

**INQUIRY INTO MARITIME SALVAGE IN AUSTRALIAN
WATERS**

DISCUSSION PAPER

Terms of Reference

The report will have regard to:

3. Minimum standards of salvage tug safety, training and operational capability.

COMMENTS

It would be futile for the inquiry to consider laying down any form of standards for salvage tug safety, training and operational capability when existing International Conventions deal quite adequately with this subject.

1. International Safety of Life at Sea Convention 1974, as amended.
2. International Convention Standard of Training Certification and Watch-keeping 1978, as amended.
3. International Convention on Salvage, IMO 1989.

Existing Salvage Companies are well trained, equipped and manned to handle salvage operations.

Salvage only becomes necessary when the ship has been abandoned to the Underwriters and the Master or Owner of the abandoned ship enters into a Salvage Agreement with the Salvage Company selected for that purpose.

Article 5 of the International Convention on Salvage, IMO 1989 does provide for national laws to be made should the State consider it deemed necessary to do so. It would be best left to existing legislation made under the various other International Conventions referred to above which is applicable to all types of vessels including tugs.

Tugs for Salvage purposes are somewhat more specialized than the ordinary Harbour tugs that assist ships when berthing within port limits. The Salvage tugs are more expensive to equip, maintain and man and unless there is a big demand for their services it may not warrant a large fleet of Salvage tugs. International Salvage tugs would be more readily available as has been found to date when their services are required. It is a very competitive field and the failure of a salvage operation could lead to expensive litigation particularly when there has been damage not only to the ship and any other vessels but to the environment.

As for example when I conducted an investigation into the grounding of the Panamanian vessel, a Bulk Carrier that had loaded iron ore at Port Dampier for France and the vessel hit a seamount off the Cocos Islands salvage tugs were brought from Singapore to tow the vessel back to Singapore at a speed of 1 knot. It took 3 months

Secretary; *J. L. ...*

24 MAR 2004

STAFF ... OFFICE ON
TRANSPORT AND
REGIONAL SERVICES

to complete the tow due to the extensive damage sustained by the vessel. An extremely costly exercise that went to Arbitration in London.

Article 6 of the International Convention on Salvage, IMO 1989 provides for a salvage contract to be entered into between the master on behalf of the owner of the vessel to be salvaged and the Salvage Company. Generally, such contracts are of the Lloyds Open Form type, that is, "no cure - no pay."

The disaster which took place off the Spanish coast when the Bahamas registered tanker, "Prestige" broke in two after the vessel had been towed out to sea in rough weather on the instructions of the Local Authorities polluting the adjacent coastlines and causing untold damage. It would seem to me that it would have been more appropriate for the Authorities in that case to have granted the vessel entry into a Port of Refuge where it could have carried out temporary repairs taking all the necessary precautions to alleviate the oil spill before being allowed to proceed to her discharge berth.

In marked contrast to the Prestige disaster a crack in the hull of a Cypriot tanker "Eurydice" with 84,000 tonnes of crude oil which arrived off the Sydney Heads in February 2004 the Sydney Ports Corporation held the ship up outside the heads where skin divers inspected the condition of the hull and found a 15 centimetre crack in the hull. Temporary repairs were carried out using a magnetic plate to stop any leaks. The ship berthed at the Gore Bay Terminal and discharged its cargo with the usual precautions being taken just in case there was any further spillage from the vessel. No Salvage tugs were needed in the case of the "Eurydice".


AUBREY WISE

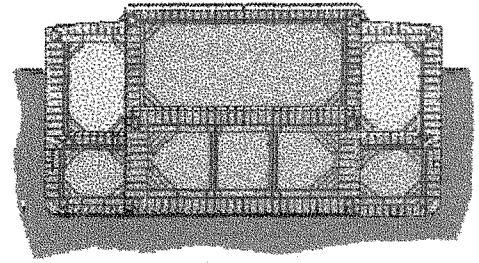
INTERNATIONAL MARITIME BUREAU



- ATTACHMENTS
1. "PRESTIGE" INCIDENT REPORTS
 2. "EURYDICE" INCIDENT REPORT

The Coulombi Egg Tanker -
The M/T 'Prestige' Accident

Better protection, safer and more
economical than Double Hull



M/T Prestige
Start page
The Secret
IMO approval
General
arrangement and
structure
Collision
protection
Grounding
protection
Safety
M/T Limburg
M/T Erika
The Egg
USCG approval
US Congress

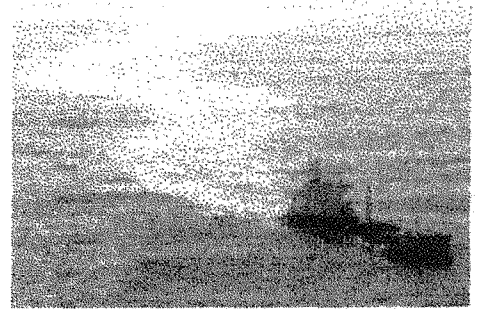
Structural Failure caused Ballast Tank Flooding and heavy Listing

» The M/T Prestige suffered a fracture in the side shell on 14 November 2002 during a spell of very severe weather outside Spain. The M/T Prestige was a 1976 built Pre-Marpol single hull crude oil tanker that was later converted only to carry crude and products oil in dedicated cargo tanks and to use some wing tanks for segregated ballast. Cargo in the remaining wing tanks could only be part loaded for hydrostatic balance. She was 26 years old.

At the time of the accident the M/T Prestige carried 77 000 tons of heavy fuel oil (products) and the segregated ballast wing tanks were empty. The cargo wing tanks were part loaded for hydrostatic balance. Very little or no cargo oil spilled out at this time.

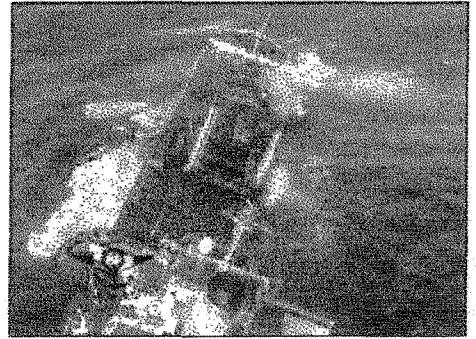
■ Single hull oil tankers have a fair amount of structural redundancy, if there is a single fracture in, e.g. the side shell. The fracture causes leakage - oil may spill out (this will not happen to a Coulombi Egg tanker - with a crack in the side shell of a tower side cargo tank all oil will be pushed up into an undamaged ballast tank - The magic Egg!) or water may flood an empty ballast wing tank - and generally the local and global stresses are reduced. The fracture will of course grow due to the external wave forces, therefore cracks may form, but usually you have time to take preventive action.

The preventive action is evidently to immediately seek a calm port of refuge, where the cargo can be transferred, offloaded, to another tanker.



" When the accident - the fracture in the side shell followed by flooding of an empty ballast wing tank - took place the teeter immediately informed the Spanish authorities. The Spanish authorities unfortunately did not understand that a port of refuge was the only solution.

Spanish Authorities caused the Oil Spill



They refused the loaded tanker a port of refuge and ordered it farther out to sea. The result could only be what followed even if the heavy weather spell calmed out. The fractures in the tanker side structure extended in all directions and on the 18 November about 40 meters of the complete side shell and 8-10 meters width of the main deck fell off the tanker. Probably the same part of the bottom fell out. Then the global strength of the hull beam was severely reduced and the fractures could easily develop across the full beam - cargo oil started to leak: OR the 19 November in the morning the tanker broke into two halves and soon both halves and 77,000 tons were lost. This product (heavy) oil is now slowly leaking out and will pollute the Spanish and French coasts for several years.

Double Hull not the Solution

* It is widely known that double hull will prevent what happened to the M/T Prestige. This is not certain. Double hull tankers have less structural redundancy than single hull tankers and, which is worse, four times more structural surfaces in the ballast spaces (the double hull) to protect against corrosion. Today one coat of epoxy coating is the standard protection; but many 1992-1996 built double hull tankers have already lost their protective coatings in the ballast tanks and have started to corrode. In addition the local and global stresses are generally higher in the double hull structure. A fracture in the side shell of a double hull tanker loaded with product oils will thus result in a similar accident as the M/T Prestige.



■ It should be recalled that double hull and alternative design (the Coulombi is the only alternative!) mandated by the IMO 1992 to provide more protection than single hull. In fact, protection against structural failures/damage was not improved. It is to say that double hull has better structure than single hull - rather the opposite! Only the Coulombi Egg tanker has better structure than single hull (and double) tankers.

The Accident Investigation

« What caused the **M/T Prestige** structural failure? We are told that major steel repairs had been carried out 18 months before the accident. The steel repairs require a lot of manual welding and this writer thinks that some defects were introduced via the repair welding, e.g. bad preparation of the welding. This may later cause small fractures, etc. Actually, small fractures occur all the time in oil tanker steel structures and they can only be spotted by regular, visual inspections. If a fracture occurs and an empty ballast tank is flooded or a loaded cargo tank starts to leak oil - these are frequent events - the only solution is evidently to seek a calm port of refuge. The writer has 1973-1999 assisted many tanker owners to avoid oil spills from damaged single - or double - hull tankers and it is why he has developed the **Coulombi Egg tanker**. The Prestige accident shall be investigated by the Authorities as per IMO Resolution A.849(20). Spain, France, Greece and other countries have the right to attend as interested parties/states. It will be an interesting investigation as Spain decided to arrest the Greek Master of the Bahamas flag tanker. Anyway - the investigation shall identify the circumstances of the casualty and establish the causes and contributing factors so that similar incidents are prevented in the future. It should be quite easy - the circumstances? - the tanker suffered a port of refuge was refused - the causes? - a fracture developed in the tanker structure, the fracture was permitted to extend so that the tanker broke in two - preventive measures? - better quality control of structural tanker repairs, more reliable surveys and quality control, availability of ports of refuge, better oil tankers! Evidently a Coulombi Egg tanker would not have split like the Prestige.

The Coulombi Egg Tanker Is the only Solution

« The Coulombi Egg tanker is superior to both single and double hull as described on the page links upper left. First of all there is 70% less structure in the ballast spaces subject to corrosion. Second there is a two-tiers mid-height deck inside the tank body adding extra redundancy in case of a fracture in, e.g. the side shell. But the risk for fractures in the side shell is reduced; the tanker is at risk - below the waterline and the neutral axis (half-depth, D/2, of the tanker) is easy to inspect during loaded voyages (from the mid-height deck in the top side ballast tank),

« The Coulombi Egg tanker is approved by the IMO since 1997, even if the IMO does not make much publicity about it - as good as or better than double hull as it provides much better collision protection and spills much less oil in groundings. It is also much safer than double hull - easier to ventilate and inspect ballast spaces (no double hull).

» The Coulombi Egg tanker has also solved the problem of inadvertently transporting aquatic organisms from one part of the world to another in its ballast water. The ballast water is always carried above the (ballast) water line and it can easily be dropped out by gravity during the voyage and replaced by ocean water. You can even go down inside the ballast tank and wash out all sediment. This is evidently impossible in ordinary single or double hull tankers.

Double Hull Tankers are not the solution to prevent future 'Prestige' Type Spills

There is no guarantee that double hull tankers will corrode fracture hull - rather the opposite. Anybody stating that double hull solves the problem does not know what they are talking about. Old single hull tankers are today subject to Condition Assessment Schemes, CAS, and/or Enhanced Survey Procedures, CAP. Both close-up of about 100% of the structure in the and 30% of the total structure in the * m very big and difficult job - and everybody knows that you cannot possibly spot all cracks. Double hull requires up-survey as the structure in the double hull ballast has increased three times.

The - and the - is the IMO ..

Coulombi Egg tanker.

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Back to top!





ABC Online

Cracked tanker enters Sydney Harbour. 20/02/2004. ABC News Online

[This is the print version of story <http://www.abc.net.au/news/newsitems/s1049291.htm>]

Last **Update:** Friday, February 20, 2004. 8:20am (AEDT)

Cracked tanker enters Sydney Harbour

A spokeswoman for the New South Wales Environment Minister says the Cypriot tanker Eurydice is being escorted into Sydney Harbour to Gore Cove, where it will be surrounded by floating booms as it unloads its cargo.

Checks have confirmed that it is no longer leaking oil.

Divers carried out final inspections yesterday after a magnetic plate was placed over the 15 centimetre crack that forced the tanker to stand off the New South Wales coast for the past six days.

The tanker is carrying 84,000 tonnes of crude oil.

The department's spokesman John Denagte, who is on a boat escorting the tanker, says if there is any sign of oil, it will be turned around or booms will be deployed straight away.

"While we are comfortable that everything that could have been done has been done, you can never totally guarantee these things," he said.

"There is very close surveillance while it is coming through the Harbour to the unloading terminal."

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