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Blackout incidents

In recent years we have seen a number of incidents involving blackouts. These have led to accidents or serious near-misses, and could easily have developed into fatal accidents.

There are many factors that together lead to a blackout. Therefore, in order to prevent and limit the potential consequences of a blackout it is necessary to address a number of issues.

In May 2024 **classification society DNV** published an article; *Blackouts - causes, prevention, effective recovery*,¹ listing three topics needed in the prevention of blackouts:

1. Ensure correct maintenance and operation
2. Ensure crew competence through regular blackout drills
3. Prepare and implement operating procedures for identified high-risk operations

The first point is directly linked to preventing the occurrence of a blackout. The second and third are directed towards limiting the effects once a blackout has occurred.

Investigations following blackout incidents reveal that a proper operation and understanding of the engine alarm systems is crucial. Following the *Viking Sky* incident in March 2019, the **Norwegian Safety Investigation Authority** issued several recommendations,² including:

- The ship manager and owner were recommended to ‘carry out an operator centric design and configuration review of the engine room alarm system and implement identified improvements’ (No. 2024/17T).
- The Norwegian Maritime Authority was recommended to ‘make a proposal to the International Maritime Organization (IMO) that an engine room alarm management performance standard shall be developed’ (No. 2024/18T).

¹ <https://www.dnv.com/news/11-statutory-blackouts-causes-prevention-effective-recovery/>

² <https://nsia.no/Marine/Published-reports/2024-05>

A study from August 2024 by the **classification society Lloyd's Register**; *Alarm management in the maritime industry*,³ found that, with the increasing complexity of ships, there is a risk that the frequency and number of alarms could be so high that the crew may have difficulties in addressing and understanding them. They may also find it difficult to distinguish the most important alarms in an emergency situation.

The report states that: *'several incident reports have expressed concerns regarding the number of alarms announced both before and during the incident's occurrence' [page 15]. One of the conclusions in the Lloyd's Register report is that 'improvements are required in alarm systems usefulness and performance' and furthermore, that this is 'crucial for overall ship safety in routine, and particularly abnormal, conditions.'*

To summarise, the engine room alarm systems have improvement potential. This needs to be addressed in the long term with changes to design and standards, and in the short term by allowing the crew to perform drills, test and become familiar with these systems to be prepared for different scenarios involving engine room incidents.

Recommendations

In light of recent blackout incidents and the ongoing work by the classification societies, the Cefor Technical Forum would like to draw other Cefor forums' and members' attention to the importance of the following:

- Perform regular drills involving different blackout scenarios. Blackout procedures must be ship-specific and be tested.
- Ensure the correct maintenance and operation of all machinery, electrical installations, and control and safety systems.
- Implement operating procedures for identifying high-risk operations.

In addition:

- Carry out routine performance and capacity tests of the Auxiliary and Emergency Generators.
- Conduct regular surveys of the switchboards with an infrared camera.

³ <https://www.lr.org/en/knowledge/research-reports/2024/alarm-management/>