

## What Happened?

Exhaust silencer/spark arrestor failed on an emergency generator during an annual overspeed trip ,emitting a localised flame and pressure wave.

## Description of incident:

- The trip was initiated by isolating the fuel and closing the air intake flaps (rigsaver)
- Five to ten seconds later as the machine was running down and had almost stopped rotating, a loud bang occurred
- Flame and pressure were emitted from the failed exhaust silencer/spark arrestor into the generator room
- Fortunately, no injuries were incurred by those carrying out the trip test



**Diesel engine compartment with failed silence / spark arrestor**



## Good Practice:

- Consider running the diesel engine for a minimum of one hour with load prior to carrying out an overspeed trip test to ensure engine cylinder temperatures are high enough to ensure complete burning of all the fuel delivered and evaporation of any fuel accumulated in the exhaust system.
- Consider modifying the overspeed trip test to allow the air intake flaps to initiate closure, but prevent full closure, thus allowing a continuous forward mass flow through the engine and exhaust during engine run-down.
- Consider including a check of fuel system for effective isolation by physically checking the delivery side for any leakage.
- Consider FLIR camera checks of exhaust system during the one hour run to check for any exhaust gas leakage that could result in air being drawn into the exhaust during an overspeed trip test.