

EPA Vehicle & Engine Compliance



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Ensuring compliance is essential

- ▶ Emissions from transportation sources do immense harm to public health, welfare and the environment
- ▶ Benefit of EPA Regulations
 - In 2030, the Clean Air Act will prevent more than 38,000 premature mortalities and realize more than \$380 billion in health and welfare benefits
 - Benefits far outweigh costs: ~30:1 over lifetime of CAA
 - HDV GHG program will realize \$1.7 trillion dollars in fuel savings over the lifetime of vehicles produced between 2011 and 2025
- ▶ We must ensure environmental compliance to deliver these important environmental and public health benefits
 - The above benefit estimates describe the harm that will come if the vehicles and engines produced fail to comply with our programs
 - In today's competitive global environment, regulated industries expect and rely on EPA to protect their investment in emissions compliance

Achieving Compliance: Lifecycle Approach

- ▶ It is vehicle manufacturers, vehicle owners and repair technicians that can affect how much pollution comes from cars
- ▶ We accomplish our emission reduction goals through the minds and hands of manufacturers, owners and technicians
 - We want manufacturers to design & manufacture cars to limit vehicle emissions to the greatest degree technology will allow for the full lifetime of the vehicles
 - We want vehicle manufacturers to fix any defects in their products through recall and repair
 - We want vehicle owners and service technicians to properly operate and maintain vehicles
- ▶ Our compliance efforts then need to focus on these audiences to best affect their actions

EPA Compliance Mindset

- ▶ We can't do everything, and we can't be everywhere. We have to make choices based on our assessment of environmental and programmatic risk.
- ▶ We need to empower our teams to innovate in ways that can maximize our environmental return. We implement fixed rules, but we don't have to do everything by rote.
- ▶ Visible compliance and enforcement are powerful levers to deter noncompliance and demonstrate our resolve.
- ▶ Compliance data are powerful. We must make it readily available so it can be leveraged to improve policy decisions, regulatory determinations, compliance auditing and program transparency.

EPA Vehicle and Engine Emissions Compliance Oversight

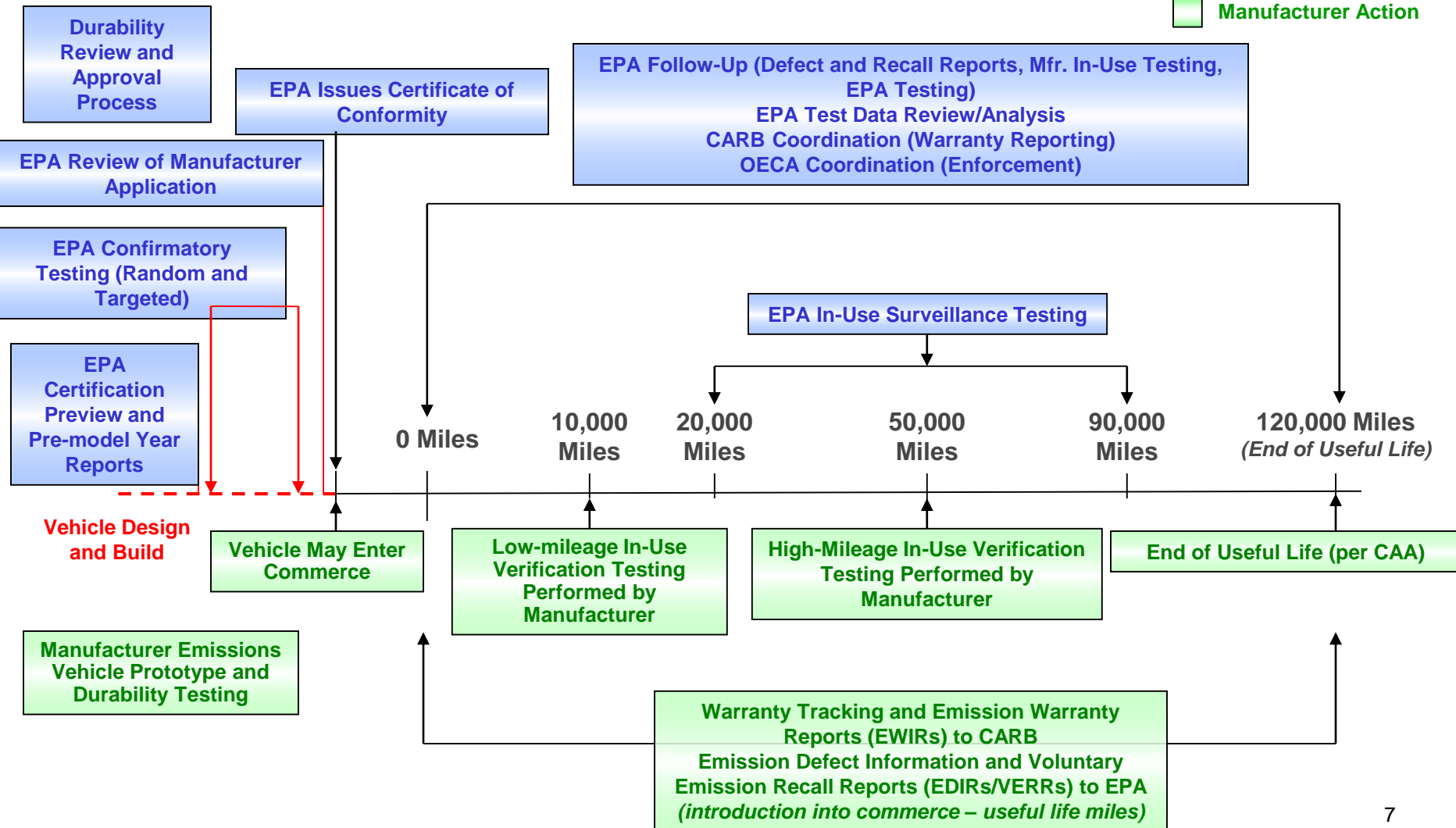
- ▶ Our approach to compliance oversight is multi-faceted and multi-dimensional
 - We monitor emissions compliance throughout the product lifecycle
 - Pre-production
 - Products coming off production lines
 - Vehicles and engines already in customer service
- ▶ We apply a flexible mix of testing, audits, manufacturer tracking/reporting review, and partnerships with other stakeholders and regulators to collect compliance information

Lessons from EPA's Experience

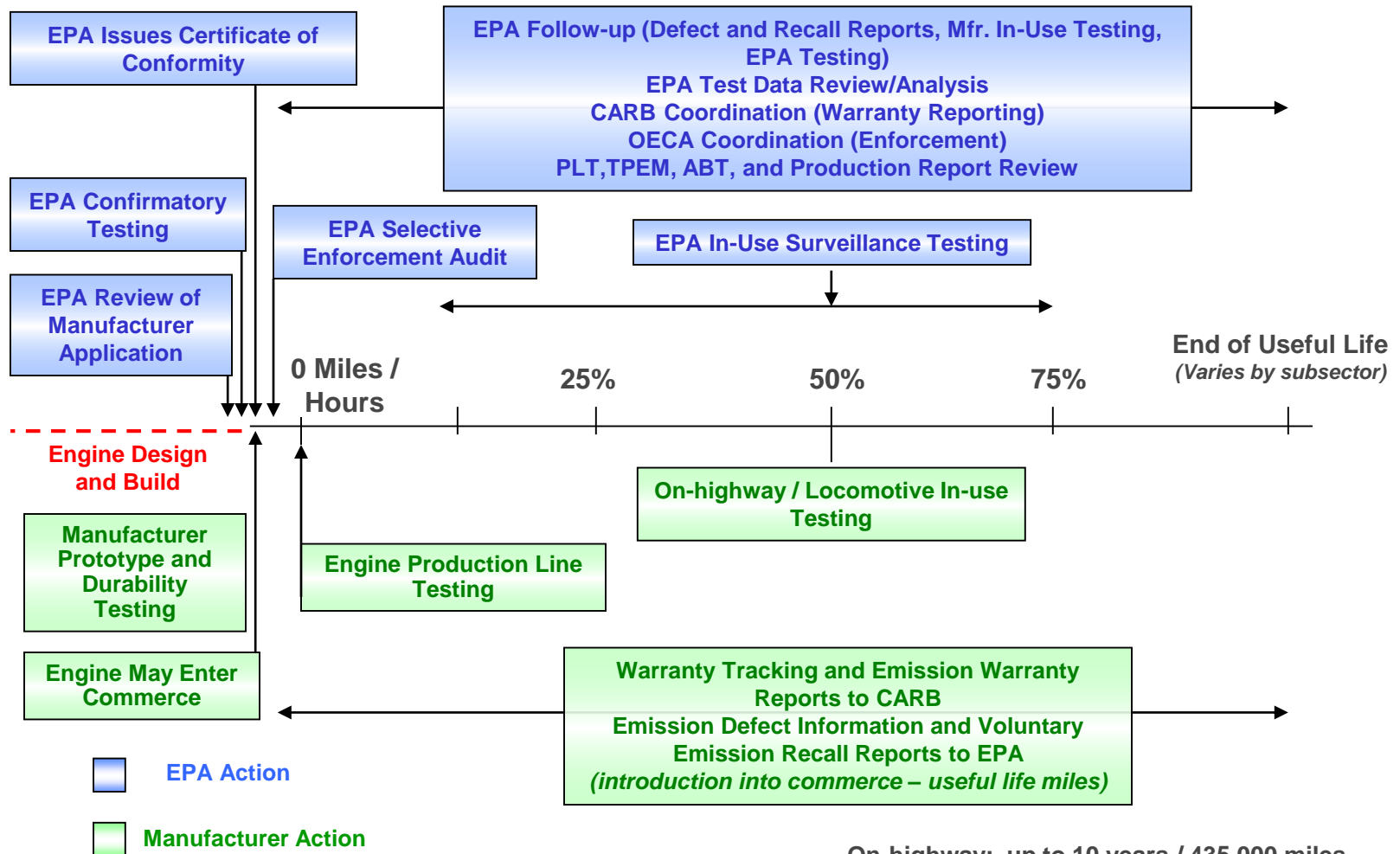
- ▶ Effective compliance is critical to addressing transportation emissions
 - Focus efforts and resources on areas of highest risk
 - Monitor compliance along the entire lifecycle of the vehicle
 - Employ a flexible mix of tools in partnership with stakeholders
 - Visible compliance and enforcement are a deterrent
- ▶ Effective compliance programs maximize air quality benefits and help ensure that manufacturers investing to comply with these programs can compete on a level playing field

Light-Duty Vehicle Compliance Program

■ EPA Action
■ Manufacturer Action



Heavy-Duty Diesel Compliance Program



Full Useful Life:

On-highway: up to 10 years / 435,000 miles
 Nonroad: up to 10 years / 8,000 hours
 Marine: up to 10 years / 20,000 hours
 Locomotive: up to 10 years / 32,000 MW-hours