

Generator fire incident

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A Member has reported an incident in which there was a small fire onboard an offshore vessel.

Excessive smoke and bright light were observed coming from a rental generator and the fire alarm was raised. The vessel fire team was called and it was able to suppress the fire within twenty minutes.

What were the causes?

Our member identified the following **immediate causes**:

- On board the vessel, two of three generators have a protection plate above the output plate, above the HV output terminals. This generator did not have that protection plate. There was evidence that the cable retaining bar was rusted and showing no signs of ever supporting cables. This would have meant that the starter motor cable was lying on top of the HV output terminals; over time this cable may have worn through due to vibration and causing a short circuit on phase 2, thus starting the fire.
- On examination, the phase 2 bus bar appeared to be touching the generator casing (see Figure 2). As the bus bar burnt, the heat inside the generator caused the cables on the cable retaining bar to fall. However, the expectation was that the cable retaining bar would be blackened and not rusted.

Lessons learnt

Our Member noted that root cause investigation was on-going, and the following lessons were learnt:

- Proper maintenance and 'routine' check on generators and make sure no wiring laying across the terminal.
- All generators should have appropriate protection cover to prevent water getting inside the terminal.
- Fire extinguishers stood by near generators.
- Internal nuts and bolts to be checked, fitted with lock washers as appropriate, and tightened properly.

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