if fee doesn't cover CARB's costs

CARB Mobile Source Certification, Audit, and Compliance Program Costs

Mobile Source (MS) Program Executive Order (EO) Categories

EO Number Series	Topic	EO Number Series	Topic
G	Portable Fuel Containers (PFCs) Certified For Use In California	D	Aftermarket Part Exemptions
RM	Evaporative components for Spark-ignited Marine Water Craft	B	Alternative Fuel Retrofit Certification
C-U	Small Off-Road Engines - Evaporative Components	K	Aftermarket Critical Emission Control Parts for Highway Motorcycles.
G-05	Small Off-Road Engines - Evaporative Components	N-yyyy-100	New On-Road Heavy-Duty Exempt Engines
Q	Small Off-Road Engines - Evaporative Components	U-R	New Off-Road Compression - Ignition Engines
A	New Cars, Light/Medium/Heavy-Duty Vehicles	U-L	New Off-Road Large Spark-Ignition (LSI) Engines/Equipment
M	New Street-Use Motorcycles	U-U	New Small Off-Road Spark - Ignition Engines/Equipment
T	Grey Market	U-W	New Spark - Ignition Marine Engines/Watercraft
P	New Federal AB965 Cars & Light-Duty Trucks	G-08 thru 09	Off-Road Large Spark Ignition Equipment
U-G	Electric Golf Carts	DE	Verification of Diesel Emission Control Strategies (On/Off Road, SS, Harbor Craft, TRU, RTG)
U-M	New Emission-Compliant ("Green Sticker") Off-Road Motorcycles & All-Terrain Vehicles	AB	Alternative Control Technologies (e.g. Bonnets) verification/approval for at-berth regulation
U-N	New Emission-Non-Compliant ("Red Sticker") Off-Road Motorcycles & All-Terrain Vehicles	C	Experimental Permits

Types of Activities Used to Determine Costs for the Purposes of This Fee Regulation

- Staff labor, operational cost, and equipment to conduct certification activities and audits
  - Review and approval of applications with the issuance of an executive order or authorization letter
  - Testing and confirming product in production or before, includes testing for defeat devices
- Staff labor, operational cost, and equipment to conduct compliance activities
  - Warranty and in-use manufacturer reporting requirement
  - In-use and defeat device testing product after sale to meet durability and emission criteria

Does not include costs for regulatory development, research, or enforcement activities

Terminology

- Direct cost:

  The cost associated with implementing the program including staff salaries, gases, fuel, annual service contracts, etc.

- Indirect cost:

  The cost not directly used in the program but required to maintain the program such as management, personnel support functions, IT support and facility costs

- PY:

  Person year of activity, not exact number of people

How did we calculate CARB's costs?

- Labor
  - Direct: budget values X percentage of staff time working in program
  - Indirect: Management, administrative and IT overhead
    - 26%
- Operating Costs
- Equipment Costs

  Annual value =10 year amortization of cost
- Facility Costs

  Based on square footage of laboratory space

CALIFORNIA AIR RESOURCES BOARD

CARB MS Fee Program Costs (all categories)

Costs	2018*	2021**	2022**
Total	**$40.2 M**	**$52.5 M**	**$54.0 M**
Direct Labor	$27.0 M	$30.3 M	$30.7 M
Indirect Labor	$7.0 M	$7.9 M	$8.0 M
Operational Costs	$3.5 M	$6.1 M	$7.1 M
Equipment Costs	$1.8 M	$7.1 M	$7.1 M
Facility Costs	$0.9 M	$1.1M	$1.1M
PYs	**162**	**174**	**176**

* 2018 labor costs based on 18/19 FY mid range labor costs and does not include additional PYs for program growth received in 18/19 FY through 21/22 FY funding cycles.

** 2021-2022 labor costs based on 19/20 mid range labor costs and includes additional PYs for program growth. In addition, the increase in operational and equipment costs for the expanded services provided by the Riverside laboratory.

CALIFORNIA AIR RESOURCES BOARD

Today's Workshop
Executive Order (EO) Categories

EO Number Series	Topic	EO Number Series	Topic
G	Portable Fuel Containers (PFCs) Certified For Use In California	D	Aftermarket Part Exemptions
RM	Evaporative components for Spark-ignited Marine Water Craft	B	Alternative Fuel Retrofit Certification
C-U	Small Off-Road Engines - Evaporative Components	K	Aftermarket Critical Emission Control Parts for Highway Motorcycles.
G-05	Small Off-Road Engines - Evaporative Components	N-yyyy-100	New On-Road Heavy-Duty Exempt Engines
Q	Small Off-Road Engines - Evaporative Components	U-R	New Off-Road Compression - Ignition Engines
A	New Cars, Light/Medium/Heavy-Duty Vehicles	U-L	New Off-Road Large Spark-Ignition (LSI) Engines/Equipment
M	New Street-Use Motorcycles	U-U	New Small Off-Road Spark - Ignition Engines/Equipment
T	Grey Market	U-W	New Spark - Ignition Marine Engines/Watercraft
P	New Federal AB965 Cars & Light-Duty Trucks	G-08 thru 09	Off-Road Large Spark Ignition Equipment
U-G	Electric Golf Carts	DE	Verification of Diesel Emission Control Strategies (On/Off Road, SS, Harbor Craft, TRU, RTG)
U-M	New Emission-Compliant ("Green Sticker") Off-Road Motorcycles & All-Terrain Vehicles	AB	Alternative Control Technologies (e.g. Bonnets) verification/approval for at-berth regulation
U-N	New Emission-Non-Compliant ("Red Sticker") Off-Road Motorcycles & All-Terrain Vehicles	C	Experimental Permits

CARB Cost and Fee Discussion

Four Discussion Groups:

- Aftermarket Parts
  - B,C, D and K Series
- Evaporative Component Part Certification
  - G, RM and Q Series
- Retrofits (DE Series)
- Alternative Control Strategies for Ships At Berth (AB Series)

CALIFORNIA AIR RESOURCES BOARD

Discussion Outline for Each Working Group

- Costs for each EO category
- Concept Fee Model for discussion
- What business factors should be used to develop alternative fees
- What other ways can CARB recoup costs in your category group.

Workgroup Category Aftermarket Parts B,C, D and K Series

CARB Cost by EO Series

EO Series	CARB 2018/2022 Cost (Total)	Number of EOs in 2018	Ave CARB 2022 cost per EO
Total (all programs)	$40/54 M	4,064	
B Series – Alternative Fuel Retrofit	$337/470 K	24	$20 K
C Series – Experimental Permits	$31/112 K	53	$2.1 K
D (AMP performance)	$2.7/2.8 M	131	$21 K
D (catalysts) Series - AMP	$287/330 K	10	$33 K
D (fuel tanks) Series - AMP	$230/268 K	50	$5.4 K
D (DPF) Series - AMP	$221/252 K	4	$63 K
K Series – Motorcycle AMP	$214/252 K	5	$50 K

Fee Model Discussion
Application Fee Concept

For C series:

- Application Fee at time of submittal based on costs divided by EOs or Applications.
  - Costs
    - Number of program PYs times annual budget position cost
    - Indirect labor percentage fixed at 26%
    - 2022 operating, equipment, and facility costs
  - Divided by number of EOs or applications previous year or average of 3 number of previous years
- Similar to “Ave CARB 2022 cost per EO”
- Lower cost categories (discuss on slide 23)

Fee Model Discussion
Application Fee Concept

For B, D and K series:

- Application Fee at time of submittal based on costs divided by EOs or Applications.
  - Costs
    - Number of program PYs times annual budget position cost
    - Indirect labor percentage fixed at 26%
    - 2022 operating, equipment, and facility costs
  - Divided by number of EOs or applications from previous year or average of 3 previous years
- Similar to " Ave CARB 2022 cost per EO"

Fee Model Discussion
Application Fee adjusted by # of Line Items

- For B, D and K series:
  - Application Fee plus Line Item Fee at time of application submittal
  - Line Item Fee
    - List of affected vehicles containing:
      - one device part number, and
      - one engine test group or engine family, and
      - one evaporative family.

Aftermarket Parts Certification Fee Examples

Categories	Application Fee	Line Item Fee	Fee Examples Per Number of Line Items	
Alt Fuels (1 and 29 line items)	$1,000	$649	1 line item $1,649	29 line items $19,808
AMP Perf. (11 and 513 line items)	$1,000	$220	11 line items $3,423	513 line items $114,020
CAT (1,156 and 20,922 line items)	$1,000	$6	1,156 line items $8,032	20,922 line items $128,294
Fuel Tanks (44 and 350 line items)	$1,000	$192	44 line items $9,456	350 line items $68,264
K-series (6 and 30 line items)	$1,000	$3,673	6 line items $23,042	30 line items $111,208
DPF (20 and 290 line items)	$1,000	$209	20 items $5,189	290 line items $61,740

Lower Cost Application Considerations

- Small Business
- Experimental Permits (C series)
- Model Year updates to existing EOs
- Other?

Other Ways to Collect Fees

- By sales which requires reporting
- By program activity requiring multiple fees which requires additional CARB resources/costs
- Other?

Guiding Principles for Determining Fees

- What business factors should be used to set the fee?
  - impacts on manufacturers
  - company size
  - number of certifications/complexity
  - product potential impact on emissions
  - others?

Workgroup Category Evaporative Component Parts G, RM and Q Series

CARB Cost by EO Series

EO Series	CARB 2018/2022 Cost (Total)	Number of EOs issued 2018	Ave CARB 2022 costs per EO
Total (all programs)	$40.2/54 M		
G Series – Portable Fuel Containers	$59.5/61.4 K	9	$6.8 K
RM Series – Evaporative Components SI Marine Watercraft	$13.3/13.7 K	15	$0.9 K
Q Series – Evaporative Components Small Off-road Engines	$446/461 K	97	$4.8 K

CALIFORNIA AIR RESOURCES BOARD

Fee Model Discussion
Application Fee Concept

For G, RM, Q series

Application Fee only example

- Costs
  - Number of PYs times annual budget position cost
  - Indirect labor percentage fixed at 26%
  - 2022 operating, equipment, and facility costs
- Divided by number of EOs or applications previous year or average of 3 number of previous years

- Similar to “Ave CARB 2022 cost per EO”

Lower Cost Considerations

- Small Business
- Renewal – no changes
- Renewal – minor change
- Adding models (no new test data)
- Other?

Other Ways to Collect Fees

- By sales which requires reporting
- By program activity requiring multiple fees which requires additional CARB resources/costs
- Other?

Guiding Principles for Determining Fees

- What business factors should be used to set the fee?
  - impacts on manufacturers
  - company size
  - number of certifications/complexity
  - product potential impact on emissions
  - others?

Workgroup Category Retrofits (DE Series)

On-Road, Off-Road,
Auxiliary Power Unit (APU), Stationary, Transport Refrigeration Unit (TRU), Marine, Locomotive

CARB Cost by EO Series

EO Series	CARB 2018/2022 Cost (Total)	Actions Taken in 2018	CARB 2022 Cost per Action
Total (all programs)	$40.3/54.0 M		
DE – On-Road, Off-Road, APU, Stationary, TRU, Marine	$1.63/1.69 M	21	$80.3 K
DE – Locomotive (Approval Letter)	$392/405 K	4	$101 K

Fee Model Discussion

Considerations of Assessing Costs for DE Series

- Mature program: many devices already approved, fewer applications expected ongoing
- Today, most CARB staff resources devoted to maintaining and modifying existing EOs
- Complexity of approvals varies:
  - between categories (e.g. high volume on-road engines vs. lower-volume stationary engines)
  - within categories (i.e. common vs. novel designs)

CARB Activities and Actions Contributing to DE Cost

- Application and approval process
  - Review of preliminary verification applications (PVA)
  - Review of final verification applications
- Review In-Use compliance test plan and results*
- Annual review of warranty reporting and follow-up
- Existing Verification modifications
  - Design modifications or parts changes
  - Engine family updates (adding more engines or model years)

*In-use testing is required only if sales exceed 100 and 300 units, and additional actions are requested by verification holder. Note that locomotives control devices are approved with a letter, have no in-use obligations, and require no updates to engine family lists.

CALIFORNIA AIR RESOURCES BOARD

Fee Model Discussion
Application Fee Concept

- Application Fee Paid at Application
  - Costs
    - Number of PYs times annual budget position cost
    - Indirect labor percentage fixed at 26%
    - 2022 operating, equipment, and facility costs
  - Divided by number of actions from previous year or average of 3 number of previous years
- Similar to “Ave CARB 2022 cost per action”

Fee Model Discussion
Split Structure Concept

- Application Fee (review of application)
- Executive Order/Approval Letter Fee (completed review, testing, and approval)
- In-Use Compliance Fee
- Verification Modification Fee
  - Design modifications (including parts changes)
  - Emission control group changes
- Pay at each stage of verification activity

CALIFORNIA AIR RESOURCES BOARD

Potential Costs by Action

	On-Road, Off-Road, Stationary, Marine, TRU, APU	Locomotives
Application	$20,000	$20,000
Executive Order/Approval Ltr	$80,000	$80,000
In-Use Field or Emission Testing	$40,000	N/A
Design Modification	$20,000	N/A

Fee Model Discussion

- Maintenance Fee Concept
  - Existing Verifications
  - Single fee annually while verification is active
  - Cost estimate: $60,000

Guiding Principles for Determining Fees

- What business factors should be used to set the fee?
  - impacts on manufacturers
  - company size
  - number of certifications/complexity
  - product potential impact on emissions
  - others?

Other Considerations

- Lower Cost Considerations for Small Businesses

- Other concepts to collect fees?
  - By sales (requires reporting)
  - Other?

Workgroup Category Alternative Control Strategies for Ships At Berth (AB Series)

CARB Cost by EO Series

EO Series	CARB 2018/2022 Cost (Total)	Number of EOs issued 2018	CARB 2022 costs per EO
Total (all programs)	$40.3/54.0 M		
AB Series – Alt. Tech for At Berth	$226/234 K	1	$234 K

CALIFORNIA AIR RESOURCES BOARD

Considerations of Assessing Costs for AB Series

- Alternative Control Technologies have thus far been only capture and control systems, treating ship exhaust by an off-vessel device
- Newer program: some devices approved, more expected in future with new and innovative designs
- Approved technologies could include alternative fuels, on-vessel control devices
- Fee structure needs to accommodate both small businesses and large international companies

CALIFORNIA AIR RESOURCES BOARD

Examples of CARB Activities and Actions Contributing to AB Cost

- Review and approval of initial applications
- Acceptance of final verification applications
- Monitoring and review of Continuous Emission Monitoring System (CEMS) data
- Design modifications or parts changes

Fee Model Discussion
Application Fee Only Concept

Application Fee only example

- Costs
  - Number of PYs times annual budget position cost
  - Indirect labor percentage fixed or adjust
  - 2022 operating, equipment, and facility costs increased by CPI
- Divided by number of EOs or applications previous year or average of 3 number of previous years

- Similar to “Ave CARB 2022 cost by EO”

Fee Model Discussion
Split Structure Concept

- Application Fee (review of application)
- Executive Order/Approval Letter Fee (completed review, testing, and approval)
- CEMS Data Review Fee
- Other Action Fee
  - Design Modifications, Parts Changes
  - Operational changes to address in-use issues identified through CEMS or other data
- Pay at each stage of verification activity

Potential Costs by Action

	At-Berth Alternative Control Technologies
Application	$40,000
Verification	$100,000
CEMS Data Review	$20,000
Other Action	$10,000

Fee Model Discussion

- Maintenance Fee
  - Annual fee to maintain existing verifications (i.e. review CEMS data)

Guiding Principles for Determining Fees

- What business factors should be used to set the fee?
  - impacts on manufacturers
  - company size
  - number of certifications/complexity
  - product potential impact on emissions
  - others?

Next Steps

Standardized Regulatory Impact Assessment (SRIA)

- Regulatory cost analysis
  - Develop Fee schedule
  - Model cost inputs
- Regulatory alternative analysis
  - Discussed today
  - Provide comments by December 15th
- Business Information (important for small business)
  - Name of Company
  - Headquarter Address
  - Number of Employees
  - Sales impacts beyond costs

CALIFORNIA AIR RESOURCES BOARD

Timeline

- First Workshop (April 30, 2019)
- Second Workshop (November 21, 2019)
  - Comments on today's alternatives and business information due December 15th
- Third Workshop (Winter, 2020)
- Additional workshops or work groups, if needed
- Board Hearing date (Fall, 2020)

Stay Informed

GovDelivery (List serve)

Sign on, search for name of topic “Mobile Source Certification and Compliance Fee Regulation,” check box, and hit the submit button (at bottom of page)

https://public.govdelivery.com/accounts/CARB/subscriber/new

Workshop notices and information

https://ww2.arb.ca.gov/mobile-source-certification-and-compliance-fee-regulation-meetings-workshops

Contacts

Jackie Lourenco, Branch Chief
jackie.lourenco@arb.ca.gov
(626) 450-6152

Kathleen Mead, lead
kathleen.mead@arb.ca.gov
(916) 324-9550

Kumar Muthukumar, Manager
kumar.muthukumar@arb.ca.gov
(626) 575-7040

Aftermarket Parts, Retrofits and Components

B&D EO series: Sidd Futaba (626) 459-4386 sidd.futaba@arb.ca.gov

Q, RM,& G EO series:

Angus MacPherson (916) 445-4686 angus.macpherson@arb.ca.gov

AB&DE EO series: David Quiros (916) 327-7213 david.quiros@arb.ca.gov

DE series: Christine Maddox (626) 575-6715 christine.maddox@arb.ca.gov

CALIFORNIA
AIR RESOURCES BOARD

Questions?