
European and International Regulatory Initiatives Due to the *Erika* and *Prestige* Incidents

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Introduction

Torrey Canyon, *Amoco Cadiz* and *Exxon Valdez* have etched themselves into the consciousness of the maritime community. In later years, the names of the *Erika* and *Prestige* have been added to this memorable and infamous list, together with the *Braer* and *Sea Empress*. All of these vessels are known as disastrous casualties that have left the public with pictures of oil polluted waters, coasts and dead or affected sea-life. Another result of these incidents, perhaps to a lesser extent covered by the media and therefore not immediately recognised, are the economic consequences related to clean-up costs and losses for fishing and tourism sectors.

There is, however, reason for cautious optimism in that the number of oil spills has declined. In comparison with the 1970s, when over 3.1 million tonnes was spilt, in the 1990s 1.1 million tonnes spilt and from 2000 onwards the biggest spill has come from the *Prestige*. Furthermore, of interest is that from 1974 to 2003, 3.1 million tonnes were spilt during operations, 554 000 tonnes by grounding, 703 000 tonnes by hull failure, 125 000 tonnes in fire and explosions and 2.3 million tonnes of oil was spilt during that period due to unknown causes.¹

Important factors influencing the final costs for oil spills are the type of oil spilt, location, rate of spillage and whether the cleanup can be done on the sea or shoreline. The total bill for the *Exxon Valdez* was 9.5 billion US dollars, compared with 282 million US dollars for the *Amoco Cadiz* and 83 million US dollars for the *Braer*. For the *Prestige* claims will exceed the limits under the *International Convention on Civil Liability for Oil Pollution Damage, 1992* and *International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992* (the CLC/Fund Regime).²

This article focuses on the new legal measures that were instituted and implemented due to the *Erika* and *Prestige* incidents, and reflects on the efficiency of these measures to prevent, mitigate and compensate for damage from such incidents. The focus is on measures taken within the EU, but legal developments on the international level are also discussed. The article summarises the events leading up to and following the incidents and then discusses European and international legal initiatives, including Erika Package I and II, and changes in the civil liability for oil pollution regime. The conclusion considers the efficiency of the new legal measures by asking if and how they could have changed the outcome of the incidents.

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¹ ITOPF Handbook 2004/2005, pp. 9-10. See also the website <www.itopf.org>.

² Peter Arentz, "Oil Spills - a very costly business," *Scandinavian Shipping Gazette*, 21/5/2004, 19.

The Erika and Prestige Incidents

Erika

The Incident and Investigation Report

The Malta registered *Erika*, carrying 30,884 tonnes of fuel oil, broke in two near the French coast while encountering heavy seas on 12 December 1999. Prior to the incident, deballasting of cargo had been ordered to correct a list to the starboard side, and on inspection cracks had been noticed in some of the sections, as well as water in one of the ballast cargo tanks. At midnight a list was detected again and deballasting a second time proved unsuccessful, resulting in increasing difficulty in manoeuvring the vessel. Further, the cracks spotted previously were widening. On the morning of 12 December, oil was observed escaping the vessel and subsequently the plating of one of the ballast tanks was torn badly but remained attached to the ship.³ The vessel split in two with the bow section sinking immediately, while the stern section sank as it was being towed out to sea. Between June and September 2000, the remainder of the oil was pumped out.⁴

According to the Maltese Maritime Authority investigation report, the incident was a result of a combination of faults. The largest factor is thought to have been corrosion, which resulted in the development of cracks adjacent to one of the ballast tanks just above the water line. These cracks, together with the exposed cracks seen the afternoon before the incident, probably led to the complete separation of a large sector of the side shell structure, eventually splitting the ship in half. The heavy seas could also have assisted in speeding up the process.⁵ Another contributing factor may have been poor repairs before the incident that initiated the development of cracks.⁶ An interesting point is that *Erika's* younger sister ships were experiencing the same problems with corrosion, which might lead to the conclusion that faulty material was used when building the vessels. It was also noted in the report that corrosion protection of tank surfaces had not been regarded as an important issue and therefore was not compulsory at the time of the incident.⁷

The Legal Aftermath

In the legal aftermath of the incident, police and legal authorities charged the master and the shipowner,⁸ while TotalFinaElf, the cargo owner, was charged as an accessory for endangerment of other peoples' lives and marine pollution.⁹ These parties, together with the management company, classification society, four officers of the French navy and the charterer are due to be tried in France in 2005.¹⁰ The 1992 Fund has taken legal action to recover the amounts paid by it in compensation against any of these parties and will accordingly pursue or withdraw the actions depending on the results of the abovementioned investigations.¹¹

³ Malta Maritime Authority, "Report of the Investigation into the loss of the motor tanker *Erika* on Sunday 12th December 1999" Merchant Shipping Directorate, pp. 18-19, 21.

⁴ <www.iopcfund.org/erika.htm>, 'Recent Major Incidents- *Erika*, France, 12 December 1999', Last Update 8 March 2005.

⁵ Note 3 above, p. 70.

⁶ Note 3 above, p. 89.

⁷ Note 3 above, pp. 99-107.

⁸ *Le Figaro*, 5/11/2001.

⁹ *Le Figaro*, 11/12/2001.

¹⁰ <www.elbornes.com/lectures/notes/2004_notes_0002.doc>, Elborne Mitchell Solicitors 'Murky Waters-the criminalisation of shipping', 22 July 2004, lecture by Roger Miles and Fozzia Rana, Lecture Notes.

¹¹Note 4 above.

The compensation payable to oil pollution victims as a result of the incident totals 185 million Euros, with 13 million Euros available from Steamship Mutual P&I Club, and 172 million Euros from the 1992 Fund, which recommended that 12 December 2002 should be the final date for commencing legal actions in order to guarantee that all claimants retain their rights to compensation.¹² As of 8 March 2005, 6964 claims for a total of 206 million Euros have been made. Out of these claims some 6600 have been assessed and 99 million Euros has been paid out on 5584 claims. Currently 364 claims totalling 19 million Euros are being assessed or waiting for claimants to provide further particulars. These figures show that the total amount of claims will exceed the funds available. The French Government has been paid 16 million Euros, which amounts to its subrogated claim for supplementary payments made to claimants in the tourism and fisheries sector.¹³

Prestige

The Incident and Investigation Report

The Bahamas registered tanker *Prestige* carrying 76,972 tonnes of heavy fuel oil, developed a starboard list on 13 November 2002, 50 kilometres from the coast of Galicia, Spain. Once the vessel was secured the Spanish authorities denied the vessel a sheltered area of refuge, instead ordering that the vessel be towed towards the Northeast Atlantic.¹⁴ The master stopped the *Prestige's* engines on 15 November, fearing that excessive vibration would aggravate the structural damage of the hull. After noticing a 30-meter crack in the hull, further requests were made for a place of refuge, but Spain ordered the vessel to be towed in a westerly direction,¹⁵ defending its action not to grant a port of refuge by stating that the *Prestige's* draught was too large to enter into the port of La Coruna. The order was disobeyed and subsequently Spain declared that the vessel, having been towed south, was outside its territorial waters and therefore out of its jurisdiction.¹⁶ The Portuguese authorities refused entry of the vessel within its EEZ¹⁷, with the result that the *Prestige* broke in two in international waters on 19 November, upon which the salvage operations were discontinued.¹⁸ A total of 64,000 tonnes of oil escaped from the vessel, which was 60% more than had been originally estimated.¹⁹

A hypothesis provided by the *Prestige's* classification society, the American Bureau of Shipping (ABS), suggests that the incident was a result of a hull structure failure in combination with six days of heavy weather. It is thought that a weakened section in the starboard side shell or supporting frame initiated the hull failure, and this weakness together with wave impact resulted in an opening of the side shell below the water surface.²⁰ On 14 November 2003, a Spanish expedition recovered a piece of metal,

¹² Note 4 above.

¹³ Note 4 above.

¹⁴ Marlene Del Rocio Calderon Palacios Leca da Veiga, *Dealing with Major Oil Spills- A comparative study of measures implemented by countries with emphasis on the 'polluter pays principle' philosophy*, PhD thesis, University of Wales, Cardiff, 2003, pp. 363, 364.

¹⁵ Bahamas Maritime Authority *Report of the investigation into the loss of the Bahamian registered tanker Prestige off the north west coast of Spain on 19 November 2002*, 2004, pp. 25-26, 79-81.

¹⁶ Note 14 above, pp. 367-8.

¹⁷ Note 15 above, p. 30.

¹⁸ Note 14 above, p. 371.

¹⁹ Raul Garcia, *The Prestige: One Year On, a Continuing disaster*, WWF-Spain, November 2003, p. 4.

²⁰ <www.eagle.org/news/press/prestige/Tech%20Analysis%20final.pdf>, 'ABS-Technical Analyses related to the Prestige Casualty on 13 November, 2002', 28 February 2003. See also Bahamas Maritime Authority

which upon measurement showed that it met with class requirements,²¹ and therefore it seems uncertain whether weaknesses of the hull structure would have been noticed at an inspection.

The Legal Aftermath

The Spanish authorities arrested the master of the *Prestige* for disobeying authorities and harming the environment. The bond of 3 million Euros was paid by the ship owner's P&I Club on 7 February 2002.²² The arrest of the master, who was only allowed to leave the country on 7 March 2005 for the duration of the period up until the beginning of the trial,²³ is considered a precedent, in that an employed ship's officer was given a high bond and spent time in prison while there was no evidence that the cause of the incident was due to a navigational error.²⁴ Spain has also commenced proceedings against ABS in the US District of New York,²⁵ alleging that ABS represented that it served the general public by promoting security of life, property and the natural environment through development and verification of standards for design, construction and operational maintenance of vessels.²⁶ The *Prestige* was listed as meeting all the requirements of ABS for various certificates, but according to the claim, it is clear that the *Prestige* did not satisfy the fatigue requirements, since no ballast spaces were internally surveyed despite the ABS requirement that this be done. Spain argues that the deficiencies would have been noticed upon inspection, as was the case with the *Prestige's* sister ships when surveys were undertaken.²⁷ Therefore, Spain claims that ABS has been negligent, reckless, wilful and wanton in its conduct, thus being the proximate cause of the damage sustained. Furthermore, according to Spain, ABS breached its duty of care to perform its services with reasonable care, and negligently misrepresented and provided business information. In its defence, ABS has stated that the Spain is at fault due to it having refused a place of refuge during the incident.²⁸

On 6 October 2004, the Director of the 1992 Fund addressed the issue of whether any recourse should be taken against ABS, and whether it should be taken in the United States or in Spain.²⁹ On 21 October 2004, the Fund decided not to take any action against ABS in the United States, but left the Spanish alternative open depending on the final investigation results.³⁰ The Spanish court had held in another case that contractually as between a shipowner and a classification society, the classification society, despite any exoneration clauses in the contract, was liable for damage caused due to a serious failure to fulfil its obligations, in that instance having failed to detect a

'Report of the investigation into the loss of the Bahamian registered tanker Prestige off the north west coast of Spain on 19th November 2002, 2004.

²¹ <www.eagle.org/news/press/nov1403.html>, ABS Press Release, 'Steel recovered from *Prestige* refutes allegations of poor maintenance', 14 November 2003.

²² IFSMA Newsletter, No. 39, June 2003, 9.

²³ Lloyd's List, 7/3/2005, at <www.mgn.com/news/dailystorydetails.ifm?storyid=5186&type=2>.

²⁴ Note 14 above, p. 365.

²⁵ Statement of Claim, *Reino de Espana, on its own Behalf, and as Trustee v The American Bureau of Shipping, ABS Groups of Companies, Inc; ABSG Consulting Inc. f/k/a Marine Services Inc.*

²⁶ Note 25 above.

²⁷ Note 25 above.

²⁸ Note 25 above.

²⁹ International Oil Pollution Compensation Fund 1992, Executive Committee 26th Session, 'Incidents involving the 1992 Fund- *Prestige*' Note by the Director, 92FUND/EXC.26/8/Add.6 October 2004

³⁰ Lloyd's List, 21/10/2004.

seriously defective steel structure upon inspection. It is doubtful whether this case will result in the Fund's claim being successful.³¹

The total amount of compensation available is 171.5 million Euros, with 23 million Euros comes from London P&I Club, while the 1992 Fund stands at 148 million Euros. As at 8 March 2005, 1109 claims had been submitted totalling 795.5 million Euros, with the Spanish Government lodging claims totalling 535 million Euros for clean-up costs and payments made to individuals and businesses that were effected by the oil spill. Total losses from the *Prestige* incident could amount to 1,100 million Euros, far exceeding the 171.5 million Euros available for compensation. The 1992 Fund has initiated payments limited to 15% of the loss or damage actually suffered by claimants. The Spanish Government has received 57.5 million Euros from the 1992 Fund, which has been used to pay compensation to claimants.³²

The Regulatory Initiatives

On 14 November 2002, while the *Prestige* incident was in its initial stages, the European Commission announced that it had now "one of the best sets of maritime safety rules the world".³³ Europe, however, was about to see that adopting measures is not enough; they have to be followed. If the Erika Packages had been in force at the time of the *Prestige* incident, the vessel would have been taken out of service two months prior to the incident.³⁴ The European Union had already established a maritime safety policy when the *Erika* incident occurred; therefore it was natural that it would regulate further to increase tanker safety, particularly through the European Commission that is responsible for EU regulations.³⁵

Erika Package I

The EU regulation, known as Erika Package 1, was adopted in March 2000 and deals with the improvement of port state control (PSC), activities of classification societies and the phasing out of single hull tankers.³⁶ It entered into force on 22 July 2003. However, instead of swift implementation by member states, the European Commission had to initiate proceedings against 10 member states that had not implemented whole or part of the legislation.³⁷ The Parliament Rapporteur in his Draft Report on 24 February 2004 noted specifically that Malta and Cyprus had failed to implement flag state obligations.³⁸

³¹ Supreme Court Judgment 278/2003 of 20 March 2003; RG 2003/2794, as quoted in International Oil Pollution Compensation Fund 1992, Executive Committee 26th Session, 'Incidents involving the 1992 Fund-*Prestige*' Note by the Director, 92FUND/EXC.26/8/Add. 6 October 2004.

³² <www.iopcfund.org/prestige.htm>, 'Recent Major Incidents-*Prestige*, Spain 13 November, 2002', last update 8 March 2005.

³³ As quoted in "Another Fine Mess", *Fairplay*, 28/11/2002, 16.

³⁴ Communication from the Commission, 'Report to the European Council on action to deal with the effects of the *Prestige* disaster', Brussels, 5 March 2003, COM (2003) 105, cited in Vincent Power and Denise Casey, "The *Prestige*: the European Union Legal Dimension", *Journal of International Maritime Law* 9 [2003], 4.

³⁵ Henrik Ringbom, "The Erika Accident and its effects on EU Maritime Regulation", in *Current Marine Environmental Issues and the International Tribunal for the Law of the Sea*, ed. Myron H Nordquist and John Norton Moore, Martinus Nijhoff, Publishers, The Hague, 2001, p. 269.

³⁶ Vincent Power and Denise Casey, "The *Prestige*: the European Union Legal Dimension", *Journal of International Maritime Law* 9 [2003] 4, 345.

³⁷ Vincent Power, "Selected Recent Developments in EC Maritime Law", *Journal of International Maritime Law* 10 [2004] 2, 194.

³⁸ European Parliament, Temporary Committee on Improving Safety at Sea, provisional 2003/2235 (INI) 23 February 2004, Draft Report on Improving Safety of the Sea. It was also reported that Cyprus had failed to implement port state obligations.

Port State Control

PSC is a defensive measure against sub-standard vessels and flag states that do not ensure that their vessels accord with internationally required standards.³⁹ In the wake of the *Erika* incident, the EC harmonised procedures for inspections and made more vessels subject to thorough investigation.⁴⁰ Prior to this amendment, certain ships were targeted by a point system based on the vessel's characteristics, but they were not required to be inspected as part of PSC. Since the amendment, vessels that have received high points through this target system will have to undergo mandatory detailed inspections.⁴¹ If a vessel fails repeatedly during these inspections it will be blacklisted and banned from entering European ports.⁴² Prior to the 2000 amendment, banning a vessel was only used in exceptional circumstances, but the scope to impose it has now widened due to new criteria relating to the general performance of flag states, as well as detention records of vessels.⁴³ The *Prestige* incident prompted the publishing of an indicative blacklist before the directive entered into force. The proposals made after the *Prestige* incident are to extend this reporting to include ships that are in transit in EU waters, and that copies of any report should be sent to the European Maritime Safety Agency (EMSA). Additionally, the Parliament's Rapporteur also proposed that the inspection of high-risk vessels should occur every six months instead of every twelve months.⁴⁴

Internationally, PSC related issues are mostly directed at ensuring vessel safety in response to the terrorist attacks of 11 September 2001. However, since 1995 tankers have had to undergo a programme to ensure that there are no deficiencies such as corrosion, or wear and tear due to age or neglect. Other international measures include enhancement of construction and technical inspections during surveys of bulk carriers and oil tankers.⁴⁵

Classification societies

Prior to the *Erika* amendments, it was discovered that the societies which have classified more than 90% of ships do not undertake subsequent performance checks.⁴⁶ The EC issued a directive addressed measures to monitor the procedures and activities of classification societies. If standards were not met, the EU would withdraw approval for the classification societies to operate in European waters. After the *Erika* incident this directive was amended to make quality requirements for classification societies more stringent,⁴⁷ with clear performance criteria, new requirements when a vessel transfers between societies, increased information sharing between classification societies and PSC, and sharing of financial liability between flag states and

³⁹ Note 35 above, p. 270.

⁴⁰ Note 36 above, 345.

⁴¹ Directive 2001/106/EC of the European Parliament and of the Council of 19 December 2001 amending Council Directive 95/21/EC concerning the enforcement, in respect of shipping using Community ports and sailing in the waters under the jurisdiction of the Member States, of international standards for ship safety, pollution prevention and shipboard living and working conditions (Port State Control), Article 7. See also Ringbom, note 35 above, p. 271.

⁴² Note 41 above, Article 7b. See also Power and Casey, note 36 above.

⁴³ Note 35 above, p. 271.

⁴⁴ Note 36 above, 349.

⁴⁵ European Parliament, Committee on Regional Policy, Transport and Tourism, Provisional 2002/2066 (INI), 26 May 2003, "Draft Report on Improving Safety at Sea in Response to the Prestige Incident"

⁴⁶ <<http://www.imo.org/home.asp>>, 'Tanker Safety- Preventing Accident Pollution'.

⁴⁷ Note 35 above, p. 269.

⁴⁸ Note 36 above, 345.

classification societies where a flag state is deemed liable but the cause of failure is attributed to the classification society.⁴⁸ As a result of the *Prestige* incident, the assessment of classification standards has increased and vessels must now maintain good safety and pollution prevention performance records regardless of the flag state or the region in which they sail.⁴⁹

The majority of classification societies, including those of the *Erika* and *Prestige*, are represented by the International Association of Classification Societies (IACS), which through its members adopts resolutions on technical or procedural matters. These resolutions are incorporated into the rules and practices of the classification societies, which are allowed to make more stringent rules than the resolution contains. Resolutions are also adopted to produce uniform interpretations of conventions, regulations or IMO resolutions,⁵⁰ and there is continuous communication between IACS and IMO with regard to improvements that can be made.⁵¹

Single Hull Phase-Out

The phasing out of single hull tankers is on the agenda both internationally and regionally with the benefits of double hull tankers becoming apparent. Although this question became the main issue after the *Erika* incident, the Maltese investigation report concluded that even if *Erika* had been double hulled at the time of the incident, the outcome would have been the same, since the incident was due to progressive failure and not incidental contact with other objects.⁵² After *Erika*, Europe accelerated the phase-out of single hull tankers in line with the United States' Oil Pollution Act (OPA) 90. This proposal was controversial but necessary due to the increased pollution risk in the future by US-banned tankers continuing to trade in European waters,⁵³ although it was only introduced to the IMO after gaining considerable industry support due to its strong impact on the tanker fleet.⁵⁴ According to the European timetable, Category 1 tankers, that is, pre-MARPOL crude tankers with 20,000 DWT and above, as well as bulk carriers of 30,000 DWT and above, should be scrapped when they reach 23 years of age or in 2005. Category 2 tankers, that is, MARPOL single hull tankers of the same size as Category 1 tankers, should be taken out of service when they reach 28 years of age or in 2010. Finally, Category 3 single hull tankers of the size of Category 1 and 2 tankers down to 5000 DWT should be scrapped at 28 years of age or in 2015.⁵⁵

Following the *Prestige* incident, a new EU amendment entered into force in 2003, banning single hull vessels carrying heavy oils from entering European ports, terminals

⁴⁸ Directive 2001/105/EC of the European Parliament and of the Council of 19 December 2001, amending Council Directive 94/57/EC on common rules and standards for ship inspection and survey organisations and for the relevant activities of maritime administrations; note 35 above, p. 270.

⁴⁹ Note 36 above, 349.

⁵⁰ <www.iacs.org.uk/work_prog/introduction.htm>, 'IACS- Technical Work Programme'.

⁵¹ MSC 79/6/21, 4th October, 2004, MSC 79th Session, "Goal-based new ship construction standards", comments on Document 79/6/1, submitted by the International Association of Classification Societies (IACS).

⁵² Note 3 above, pp. 2, 18-19, 100.

⁵³ Note 35 above, p. 270.

⁵⁴ Bob McFarland, "International Maritime Conventions- Introduction to MARPOL", World Maritime University, International Maritime Organisation, 2-3 July, 2001.

⁵⁵ Regulation (EC) No. 417/2002 of the European Parliament and of the Council of 18 February 2002, on the accelerated phasing-in of double hull or equivalent design requirements for single hull oil tankers and repealing Council Regulation (EC) No. 2978/94. See also Ian Middleton, "Another fine mess", *Seatrade* January/ February 2003, 15.

and anchorages regardless of the flag state.⁵⁶ A further amendment was promulgated banning single hull pre-MARPOL tankers older than 23 years from European waters. According to the regulations adopted following the *Erika* incident, Category 1 and 2 tankers were allowed to continue after 2005 and 2010 only if they passed a condition assessment survey (CAS), but under the new amendment *all* remaining single hull tankers beginning in 2005 were required to pass this assessment from the age of 15.⁵⁷ Furthermore, it was suggested that EMSA should investigate further the safety risks associated with double hull tankers such as corrosion and metal fatigue.⁵⁸

Internationally, MARPOL was amended in 1992 making it mandatory for new tankers of 5000 DWT and above to be fitted with double hulls, while a programme commenced 1995 with the goal of ensuring that all existing vessels were either converted to double hull or taken out of service after 30 years. After the *Erika* incident a revised schedule was adopted in April 2001 and entered into force on 1 September 2003. It identified the same three categories of tankers as the EU but made the main cut-off date 2015. Due to the *Prestige* incident further revisions were made, which entered into force on 5 April 2005 under the tacit acceptance procedure. This timetable is similar to that of the EU, except that the phasing out of MARPOL single hull tankers as well as smaller tankers should be completed by 2010. Furthermore, a new regulation has also been adopted, which provides that single hull tankers of 5000 DWT and above are banned from carrying heavy grade oil after 5 April 2005, while tankers between 600 and 5000 DWT are not allowed to do so beyond 2008.⁵⁹

If a ship passes through CAS, which takes into regard its size, age, operational area and structural condition, it can be allowed to trade after the date specified for its phasing out. Under the 2001 amendments, CAS was only applicable to pre-MARPOL tankers and MARPOL tankers, but is now applicable to all single hull tankers that are 15 years or older. Flag states can, if the CAS results are satisfactory, permit the use of a tanker until it reaches 25 years. However, other parties to MARPOL can deny the vessel entry into ports, offshore or ship to ship transfer of heavy grade oil within their jurisdiction unless it is necessary for saving lives or securing the safety of the vessel.⁶⁰

Other safety measures for bulk and oil carriers, which entered into force in July 2004, require vessels regardless of age to have hold, ballast and dry space water level detectors fitted with alarms, as well as level monitoring systems to detect any water ingress. Furthermore, pumping systems must be installed to operate from an accessible and enclosed space. There should also be easy access to all spaces in tankers and bulk carriers in order to enable proper inspection.⁶¹

Erika Package II

The second package was introduced in December 2000. It established a European Maritime Safety Agency (EMSA) to facilitate implementation of Erika Package I. It also dealt with rules for monitoring traffic in EU waters and identifying ports of refuge

⁵⁶ Regulation EC No. 1726/2003 of the European Parliament and of the Council of 22 July 2003, amending Regulation EC No. 417/2002 on the accelerated phasing-out of single hull or equivalent design requirements for single-hull oil tankers, *Official Journal of the European Union* L249/1.

⁵⁷ Middleton, note 35 above, 15.

⁵⁸ European Parliament, Committee on Regional Policy, Transport and Tourism, Provisional 2002/2066 (INI), 26th May 2003, 'Draft Report on Improving safety at Sea in Response to the Prestige Incident'.

⁵⁹ <www.imo.org/home.asp>, 'Tanker Safety-Preventing Accident Pollution'.

⁶⁰ Note 59 above.

⁶¹ Note 59 above.

as well as compensation of payment to victims of oil spills.⁶² The latter became part of international changes.

European Maritime Safety Agency

The European Maritime Safety Agency is made up of representatives from member states, the European Commission as well as independent representatives nominated by the Commission. Due to the *Prestige* incident, the agency became operable six months ahead of its scheduled date.⁶³ EMSA's role is important because it provides technical support to the Commission and member states, thereby ensuring that EU maritime safety and pollution regulations are uniformly applied, especially those relating to PSC and classification societies.⁶⁴ Therefore, its main task is to collect information, maintain an information database, monitor classification societies and strengthen PSC inspections in member states. It also facilitates relationships between member states⁶⁵ and is expected to develop an operational capability with member states to ensure swift responses to oil pollution incidents.⁶⁶ However, EMSA is purely of an administrative character and as such cannot interfere in any regional, national or global decision-making.⁶⁷ Nevertheless, it is probable that EMSA will work in close conjunction with the IMO to increase maritime safety.

Vessel Traffic Monitoring

The directive on vessel traffic monitoring was introduced to improve monitoring of traffic in or passing through European waters.⁶⁸ This includes simplifying the regime for notification of dangerous goods on board ships bound for EU ports through the use of electronic data interchange (EDI), which is shared by all member states that the vessel passes, monitoring of traffic along the coasts by reporting and routing vessel traffic, standardising and enforcing IMO approved VTS-systems, and introducing automatic identification systems for vessels coming into EU waters, which can provide information about ships to other vessels and coastal authorities.⁶⁹ Voyage data recorders have also been introduced, which will enable investigators after an incident to evaluate the procedures and instructions that were carried out before the incident occurred thereby establishing the likely cause of an incident.⁷⁰ Extending the international rules, EU requires recorders on existing cargo ships.⁷¹ The rights of coastal states have also been increased to enable them to intervene when vessels are considered high risk. This obligates the master to notify coastal state authorities when an incident has occurred and obliges the member state to take appropriate measures,

⁶² Note 36 above, 346.

⁶³ Note 36 above, 349.

⁶⁴ Regulation (EC) No. 1406/2002 of the European Parliament and of the Council of 27 June 2002 establishing a European Maritime Safety Agency, Article 2. See also Ringbom, note 41 above, p. 274.

⁶⁵ Note 36 above, 349.

⁶⁶ Vincent Power, "Selected Recent Developments in EC Maritime Law", *Journal of International Maritime Law* 10 [2004] 2, 194.

⁶⁷ Note 36 above, 349.

⁶⁸ Note 35 above.

⁶⁹ Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a vessel traffic monitoring and information system and repealing Council Directive 93/75 EEC, Articles 5-8. See also Power and Casey, note 34 above, 349-50.

⁷⁰ <<http://www.imo.org/home.asp>>, 'Ships to carry black boxes under new regulations'.

⁷¹ Note 36 above.

such as refusing to allow vessels carrying dangerous cargo to leave its ports in heavy weather.⁷²

Following the *Prestige* incident an accelerated process was initiated to establish the data system, and member states are required to have the necessary infrastructure to make this operable by 2007. A community vessel traffic monitoring system, the SafeSeaNet, has also been put into place, establishing a European database and a network between member states for sending and receiving data from transponders onboard vessels so that the identity and position of cargo vessels in European waters are known.⁷³ This legislation was to be implemented by member states on 5 February 2004. However, 12 member states have received warnings for failing to implement the directive on time.⁷⁴

International regulations have been thoroughly amended after the *Erika* and *Prestige* incidents. There now exists a mandatory requirement for voyage data recorders amongst other measures on ships of 3000 GT and above constructed after 1 July 2002. The amendment also requires automatic identification systems in all vessels of 3000 GT on international voyages, as well as cargo ships of 500 GT and upwards that are not engaged in international voyages. For tankers these were to be installed not later than the first survey for safety equipment on or after 1 July 2003.⁷⁵ Furthermore, vessels are now required to have permanent identification numbers in a visible place and a continuous synopsis record onboard that provides the history of the ship, containing its name, flag state, date of registry as well as the name and address of the owner. Any changes are to be written into the synopsis record to provide updated and current information together with the history of the changes. This requirement entered into force in July 2004.⁷⁶

Place of Refuge

The sinking of the *Prestige* put the port of refuge debate in the foreground, since it is generally believed the vessel and cargo could have been saved if the vessel had been allowed refuge.⁷⁷ The issue was considered at a hearing surrounding the *Prestige* incident on 19-20 May 2003, where it became clear that measures must be quickly implemented into national law.⁷⁸ In the EC directive dealing with traffic monitoring there is a provision under which member states are required to identify ports of refuge⁷⁹ within their jurisdictional waters and draw up plans to this effect that would be adopted when the directive entered into force on 5 February 2004.⁸⁰ An issue yet to be resolved within the member states is whether places of refuge should be openly declared or undisclosed. Some nations fear that if places are disclosed, nearby communities might protest the decision or substandard ships could take advantage of the information.⁸¹

⁷² Note 35 above, pp. 279-80.

⁷³ Note 36 above, 349-50.

⁷⁴ Note 37 above, 194.

⁷⁵ <<http://www.imo.org/home.asp>>, "Voyage Data Recorders".

⁷⁶ <<http://www.imo.org/home.asp>>, "International Convention for the Safety of Life at Sea (SOLAS), 1974".

⁷⁷ *Fairplay*, 28/11/2002, 16-19.

⁷⁸ Vincent Power, "Selected Developments in European Union Shipping Law: January-July 2003", *Journal of International Maritime Law* 9 [2003] 4, 291.

⁷⁹ Note 35 above, p. 280.

⁸⁰ Note 36 above, 350.

⁸¹ Richard Shaw, "Places of Refuge: the debate moves on", *Journal of International Maritime Law* 10 [2004] 2, 186.

Internationally, there are two guidelines regarding places of refuge, one guideline for the salvor or master of a vessel in need of a place of refuge, and one for what is expected of the coastal state and how it should evaluate the risk of providing a place of refuge.⁸² The first guideline deals with the determination of why the ship needs refuge. This encompasses appraisal of damage if the ship remains in the same position, if it reaches a place of refuge, or if it is taken out to sea, and what actions are needed from coastal states. The second guideline obligates coastal states to analyse advantages and disadvantages of the allocated places of refuge and to prepare a contingency plan. When an incident occurs the seaworthiness of the vessel has to be considered, the nature and condition of the cargo, the distance to a place of refuge and whether the ship is insured. When establishing whether the vessel should remain at sea or be brought to a place of refuge, considerations should be given to human life, risk of pollution and the consequences if refuge is not granted.⁸³ The European traffic monitoring directive recognises the validity of these guidelines, therefore they are of importance in the EU legislative network, even if they are only seen as being soft law.⁸⁴

The CLC/ Fund Regime

The incident of the *Torrey Canyon* in 1967 proved a catalyst for the development of a specific limitation regime for marine pollution,⁸⁵ resulting in 1969 in the CLC⁸⁶ as amended by the 1992 Protocol, which deals with compensation for damage done to property by an oil pollution incident as well as limitation of shipowners' liability. The Fund Convention⁸⁷, promulgated in 1971 and amended by the Protocol of 1992, is a second tier of compensation in situations where, if the money received from shipowners under the CLC Convention proves inadequate, the rest of the compensation is borne by the oil industry.

The conventions apply to sea-going vessels and sea-borne craft that are constructed or adapted for carrying oil as cargo,⁸⁸ and only apply to pollution damage in the territory, territorial sea and EEZ of a contracting State. Furthermore, the conventions are also applicable to preventative measures wherever taken to prevent or minimise such damage.⁸⁹ The owner is liable for any pollution from the ship as a result of the incident, but can exonerate himself on three grounds, namely, where the incident is a result of civil hostilities or *force majeure*, when the damage is caused by an act or omission done with intent to cause damage by a third party, and when the damage has occurred due to negligence or other wrongful act of an authority responsible for navigational aids.⁹⁰ In accordance with the principle of strict liability, claimants do not need to prove how the incident occurred or prove the negligence of the shipowner or crewmembers.⁹¹ Furthermore, the shipowner cannot limit liability if the damage resulted from his

⁸² Richard Shaw, "Places of Refuge: international law in the making", *Journal of International Maritime Law* 9 [2003] 2, 125.

⁸³ Guidelines for Places of Refuge for Ships in need of Assistance, NAV 48/19 ANNEX 12.

⁸⁴ Note 81 above, 190.

⁸⁵ Justine Wene, "*The Development of International Conventions Relating to Marine Pollution: An Appraisal Using the TASCOI Method of Organisational Practice in Reference to Torrey Canyon*" Master Thesis, Faculty of Law, University of Lund, 2002.

⁸⁶ *International Convention on Civil Liability for Oil Pollution Damage, 1992* [CLC].

⁸⁷ *International Convention on the Establishment of an International Fund for Oil Pollution Damage, 1992* [Fund Convention].

⁸⁸ CLC, Art. 1.

⁸⁹ CLC, Art. 2.

⁹⁰ CLC, Art. 3.

⁹¹ Colin De la Rue and B Charles Anderson, *Shipping and the Environment*, (1998) LLP, London, p.87.

personal act or omission committed with the intent to cause such damage or with knowledge that such damage would probably result.

Prior to the *Erika* incident the shipowner was allowed to limit liability to any one incident calculated as follows: 3 million SDR for a ship not exceeding 5,000 gross tonnes, and for a ship with a tonnage in excess of this, 420 SDR were added for each additional gross tonne. However, this aggregate amount was not to exceed 59.7 million SDR. Since the *Erika* incident, these limits have been increased by 50% and now for a ship not exceeding 5,000 GT the limitation is 4.51 million SDR, for a ship between 5000 and 140 000GT 631 SDR are added for each additional GT over 5000, and for ships over 140000GT liability is limited to 89.77 million SDR.⁹²

The Fund compensates oil pollution victims in three instances: when the victim cannot identify the owner of the ship or the owner has exonerated himself from liability, when the owner is not financially capable of meeting his obligation and any financial security is insufficient to compensate fully, and when the damage exceeds the limitation of the shipowner's liability. Expenses or sacrifices that owners make voluntarily to prevent or minimise pollution damage are treated as pollution damage.⁹³ The Fund is not obliged to pay compensation to victims if the damage resulted from war or other hostilities, was caused by a warship or another state-owned ship used non-commercially, if the claimant cannot prove in general that a vessel is the source of pollution, or if the Fund can prove that the damage was done through actions, omissions or negligence of the person suffering the damage.⁹⁴ The Fund is, however, obliged to pay for claims relating to compensation for the cost of preventive measures.⁹⁵ Any rights to claim are extinguished unless action is brought within three years of the damage occurring, but in no case can an action be brought more than six years after the incident.⁹⁶

Prior to the *Erika* incident, the total sum provided by the Fund for any one incident was not to exceed 135 million SDR, after adding the amount to the compensation received from CLC. However, if an incident would have occurred while there were three Parties to the Fund Convention who combined received 600 million tonnes of oil in the preceding year, the maximum compensation was 200 million SDR. If the established claims exceeded this amount, then the principle of proportionality was used when distributing compensation between the victims.⁹⁷ On 18 October 2000 there was an amendment to the Fund Convention with regard to the maximum amount of compensation available from the IOPC fund for a single accident, with the limit being raised to 203 million SDR. This new limit includes the limit under the 2000 amendment to the CLC. If, however, three states that are contributors to the Fund receive more than 600 million tonnes per year the maximum is raised to 300,740,000 SDR, which is a substantial increase from the 200 million SDR stipulated before.⁹⁸ The amendments entered into force on 1 November 2003.⁹⁹ Contributors to the Fund are

⁹² <www.imo.org/Conventions/contents.asp?topic_id=256&doc_id=660>, 'International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969'.

⁹³ Fund Convention, Art. 4(1).

⁹⁴ Note 93 above, Art. 4(2).

⁹⁵ Note 93 above, Art. 4(3).

⁹⁶ Note 93 above, Art. 6.

⁹⁷ Note 93 above, Art. 4(4).

⁹⁸ <www.imo.org/Conventions/mainframe.asp?topic_id=256&doc_id=661>, 'International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND), 1971'.

⁹⁹ Resolution (Adopted by the Legal Committee of the International Maritime Organization on 18 October 2000), ADOPTION OF AMENDMENTS OF THE LIMITS OF COMPENSATION IN THE PROTOCOL OF

persons who receive more than 150,000 tonnes of oil per year. If the combined amount of oil received by a person and other associated persons goes over the 150,000 tonnes limit, those persons pay contributions proportionally to the actual amount they have received.¹⁰⁰

In May 2003 a Supplementary Protocol was adopted, adding an optional third tier of compensation should the existing CLC/Fund Regime prove inadequate. It entered into force on 3 March 2005. The total amount of compensation payable is limited to 750 million SDR, which includes compensation from both the Fund and the CLC, but the compensation limits can be amended by a tacit acceptance procedure. The contributions to this supplementary fund are made yearly by a person in a contracting state who annually receives in excess of 150,000 tonnes of oil with a minimum aggregate receipt of one million tonnes of contributing oil in each contract state. The assessments of annual contributions are to be made by the Fund Assembly on the basis of estimates of expenditure and income.¹⁰¹

Other developments

The developments discussed above are those directly resulting from the two incidents. However, there are continuous proposals to improve European maritime legislation. The European Commission has proposed a package of supplementary measures, which include the implementation of the International Labour Organisation (ILO) proposal on living and working conditions of seafarers, a further update on PSC, a directive on maritime transport and information systems, regulation on compliance with IMO flag state rules as well as a directive on maritime accident investigation.¹⁰² This package is already being referred to as the Erika Package III.

Internationally, there are several other amendments to existing rules that are of interest but have not entered into force yet. Examples of these amendments include the requirement that any vessel undertaking an international voyage should report daily to their company with their position, course, speed and any details that might be of importance and affect the vessel's voyage.¹⁰³

Summary of Measures

The initiatives discussed above can be divided into organisational and technological measures, with the aim of preventing, mitigating and regulating liability. Using these classifications the new legal measures can be summarised in the following matrix.

1992 TO AMEND THE INTERNATIONAL CONVENTION ON THE ESTABLISHMENT OF AN INTERNATIONAL FUND FOR COMPENSATION FOR OIL POLLUTION DAMAGE, 1971, in *Texts of the 1992 Conventions on Liability and Compensation for Oil Pollution Damage*, 2001 Edition, International Oil Pollution Compensation Fund 1992.

¹⁰⁰ Note 87 above, Art. 10.

¹⁰¹ Note 98 above.

¹⁰² European Parliament, Committee on Regional Policy, Transport and Tourism, Provisional 2003/2235 (INI), 23 February 2004, "*Draft Report on Improving Safety at Sea*", Rapporteur Dirk Sterckx.

¹⁰³ Note 76 above.

Measure Aim	Organisation	Technology
Preventive	<ul style="list-style-type: none"> • EMSA • Flag State Inspections • Port State Control • Classification Societies • Vessel Traffic Monitoring 	<ul style="list-style-type: none"> • Double Hull-assumed to increase renewal of world fleet, but might give 'leakage' in terms of vessels passing CAS inspections
Mitigating	<ul style="list-style-type: none"> • EMSA • Vessel Traffic Monitoring • Places of Refuge 	<ul style="list-style-type: none"> • Double Hull- mitigate environmental damage
Damage Compensation	<ul style="list-style-type: none"> • CLC/Fund Regime • Supplementary Fund 	

It is also of interest to note here that legal actions in general include both preventive and compensatory measures. This is exemplified in the case of ABS, which has been sued by Spain for misrepresentation. If ABS is found liable, this will provide an incentive for classification societies to re-evaluate their general policies, as well as provide further compensation. However, this option did not arise as a result of the incidents and will therefore not be considered in the conclusion below.

Conclusion

The events leading up to and following the *Erika* and *Prestige* incidents provide two scenarios enabling reflection on the efficiency of the legislative changes that have been described above. The following conclusion asks how the new legal measures would have affected the outcome if they had been in place at the time of the incidents. However, to understand EMSA's potential for instituting organisational learning among the different EU national maritime authorities, it is useful also to ask what would happen today in an *Erika* or *Prestige* scenario when discussing the role of this agency.

The conclusion is arranged around the matrix presented above. EMSA's role will be considered first, followed by a discussion of operational activities to prevent, mitigate and compensate for damage.

EMSA

EMSA has both an information gathering and a coordinating function. It also fulfils a monitoring function with regard to classification societies and PSC. Although it should also – together with member states – strengthen PSC and develop the operational capacity to handle oil pollution incidents, it has a purely administrative function. This means that it cannot interfere in decision-making with respect to *operational* activities to prevent or mitigate an incident. However, its role in monitoring, coordinating,

information gathering and evaluation makes it potentially a very important EU instrument in organising and increasing the effectiveness of such activities.

Consideration of alternative outcomes in *Erika* and *Prestige* scenarios provides an insight into how EMSA could improve the efficiency of new laws. The conclusions in this part indicate that applying all the organisational measures in the matrix at the time of the incident would probably still have allowed both *Erika* and *Prestige* to sail. However, the incidents themselves revealed the importance of looking for corrosion and structural weaknesses. EMSA's task is to gather and evaluate this type of knowledge, but also to make sure that this knowledge spreads to flag states, port state inspectors and classification societies. This is backed up with reporting and monitoring, and with EMSA statistics supporting the growth of an EU collective data information system on safety issues. Properly implemented, this system should provide for organisational learning, making sure that all parties, including individual port state inspectors, share up-to-date knowledge and have the ability to apply it. Specifically, organisational measures applied with a common awareness of the dangers of corrosion and structural weakness and knowledge of how to search for signs of such dangers should today prevent an *Erika* or *Prestige*-type incident in EU waters.

Preventive Measures

Port State Control

Malta, *Erika*'s flag state, and Bahamas, *Prestige*'s flag state, are two of several nations that are collectively often referred to as 'flag of convenience' states. This would have affected the adequacy of the flag state inspections on *Erika* and *Prestige*. In practice, flag of convenience states may find it hard to fully exercise their duties as flag states. The prime reason is that there are economic incentives for these states to allow substandard vessels to sail due to the possibility that shipowners could change flag state if their vessels cannot pass flag state control. Furthermore, these inspections are carried out by individuals, either employed directly by the flag state or by the classification society, who, despite existing guidelines have varying subjective degrees of experience and perceptions as to what constitutes a serious deficiency. Looking at the general perceptions of Malta and Bahamas as flag states, and the possibility of banning vessels on the basis of the general performance of flag states, it would seem likely that the vessels would not have sailed. However, on the presumption that both states had attended to their duties as flag states and PSC had been undertaken prior to the incidents, it is uncertain whether *Erika* or *Prestige* would have been banned. The question that arises is whether the two vessels prior to the amendments would have had points against them due to their characteristics according to the European system, or whether they were 'clean'.

Prior to her sinking, the 24-year old *Erika* had been inspected 16 times by port state control inspectors and twice by flag state inspectors between 1991 and 1999, and her class and statutory certificates were valid. Furthermore, inspectors of oil companies such as Texaco, Exxon, Repsol and Shell had all approved her as a fit vessel, as well as TotalFinaElf, whose cargo she was carrying at the time of her sinking.¹⁰⁴ Finally, as was again pointed out in the Maltese investigation report, corrosion protection of tank surfaces was not regarded as an important issue at the time of her sinking. Therefore, even if she had undergone detailed inspections according to the new amendments, the

104<<http://216.239.59.104/search?q=cache:Cxt3hfqStqAJ:denizhukuku.bilgi.edu.tr/doc/Oya%2520ozcayir%2520article.doc+erika+vessel+high+risk+point+system&hl=en>>, 'Port State Control'

thought that corrosion on tank surfaces would lead to an incident of that magnitude would not have occurred to the individuals inspecting the vessel, and therefore *Erika* would not have accumulated any points leading to her being banned from EU ports.

The 27-year old *Prestige* had a weakened hull structure, which caused the incident, although the hull structure was still within the specified thickness.¹⁰⁵ If inspectors are not obliged to inspect the water ballast tanks adjacent to the heating oil tanks,¹⁰⁶ and this approach is maintained in practice, any weakening of the structure would not have been detected and the *Prestige* would have been allowed to sail.

Internationally, the new amendments to ensure that tankers do not suffer from corrosion would not have made any difference in the case of the *Prestige*, but it is questionable in the case of *Erika* since corrosion protection in tanks was not important in assessing risk of an incident.

Classification societies

The same arguments as above can be applied, and have been applied by ABS on behalf of the two classification societies involved with the ships, to the *Prestige* incident. Both ABS and RINA, *Erika*'s classification society, are members of IACS, and thus approved to operate in European waters. The question is whether the directive aimed at monitoring procedures and activities of the societies would have made any real difference in these two situations. Despite all directives, international conventions and guidelines, it is noted that there are shortcomings in the performance of classification societies. These shortcomings relate to the practical application of legislation and although both the EU and IACS have attempted to harmonise and form unified implementation, there is always subjectivity involved in what constitutes a satisfactory standard. Therefore the vessels would have probably passed the inspections.

Vessel Traffic Monitoring System

The vessel traffic monitoring system acts as a preventive and mitigating measure. As a preventive measure, it is unlikely that these amendments would have had any impact on the course of the incidents since they were the result of technical failures.

Single Hull Phase-Out

The phasing out of single hull tankers has a dual function. As a preventive measure, its aim is to modernise the tanker fleet by early phase-out or refurbishing of single hull vessels. Under the amendments subsequently adopted, *Prestige* and *Erika* would have been prohibited from sailing. The question of phasing out single hull tankers poses, however, other problems. This measure is being employed over a long period because shipyard capacity is limited, making it impossible to convert all single hulled tankers to double hulls without causing disruption to world trade and industry. However, the USA with OPA 90 and Europe with its phasing-out timetable wanted this turn-over to happen quickly, fearing incidents of the same magnitude as *Exxon Valdez*, *Erika* and *Prestige*. Therefore IMO seems to have followed these initiatives. It is understandable that this degree of uniformity has been reached. However, the question remains whether CAS is not a loophole, seeing that it is up to flag states to determine whether a vessel is still fit to sail, thereby raising the 'flag of convenience' issue again. The possible repercussion of this is that substandard tankers might flood certain areas of the world, which cannot

¹⁰⁵ See note 21 above.

¹⁰⁶ See note 25 above.

afford to ban vessels from their waters, and therefore have to wait until the 25-year limit to ban them from sailing. This means that the problem of single hull tankers posing environmental threats would not have been solved, but merely removed to places where the level of preparedness might be less, due to economic or practical reasons.

Mitigating Measures

Vessel Traffic Monitoring

Vessel traffic monitoring is important as a mitigating measure because it increases the awareness of coastal states. In the *Prestige* incident, it is likely that if the SafeSeaNet had been in force at the time, Portugal would have comprehended the seriousness of the situation better and perhaps rendered assistance more readily.

Places of Refuge

The issue of places of refuge is of considerable importance and might have changed the outcome of the *Prestige* incident significantly by identifying other places of refuge if her draught was too large for the port of La Coruna. It is, however, worrying that the Spanish authorities are still defending their actions in regard to refusing the *Prestige* a place of refuge.¹⁰⁷ The *Prestige*, at 50 kilometres from the coast of Spain, was sufficiently near to safely arrive at a place of refuge. Furthermore, the vessel was able to remain afloat for six days despite technical failure and harsh sea conditions, which suggests that if the vessel had proceeded to a place of refuge, attempts to unload the cargo would have been successful. The Spanish authorities could not have foreseen that the *Prestige* would remain intact for a long period but her closeness to a port should have led to a request for refuge being granted.

In the case of the *Erika*, the master cancelled a request for a port of refuge thereby making a human error. It is, therefore, not clear whether the new amendments would have made any difference to the outcome. Perhaps, when the further defects had been noticed a further request would have been made. However, the vessel seems to have deteriorated very quickly, thereby making it likely that a place of refuge would not have been reached in time.

Single Hull Phase-Out

As a mitigating measure, the phasing out of single hull tankers will only be of importance in regard to incidents involving groundings or collisions. In the case of the *Erika* the corrosion of the tanks could have been a result of faulty building materials and, therefore, if the vessel had been constructed with a double hull this might not have made any difference. If the *Prestige* had been double hulled the result might have been different, depending on whether there would have been the same weaknesses in both the inner and outer hulls, whether repairs were undertaken on both hull structures and whether these weaknesses would have exposed themselves simultaneously. Another mitigating factor that may have helped would have been the water level detectors, which would have helped detect the lists sooner, enabling crew to act quicker and reducing the extent of the damage.

¹⁰⁷ Joanna Koukoulis, "Prestige aftermath in the IOPIC Fund", *International Tug & Salvage*, March/April 2003, 27.

Damage Compensation

Raising the limitation amount under the CLC/Fund Regime as well as introducing the Supplementary Fund provides further relief for oil pollution victims. Since these are the only changes to the regime, it is unlikely that there will be a proportionate increase in claims allowed, since the same assessment criteria will be used.

Summary

In summary, it is probable that due to the establishment of EMSA, an *Erika* or *Prestige*-type incident would have been prevented due to increased and more widely available knowledge of how corrosion and structural failure affect a vessel. Apart from this, though, and applying the other organisational amendments made without any increase in practical knowledge, it seems likely that the *Erika* and *Prestige* incidents would still have occurred, although mitigating factors such as places of refuge would have decreased the impact of the incidents unless the vessels had been taken out of service due to the single hull phase-out timetable.