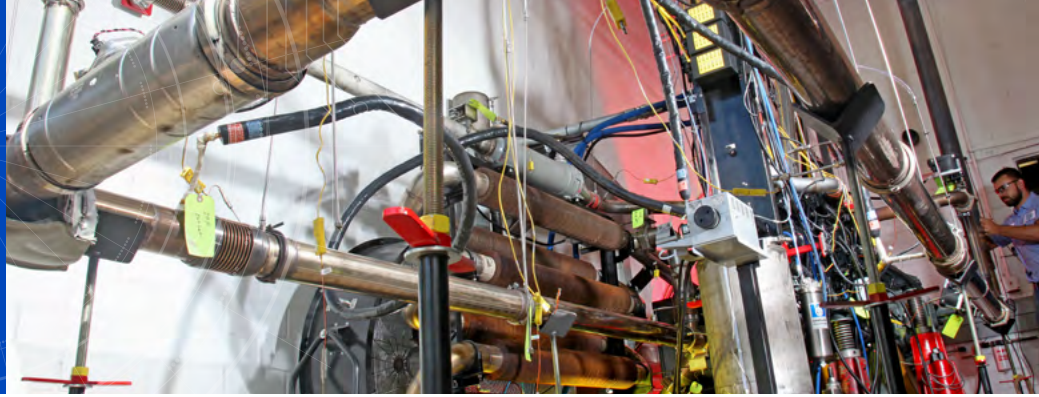


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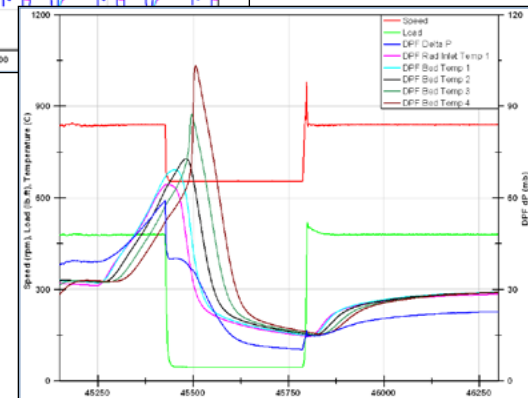
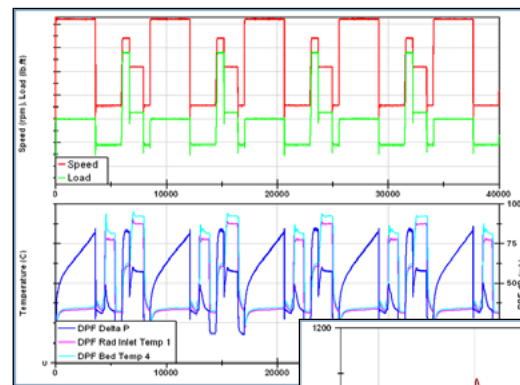
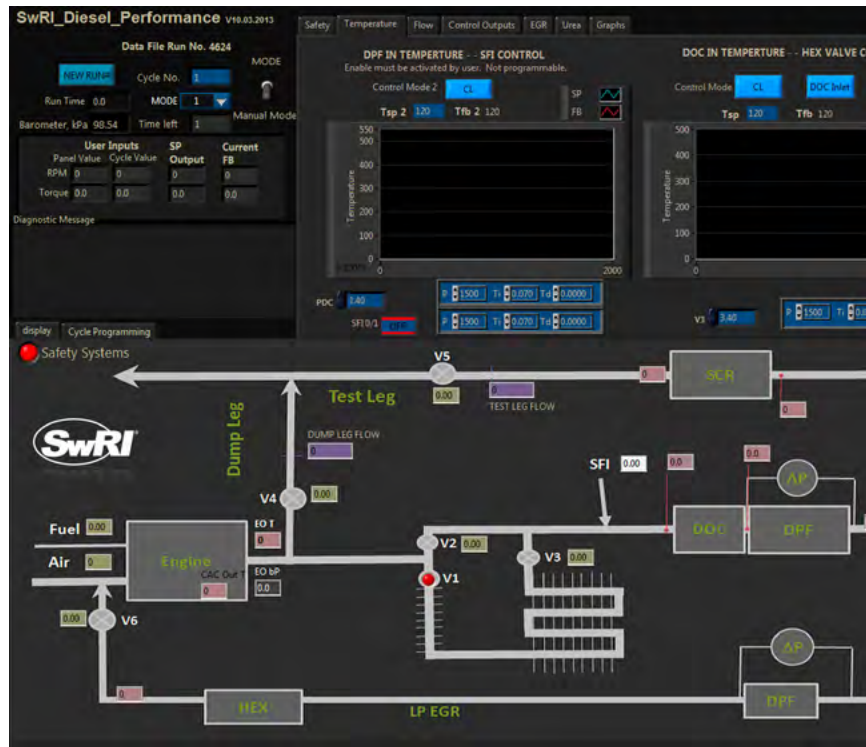


## Customized Aftertreatment Test Stands

Southwest Research Institute® (SwRI®) has been actively involved in the design, fabrication, and control of a wide variety of test stands for more than 50 years, providing turnkey solutions to unusual and complex system requirements.

### Customized Gasoline Aftertreatment Stands

- SwRI's aftermarket engine control unit (ECU)
  - Closed-loop and open-loop air-fuel ratio (AFR) control
  - Flexible fueling and timing control
- Powerful control and data acquisition (DAQ) system
  - Can integrate with emissions analyzers
  - Precise and independent control of exhaust temperature, AFR, and flow rate
- Stoichiometric three-way catalyst (TWC) evaluation
  - Light-off at different AFR conditions
  - Flow (space velocity) sweep
  - AFR sweep
  - Oxygen storage capacity (OSC) test
- NO<sub>x</sub> adsorber catalyst (NAC) evaluation
  - Lean/rich cycle assessment
  - Desulfation



### Customized Aftertreatment Thermal Aging Stands

- Thermal aging of aftertreatment catalyst, with engine oil consumption
- SwRI's aftermarket ECU
  - Closed-loop and open-loop AFR control
  - Flexible fueling and timing control
- User-friendly aging cycle development
  - Can input any aging cycle as long as system safety allows
  - Dynamic aging result analysis allows adjustment of aging operation

## Customized Aftertreatment Thermal Aging Stands

- OEM engine and ECU, SwRI low-pressure exhaust gas recirculation (EGR) enables engine-out PM, and NO<sub>x</sub> concentration changes to meet different requirements
- Independently control the key exhaust parameters – temperature, flow rate, particulate matter (PM), and NO<sub>x</sub> concentration
- SwRI diesel exhaust fluid (DEF, or AdBlue) injection hardware and control can accommodate any DEF injector
- Evaluate diesel oxidation catalyst (DOC), diesel particulate filter (DPF), and selective catalytic reduction (SCR) as a standalone component, or as a system



SwRI's large engine test facility




ADVANCED COMBUSTION  
CATALYST AND AFTERTREATMENT  
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CATALYST AND  
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We welcome your inquiries.

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## SOUTHWEST RESEARCH INSTITUTE

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