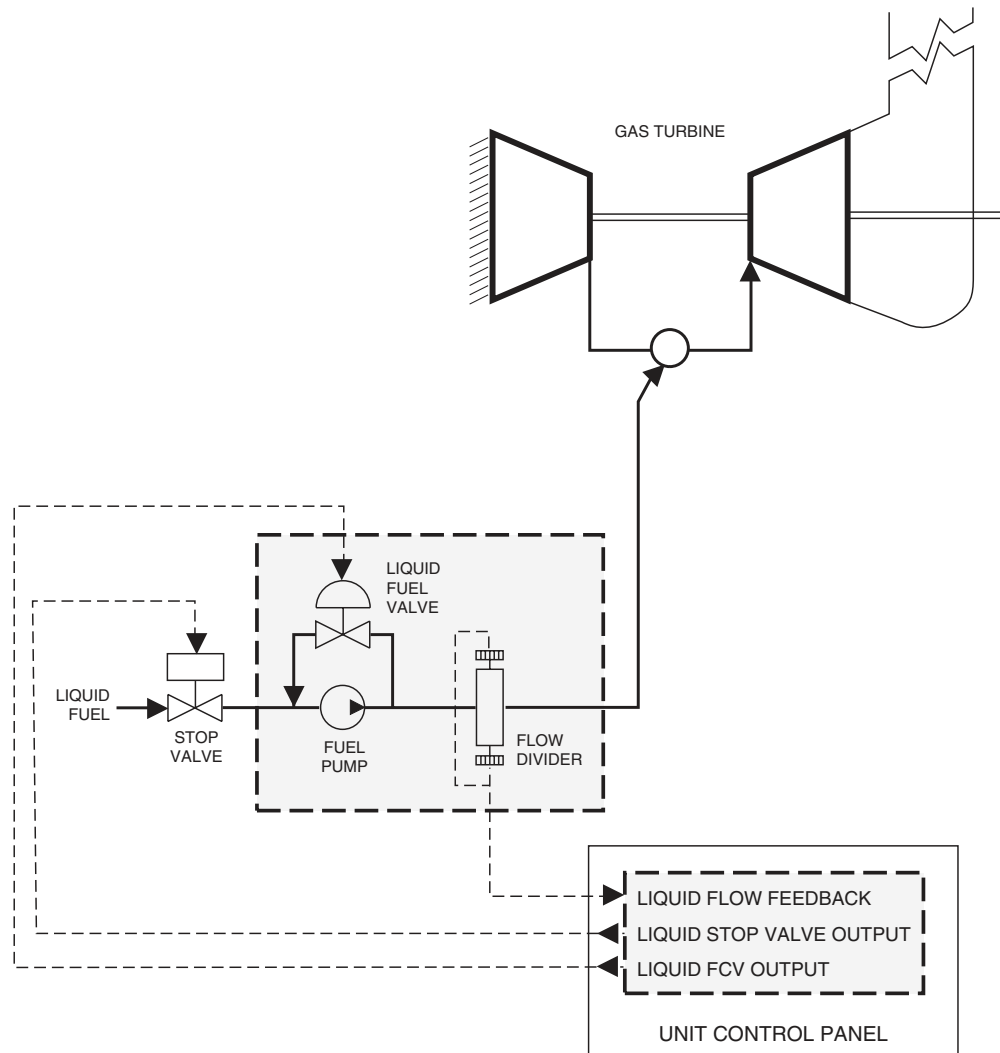


# GAS TURBINE LIQUID FUEL SYSTEM UPGRADE UNIVERSAL FUEL SYSTEM



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Simplified schematic showing principal parts of the Petrotech gas turbine liquid fuel system upgrade, universal fuel system design.



## APPLICATION

The Petrotech gas turbine liquid fuel system upgrade replaces older, outdated electro-pneumatic, electro-hydraulic, and analog-electronic fuel control systems. This upgraded system includes a gear type fuel pump which is less sensitive to fuel contaminants than the piston type pumps commonly used for this application.

## ADVANTAGES

### Functional control improvements:

- More accurate and faster fuel control extends hot gas path hardware life and maintenance intervals. Overall start-up reliability is improved with new fuel system component reliability and better control system.

### Maintenance:

- "Off-the-shelf" commonly used valves and other components reduce spare parts and maintenance costs.
- Items available off the shelf have original manufacturer's part numbers, rather than Petrotech part numbers

### No hydraulics possibility:

- If Petrotech's electro-mechanical servo actuated (EMSA) gas fuel valve is used, all hydraulic and pneumatic requirements are eliminated. However, the system will function with most hydraulic fuel control valves.

### Simple Installation:

- The fuel pump and flow divider are mounted in the same locations as the existing hardware. The fuel control valve is installed in the piping on-base adjacent to the fuel pump. The control logic installs either in an existing PLC-based unit control panel such as Petrotech's Series 9500 control panel, or can be a separate control unit.

## LIQUID FUEL SYSTEM UPGRADE SCOPE OF SUPPLY

The Liquid Fuel System Upgrade, Universal Fuel System, typically includes the following:

- Hydraulic or electric (specify) liquid fuel control valve.
- Positive displacement fuel pump, Roper Pump Co.
- Gas turbine liquid fuel flow divider with speed pickups for flow measurement, Roper Pump Co.
- Universal Fuel System Application Control Package software for specified microprocessor hardware. This software integrates seamlessly into Petrotech Series 9500 gas turbine unit control panels, and is usually adaptable to other PLC-based control systems.
- PLC, if required.
- Project-specific engineering, installation assistance, start-up and commissioning, documentation, and training.

Certain items typically furnished by the customer, but can be furnished by Petrotech:

- Liquid manifolds, fuel nozzles, pigtails, check valves, miscellaneous installation piping and labor.s.

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