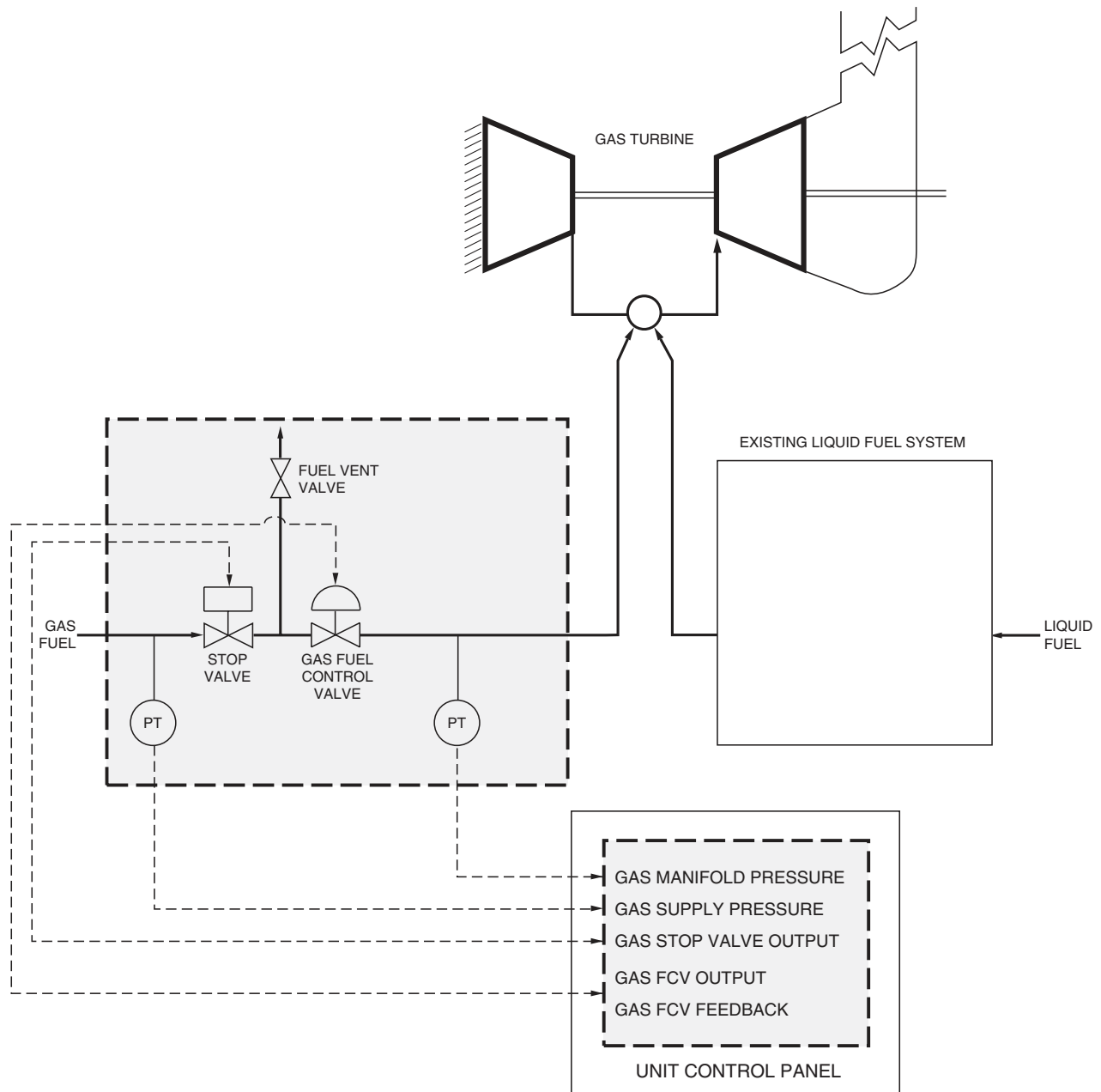


GAS TURBINE "ADD GAS" FUEL SYSTEM UPGRADE

SINGLE VALVE DESIGN



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Simplified schematic showing principal parts of the Petrotech gas turbine "Add Gas" Fuel System Upgrade.



APPLICATION

The "Add Gas" Fuel System upgrade with Petrotech's single valve design adds, with certain other components, dual-fuel capability to industrial gas turbines

ADVANTAGES

Energy cost:

- Gas fuel can considerably reduce fuel cost, and dual fuel allows continuous selection of the most economical fuel.

Maintenance:

- Gas fuel extends hot-gas path hardware life.
- The single-valve design uses fewer moving parts than traditional two-valve designs, and the single valve can be an off the shelf valve, considerably reducing spares and maintenance costs.
- Items available off the shelf have original manufacturer's part numbers, rather than Petrotech part numbers

No hydraulics possibility:

- If an electro-mechanical actuated (EMA) 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 automated valve assembly can be delivered as a packaged, tested skid for mounting on or adjacent to the turbine skid base or can be custom designed per customer requirements. The control logic installs either in an existing PLC-based unit control panel such as Petrotech's control panel, or can be a separate control unit.

"ADD GAS" FUEL SYSTEM UPGRADE SCOPE OF SUPPLY

The gas turbine "Add Gas" Fuel Single Valve System typically includes the following:

- Electro-mechanical gas fuel control valve.
- Electro-pneumatic gas fuel stop valve(s).
- Electric gas fuel vent valve.
- Fuel regulator.
- One (1) manifold pressure transmitter, Rosemount.
- One (1) inlet pressure transmitter, Rosemount.
- Fuel pump clutch, if required.
- Atomizing air bypass valve, if required.
- Miscellaneous hand valves and gages.
- "Add Gas" Application Control Package software for specified microprocessor hardware. This software integrates seamlessly into Petrotech 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:

- Gas and liquid manifolds, fuel nozzles, pigtails, check valves, miscellaneous installation piping and labor.
- Electrical installation.

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