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
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.
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
<table>
<thead>
<tr>
<th>EO Number Series</th>
<th>Topic</th>
<th>EO Number Series</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Portable Fuel Containers (PFCs) Certified For Use In California</td>
<td>D</td>
<td>Aftermarket Part Exemptions</td>
</tr>
<tr>
<td>RM</td>
<td>Evaporative components for Spark-ignited Marine Watercraft</td>
<td>B</td>
<td>Alternative Fuel Retrofit Certification</td>
</tr>
<tr>
<td>C-U</td>
<td>Small Off-Road Engines - Evaporative Components</td>
<td>K</td>
<td>Aftermarket Critical Emission Control Parts for Highway Motorcycles.</td>
</tr>
<tr>
<td>G-05</td>
<td>Small Off-Road Engines - Evaporative Components</td>
<td>N-yyyy-100</td>
<td>New On-Road Heavy-Duty Exempt Engines</td>
</tr>
<tr>
<td>Q</td>
<td>Small Off-Road Engines - Evaporative Components</td>
<td>U-R</td>
<td>New Off-Road Compression - Ignition Engines</td>
</tr>
<tr>
<td>A</td>
<td>New Cars, Light/Medium/Heavy-Duty Vehicles</td>
<td>U-L</td>
<td>New Off-Road Large Spark-Ignition (LSI) Engines/Equipment</td>
</tr>
<tr>
<td>M</td>
<td>New Street-Use Motorcycles</td>
<td>U-U</td>
<td>New Small Off-Road Spark - Ignition Engines/Equipment</td>
</tr>
<tr>
<td>T</td>
<td>Grey Market</td>
<td>U-W</td>
<td>New Spark - Ignition Marine Engines/Watercraft</td>
</tr>
<tr>
<td>P</td>
<td>New Federal AB965 Cars &amp; Light-Duty Trucks</td>
<td>G-08 thru 09</td>
<td>Off-Road Large Spark Ignition Equipment</td>
</tr>
<tr>
<td>U-G</td>
<td>Electric Golf Carts</td>
<td>DE</td>
<td>Verification of Diesel Emission Control Strategies (On/Off Road, SS,</td>
</tr>
<tr>
<td>U-M</td>
<td>New Emission-Compliant (&quot;Green Sticker&quot;) Off-Road Motorcycles &amp; All-Terrain Vehicles</td>
<td>AB</td>
<td>Harbor Craft, TRU, RTG)</td>
</tr>
<tr>
<td>U-N</td>
<td>New Emission-Non-Compliant (&quot;Red Sticker&quot;) Off-Road Motorcycles &amp; All-Terrain Vehicles</td>
<td>C</td>
<td>Experimental Permits</td>
</tr>
</tbody>
</table>
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
CARB MS Fee Program Costs (all categories)

<table>
<thead>
<tr>
<th>Costs</th>
<th>2018*</th>
<th>2021**</th>
<th>2022**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$40.2 M</td>
<td>$52.5 M</td>
<td>$54.0 M</td>
</tr>
<tr>
<td>Direct Labor</td>
<td>$27.0 M</td>
<td>$30.3 M</td>
<td>$30.7 M</td>
</tr>
<tr>
<td>Indirect Labor</td>
<td>$7.0 M</td>
<td>$7.9 M</td>
<td>$8.0 M</td>
</tr>
<tr>
<td>Operational Costs</td>
<td>$3.5 M</td>
<td>$6.1 M</td>
<td>$7.1 M</td>
</tr>
<tr>
<td>Equipment Costs</td>
<td>$1.8 M</td>
<td>$7.1 M</td>
<td>$7.1 M</td>
</tr>
<tr>
<td>Facility Costs</td>
<td>$0.9 M</td>
<td>$1.1 M</td>
<td>$1.1 M</td>
</tr>
<tr>
<td>PYs</td>
<td>162</td>
<td>174</td>
<td>176</td>
</tr>
</tbody>
</table>

* 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.
## Executive Order (EO) Categories

<table>
<thead>
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</tr>
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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)
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

<table>
<thead>
<tr>
<th>EO Series</th>
<th>CARB 2018/2022 Cost (Total)</th>
<th>Number of EOs in 2018</th>
<th>Ave CARB 2022 cost per EO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (all programs)</td>
<td>$40/54 M</td>
<td>4,064</td>
<td></td>
</tr>
<tr>
<td>B Series – Alternative Fuel Retrofit</td>
<td>$337/470 K</td>
<td>24</td>
<td>$20 K</td>
</tr>
<tr>
<td>C Series – Experimental Permits</td>
<td>$31/112 K</td>
<td>53</td>
<td>$2.1 K</td>
</tr>
<tr>
<td>D (AMP performance)</td>
<td>$2.7/2.8 M</td>
<td>131</td>
<td>$21 K</td>
</tr>
<tr>
<td>D (catalysts) Series - AMP</td>
<td>$287/330 K</td>
<td>10</td>
<td>$33 K</td>
</tr>
<tr>
<td>D (fuel tanks) Series - AMP</td>
<td>$230/268 K</td>
<td>50</td>
<td>$5.4 K</td>
</tr>
<tr>
<td>D (DPF) Series - AMP</td>
<td>$221/252 K</td>
<td>4</td>
<td>$63 K</td>
</tr>
<tr>
<td>K Series – Motorcycle AMP</td>
<td>$214/252 K</td>
<td>5</td>
<td>$50 K</td>
</tr>
</tbody>
</table>
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.
<table>
<thead>
<tr>
<th>Categories</th>
<th>Application Fee</th>
<th>Line Item Fee</th>
<th>Fee Examples Per Number of Line Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt Fuels (1 and 29 line items)</td>
<td>$1,000</td>
<td>$649</td>
<td>1 line item</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$1,649</td>
</tr>
<tr>
<td>AMP Perf. (11 and 513 line items)</td>
<td>$1,000</td>
<td>$220</td>
<td>11 line items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$3,423</td>
</tr>
<tr>
<td>CAT (1,156 and 20,922 line items)</td>
<td>$1,000</td>
<td>$6</td>
<td>1,156 line items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$8,032</td>
</tr>
<tr>
<td>Fuel Tanks (44 and 350 line items)</td>
<td>$1,000</td>
<td>$192</td>
<td>44 line items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$9,456</td>
</tr>
<tr>
<td>K-series (6 and 30 line items)</td>
<td>$1,000</td>
<td>$3,673</td>
<td>6 line items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$23,042</td>
</tr>
<tr>
<td>DPF (20 and 290 line items)</td>
<td>$1,000</td>
<td>$209</td>
<td>20 items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$5,189</td>
</tr>
</tbody>
</table>
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

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<tr>
<th>EO Series</th>
<th>CARB 2018/2022 Cost (Total)</th>
<th>Number of EOs issued 2018</th>
<th>Ave CARB 2022 costs per EO</th>
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</thead>
<tbody>
<tr>
<td>Total (all programs)</td>
<td>$40.2/54 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Series – Portable Fuel Containers</td>
<td>$59.5/61.4 K</td>
<td>9</td>
<td>$6.8 K</td>
</tr>
<tr>
<td>RM Series – Evaporative Components SI Marine Watercraft</td>
<td>$13.3/13.7 K</td>
<td>15</td>
<td>$0.9 K</td>
</tr>
<tr>
<td>Q Series – Evaporative Components Small Off-road Engines</td>
<td>$446/461 K</td>
<td>97</td>
<td>$4.8 K</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>EO Series</th>
<th>CARB 2018/2022 Cost (Total)</th>
<th>Actions Taken in 2018</th>
<th>CARB 2022 Cost per Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (all programs)</td>
<td>$40.3/54.0 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DE – On-Road, Off-Road, APU, Stationary, TRU, Marine</td>
<td>$1.63/1.69 M</td>
<td>21</td>
<td>$80.3 K</td>
</tr>
<tr>
<td>DE – Locomotive (Approval Letter)</td>
<td>$392/405 K</td>
<td>4</td>
<td>$101 K</td>
</tr>
</tbody>
</table>
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.
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
## Potential Costs by Action

<table>
<thead>
<tr>
<th>Action</th>
<th>On-Road, Off-Road, Stationary, Marine, TRU, APU</th>
<th>Locomotives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Executive Order/Approval Ltr</td>
<td>$80,000</td>
<td>$80,000</td>
</tr>
<tr>
<td>In-Use Field or Emission Testing</td>
<td>$40,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Design Modification</td>
<td>$20,000</td>
<td>N/A</td>
</tr>
</tbody>
</table>
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

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<td></td>
</tr>
<tr>
<td>AB Series – Alt. Tech for At Berth</td>
<td>$226/234 K</td>
<td>1</td>
<td>$234 K</td>
</tr>
</tbody>
</table>
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
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

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<th>Cost</th>
</tr>
</thead>
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<tr>
<td>Application</td>
<td>$40,000</td>
</tr>
<tr>
<td>Verification</td>
<td>$100,000</td>
</tr>
<tr>
<td>CEMS Data Review</td>
<td>$20,000</td>
</tr>
<tr>
<td>Other Action</td>
<td>$10,000</td>
</tr>
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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
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

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