

Risk assessment in case of breakdown of safety barriers

The Norwegian Maritime Authority would like to remind the industry that risk assessments must be carried out if safety barriers break down.

A risk assessment must be carried out if a vessel with more than one engine is to operate with only one engine running.

Background

Following the incidents with the Hurtigruten ship *Kong Harald* on 24 August 2021 and the cruise ship *Viking Sky* on 23 March 2019, we would like to remind the industry of the requirements for proper maintenance, specification of critical components and risk assessments to ensure the safe operation of a vessel. There were a lot of passengers on board both vessels when problems occurred with the propulsion machinery.

The vessels are different, but both have multiple engines, providing redundancy and improved safety during normal operation. On both vessels, a situation arose causing the propulsion systems to shut down, and rescue operations were initiated. On board the *Kong Harald*, one of the engines had been taken out of service for repair. The vessel continued her voyage with one operative engine, until that engine shut down due to a failure in a control arm between the regulator and the fuel / power rack. The cause of the engine shutdown on board the *Viking Sky* has been described in [SM 01-2019](#).

Measures

Thorough risk assessments.

Neither incident caused severe injury or damage to passengers, crew members, ship or the environment. The incidents do, however, serve as a stark reminder of the potential consequences of a safety barrier breakdown. It is essential to conduct a new risk assessment before the voyage is continued.



Even if there is no formal requirement for vessels to have more than one engine, a breakdown of one or more engines will imply that an important safety barrier is removed. Potential consequences must be risk assessed.

Please note that risk assessments must also be carried out for vessels with one engine to ensure a safe voyage.

References:

Regulations of 1 January 2015 No. 1191 on a safety management system for Norwegian ships and mobile offshore units

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