Let Us Prevent the Next Diesel Engine Explosion

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ABSTRACT

High levels of uncertainty require larger margins of safety. The potential combinations of fuel-hydrocarbons, oxygen-air, and energy-ignition are highly complex; making exact predictions of what is safe and unsafe, difficult and often impractical. The science needed to prove conclusively if combinations near explosive limits will be safe is not yet available. The elimination of ignition sources is a well-known strategy to protect people, investments and the environment from fire and explosions because without the energy to ignite flammable gases, a hydrocarbon release (HCR) incident is far less likely to develop into a catastrophic failure situation. This is not to say that ignition source elimination strategies should act alone. Indeed, elimination of ignition sources must form part of an overall safety strategy. The elimination of the energy (ignition source) can avoid a serious hydrocarbon release becoming a fire and explosion.

A large number of diesel engines (in vehicles, lighting towers, power generators and other equipment) are used in the oil and gas industry for their day-to-day operation. Diesel engine runaway is a serious hazard in oil and gas drilling and production and similar industries where flammable hydrocarbon emissions or leaks may occur.

The objective of this presentation is to highlight the risk assessment of a runaway diesel engine, importance of ignition source elimination and the differences in approach mandated by law in different jurisdictions around the world. The author will present what companies are doing around the world to eliminate diesel engine runaway as an ignition source in the hydrocarbon industry.