

Safety Alert

Number: 21-19

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Subject: Crankcase Failure

What Happened / Narrative

An MSF members vessel suffered a crankcase failure on one of their four diesel generators (DG) which resulted in two small fires and excessive damage to the pistons, con-rods, and the engine block.

Fortunately, no personnel were injured during this event and due to the swift actions from the crew and additional barriers already in place it made sure that the situation was quickly and effectively controlled within minutes, plus any potential secondary damage to surrounding machinery was prevented.

Why Did it Happen / Cause

After investigation, it was found that main bearing number 9 had worn out. It had been very hot at some point. When the main bearing cap was dismantled the upper bearing was located in the bearing cap, resulting in the bearing had been turning on the crankshaft. This blocked the lubrication hole on the main bearing, and as the con-rod at cylinder number 16 received its oil supply from main bearing number 9. This meant that the cylinder number 16 con-rod also lost its oil supply. This was probably the main failure from the start. The investigation also concluded that:

- The DG had recently undergone a major overhaul
- The maintenance of the DG was in order as per manufacturers instructions
- The running hours were well below manufacturers guidance

Good Routines / Actions that were in Place Noted for Discussion & Reflection

- The vessel had in place “plexi-glass” surrounding the DG’s this resulted in less secondary damage than normally results in these types of failures.
- The Chief Engineers Standing Orders stated that no prolonged work scopes would be carried out alongside a running DG (where possible).
- The Emergency Response Plan was effectively implemented by the well trained and drilled crew.

Photographs / Supporting Information



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