



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

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Alert 09-08 (Update)

ELECTRONICALLY-CONTROLLED CARGO PUMP ENGINE COMPONENTS (UPDATE)

For many years, cargo pump engines on weather decks of Subchapter D & O tank barges had mechanical-type start and control systems. The installation of electronically controlled engines on tank barges since the 1990s has introduced non-approved electrical equipment associated with engine monitoring and control systems into hazardous locations (Class I, Division 1) on thousands of tank barges nationwide.

U.S. Coast Guard District Eight recognized this problem with John Deere manufactured engines and distributed enforcement guidance to their field units on November 22, 2005. Since then, John Deere has engineered retrofit packages for approximately 400 units and is currently seeking approval from the U.S. Coast Guard Marine Safety Center (MSC). Because of widespread use of electronically controlled engines, we suspect there may be other equipment currently in use that similarly is not designed or approved for hazardous locations. Other manufacturers of these engines will likely need to follow suit with their own retrofit packages.

46 CFR 111.105-31(1) defines Class I / Division 1 locations as any area located within 10 feet (3 meters) of a cargo tank vent outlet or ullage opening, or cargo pipe flange or valve on a tank barge that carries a flammable or combustible cargo with a flashpoint below 60 degrees C (140 degrees F). By regulations, electrical equipment located in hazardous locations must be approved intrinsically safe, explosion-proof, or purged and pressurized.

On John Deere electronically controlled cargo pump engines, electrical ignition sources were found in control panels, notification lights, alternators, batteries, computers, and associated wiring for engine sensors. Since new components are still being designed and tested, it may be some time before all electronic components on John Deere engines can be re-engineered and retrofitted for hazardous locations. Again, we suspect other makes of electronically controlled engines have the same issues.

John Deere has been working with the MSC on the approval of retrofit packages for their engines and has recently received approval for some models. Operators should coordinate with John Deere's service facility, eiServices, at (870) 268-3700 in Jonesboro, Arkansas to schedule retrofits.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Domestic Vessel Activities (CG-5431), United States Coast Guard Headquarters, Washington, DC. Questions should be directed to LT James T. Fogle at (202) 372-1038 or james.t.fogle@uscg.mil.

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