

Early Entry Fluid Distribution System (E2FDS)

Rapid emplacement of fuel and non-potable water supply lines across the modular battlefield

The Early Entry Fluid Distribution System (E2FDS) complements multiple existing fuel distribution networks to rapidly extend existing fuel to advancing front lines and austere locations.

The E2FDS is a modular and scalable system of systems with a rapid emplacement capability that keeps pace with the fuel demands of an advancing front. The E2FDS complements the Inland Petroleum Distribution System (IPDS) by providing a means to rapidly extend existing fuel distribution networks. The E2FDS is a modular and scalable system of systems with an emplacement rate of 25-miles per 20-hour day. Once emplaced, has a through put rate of 1M gallons of fuel or 750K gallons of non-potable water per 20-hour day. The E2FDS keeps pace with the fuel demands of a rapidly evolving battlespace.

The E2FDS complements the Inland Petroleum Distribution System (IPDS) by providing an early entry capability to rapidly extend existing pipeline traces or establish new traces during later phases of operations and gas, commercial marine, yacht, transport, drilling and pumping applications.

Through coupling adaptors issued in its Hose Support Equipment Container (HSE), the E2FDS can link up with various other fuel distribution sources. The E2FDS is capable of both pulling and pushing fluids from one source to another.



System Contents

- E2FDS packaged in 5-mile sets consisting of 8x ISO frames. Designed to interface with standard material handling equipment
- One mile of hose per container (5 containers)
- Two pump stations (2 containers)
- Hose Support Equipment (HSE) Container (1 container)
- Flexible hose flaked into vented ISO container provides Rapid Emplacement and Retrieval rate with reduced soldier involvement

System Capabilities

- Emplacement rate of 25 miles per 20-hour day
- Through put rate of 1M gallons of fuel or 750K gallons of non-potable water per 20-hour day
- Retrieval rate of 10 miles per 20-hour day
- Flexible hose contours to terrain and shallow gap crossing
- No site preparation prior to system emplacement and operation needed
- E2FDS controlled and monitored via Fiber Optically informed Hardened Laptop

System Benefits

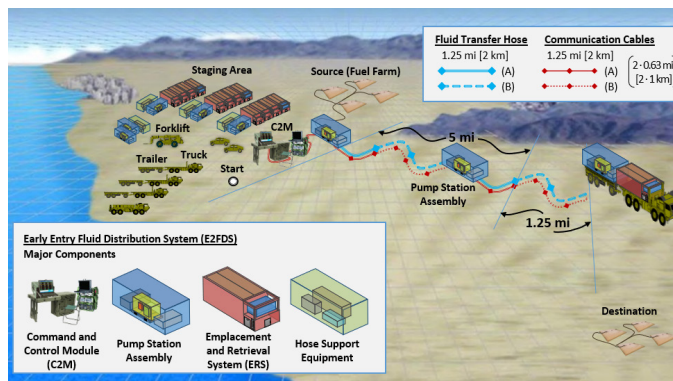
- Eliminates in person soldier control and monitoring at pump stations
- Enables rapid and precise system synchronization during pumping operations
- Reduces radio frequency or satellite over usage
- Provides system level maintenance status
- Monitors pump station input and output for leak detection
- Provides desktop operator training
- Ease of tracking fuel movement quantities across the battlespace
- Five-mile systems can be linked together to provide virtually unlimited supply line

Additional System Capabilities

- Fuel can be dispersed into a bag farm or directly retailed via a Pump Rack Module
- Accepts and can pull fuel form a tanker ship, established fuel storage tanks, or deployable fuel bag farm
- Ship-to-shore capable, all system hoses are sea rated operations possible (maritime certifications can be attained if requirement is added to the program)
- Optional tethered UAS provides 24/7 situational awareness via visual surveillance of the pump station, hose trace, and surrounding area

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Concept of operation: E2FDS is a containerized fluid movement system designed for rapid deployment. Complements the current Inland Petroleum Distribution System (IPDS).



Hoverfly UAS provides 24/7 remote visual surveillance of the E2FDS system and the surrounding area. Tethered to the pump station, Hoverfly video and pictures are sent over the same fiber optic cable that controls E2FDS and displayed on the system's hardened laptop.



E2FDS hose retrieval is performed by a tugger mounted to the truck. While the hose is being retrieved, soldiers lay the hose flat in the storage container. During the hose retrieval operation, the fiber optic cable is rewound onto a spool by an electric motor.

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