

# American Club

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Loss Prevention, Risk Control &  
Technical Services



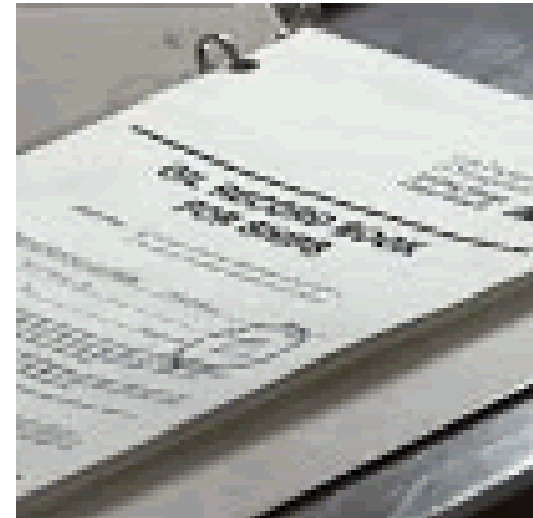
***Treatment of Oily Waste & Interaction  
with Regulatory Bodies***



# Relevant IMO Regulations & Guidelines

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- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), Annex I–  
*Regulations for the Prevention of Pollution by Oil*
- Procedures for port State control



# MARPOL 73/78

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- Multiple references within MARPOL 73/78 related to oily water separation
- Some of the most important elements are:
  - 15 parts per million (ppm) limitations for oily water discharge
  - Excess of 15 ppm monitoring and control system requirements (detection and alarm)
  - Oil Record Book requirement



# MARPOL 73/78 Development

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Conclusions drawn from Studies such as by OECD;

- Of 88,000 vessels trading worldwide
- 50,000 vessels are trading internationally
- Of which 7,000 vessels are NOT complying i.e. 14%
- 8 x “EXXON VALDEZ” spill ANNUALLY illegally pumped overboard i.e. 260,000 tonnes!
- Unfair economical advantage to those Owners

# Emerging Problems for Owners!

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- Owners under greater scrutiny in the United States for discharging oily waste containing more than 15 parts per million (ppm) of oil
- Greater focus on Oil Record Books & other docs.
- Criminal prosecutions and large fines levied on owners
- Large Owners were original targets, but smaller owners also now being targeted
- Significant fines in the \$ millions pose a severe financial risk to companies
- **The Owners / Managers may be unaware that the vessel is not complying with legal requirements until the vessel is caught**

# Emerging Problems for Owners!



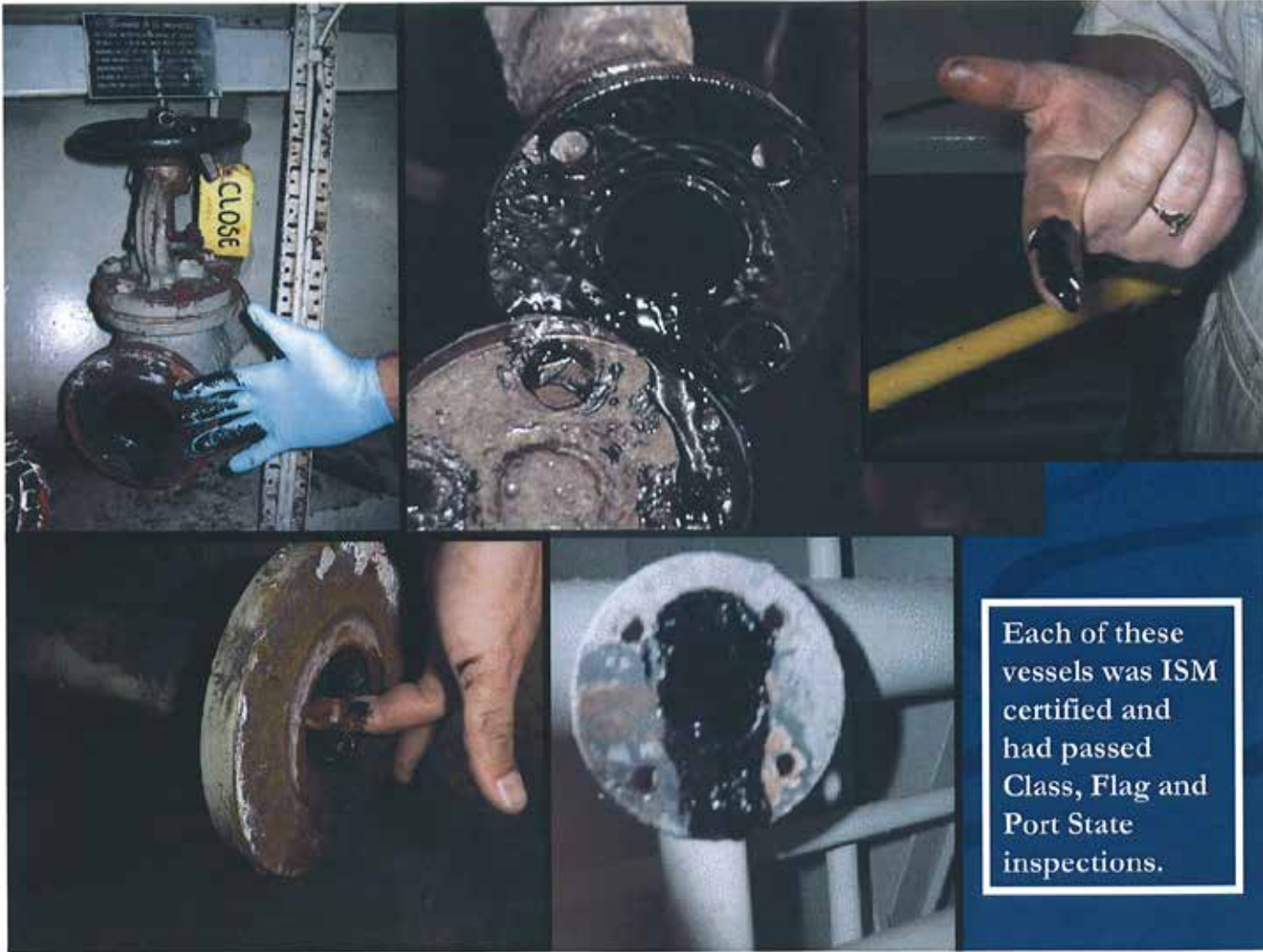
# Emerging Problems for Owners!

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# Emerging Problems for Owners!

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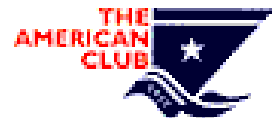
# Emerging Problems for Owners!

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Fines were levied against the larger owners first:-

- 1993 Princess Cruises **\$500,000**
- 1994 Royal Caribbean 4 year investigation guilty plea in 1998 **\$9M** fine in 1999 a further **\$18M** fine for additional incidents
- 1998 Holland America **\$2M** fine – Asst Eng \$500K reward first prosecution of shore based personnel
- 2002 Carnival **\$18M** and ECP\* probation – affects all ships in fleet
- 2002 NCL **\$1M** fine 3 year ECP\* ‘whistleblower’ reward \$250K

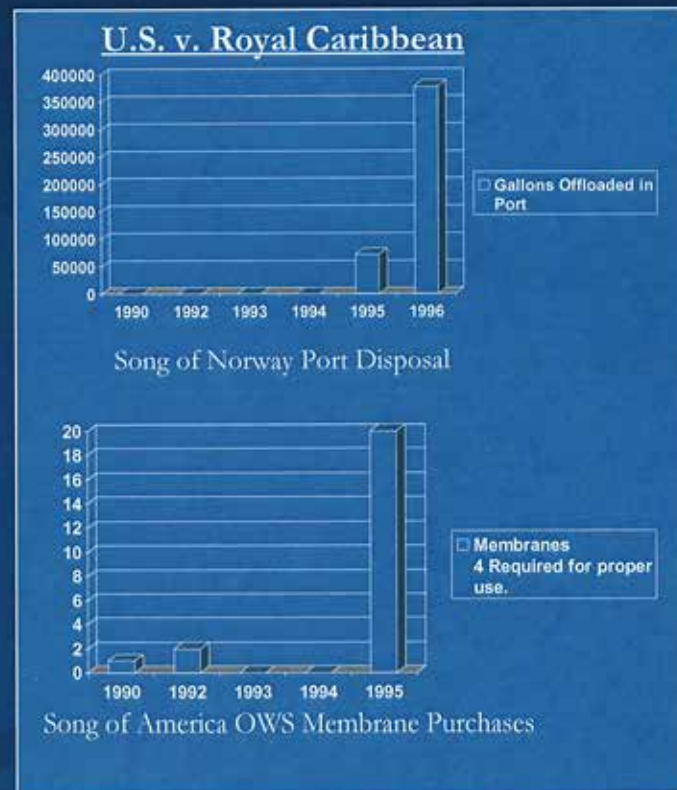
\*ECP Environmental Compliance Program



# Emerging Problems for Owners!

## Motives

- To save money on purchasing and installing best available technology.
- To save money on the cost of offloading waste oil in port.
- To save money on the cost of providing adequate staffing.
- To save money on the cost of OWS filters, membranes.
- To save money and time on labor and maintenance.
- Financial bonuses to Chief Engineers for keeping within projected budget.
- For crew members: to maintain job in a military-like chain of command.
- For crew members: violation of law is often easiest and quickest method to perform tasks.



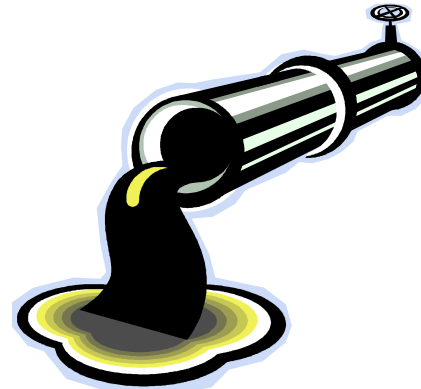
# Emerging Problems for Owners!

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Cross section of other fines for Owners between 1997 and 2002 ranged from:-

**\$509,000 to \$5M**

**Fines for such issues are NOT normally covered by P&I insurance**



# Emerging Problems for Owners!

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## Environmental Compliance Program:-

- Ø Affects all company vessels calling at U.S. ports
- Ø Environmental Management System
- Ø Corporate Compliance Manager
- Ø Corporate Accountability
- Ø Full Company – Wide Cooperation
- Ø Chief Eng. Master, Port Engineers
- Ø Court Appointed Monitor
- Ø Audits

# Oily Water Separation: 1970s to 1980

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- Limited port State control on oily water separation requirements
- Low efficiency separators
- Bilge tanks had limited capacities since there was little or no focus by port State control



# Oily Water Separation: 1980s to 1990

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- More efficient separators as technology advances
- Continued limited port State control on oily water separation requirements
- Bilge tanks are still designed and built with relatively small capacity
- Yards / Owners therefore unwilling to bear extra costs of increasing the size of bilge tanks if not absolutely necessary



# Oily Water Separation: 1990s to Present

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- More efficient separators as technology advances
- Stringent port State control on oily water separation requirements particularly in some jurisdictions such as U.S.
- Bilge tank designs increased to handle necessary capacity
- Presently, discharge facilities at terminals for ship bilge water is generally available for tankers but not consistently available for other ship types



# Oily Water Separation: Present

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- New technology now available
- Compulsory minimum specification if replacing older equipment
- Example is the 'Marinfloc' Oily Water Separator
- This complies with all new regulations; still 15 ppm
- Electronic recording of ppm, flow, etc.
- Cost approximately US\$ 84,000.00
- Must be fitted according to new regulations
- Includes requirement for additional 3 way valve in overboard line



# Oily Water Separation: Present

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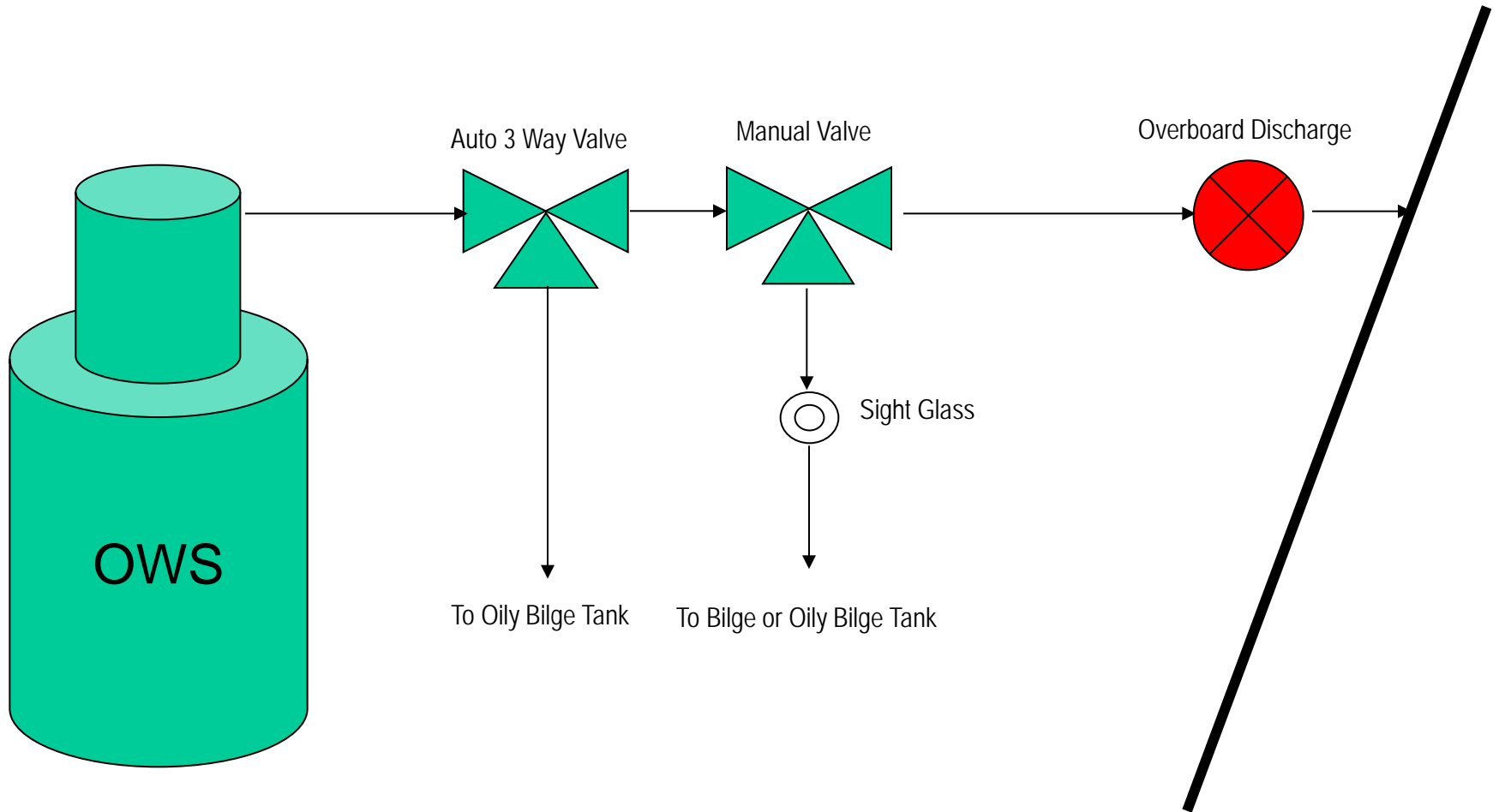
Example of the state of the art OWS; "Marinfloc"



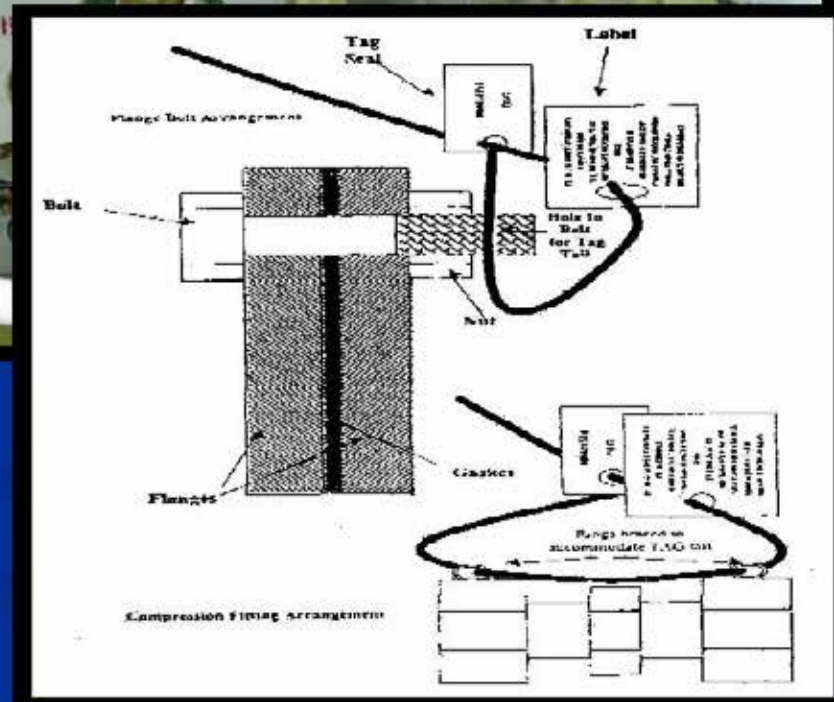
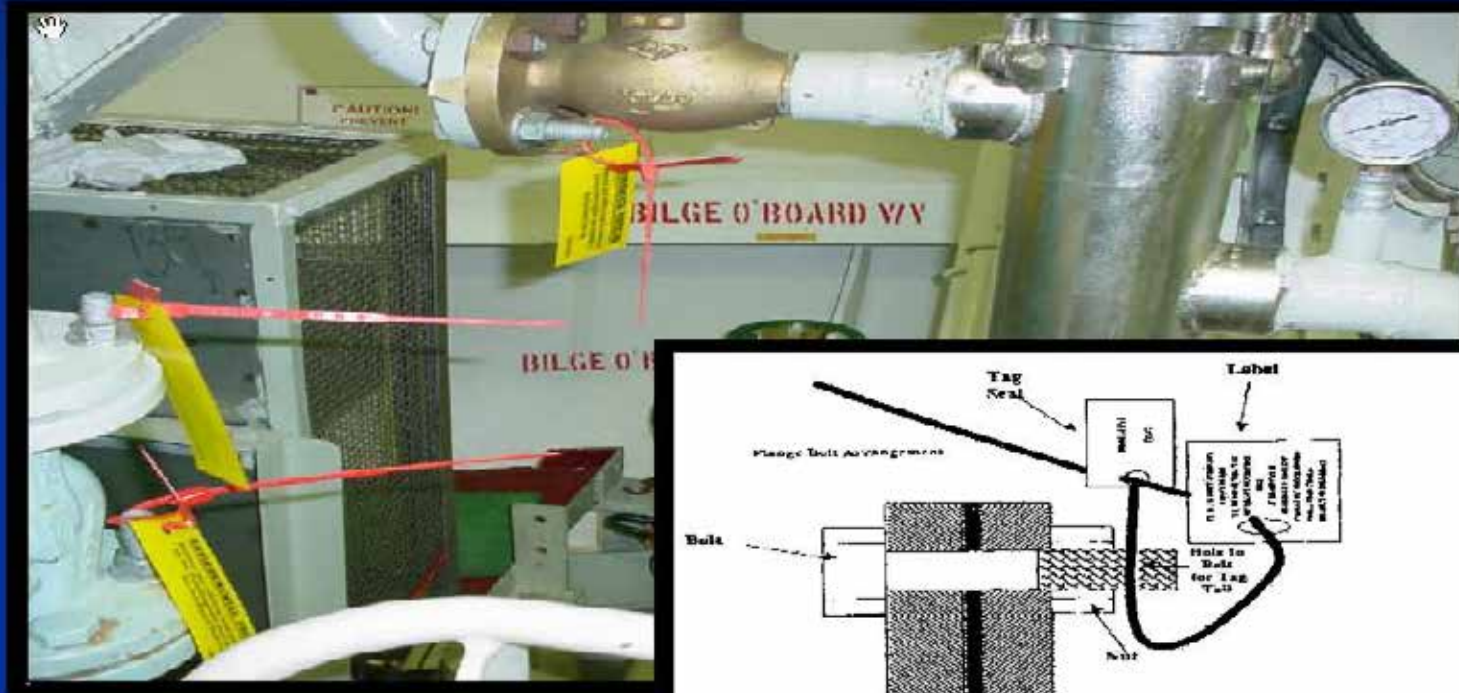
Complies with Marpol 73/78 MEPC 107(49) - Affects all equipment installed on or after January 1, 2005



# Oily Water Separation: Present



# Oily Water Separation: Present



# Oily Water Separation: Present

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# Oily Water Separation: Present

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# Port State Control

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Port State Control authorities  
now pay particular attention to:

- Ø Oil Record Book entries
- Ø Sounding books
- Ø Oily water separators
- Ø 15 ppm alarms
- Ø Other oily water control, monitoring  
and handling systems

*IF ALL IS FOUND IN ORDER, NO  
FURTHER ACTION WILL BE TAKEN.*



# Port State Control in the USA

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Reference should be made to American Club;

[Circular No. 01/06 International Convention For The Prevention Of Pollution From Ships \(MARPOL\) 73/78: Additional Guidance On Oily Water Separators](#)

And to Directives To Port State Control Officers in the USA i.e. the United States Coast Guard:

[www.uscg.mil/hq/g-m/moc/docs.htm](http://www.uscg.mil/hq/g-m/moc/docs.htm)



# PSC Marpol Detentions by Category

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**Top Six Reasons For Further Investigation leading to prosecution in order of frequency:-**

- 1. Oil Record Book Discrepancies**
- 2. Not maintaining oily bilge sounding book**
- 3. Inability of the crew to demonstrate proper operation of the OWS and 15 ppm alarm to function**
- 4. Vessel's general appearance and upkeep**
- 5. "Whistle blowing" by crew member**
- 6. Hard flanged flexible pipes found on board**

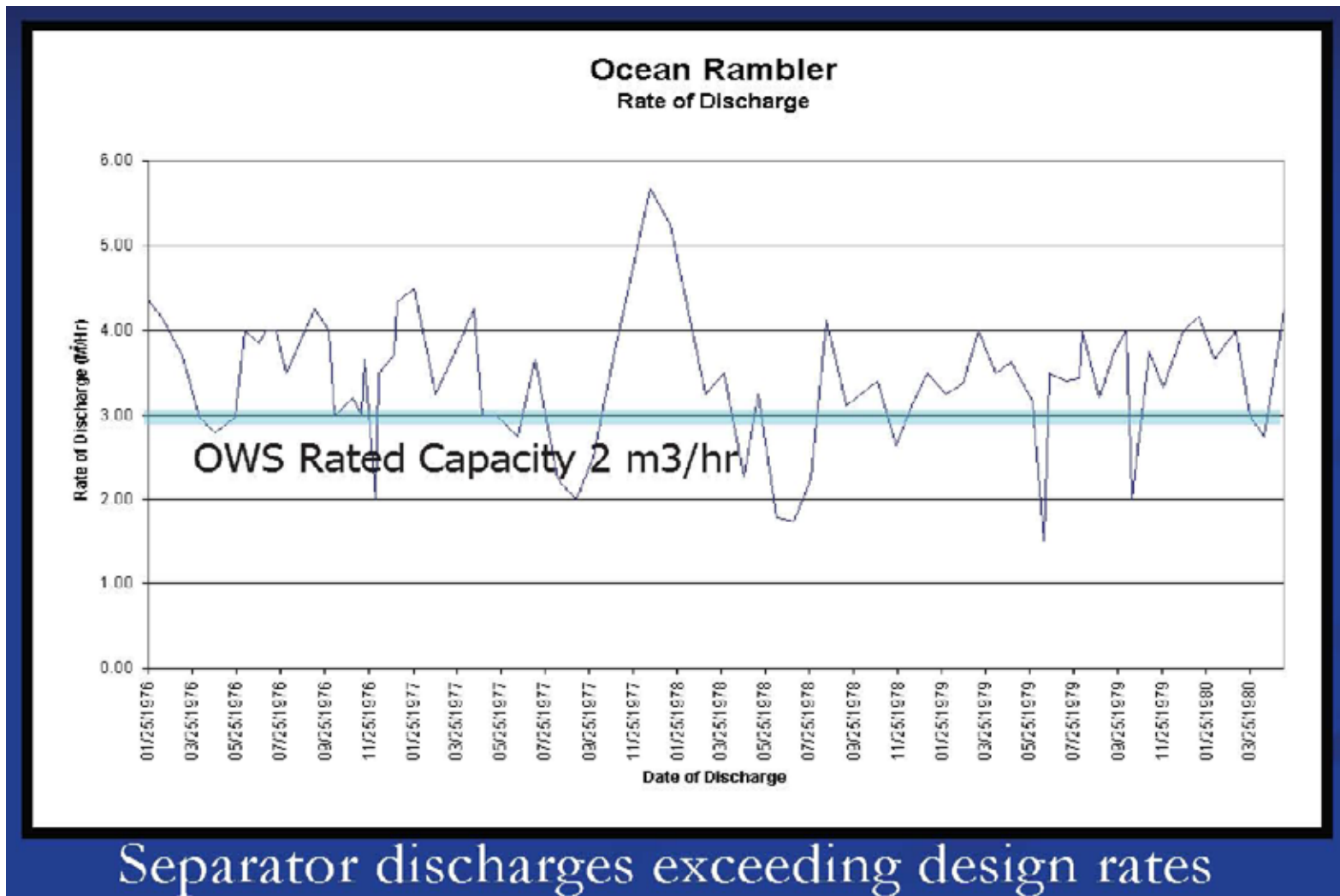


# Oily Water Separation: The DOJ

## BILGE & WASTE OIL PROCESSES

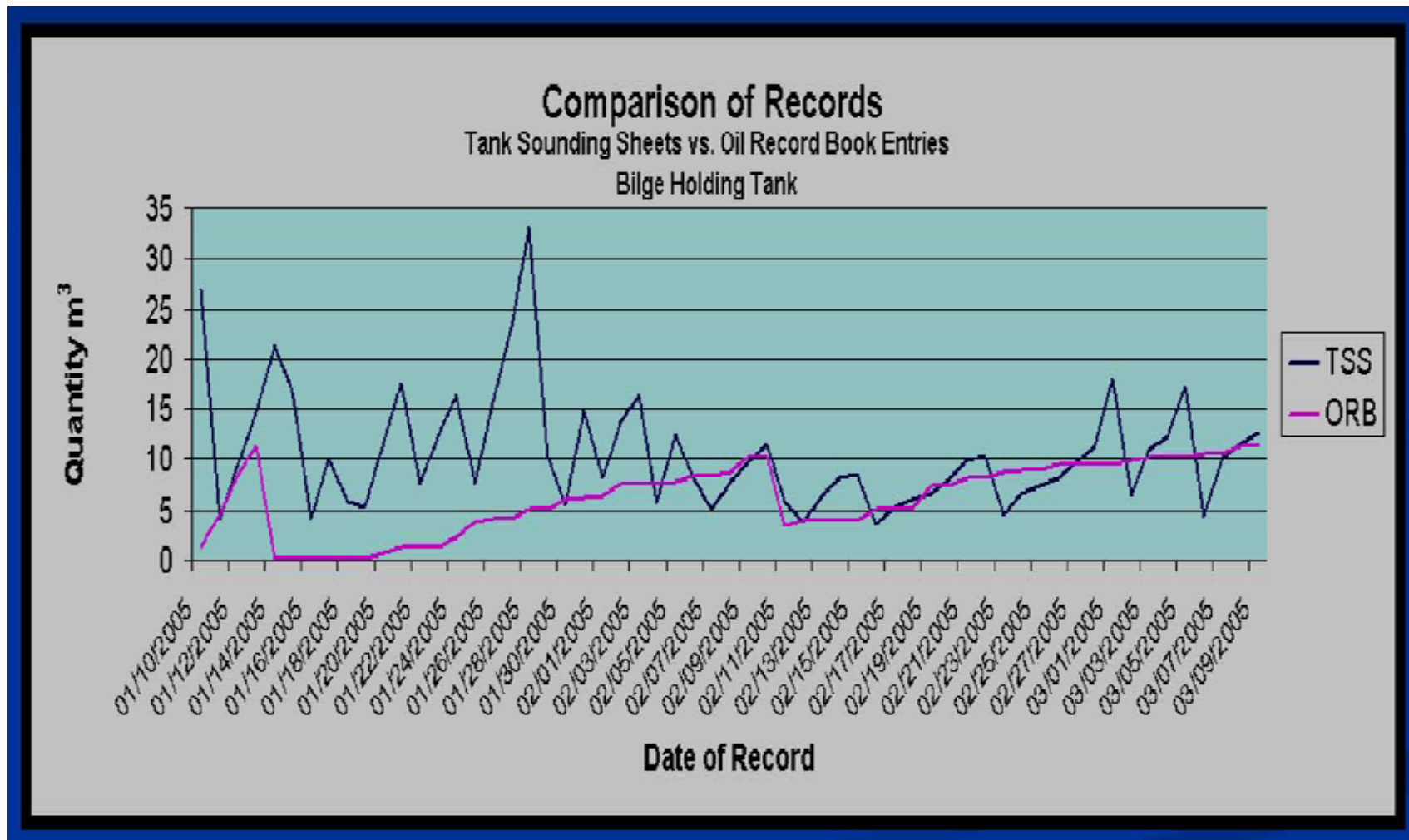
| BILGE PUMPING |  |   |   | OILY WATER SEPARATOR |           |                |                                       |                                     |   | INCINERATOR                                   |                               |                                   |            |                       |            |           |                |                |                                 |
|---------------|--|---|---|----------------------|-----------|----------------|---------------------------------------|-------------------------------------|---|---|-------------------------------|-----------------------------------|------------|-----------------------|------------|-----------|----------------|----------------|---------------------------------|
| DATE          | BILGE HOLDING TANK LEVEL (m <sup>3</sup> ) | BILGES PUMPED TO HOLDING TANK (m <sup>3</sup> ) | BILGE HOLDING TANK AFTER TRANSFER (m <sup>3</sup> ) | START TIME           | STOP TIME | RUN TIME (hrs) | QUANTITY DISCHARGED (m <sup>3</sup> ) | DISCHARGE RATE (m <sup>3</sup> /hr) | WASTE OIL TANK LEVEL (capacity 3 m <sup>3</sup> ) | INCIN TANK LEVEL (capacity 1 m <sup>3</sup> ) | WATER DRAINED FROM INCIN TANK | INCIN TANK LEVEL (AFTER DRAINING) | AMT BURNED | INCIN WOT AFTER INCIN | START TIME | STOP TIME | RUN TIME (hrs) | QUANTITY INCIN | INCIN RATE (m <sup>3</sup> /hr) |
| 01/10/05      | 18   |   | 18.00   |                      |           |                |                                       |                                     | 1.60  | 0.63  | 0.07                          | 0.56                              | 0.2        | 0.36                  | 10:00      | 16:00     | 6.00           | 0.2            | 0.03                            |
| 01/11/05      | 18.00                                      | 1.5   | 19.50   |                      |           |                |                                       |                                     | 1.60  | 0.66  | 0.06                          | 0.6                               | 0.21       | 0.39                  | 8:00       | 16:00     | 8.00           | 0.21           | 0.03                            |
| 01/12/05      | 19.50                                      | 1.5   | 21.00   |                      |           |                |                                       |                                     | 1.60  | 0.39  |                               | 0.39                              |            | 0.39                  |            |           |                |                |                                 |
| 01/13/05      | 21.00                                      | 3   | 24.00   | 8:30                 | 11:00     | 2.50           | 12                                    | 4.80                                | 1.60  | 0.39  |                               | 0.39                              |            | 0.39                  |            |           |                |                |                                 |
| 01/14/05      | 12.00                                      |   | 12.00   |                      |           |                |                                       |                                     | 1.60  | 0.66  | 0.06                          | 0.60                              | 0.24       | 0.36                  | 12:00      | 22:00     | 10.00          | 0.24           | 0.02                            |
| 01/15/05      | 12.00                                      | 4   | 16.00   |                      |           |                |                                       |                                     | 1.80  | 0.36  |                               | 0.36                              |            | 0.36                  |            |           |                |                |                                 |
| 01/16/05      | 16.00                                      | 3.5   | 19.50   | 6:15                 | 11:15     | 5.00           | 15                                    | 3.00                                | 1.80  | 0.67  | 0.06                          | 0.61                              | 0.26       | 0.35                  | 12:00      | 23:30     | 11.50          | 0.26           | 0.02                            |
| 01/17/05      | 4.50                                       | 4   | 8.50  |                      |           |                |                                       |                                     | 1.80  | 0.35  |                               | 0.35                              |            | 0.35                  |            |           |                |                |                                 |
| 01/18/05      | 8.50                                       | 5   | 13.50   |                      |           |                |                                       |                                     | 1.80  | 0.85  | 0.09                          | 0.76                              | 0.25       | 0.51                  | 10:00      | 21:00     | 11.00          | 0.25           | 0.02                            |
| 01/19/05      | 13.50                                      | 3   | 16.50   |                      |           |                |                                       |                                     | 1.80  | 0.96  | 0.07                          | 0.89                              | 0.28       | 0.61                  | 8:00       | 21:30     | 13.50          | 0.28           | 0.02                            |
| 01/20/05      | 16.50                                      | 3   | 19.50   | 13:00                | 17:30     | 4.50           | 12                                    | 2.67                                | 1.80  | 0.61  |                               | 0.61                              |            | 0.61                  |            |           |                |                |                                 |
| 01/21/05      | 7.50                                       | 4   | 11.50   |                      |           |                |                                       |                                     | 1.80  | 0.96  | 0.06                          | 0.90                              | 0.3        | 0.60                  | 6:00       | 20:00     | 14.00          | 0.3            | 0.02                            |
| 01/22/05      | 11.50                                      | 3   | 14.50   |                      |           |                |                                       |                                     | 1.80  | 1.00  | 0.06                          | 0.94                              | 0.42       | 0.52                  | 7:00       | 19:00     | 12.00          | 0.42           | 0.04                            |
| 01/23/05      | 14.50                                      |   | 14.50   |                      |           |                |                                       |                                     | 1.80  | 0.52  |                               | 0.52                              |            | 0.52                  |            |           |                |                |                                 |
| 01/24/05      | 14.50                                      | 6   | 20.50   | 17:10                | 23:10     | 6.00           | 20                                    | 3.33                                | 1.80  | 0.52  |                               | 0.52                              |            | 0.52                  |            |           |                |                |                                 |

# Oily Water Separation: The DOJ



Separator discharges exceeding design rates

# Oily Water Separation: The DOJ

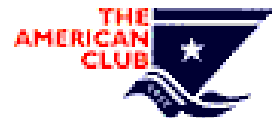


# Investigation and Prosecution in the U.S.

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## ISSUES ARISING FROM FURTHER INVESTIGATION

- Allegations from investigations state that the OWS system is OR HAS BEEN bypassed via a piping system or the oil content meter has been compromised
- Presentation of the Oil Record Book with false entries to the US Coast Guard is a crime
- Ships that call to US ports are vulnerable to prosecution in the United States for false entries without pollution of US waters
- The crime of falsification is punishable by a fine of up to USD 500,000 against the company and imprisonment of individuals. However fines more recently have been larger and linked directly to a company's business.



# Investigation and Prosecution in the U.S.

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If evidence of bypass or falsification of records is found by the US Coast Guard:-

- ü The vessel will be detained
- ü Ship's records seized
- ü Crew members subpoenaed to a grand jury proceeding
- ü Security may be required for vessel release



# Investigation and Prosecution in the U.S.

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- The purpose of the grand jury is to take testimony from crew to discover if crimes have been committed
- One goal of the US attorney is to link individual shipboard conduct with shoreside management
- Investigations can take years and involve multiple ships
- The stakes are highest in the US, but other countries are also now focusing on the oily water separator and Oil Record Books.



**QUESTION**: What should a Shipowner or Manager do to ensure compliance with the Law & Regulations?

**ANSWER**: Comply through the following means...

ü **Technical**

ü **Operational**

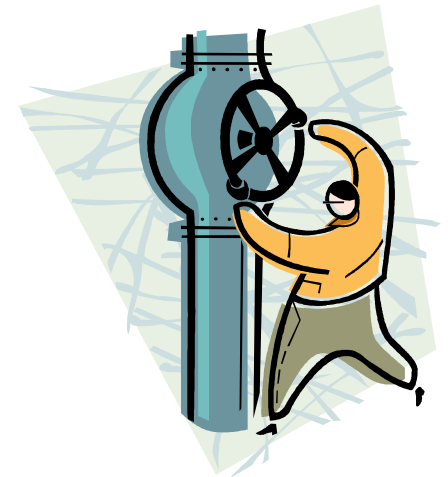
ü **Legal**



# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? **Technical**

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- Reduce leakages to the bilges. If necessary, replace inefficient equipment
- The oil content meter, the monitoring device and the alarm/automatic-stopping device must function correctly
- If purchasing a second hand vessel, visually check all lines from sludge and oily bilge water tanks to verify that no oily bilge water line or sludge line may discharge directly overboard. If a connection is found, remove it immediately– if in doubt, consult the vessel's Classification Society





# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? **Technical**

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- Check to see that the equipment is being used properly with a priority on ships that call on the United States  
NOT THE CREW
- Sludge tanks, waste oil tanks and oil drain tanks are not allowed to have any direct connection overboard (MARPOL 37/78 Annex I, Regulation 17(3))
- If required by harbour authorities, pipelines from such tanks may be closed off to prevent oil pollution, but not the overboard pipeline from the main bilge pump



# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? **Operational**

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- Port State inspectors will inspect the book and may check the vessel's sludge tanks. If the vessel has no sludge on board and has no record of delivery ashore further investigation will follow
- Any bridge and engine room logs of oil discharge must be consistent– any inconsistencies will get the attention of inspectors
- All elements of the oily water discharge system should be addressed through the planned maintenance system to ensure proper working order
- Ensure the vessel has a valid IOPP certificate at all times
- A copy of the latest MARPOL 73/78 should be kept on board and crew members should be made fully aware of the regulations
- Make sure engineering staff are trained to properly use the oily water separator and to make accurate entries in the Oil Record Book

# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? **Technical**

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Piping system different to the plans posted

# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? **Technical**

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Bypass lines previously fitted; removed and pipes patched

# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? **Technical**

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Example of situation leading to further investigation and probable prosecution.

A bypass system was used by the previous Owners and evidence was left following removal.



# What Should a Shipowner or Manager do to ensure compliance with the Law & Regulations? Legal

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- Crews must be educated as to the risks involved and criminal fines in some jurisdictions such as the US
- If the vessel is detained in the United States for investigation, it is critical to appoint counsel with experience in defending environmental crimes **IMMEDIATELY**
- The American Club can assist in recommending counsel



# ESSENTIALS

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- Keep perfect records in the ORB
- Keep soundings
- Ensure correlation between all entries, log books, ORB & sounding books
- Ensure that the responsible Engineer Officers can demonstrate the functionality of the OWS and ppm alarm with ease.
- Engine room and bilges kept clean, maintain impression of maintenance and good house-keeping
- No flexible pipes with hard flanges



# Summary & Conclusions



Ø Be Prepared!

Ø Leave Nothing to Chance

Ø Crew to tell the truth

Ø Crew not to panic

Ø If investigation appears imminent appoint Legal Counsel  
Immediately

Ø If in any doubt, carry out a pre-U.S. vetting survey

Ø QUESTIONS?