

M/V "SVEABORG"EXPLOSION ON BOARD VESSELFINDINGS OF FACT  
BOARD OF INVESTIGATION

makes the following findings:

an explosion occurred in the engine room of the Swedish Motor Tank-SVEABORG on 27 December 1945 at approximately 0410 while the vessel lying at Pan American No. 2 Dock, Texas City, Texas.

the explosion appeared to have occurred in the port boiler of the el.

at the time of the explosion the Second Assistant Engineer, August Calissendorff, and the Motorman, Ekdahl, were on watch, Ekdahl being watch in the engine room and Calissendorff at work in his cabin.

the watch was checked by Calissendorff at about 0300 at which time observed Ekdahl in the engine room.

at 0300 there were no fires under either the port or starboard boiler and that there were approximately 10 kilos or 142 lbs. pressure in the port boiler. The gauge glass showed at that time to be approximately two-thirds full of water.

standing instructions had been issued to all motormen to light off fires in the boiler when the pressure receded to a minimum of 8 kilos and bring it up to its working pressure of 12 kilos, or approximately 160 pounds.

both port and starboard boilers had been inspected and tested on 11 18, 1944 and issued Lloyd's Certificates as of that date for a working pressure of 171 pounds.

the SVEABORG was in the process of topping off her cargo tanks, including gasoline.

at the time of the explosion the weather was calm, damp and foggy.

the normal operation of the boilers aboard the SVEABORG was to use sea draft through a fan situated in the engine room, the air intake being on a platform of the same height of the boiler deck.

the two boilers in the SVEABORG are located on a platform deck which is approximately nine feet above the engine room floor plates, in the aft end of the engine room, with the front end of the boilers open to the engine room.

as a result of the explosion the following personnel were killed:

Axel Reinhold Svensson, 1st Cook  
Karl Erik Karlsson, Able Seaman  
Elis Oscar Fransson, Able Seaman  
Gunnar Valdemar Martinsson, Able Seaman  
Anders Leonard Jonsson, Ordinary Seaman  
Tersten Yngve Samuelsson, Ordinary Seaman  
Karl Hilding Goransson, Ordinary Seaman

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Gert A. Ekdahl, Motorman  
Brer Sigurd Olsson, Motorman

as a result of the explosion the following personnel were injured:

Erik Vilhom Svensson, 1st Engineer  
August N. Calissendorff, 2nd Engineer  
Ingvar A. N. B. Nilsson, 3rd Engineer  
Gustav Ivar Andersson, 2nd Cook  
Ove Allan Wihlberg, Messboy  
Karl Vilhelm Davidsson, Boatswain  
Kaarlo Sihvonen, Ordinary Seaman  
Viktor Gustavsson, Electrician  
John Albin Wahlgren, Pumpman  
Knut Bjorkman, 1st Motorman  
Karl A. Jonsson, 2nd Motorman  
Kjell Olaf Lundstrom, Motorman

the vessel sustained considerable damage to the hull, deck plating, machinery and living quarters in way of the poop deck. No exact itemization of damage has yet been made, however, it is estimated that the cost of repairs will run to approximately \$500,000.00.

the port boiler shows the furnaces were blown out from the fire side ruptured along the bottom the full length of the furnaces.

the boiler shell was blown free of the boiler and flattened out into most a flat plate. That the safety valves of the boiler cannot be found.

#### OPINION AND CONCLUSIONS

careful consideration of all the testimony adduced and a thorough examination of the vessel, the starboard boiler and the remains of the port boiler, and is of the opinion that the explosion resulted from a combination of following factors and events. As will be seen, many of these are based on opinion and conjecture for the reason that the only person who may have had knowledge of the existing conditions was killed at the time of the explosion.

at about 0400 the Motorman on watch, Ekdahl, noticing the pressure on the boiler was diminishing to the minimum pressure allowed, turned on the fan and then proceeded to light off the port boiler.

at gases from the cargo tanks, having been forced out of the tank space by the introduction of gasoline into the cargo spaces, had come up through the tank ullage holes and settled on the deck.

at the gases could not evaporate into the air by virtue of the fact that the weather was damp and foggy, and hence, they remained on the deck seeking the lowest level. That these gases found their way into the engine room and settled there.

at when Ekdahl started the blower fan, gases were introduced into the furnaces of the port boiler. That when the torch was inserted into the furnace to light off the boiler, these gases exploded.

at immediately after the explosion of the gases in the boiler, the gases in the engine room were exploded.

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the explosion of the boiler resulted in the immediate release of steam in the boiler, which smothered the flash from the gas explosions.

the physical evidence of explosion in the remaining parts of the boiler substantiate the above theory for the reason that it is apparent from the condition of the furnaces that the initial explosion was in the faces of the port boiler.

the force of the explosion and its results, caused damage in a much greater degree than could possibly have been caused from a boiler explosion of the size of the port boiler of the SVEABORG.

RECOMMENDATIONS

is without authority to make recommendations for repairs or correct the construction of the SVEABORG to prevent a similar accident from occurring at a future time. The Board, however, feels that it should go on with making a recommendation for American Tank Vessels.

the licensed officers and certificated personnel employed on tank vessels should use more caution when loading or discharging inflammable combustible liquids in bulk to protect themselves and property from explosion of this nature by an accumulation of gas which was so evident in this casualty.



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