

# U.S. Emission Regulatory Perspective

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# EPA-CARB Focus – On-Highway, Non-Road

- Much of the regulation discussion is focused on Low NO<sub>x</sub> for Heavy-Duty On-Highway (HDOH). EPA is now officially part of that with the Cleaner Trucks Initiative (which was announced November 2018)
- SwRI has a CARB contract to do a first stage effort on Nonroad Low NO<sub>x</sub>. Follow on technology demonstration program likely on 2020/2021. This program will be diesel focused, but the regulations would apply to nonroad natural gas engines also.



# EPA-CARB - NMNEHC

- Applies to:
  - Non-road; Marine; Locomotive; On-highway
- From last year, there is still no movement from CARB on NMNEHC. CARB still does NOT recognize the non-ethane, and for California the regulation is still just NMHC. This was made official in CARBs Phase 2 GHG final rule in 2018 and remains in place.

# SI Engine Emissions

- New Jersey to include formaldehyde in VOC for SI gas engines
  - NJDEP is now requiring VOC emissions from combustion of gaseous fuels in IC engines to be calculated as the sum of nonmethane hydrocarbons (NMHC) and formaldehyde
- Recent SwRI paper discusses measurement of NMHC and formaldehyde for natural gas engines

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**NMHC and NMNEHC Measurements of  
a Spark-Ignited CNG-Fueled EMD  
GP38-2 Switch Locomotive**

9 - New Engine Developments - Gas & Dual Fuel

Dustin Osborne, Southwest Research Institute



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# Activities in Canada

- Canada proposed new stationary CI and non-road SI (~2021)
  - “Off-road Compression-Ignition (Mobile and Stationary) and Large Spark-Ignition Engine Emission Regulations”
    - Mobile CI engines
    - Large SI engine developing more than 19 kW
    - Stationary CI engine with displacement of less than 30 L/cyl
  - Aligns with the U.S. EPA’s standards for LSI and Stationary CI engine

# Affordable Clean Energy

- Affordable Clean Energy (ACE) final rule published 19 Jun 2019
  - Repeals Obama-era Clean Power Plan
  - Removes the requirement for installation of BACT during major renovation
  - Coal-fired power plants may have extended life with no BACT requirement
  - Some studies suggest this will increase CO<sub>2</sub> emissions through 2030



Environmental Topics

Laws & Reg

Related Topics: [Stationary Sources of Air Pollution](#)

## The other view:

The Environmental Protection Agency on Wednesday killed President Obama's signature climate change policy, the **Clean Power Plan** (CPP). It's one of the few definitive wins in the Trump administration's full-court press to undo and weaken environmental regulations.

## Affordable Clean Energy Rule

On June 19, 2019, EPA issued the final Affordable Clean Energy rule (ACE) – replacing the prior administration's overreaching Clean Power Plan with a rule that restores rule of law, empowers states, and supports energy diversity. The ACE rule establishes emission guidelines for states to use when developing plans to limit carbon dioxide (CO<sub>2</sub>) at their coal-fired electric generating units (EGUs). In this notice, EPA also repealed the CPP, and issued new implementing regulations for ACE and future rules under section 111(d).



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