

**The German Federal Bureau of Maritime Casualty Investigation (BSU) issues the following safety recommendation in accordance with § 9 Para. 2 No. 2; § 15 Para. 1 and 10 of the Maritime Safety Investigation Act (SUG) of 16 June 2002 in conjunction with § 19 Aviation Accident Investigation Act (FIUUG) of 26 August 1998:**

The German Federal Bureau of Maritime Casualty Investigation (BSU) is investigating the tragic death of a German ship engineer who lost his life in the scavenging air receiver of the main engine of a German container vessel on 24. October 2003.

The investigation process has not yet been completed and in view of the complexity of the case will probably continue for quite a long time yet. At the present time, however, the BSU considers that the structural design of the access hatches into the scavenging air receiver could have played a contributory role in the fatality.

The very light-moving "access hatchway covers" with a bulkhead-like design at the forward and aft edge of the scavenging air receiver were not equipped with retaining devices preventing them from shutting themselves. As closing units mounted mechanically pivoted on one side, firmly connected with the main engine installation, they were exposed to the external impacts of a wide range of forces.

Thus the lack of a retaining device in conjunction with other factors that are currently being investigated can have led to an "access cover" falling to. One of the fastening elements (hasps) might have become caught in the latch slot or groove of the hatchway access. The scavenging air receiver could have become a death trap in this way, since it is impossible to open a (partly) latched hatchway cover from the inside in any case.

On studying the pertinent rules of the Accident Prevention Regulations Sea (UVV-See) from the German Marine Insurance and Safety Society (See-BG) it was noted that a self-locking retaining device preventing unintended shutting is specified for so-called access hatchway covers to storage rooms, sectional decks and tanks (cf. § 87 Para. 8 Accident Prevention Regulations Sea). According to § 202 Para. 1 and 3 Accident Prevention Regulations Sea steel hatchway covers and gates must also be equipped with facilities for securing them in open or operationally arranged partly-open positions. However, there are no comparable regulations for engine openings. This is probably due especially to the fact that the gate-type shutting system for the scavenging air receiver is a relatively new kind of design, the scavenging air receiver is only rarely opened and entered, and special care must always be taken when work is carried out in this area.

Accordingly the regulations for protection against unintended shutting (§ 23 Accident Prevention Regulations Sea) and suffocating (§ 77 Accident Prevention Regulations Sea) are applicable for working in dangerous spaces, to which the interior of the main engine must also be counted. Furthermore, the maintenance instructions of the engine manufacturer and the vessel operator's internal regulations for entering and working in parts of the main engine contain rules on accident prevention in this very high-risk area of the vessel (for example posting security sentinels, displaying warning panels, ensuring constant communication).

Actually observing the latter rules and regulations does in fact represent a sufficient basis for ruling out inadvertent locking inside the scavenging air receiver from the outset.

Despite this the German Federal Bureau of Maritime Casualty Investigation calls for the installation of retaining facilities for access hatchway covers to scavenging air receivers, insofar as these are built in a bulkhead-type manner, by analogy with the rules for other steel access hatchway covers and gates (§§ 87 und 202 Accident Prevention Regulations Sea).

These would be expedient not only as protection against locking oneself in unintentionally. Securing the open access hatchway cover would also make it possible to enter and leave the scavenging air receiver safely at any time in the course of maintenance works. Moreover, it would also effectively counter the risk of nipping hoses/cables running into the scavenging air receiver from the outside in connection with work in the duct.

**The German Federal Bureau of Maritime Casualty Investigation therefore addresses the manufacturers of engine installations and the owners and operators of all ocean-going vessels whose main engines are equipped with bulkhead-type access hatchway covers, in other words covers that are mounted mechanically pivoted on one side and are firmly connected with the main engine installation, and in accordance with § 15 Para. 1 SUG in conjunction with § 19 FIUUG draws their attention to the following:**

The manufacturers of engine installations, the owners and operators of all ocean-going vessels whose main engines are equipped with bulkhead-type access hatchway covers to the scavenging air receiver are called upon to review, in consultation with the safety organisation See-Berufsgenossenschaft and the relevant classification society, the possibility of retrofitting a retention system for access hatchway covers that are mounted mechanically pivoted on one side and are firmly connected with the main engine installation, and if appropriate to implement this directly, as well as to provide a corresponding modification of the shutting system in new buildings.

Finally it should be stressed once again that although the above safety recommendation is directly connected with the investigation into the fatality of 24 October 2003 mentioned at the beginning, it may not under any circumstances be misunderstood as anticipating the results of the investigations.

Insofar the BSU refers to its still ongoing investigations and in particular to the report finalising the investigations that will be published on completion.

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