

Air Resources Board Certification Update

2016 EMA Certification Workshop

April 19, 2016

- 
- Certification Process
 - DMS Update
 - AECD Review
 - Compression-Ignition and Heavy-Duty Certification
 - Off-Road Spark-Ignited Engine Certification

NVEPB Organizational Chart

ECARS
New Vehicle/Engine Programs Branch
Branch Chief
Jackie Lourenco
Branch Secretary
Bonnie Garlow

On-Road Light-Duty Certification Section

Manager

Duc Nguyen

Staff

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Veronica Longhi

Steven Hada

Bill McDuffee

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Telena Vo

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Lan Nguyen

Daniel Adame

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Sidd Futaba

Richard Carranza

Curt Schrieber

Jose Arguelles

Yun Hui Park

Jason Flores

Compression Ignition and Heavy Duty Certification Section

Manager

Kimberly Pryor

Staff

Paul Adnani

James Pang

Tsatsu Nukunya

Zachary Evans

Babak Pazokifard

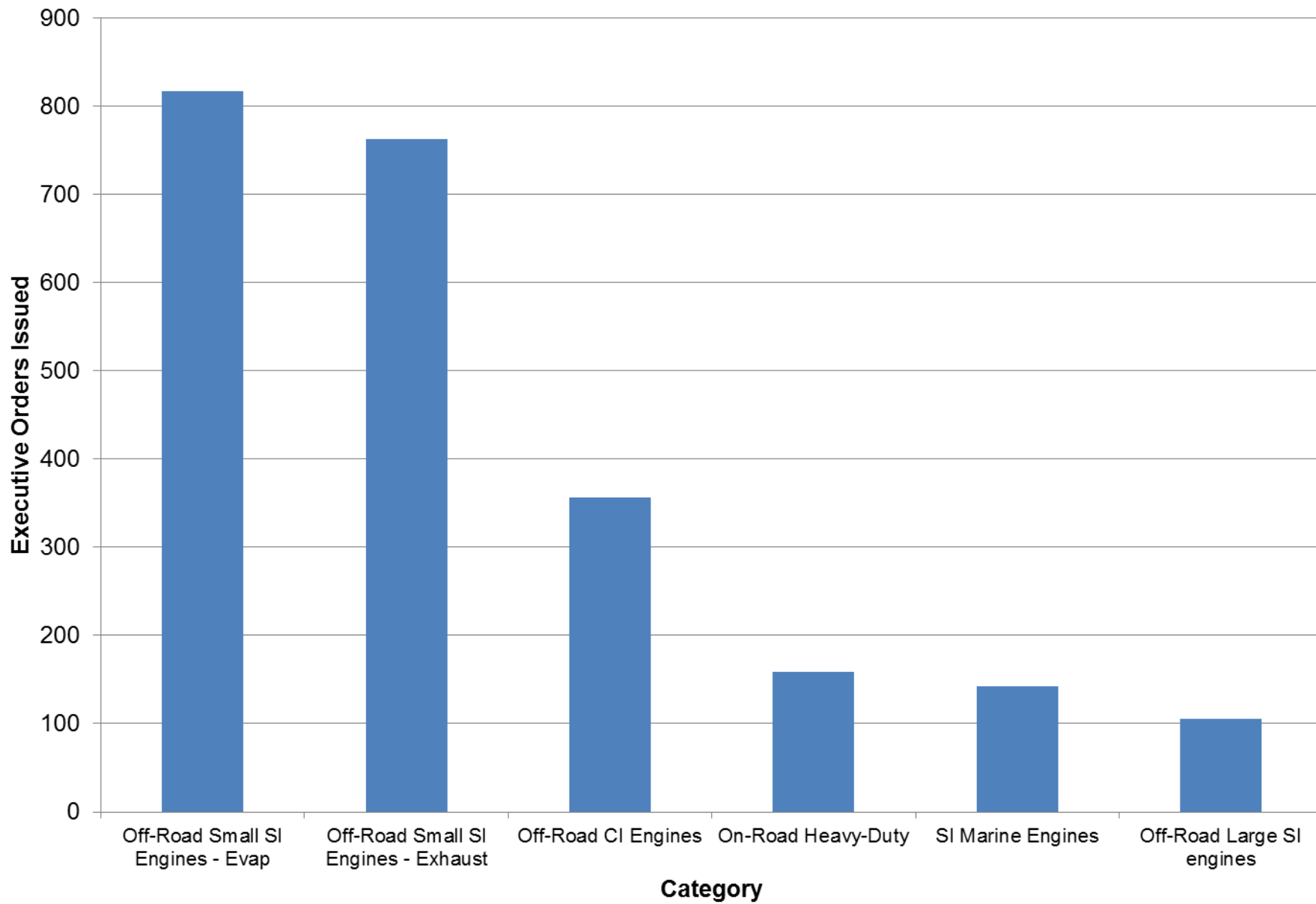
Mel Capistrano

Michael Pham

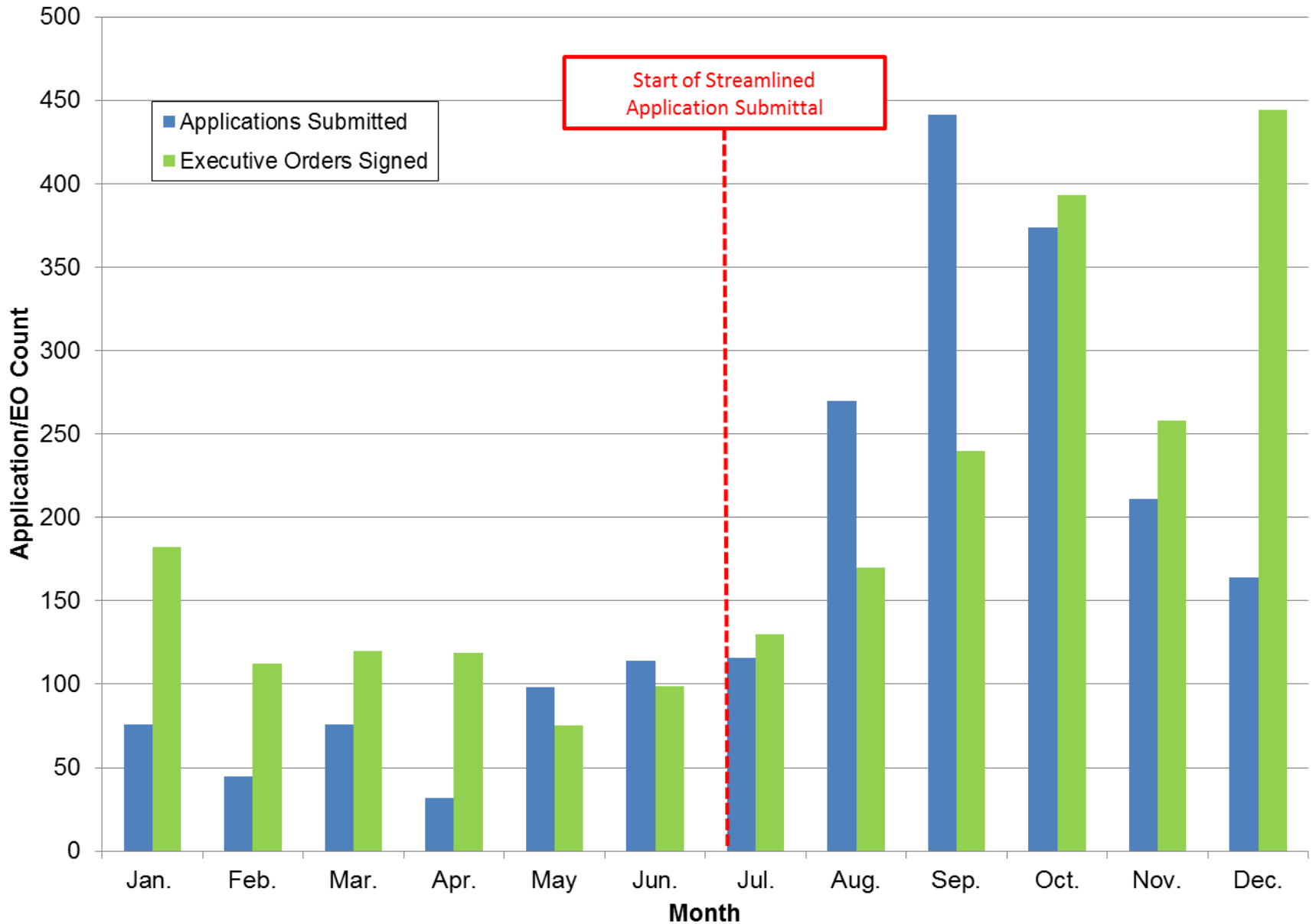
Adrian Torres

Luke Gibson

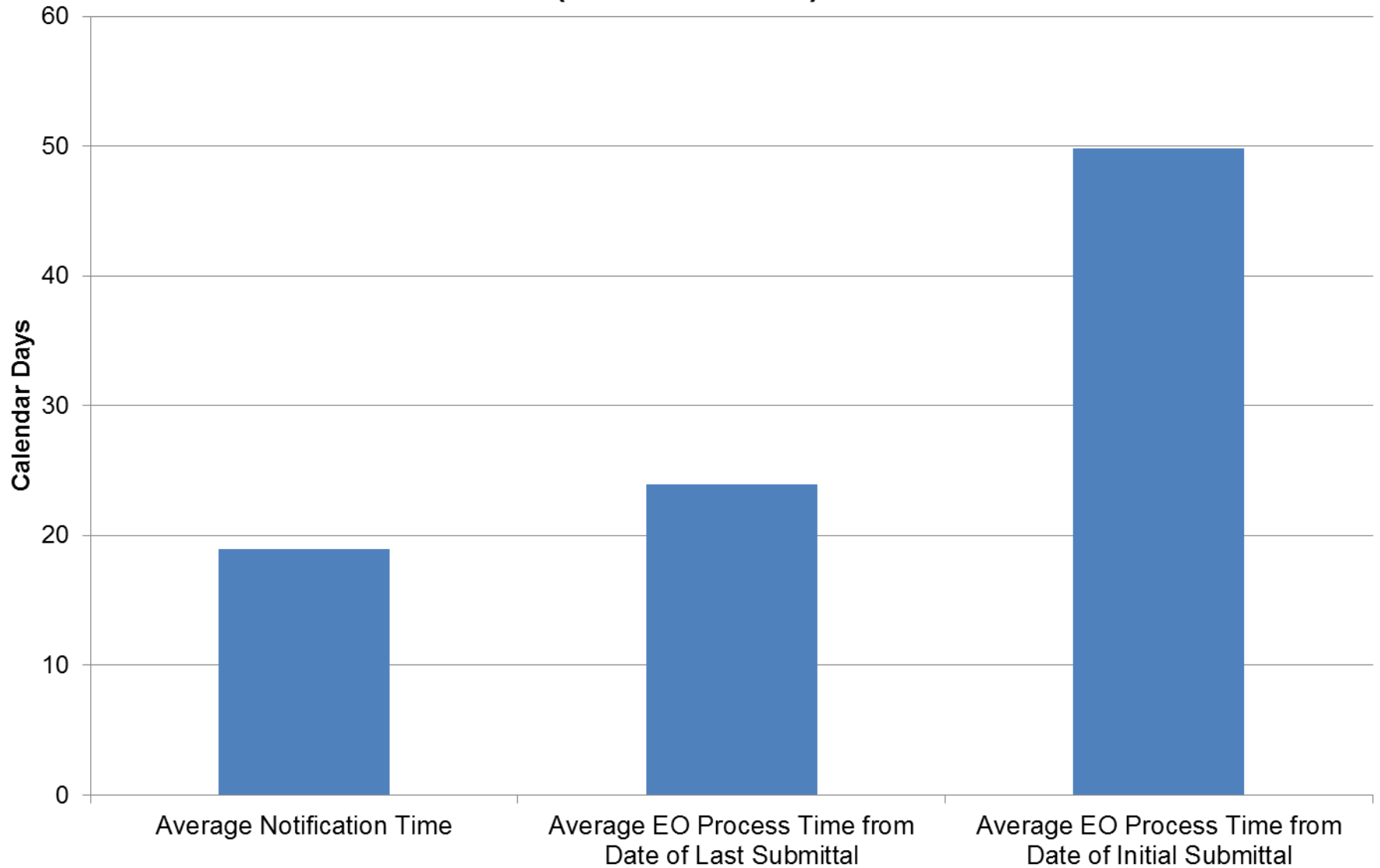
Volume of Executive Orders Issued in 2015 Calendar Year (CIHD+OFSEC)



2015 Calendar Year New Application Tracking (CIHD+OFSEC)



2015 Calendar Year Average Application Processing Times (CIHD+OFSEC)

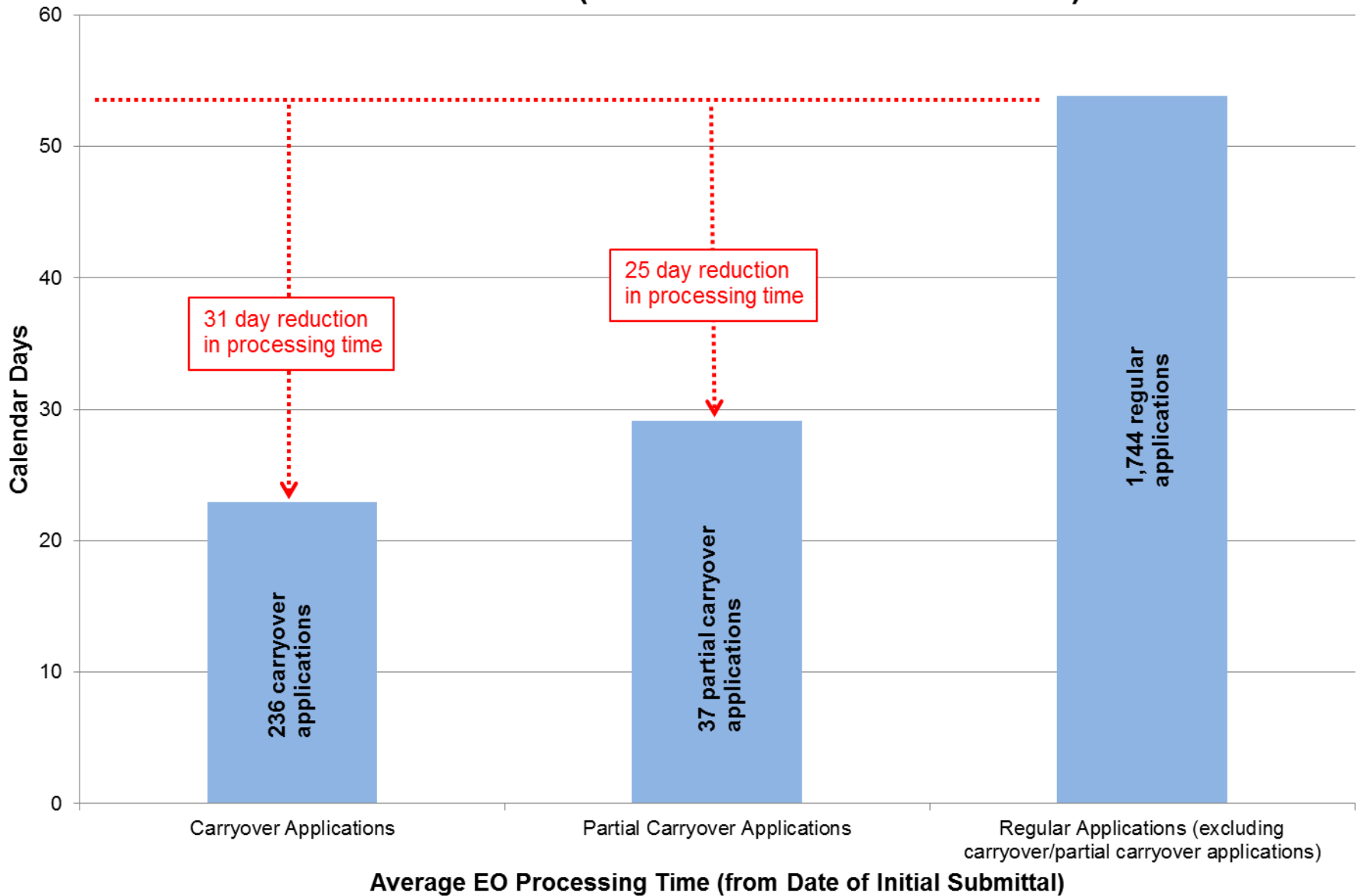




through the streamlined program

- Streamlined application categories include:
 - Carryover,
 - Partial carryover,
 - Carryover/partial carryover requiring OBD approval

2015 Calendar Year Average Executive Order Processing Times for CIHD+OFSEC (from Date of Initial Submittal)



Certification Process

- Have design control
- Be able to implement design and assembly-line changes
- Be able to provide access to manufacturing and test facilities
- Be able to meet all post-certification obligations
- Typically, Engine/Equipment manufacturers

Certification Process


<http://www.arb.ca.gov/msprog/mailouts/ecars1507/ecars1507.pdf>

- Application should reflect a production-ready engine product.
- Manufacturers should submit all running changes or field fixes to ARB prior to making any changes
- **Post-Certification Manufacturer Reports**
 - Submittals required by regulations
 - Used to determine compliance

Certification Process

Confirmatory Testing (CT)

- CT is required if:
 - a) Manufacturer submits only one certification test result, AND
 - b) Certification level is $>85\%$ of the standard
- CT may be performed voluntarily by manufacturer without prior ARB notification
- All tests must be reported in the certification application

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- Request for Information issued to solicit new system proposals for evaluation
 - **Current DMS**
 - Training is being provided on a monthly basis
 - Will continue to be used for the non database information like labels, schematics, AECDs, etc.

Auxiliary Emission Control Devices

Compression-Ignition and Spark-Ignited Engines

- Recent focus on Spark-Ignited Engines(i.e. EFI models)
- Disclosure and description of all AECDs is a major element of certification.
- AECD reviews take time; manufacturers encouraged to start discussions early
- Provide sufficient technical detail to determine whether AECD is acceptable
- Describe: Entry and Exit conditions; Period and Frequency of Activation
- AECDs cannot be used to mask a “frail” engine design

Compression-Ignition and Heavy-Duty Certification Section

E-Cert Update

- Design revamped to include:
 - Engines and vehicles
 - Greenhouse gas certification
 - Data Requirements forwarded to Systems staff
 - Data Requirements to manufacturers once complete
 - ARB will be asking for manufacturers to participate in the E-Cert Pilot Program

On-Road HD Phase I GHG

Application period guidance letter
Dec. 22, 2014

- Inform vehicle customers that they must comply with CA GHG regulations – submit application and receive EO before selling
- ARB staff continues to assist manufacturers through GHG process
- Please continue to include GHG data in the ABT reports

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- 0.10 g/bhp-hr
 - 0.05 g/bhp-hr
 - 0.02 g/bhp-hr
 - ARB's new Innovative Technology Regulation (ITR) will go to the Board in September.
 - Manufacturers will be able to use ITR provisions starting in 2017

Certification Focus Areas

Staff Will Be Reviewing Adjustable Parameters

- ARB is checking hardware with adjustable parameters - emissions related components under §86.094-21 and §1039.205
- Staff is reviewing the tamper resistance hardware on engines
- Manufacturers will be asked to send ARB hardware for review if:
 - No existing approval from ARB, or
 - Current approval is more than 5 years old
- Please coordinate with your certification representative

OFCI End-of-Year Reports Need To Be Submitted

- Production reports needed for:
 - Certified engines, and
 - Flex engines (TPEM)
- Production reports due 45 days from the end of model year (§1039.250(a)).
- Manufacturers late → No Extensions
- As of today 92% of the reports have been received

Service Information Rule

tion is the ARB lead

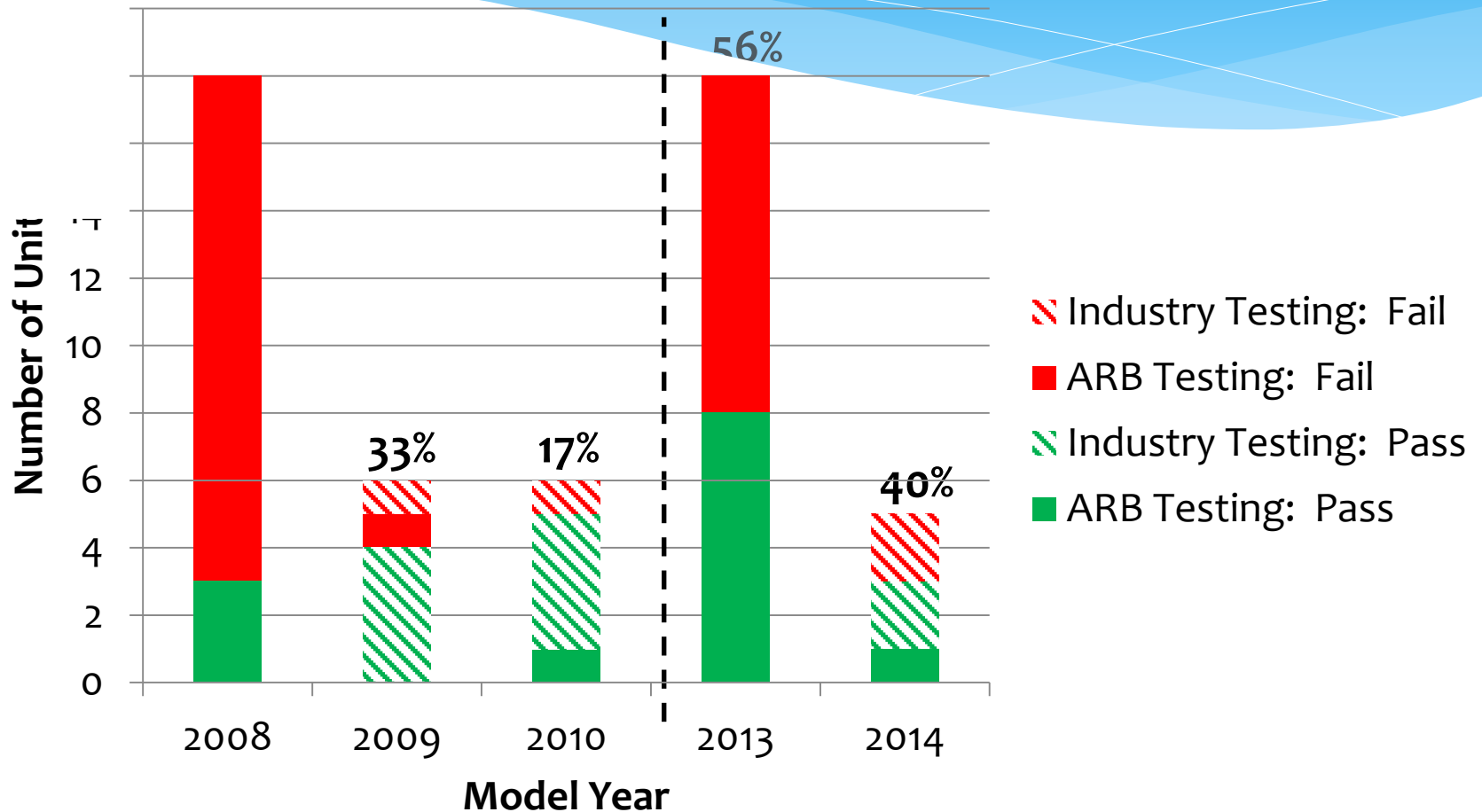
- Annual website performance reports are due within 30 days of the end of calendar year.
- Reports should be directed to the attention of Paul Adnani
- Websites look good – However not all On-Road manufacturers are submitting timely updates


Off-Road Spark-Ignited Engine Certification Section

SSIE Evaporative Emissions Validation Studies

- 15 design-based and 3 performance-based units in 2008 and 2013
- 5 design-based and 1 performance-based in other model years
- Three, 24-hour diurnal tests per unit
- Executive Officer determines whether certification options are meeting ARB's emission reduction goals

SSIE Validation Study Results



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- Metal and coextruded multilayer fuel tank certification for MY 2017 (Design-based certification)
 - CE10 (ASTM Fuel C + 10% Ethanol) test fuel not allowed for fuel tanks
 - Implementation of best practices when designing evaporative emission control systems

2017+ MY Fuel Tank Requirement (Design-based Certification)

- Applicable to SSIE & LSIE < 1 Liter
- Permeation testing required for metal and coextruded multilayer tanks
- Permeation test data or an evaporative component Executive Order number to be submitted with evaporative certification application
- Mail-Out ML 15-01 outlines the testing requirements.

<http://www.arb.ca.gov/msprog/mailouts/ml1501/ml1501.pdf>

2020+ MY Certification Fuel Requirement

- New certification test fuel requirement (LEV III) for gasoline engines starting 2020 MY
- Applies to off-road categories for SSIE and LSIE. 40 CFR 1065.701(a) (California Version)
- Production-line testing must use same fuel as certification test fuel
- New Deterioration Factor (DF) testing required for engines certified with LEV III fuel

2020+ MY Certification Fuel Requirement (cont'd)

- Current DFs not representative of new engines
- DFs cannot be carried over to 2020+ MY engine families
- Manufacturers encouraged to coordinate with ARB and EPA to use same DF test data
- Manufacturers may utilize DF Carry-Across from worst case engine families to others
- Provide technical justification for DF carry-across

Limited to:

- Certification data
- Production-Line Testing (PLT) data
- Request manufacturers send certification test engine(s)
- Check if part numbers on certification engine match with application
- Conduct emissions testing to check compliance

How Are Post-Certification Compliance Reports Used?

- Quarterly PLT report (SSIE, LSIE) helps to identify:
 - Engine emission failures
 - Non-compliant engine families
 - Production and quality control issues
 - Candidates for Title 13 testing
- End-of-year Averaging, Banking and Trading report (SSIE)
 - Check compliance with corporate average plan
 - Verify number of credits generated and/or used by manufacturers

Contact Information

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