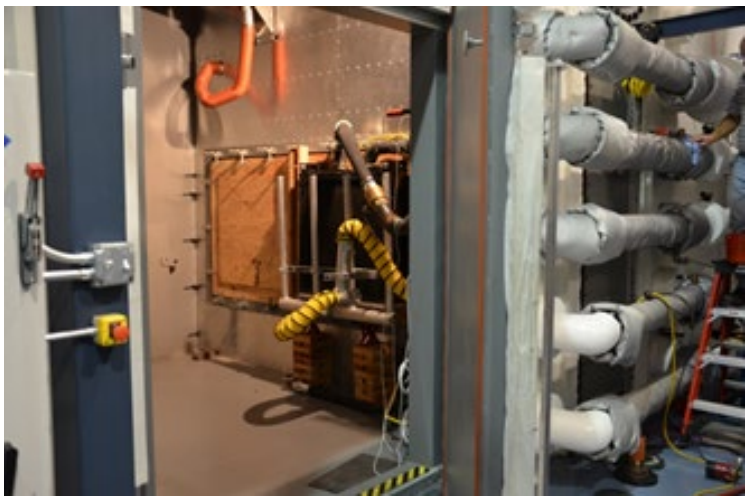
Ground Systems Power & Energy Laboratory

GVSC's Ground Systems Power and Energy Laboratory (GSPEL) is the Army Centerpiece for mobility, power and energy R&D, integration and testing of current and emerging ground vehicles, providing enhanced capabilities for delivering the best, most advanced ground vehicle technology to our warfighters. A centralized, integrated, one-of-a-kind facility to provide steady-state and transient (mission profile) test capability with state-of-the-art test parameter/environmental control and data acquisition.

GSPEL Testing Capabilities

Testing Services

- 250 to 12,000 SCFM air flow test benches with zero to 4X zero visibility dust feed for air filters, cleaners and equipment testing
- Up to 50,000 CFM air flow for heat exchanger (radiator), charge air and oil coolers, and armored ballistic grille characteristics/performance testing
- High-voltage/power components testing for vehicle electrification and hybrid electric power tech integration
- ISO 17025 LQMS accredited test lab for production qualification of batteries and electrochemical technology testing at cell, module and battery pack levels
- Controlled and repeatable road profile simulated full vehicle powertrain testing to create, assess and validate vehicle design, functionality and utility



Ground Systems Power & Energy Laboratory

Air Flow Laboratory

- Calorimeter Testing
- Filtration Testing
- Replicate field failures
- Assess maintenance efficiency
- Evaluate new heat exchangers and ballistic grilles

AFL GSPEL Laboratory

Electrical Components Laboratory

- Testing of high voltage, high power components
- Analyze future electrical power generation
- Variable coolant temperature and flow rate over a large range
- Pressure testing of coolant cooled components using high sensitivity pressure transducers

ECL GSPEL Laboratory

Energy Storage Laboratory

- Assess performance of fielded storage system
- Test new solutions for fielded and future vehicle systems
- Multiple cell/battery Cyclers on a centralized control system
- Thermal Chambers and temperature controlled Water Baths

ESL GSPEL Laboratory

Power & Energy Vehicle Environmental Laboratory

- Transient Road-Load Profiles
- Vehicle Acceleration
- Fuel Economy
- Full-Load Cooling
- Speed on Grade
- HVAC Validation
- Engine Cold-Start Evaluation
- Alternator Load Testing

PEVEL GSPEL Laboratory

U.S.ARMY DEVCOM GROUND VEHICLE SYSTEMS CENTER

FOR FURTHER INFORMATION:
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