Liquid Wastes

Another Nice Mess

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IN THE 1933 comedic movie Sons of the Desert, Oliver Hardy turned to partner Stan Laurel, saying: "Well, here's another nice mess you've gotten me into." Through a series of missteps and short-sighted actions, the maritime community now has gotten masters and chief engineers into another nice mess relating to oily water separators and oil record books.

Waste liquids naturally accumulate in the bilges of ships. Improved maintenance and closer attention to detail can reduce (but not eliminate) such accumulation. Part of those waste liquids consists of oil. To prevent the waste liquids from overwhelming the cargo spaces and the engine room, traditionally the material was periodically discharged over the side and into the ocean. In an effort to reduce pollution of the sea by oil from ships, technology was developed to separate most of the oil from the ship's waste liquids.

The oily water separator (OWS) was first mandated for installation on ships by the International Maritime Organization (IMO) in 1974. An OWS separates oil from the rest of the liquids by means of gravity, centrifugal force, osmosis, or other process or combination of processes. The OWS was originally designed to reduce the level of oil in discharge water to 100 parts per million (ppm). Ships could discharge waste water that contained up to that level of oil so long as the ship was underway, at least a certain distance offshore, and not in a particularly sensitive area.

When the requirement for the OWS was developed, the IMO also established a requirement that the ship maintain an oil record book (ORB). The ORB is intended to show how much oil is accumulated and how it is disposed. There are three major methods for a ship to legally dispose of waste oil: (1) burning on board, (2) transfer to an appropriate facility ashore, and (3) discharge into the ocean through a properly operating OWS. The oil record book contains detailed entries of oil accumulated and stored, as well as the time, place, and method of any and all disposals. Totals are supposed to match, but this is difficult as measurements, particularly of liquids in storage tanks on a ship at sea, are rough estimates at best.

There are other, more basic problems, though. For many years, governments and ship operators only paid lip service to OWS operation and ORB entries. Waste oil in excess of the authorised limit was routinely discharged at sea and few seemed to care. Chief engineers were under pressure to keep operating costs down. One method utilised was to ignore maintenance of the OWS. When OWS wasn't working properly or when the filter needed replacing, the system would be circumvented. This could be done either through use of a by-pass hose to divert the discharge around the sensor unit or by adding non-oily flush water to artificially reduce the level of oil passing the sensor unit to below the authorised limit. In addition, false entries could be made in the ORB to show that more waste oil was burned on board than was actually the case. As long as everyone played by the same rules though, the system (while flawed) was stable.

In 1992, though, the discharge standard was strengthened to 15 ppm. Problems surfaced immediately. The OWS equipment was not operating properly. Filters regularly clogged and discharges ceased frequently. Meanwhile, waste water levels in the bilges were rising. It turned out that many OWS manufacturers had merely fine-tuned their old 100 ppm devices to reach the new 15 ppm requirement. This was achievable on a test platform in the factory, but frequently failed on a ship at sea. Chief engineers were having increasing difficulty in managing this problem while keeping the ships operating.

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Things changed drastically on February 1, 1993, when a routine US Coast Guard air patrol observed a long sheen of oil streaming astern of a cruise ship on the high seas off Florida. Review of the ship's ORB when the ship arrived in port revealed that no entry had been made relative to this discharge. When the flag state declined to take action, the US government charged with cruise ship operator with making a false statement to a federal official. The operator litigated this and a related case, arguing, among other things, that there was no violation of federal law since both the discharge and the ORB entry were made while the ship was on the high seas. The court held, though, that the false statement occurred when the ORB was presented for Coast Guard examination while the ship was in a US port. After losing the procedural motions, the cruise ship operator settled this criminal charge by payment of $9 million and, in the related case, by payment of $18 million. Few other ship owners or operators have litigated an ORB charge since those highly expensive events. The United States now has the most vigorous OWS/ORB enforcement policy in the world.

Because the ORB bears the initials of the person making each entry and the signature of the master, the document serves the purpose of a signed confession, for which there is almost no defense. The number of prosecutions in the United States for fraudulent entries in ORBs has risen exponentially and fines have skyrocketed. Recently, US prosecutors have begun charging individuals (generally chief engineers) and ship owners/operators with violation of the Act to Prevent Pollution from Ships (APPS), either in conjunction with false statement charges or in lieu thereof. Following conviction, shipping companies are also being required to implement court-supervised compliance programs. In unusual cases, shipping firms have been banned from operations in US waters for periods of three years or more and masters and chief engineers have been prohibited from serving on ships in US waters for similar periods.

Under US law, a false statement consists of (1) making a statement orally or in writing; (2) when the statement is false or misleading; (3) the false or misleading information is material; (4) the statement or concealment was made knowingly; and (5) the statement was made to a federal official engaged in performance of his or her duty. Here, the statement was made in the ORB, which the ship is required to maintain and is required to present to the Coast Guard upon request when the ship is in US waters. If the federal government can prove that the chief engineer or another senior person in the ship knew that one or more entries in the ORB (which the person in charge of the operation is required to initial) is false and that the false entry was made knowingly, then the company can be held criminally responsible.

The US Coast Guard and Department of Justice interpret APPS as requiring the owner/operator, master, and chief engineer to "properly maintain" the ORB whenever the ship is in US waters. This has the effect of eliminating the requirement for the government to prove at trial that the falsified ORB was presented to a federal official. It also converts a one-time offense (the presentment) into a continuing offense (failure to maintain). Finally, an APPS conviction allows the federal government to pay a reward to any whistleblower.

To minimise the likelihood that the chief engineer or another engineering officer on the ship improperly disposes of the waste oil, the company should take positive steps to ensure that the OWS is operating properly and is well maintained. This will often require replacement of the OWS, particularly if the unit is more than about seven years old.

In 2003, the IMO approved the standards for a new generation of OWS that operate quite well (albeit not perfectly) at the modern purity level (15 ppm) and can deal with most of the new exotic chemicals that find their way into bilges. Through an apparent bureaucratic oversight, the IMO neglected to include in its promulgation of the new standard any provision for the phase-out of older OWS, with the exception that all new installations on or after 1 January 2005 had to be of the new generation of device. Thus, a ship with an old, inadequate OWS could keep it on board for the remainder of a ship's life (which could be 30 years or more). Through neglect, or in an attempt to save a small sum of money, almost all owners have retained the older OWS. Thus, most masters and chief engineers are still in a nice mess.

Chief engineers are routinely faced with a Hobson's choice. When the old OWS breaks down (as frequently occurs), the chief engineer can either require the ship to cease operation until the OWS is repaired (with the result that the chief engineer will be immediately discharged by the owner) or the chief engineer can have the rising level of bilge waste pumped directly overboard (generally at night) and then make an entry in the ORB showing proper disposal of the bilge waste. If the fraudulent ORB entry is discovered during a port state control inspection or other boarding, the chief engineer and the ship owner/operator are both prosecuted. The chief engineer generally goes to jail and the owner/operator pays a multi-million dollar fine and institutes an onerous environmental compliance program.

There are steps, though, that the ship owner/operator can voluntarily take to reduce the risk of violation of US law and the ensuing draconian penalties imposed on them and on masters and chief engineers. The new generation of OWS should be installed on all ships in lieu of the older, inadequate devices.

The chief engineer (and the master) should be clearly informed (preferably in writing) that his or her primary task in this regard is to properly handle and dispose of waste oil and that the general admonition to minimize expenses does not apply to this particular task. Also, personnel should be clearly advised of the requirement that log and record entries are to be made contemporaneously with the event and are to be accurate.

A preferred method of accomplishing both tasks is for the company to institute a maritime compliance program. Federal law provides that, if a company has a qualifying compliance program in place and a violation occurs regardless, the company will be entitled to a major reduction in sentence. One major cruise ship company benefited from this provision when it was proven that some of its personnel had engaged in improper discharge of waste oil and falsification of the ORB.

The Department of Justice, the Environmental Protection Agency, and the Coast Guard have written policies providing that, in appropriate cases, they will forego criminal prosecution for companies with qualifying compliance programs.

The bottom line is that, for a ship owner or operator to avoid handing the federal government a signed confession in the form of an oil record book with false entries, he must impress upon engineering officers that they are to properly maintain and operate the OWS and to make accurate and contemporaneous entries in the ORB. The engineering officers must be given every incentive to do the right thing and no incentive to do the wrong thing. MG

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