

Air Resources Board Certification Update

2016 EMA Certification Workshop

April 19, 2016

Outline

- Organization
- Certification Statistics
- Certification Streamlining
- 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
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Branch Secretary
Bonnie Garlow

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Seongyup Kim

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Compression Ignition and Heavy Duty Certification Section

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Staff

Paul Adnani

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Tsatsu Nukunya

Zachary Evans

Babak Pazokifard

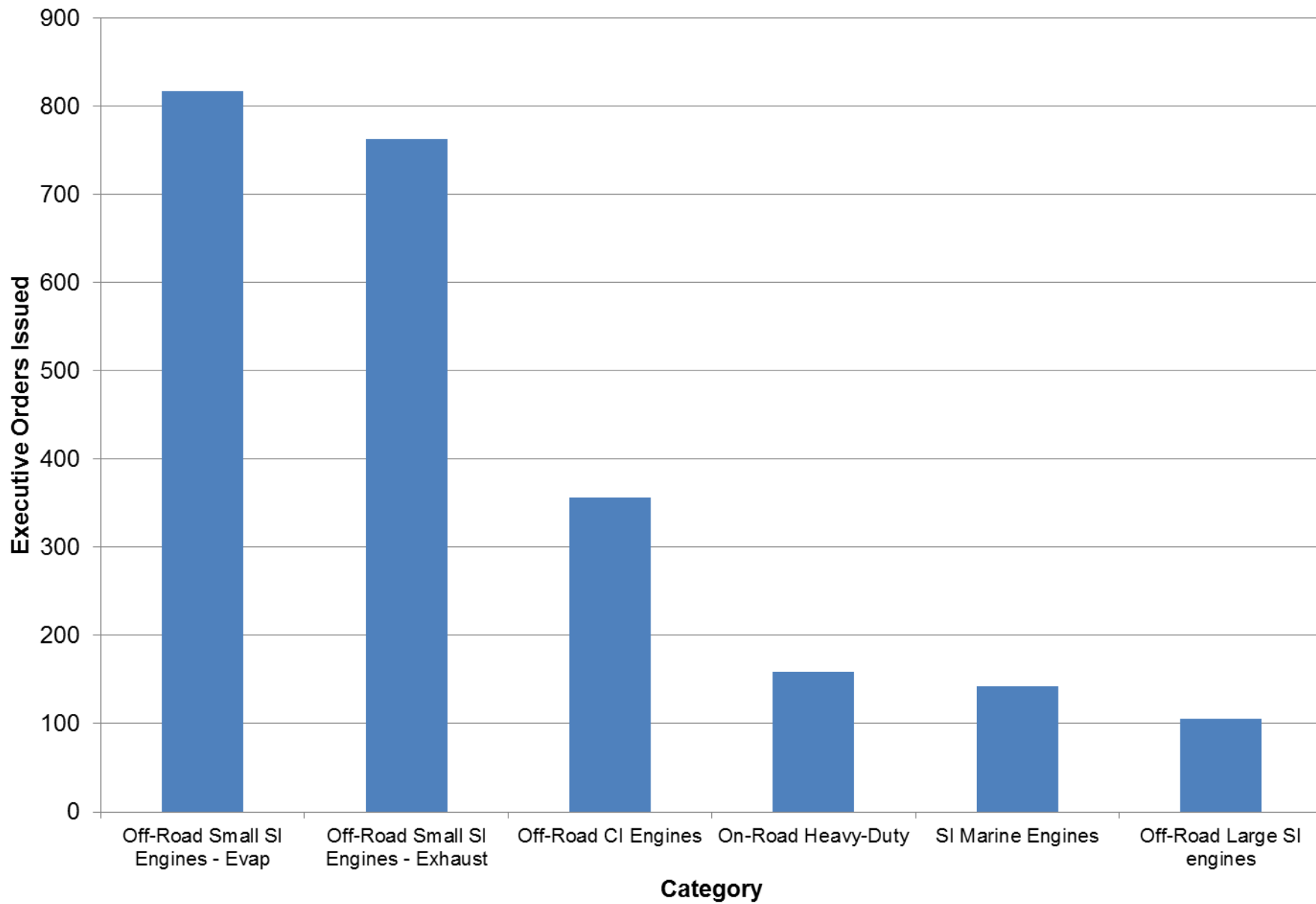
Mel Capistrano

Michael Pham

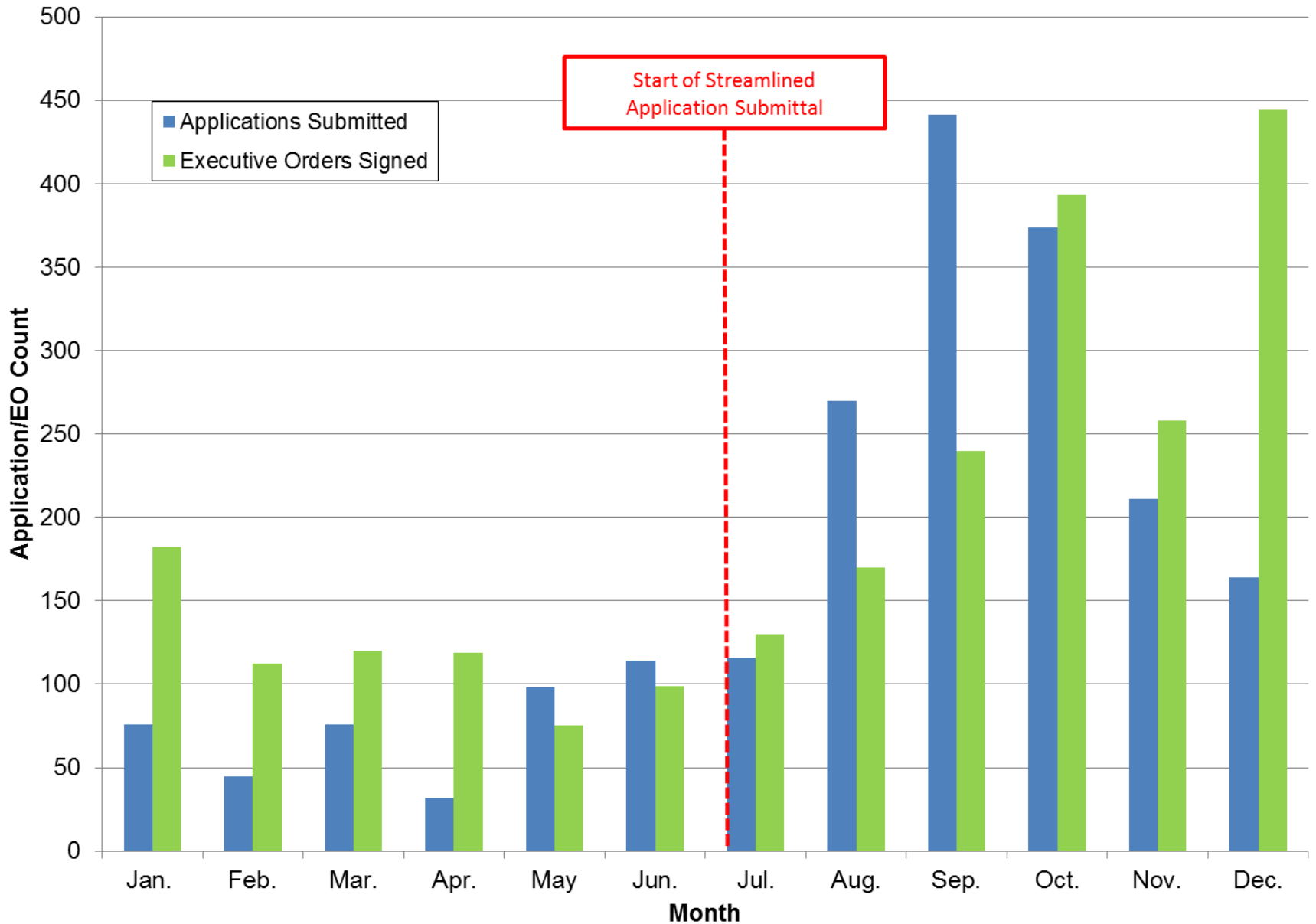
Adrian Torres

Luke Gibson

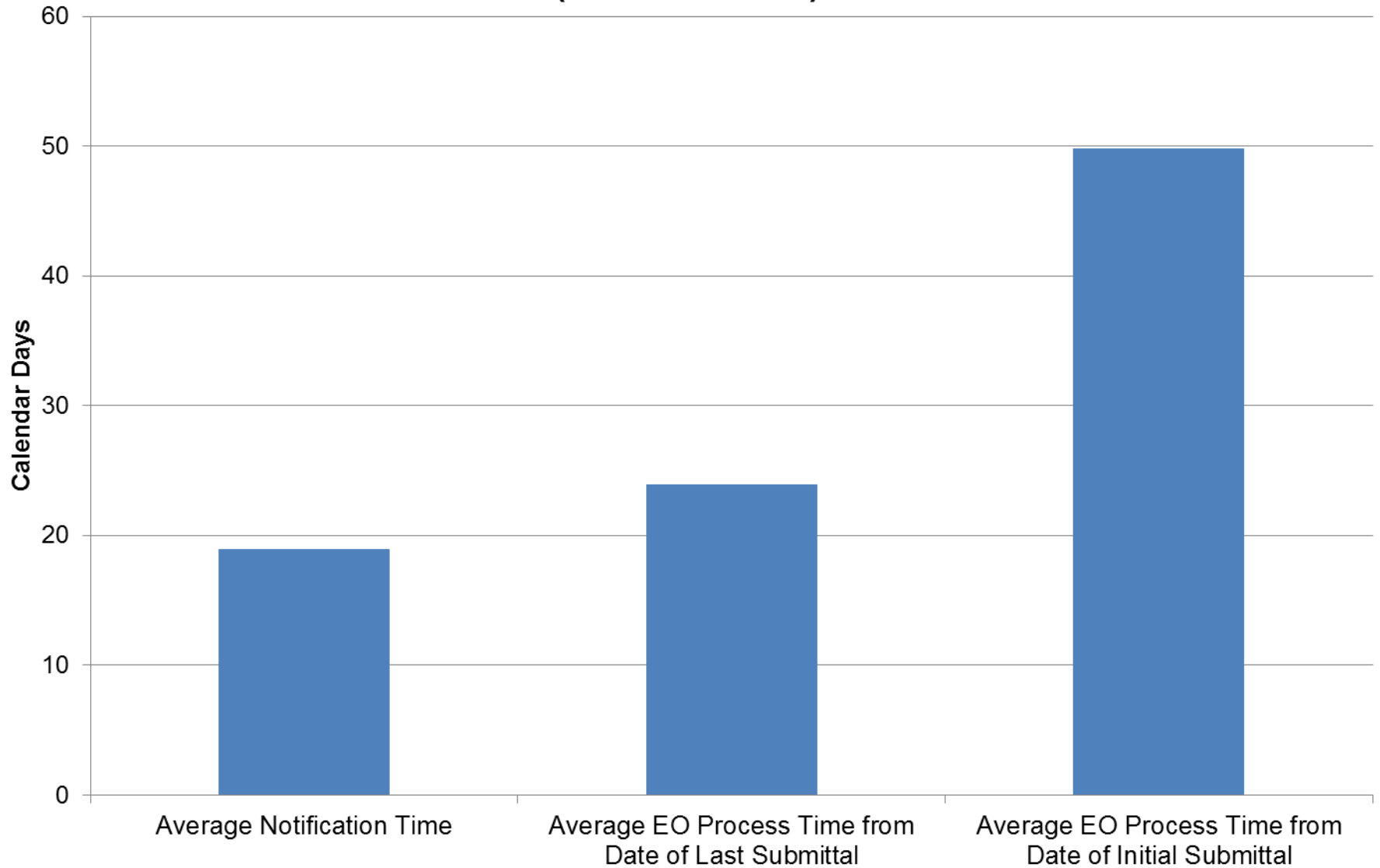
Volume of Executive Orders Issued in 2015 Calendar Year (CIHD+OFSEC)



2015 Calendar Year New Application Tracking (CIHD+OFSEC)



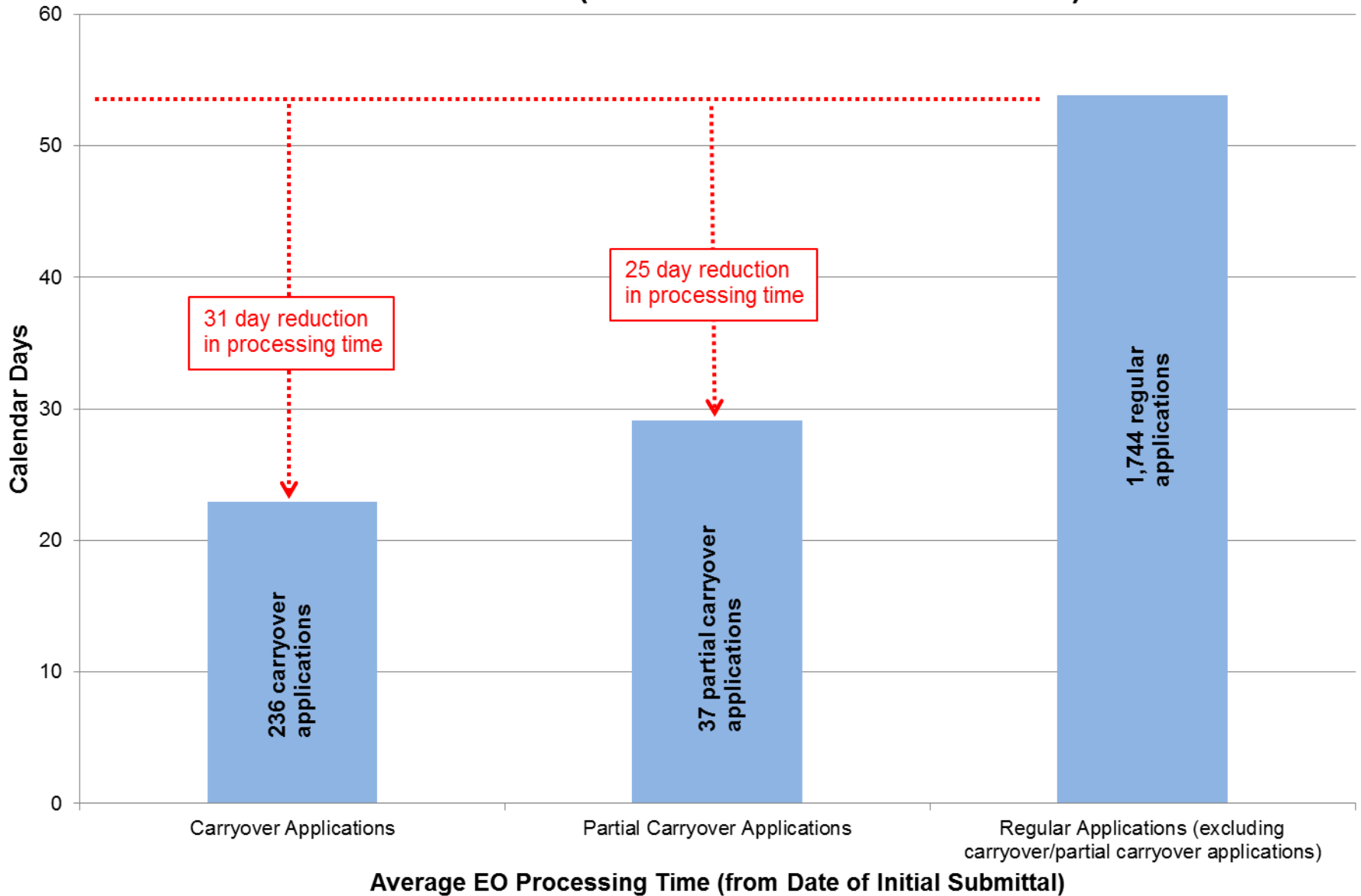
2015 Calendar Year Average Application Processing Times (CIHD+OFSEC)



Certification Streamlining II

- Introduced in July 2015
- Received a limited amount of applications 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

Who Can Certify?

- **Certifying Entity must:**
 - 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

- **Application for Certification**
 - Provide all information requested from the certification checklist
<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**
 - Regulations provide authority to request 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

Document Management System (DMS)

- **New DMS**
 - Being procured for 2017
 - 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:
 - Diesel and Otto cycle engines and vehicles
 - Carryover and Partial Carryover applications
 - 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

- ARB issued transition period guidance letter (CIHD-2014-053) to EMA on Dec. 22, 2014
- ARB is issuing EOs for engine and vehicles
- 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

Advanced Technology

- As a Reminder:
 - Manufacturers are encourage to certify to ARB's Optional Low NOx Standards
 - Three standard levels:
 - 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

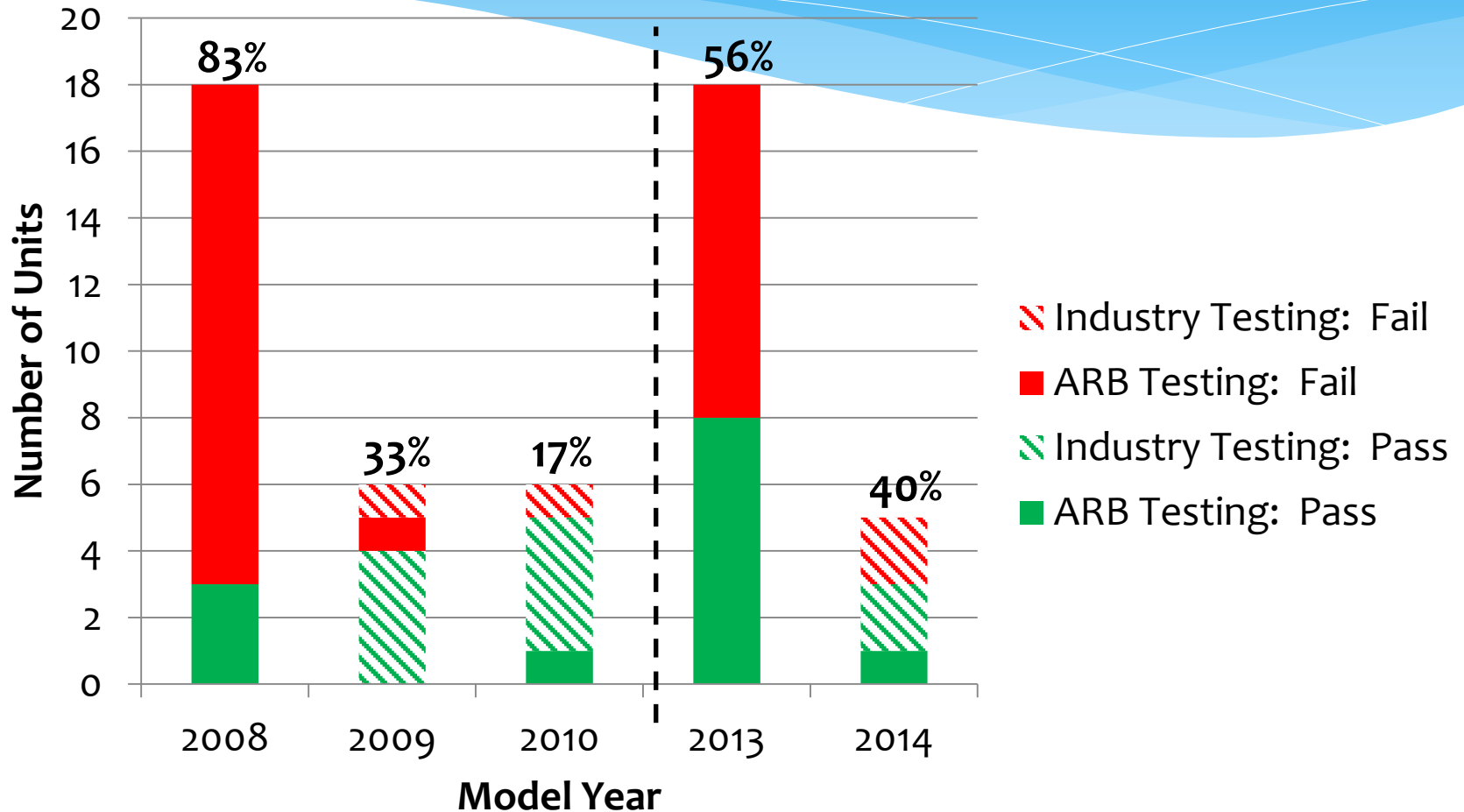
- Paul Adnani of the CIHD Section is the ARB lead staff for Service Information Rule
- Annual website performance reports are due within 30 days of the end of calendar year.
- Reports should be directed to the attention of Paul Adnani
- Websites look good – However not all On-Road manufacturers are submitting timely updates

Off-Road Spark-Ignited Engine Certification Section

SSIE Evaporative Emissions Validation Studies

- Required by 13 CCR 2754.2
- Model years 2008-2010 and 2013-2015
- 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



SSIE Validation Study Outcomes

- Formation of government/industry SSIE working group
- 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

Confirmatory Testing At ARB

- Confirmatory testing in El Monte to be restarted in 2016
- Target engine families identified using, but not 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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Questions

