Southwest Research Institute® (SwRI®) has been providing heavy-duty (HD) emissions measurement for more than 60 years and was one of the first emissions laboratories qualified to conduct EPA Part 1065 and Euro VI procedures. SwRI is recognized worldwide as a leader in developing and conducting a wide variety of tests representing the latest in emissions measurement for regulatory compliance audits and certification.

Capabilities

HD emissions measurement capabilities at SwRI include:

- Experience with multiple OEM software platforms
- Excellent relationships with regulatory bodies
- Complete catalyst and aftertreatment R&D facilities
- Internationally recognized particle number measurement and calibration abilities
- In-house FTIR, gas chromatography, and chemistry support
- Over 40 years collaboration with EPA in HD emissions legislation
- OEM hardware development including automated engine mapping
- Complete calibration traceability on testing and measurement equipment

Emissions Tests

HD emissions tests conducted at SwRI include:

- Conformity of production (COP) testing
- Manufacturer’s on-board diagnostics (OBD)
- Heavy-duty spark-ignited testing (gasoline, CNG, LNG, LPG)
- Audits
- Deterioration factor (DF) and certification
  - EPA – On-highway, non-road
  - EU – Non-road Stage III, IV, V, and VI (on-highway)
  - China – Non-road (VECC)
  - China – Marine (CCS)
  - India – ARAI
  - Canada – CANMET
  - MSHA (U.S. mining)
  - IMO MARPOL (International shipping)
Facilities
SwRI has extensive facilities for emissions testing that include dilute and raw sampling capabilities. All test cells are maintained in certification capacity.

- 13 EPA Part 1065 and Euro VI approved test cells
- 2 CNG/LPG fully heated dilution tunnels
- High-altitude simulation test cell
- Dilute and raw sampling capability
- Heavy-duty tandem axle dynamometer
- 35 kW to 1,000 kW transient dyno capacity
- In-house support of dyno control software, data acquisition systems, and analyzers

Ongoing Programs
SwRI automotive engineering specialists are active in several high-profile programs, including:

- CARB Low NOx (0.02 g/kW-hr)
- EMA/EPA Round Robin
- EMA Full Useful Life Demonstration
- EPA Hardware-in-the-Loop (GEM)