STEADY STATE FUEL SYSTEMS

Fuel Delivery System Overview:

- **Operates in conjunction with the generator to ensure efficient fuel supply.**

Filtration Process:

- **The fuel returning to the main storage tank passes through filtration stages to remove particulates and free water.**

Heat Exchanger:

- **Fuel returning to the main storage tank passes through the heat exchanger, cooling the heated fuel returning from the emergency generator.**

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SYSTEM FEATURES

- Replace day tank with a smaller, more compact unit.
- Operates without the need for solenoids or level switches.
- Filters fuel from the main tank with high-efficiency particulate and water capture technology.
- Simple Operation with fewer start-stop cycles, only changing state once during the power outage.
- Reliable vane pump designed for continuous, trouble-free operation.
- Reduces need for external infrastructure.
- Includes an onboard heat exchanger that keeps the fuel oil cool and in spec.

RELIABILITY MADE SIMPLE

SSFS FUEL DELIVERY SYSTEM BASE MODEL AND OPTIONS

Base system includes a skid mounted fuel delivery system with 14-gallon fuel tank, rupture basin, leak & level sensor, UL-508 controls, 10 gpm heavy duty vane pump with continuous duty motor, water and particulate filtration, flow switch and counterflow plate heat exchanger.

Options include:

- *Duplex pump & motor*
- *Coalescing filtration package*
- *Exterior enclosure with removeable panels*
- *Fuel maintenance venturi*
- *Fuel temperature sensor*

SYSTEM INCLUDES

1. System Control Panel
2. Isolation Valve Typical, Normally Open Unless Marked as Closed (N.C)
3. Y-Strainer
4. Pump and Motor Assembly
5. Check Valve for Flow Control
6. Flow Restrictor
7. Float Control Valve
8. 14 Gallon Tank with Rupture Basin
9. Spring Loaded Check Valve for Bypass
10. Fuel Filter Assembly
11. Differential Pressure Sensor
12. Heat Exchanger
13. Fuel Oil Supply and Return from and to Main Storage Tank
14. Drip Basin
15. Leak Switch
16. 4-20 Ma Level Probe

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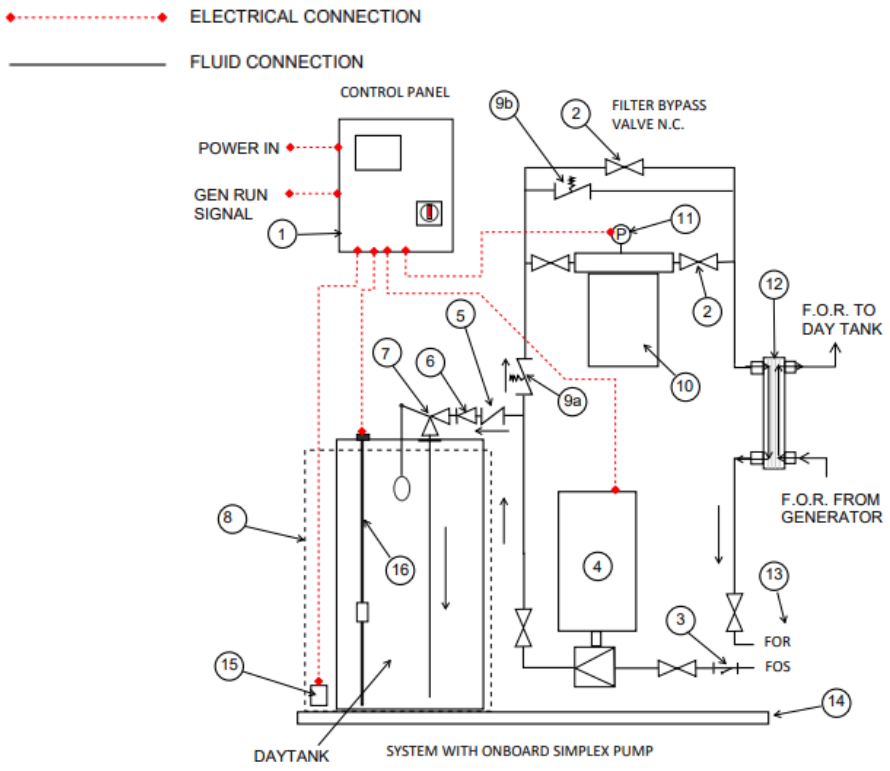

STANDARD SYSTEM WITH SIMPLEX FUEL SUPPLY PUMP

- **Emergency Generator Start**: Generator control signals pump start, activating the fuel supply pump.
- **Fuel Supply Pump**: Draws fuel from the main storage tank and pressurizes the inlet piping to the daytank, filtered through the fuel inlet strainer.
- **Positive Displacement Pump**: Fuel passes through the inlet isolation valve, enters the pump, and exits pressurized through the discharge isolation valve.
- **Fuel Flow Path**:
  - Fuel flows to the day tank if the float control valve is open, keeping the tank filled as fuel is consumed by the generator.
  - Flowrate into the day tank is controlled using a flow restrictor and check valve. Excess fuel flow is directed back to the main storage tank via the filtration and heat exchanging components.
- **Backpressure and Filtration**:
  - When the day tank is full, the float valve closes and all fuel flow is directed through the backpressure check valve, filter manifold and heat exchanger on its way back to the main storage tank.
  - Fuel is filtered for water and particulates, with differential pressure signaling when filter changes are needed.
- **Filter Monitoring**:
  - At 20 psi differential pressure, an alarm alerts the operator for filter replacement.
  - If pressure reaches 25 psi, the bypass check valve opens to maintain flow.
- **Heat Exchanger**: Fuel returning from the generator is cooled by the main storage tank fuel to prevent temperature rise in the daytank.
- **Leak Containment**:
  - If a leak or overflow occurs, the containment basin holds fuel, and the leak sensor alerts the control panel.
- **Drip Basin**: Collects any drips during filter changes.
- **System Operation**: Runs continuously while the generator operates and can also filter fuel from the main tank on a scheduled basis.