FUEL OIL "SPILLS"

by

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There are few jobs aboard ship more disagreeable than loading fuel oil, not because the work involved is difficult, but because a " spill " is always imminent.

Someone has said that there is no such thing as a " little fuel oil," once it gets out of the ship's tanks, and he was right. A spill can certainly mess things up. It seems there is only one sure way to prevent a spill and that is to check everything yourself, and not take anyone's word about anything when loading oil. Even then spills will happen, as the writer learned on the old *Argosy*.

In order to make sure there would be no " accident," the double bottoms were filled under pressure to a level of only 36 inches. Then the settling tanks were filled. As the settling tanks were 18 feet above the bottoms, the oil gravitated to the bottoms through the dumping valves, until all the bottom tanks were full. When filled, some of the double-bottom soundings showed 18 feet of oil in the sounding tubes. This was usually the case after gravitating. The oil receded after it cooled and then, by " taking a drag " on every bottom for a few minutes with the transfer pump, the danger of the oil expanding and spilling out of the vent lines when entering warm waters was eliminated.

The smallest double-bottom tank on the old Hog Islanders was No. 6, and it took a long time to fill it by gravity. To make sure that No. 6 was full, the dumping valve was not closed until the sounding line showed an oil level a few inches higher than the height of the tank. On the occasion in mind, that did not happen until four o'clock in the morning, and its occurrence completed the fuelling operation. When the longshoremen turned to after breakfast, they reported a foot of oil in No. 5 hold. As a result, No. 6 bottom had to be pumped into an oil barge which was ordered alongside. The oil in No. 5 hold receded, but the the cargo of wood pulp in the hold had been saturated with oil and spoiled.

When the hold was dry, it was found that the manhole cover from No. 5 hold to No. 6 double bottom was off and lying beside the manhole. The nuts were found scattered about the tank top. It was then learned that the cover had been removed a month before in a shipyard.

An inspection of the chief engineer's log showed he had signed an entry saying that the cover had been replaced under his supervision and that it was satisfactory. Obviously, he had not inspected the cover and had only assumed that it was closed. He probably took someone's word for it, who, like himself, had not bothered to check it. This incident gives some idea of the unexpected things that can happen when loading oil.

Of course a deckhand should have been sounding the holds during the fueling. Then the presence of oil in the hold would have been detected immediately. Hence, we note that two cases of negligence contributed to the mess.

There are times when spills are caused by the most unexpected things. The author has seen one instance of oil being taken through the starboard connection, while it was pouring out through the port connection. In this instance the oil flowed onto the deck of a ship tied alongside and things were really messed up. That's why all deck connections should be inspected before the pumps are started. A few hours after this spill took place, the second assistant engineer was seen walking down the gangway carrying a packed suitcase.

The fact that the blank covers are in place is not always an indication that there will be no oil spill. The author once saw the boat deck of a passenger ship befouled on sailing day because a cover was on, but not tight. There was a $\frac{1}{32}$-inch opening all around the flange ; a lot of oil can escape from such an opening in a short time. Since then he has made it a practice personally to inspect each cover by placing a wrench on every nut. It is too easy for some practical joker or malicious person to loosen the nuts.

The number of things which can go wrong, even when extreme measures are taken, is unbelievable. On one ship everything was checked and double checked before permission was given to pump oil aboard. When the pump was started, it built up excessive pressure almost immediately ; but no oil reached the ship's tanks. A thorough check-up showed that a large burlap sack had plugged up the oil manifold in the fireroom. The sack, instead of a wooden plug, had been used to stop one end of the oil hose, to keep it from dripping. The shore gang, which connected the hose, forgot to remove the sack and it was forced into the manifold. Considerable time was lost in locating it. Then it was necessary to open the manifold and remove the sack with a chain fall. That's how tightly it was wedged in.

After every precaution has been taken, there is always the unpredictable or human element to account for. The author once witnessed a bad spill caused by the strange workings of the human mind. It occurred on the old *Golden Dragon* in Chinese waters. Her long voyages necessitated carrying fuel oil in the forepeak tank, which was filled by the transfer pump, while taking fuel in the ship's bottoms. In order to prevent a spill, a fireman was stationed by the forepeak manhole and was to signal to the chief engineer who stood near the speaking tube on the bridge. The latter was to whistle down to the second assistant in the engine room. The second could dash out into the fireroom and shut off the transfer pump when he heard the whistle. This seemed like a foolproof procedure and no one expected a spill. Eventually the fireman crawled up on the foc's'le head and signalled the chief, which meant that the oil had almost reached the top of the peak tank. The chief blew down to the second and got no answer. He assumed that the second was momentarily busy with changing valves and blew again. As there was still no answer, he rang the telegraph violently to attract the second's attention.

The second answered the telegraph and called into the speaking tube, but received no answer from the bridge. After a few minutes of this the chief decided to run down below, which was a slow process because of his size. Eventually he reached the engine room, puffing like a bull moose and about as angry. The second had already stopped the transfer pump. About this time the fireman showed up with the unpleasant information that the peak tank had overflowed and there was oil in the bos'n's locker. The oil was all over the ropes and other gear and the bos'n had chased him out with a marlin spike.

Accusations of incompetence were followed by denials. During the heat of argument, the first assistant ambled down from the machine shop and joined the party. He very innocently asked what the shouting was about. The chief informed him that the bos'n's locker had just been flooded because that " blockhead of a second assistant " had not stood by the speaking tube as he was told.

Upon hearing this the first assistant reached over to the speaking tube, removed the mouth piece, and pulled out a wad of rags, to the general amazement of every one present. For a second there was deathly quiet. Then the chief asked, as if in a trance, and with a trembling voice, " Who plugged the tube and why ? " His usually jovial face was turning a crimson red as he awaited the answer. " I did," answered the first assistant, " the deck department is always calling down here for water on deck, or more steam for the winches or some damn thing or other, so I stuffed the tube to teach them a lesson and to leave us alone." That did it. The next day we had a new first assistant.

The point is that there had been a messy spill, caused by a factor that had been entirely overlooked, in spite of every possible precaution. That's why loading fuel oil is a disagreeable job. You never know when some unexpected thing is going to happen.

Most older engineers keep a few sacks of sawdust on hand. The sawdust absorbs the oil and it can be shoveled over the side at sea. They don't take this precaution because they are careless, but because they know that almost anything can happen when fuel oil is being handled, and they want to be ready for the worst.

The worst spill the writer ever saw took place on a tanker. The ship had just been painted from stem to stern and from truck to waterline. She was one " trim " ship and her " old man " was mighty proud of her. After four hours of fueling, the fuel-oil hose parted near her deck connection. The hose whipped back and forth and up and down, as if some giant hand were trying to spray every possible part of the ship. By the time the oil was shut off ashore, the ship was completely befouled. The break was due to a faulty hose that had been in use for several months. That's another reason why some engineers dread taking oil ; you just never know.

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