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REVIEW OF THE INTERNATIONAL COMPENSATION REGIME

STUDY OF THE COSTS OF OIL SPILLS IN RELATION TO PAST, CURRENT AND FUTURE LIMITATION
AMOUNTS OF THE 1992 CONVENTIONS

Note by the Director

Summary:

The Director was invited by the Working Group to undertake an independent study of the costs of spills in relation to past, current and future limitation amounts of the 1992 Conventions. The P&I Clubs belonging to the International Group of P&I Clubs agreed with a proposal by the Director on the requirements for such a study and agreed to provide data to the 1992 Fund on a confidential basis. This report is based upon cost data provided by the International Group in respect of 5 802 incidents that occurred in the 25-year period 1978-2002, together with the IOPC Funds' own cost data and that of CRISTAL.

Action to be taken: Information to be noted.

1 Introduction

- 1.1 At the 5th meeting of the Working Group in February 2003 the Director was invited to undertake an independent study of the costs of oil spills in relation to past, current and future limitation amounts of the 1992 Conventions, recognising that the usefulness of such a study would be dependent on obtaining the raw data from the P&I Clubs and the oil industry. The Working Group considered that it was important that the study reflected the costs of past spills and the apportionment of those costs between the shipping and oil industries on the basis of current values and the likely values in the future, taking into account inflation indices for the individual States (documents 92FUND/A/ES.7/6 and 92FUND/WGR.3/15, paragraph 6.19).
- 1.2 In March 2003 the Director wrote to the Chairman of the Pollution Sub-committee of the International Group of P&I Clubs with an outline proposal for a cost study setting out the required inputs, the methodology to be followed and the outputs. The Director indicated that for the study to be meaningful it would be necessary to include all available cost data from 1978, the year when the 1971 Fund Convention entered into force, to the present and that the data should not be restricted to incidents in Member States. However, the Director stated that data for the United States of America should not be included since the shipowner's liability under the United States legislation was much higher than under the 1992 Civil Liability Convention. In view of the confidential nature of some of the data relating to spills not involving the IOPC Funds, the

Director proposed that the results of the analyses would be presented in graphical and tabular form without reference to ship names. The Chairman of the Pollution Sub-committee agreed to the Director's proposal subject to the issue of confidentiality being respected. At the suggestion of the Chairman of the Pollution Sub-committee, a Steering Group was established comprising representatives from the 1992 Fund, the International Group, ICS, OCIMF and ITOFF. The Steering Group met in December 2003 to develop the methodology to be used for the study and was invited to comment on the draft report.

- 1.3 In December 2003 the Director received, via the International Tanker Owners Pollution Federation Ltd (ITOPF), data that had been submitted by all the P&I Clubs belonging to the International Group. Cost data was provided in respect of some 7 800 pollution incidents that had occurred since 1978. An analysis made by the IOPC Funds of the data relating to those incidents in which the Funds had been involved indicated, however, that the raw data required considerable analysis before it could be used to provide useful statistics, since it was apparent that some Clubs had submitted global figures of payments made which did not, for example, differentiate between payments made for pollution damage and payments for other types of claims arising from an incident such as wreck removal, loss of cargo, fines and other costs.
- 1.4 At the request of the Director, the Chairman of the International Group's Pollution Sub-committee requested the P&I Clubs to review their data in order to eliminate costs that did not relate to pollution damage. To assist in this review the Funds sent a questionnaire, which was followed up by visits by the Deputy Director/Technical Adviser to a number of Clubs. As a result of this review the Director is confident that in the case of incidents costing in excess of US\$100 000 the data represents an accurate reflection of pollution damage costs. As regards incidents costing less than US\$100 000 it is possible that in some cases the amount reported includes other costs, such as those of experts, lawyers and Club correspondents. The review indicated that costs associated with major incidents were usually of the order of around 10% of the total costs. In view of the fact that smaller incidents are unlikely to give rise to significant costs, the Director decided that including these costs would not significantly affect the outcome of the study.
- 1.5 Since one of the aims of the cost study was to determine the extent to which the financial burden of oil pollution damage had been shared between the shipping and oil industries, the Director considered it necessary to include data in respect of payments made under the voluntary regimes of TOVALOP and CRISTAL (see below), which coexisted and for a period interacted with the international Conventions.
- 1.6 At the end of the review process the Funds obtained cost data in respect of a total of 5 802 incidents over the 25-year period 1978-2002. It should be noted that this number does not represent the total number of pollution incidents over that period, since not all P&I Clubs were able to access data for the earlier years. However, the Director is confident that all significant incidents occurring during that period have been included. The main reasons why the total number of relevant incidents was reduced from 7 800 to 5 802 were that the original data provided by the Clubs in December 2003 included incidents involving vessels that did not fall within the definition of 'ship' under the 1992 Conventions and that a significant number of incidents were included that did not result in any compensation being paid for pollution damage.
- 1.7 All cost data were converted into US dollars, which is the currency used by the P&I Clubs. Payments by the IOPC Funds were converted from pounds sterling into US dollars at a fixed rate of £1=US\$1.6, which corresponded to the average exchange rate over the period covered by the study. With the exception of the *Erika* and *Prestige* incidents the amounts paid by the shipping industry and the oil cargo interests represent the actual or expected payments by the P&I Clubs, CRISTAL and the IOPC Funds as at 31 December 2003. For the purpose of determining the overall sharing of the financial burden of pollution incidents between the shipping industry and oil cargo interests the maximum amounts payable under the 1992 Conventions in respect of the *Erika* and *Prestige* incidents were used. However, when examining the actual and inflated costs of oil

spills against the financial limits of the 1992 Conventions and the Supplementary Fund Protocol, the anticipated full admissible pollution costs of these incidents were taken into account.

2 The voluntary schemes

- 2.1 The voluntary compensation schemes, namely the Tanker Owners Voluntary Agreement concerning Liability for Oil Pollution (TOVALOP), which came into force in 1969, and the Contract Regarding a Supplement to Tanker Liability for Oil Pollution (CRISTAL), which came into force in 1971, were introduced by the shipping and oil industries prior to the entry into force of the 1969 Civil Liability and 1971 Fund Conventions respectively. The voluntary schemes were broadly similar in scope to these Conventions and had application worldwide. When the 1971 Fund Convention entered into force in 1978 the voluntary schemes continued to exist so as to provide compensation for pollution damage in those States that had not become parties to the Conventions.
- 2.2 In 1987 TOVALOP was amended, as a result of which a Supplement was added to the existing Agreement. The CRISTAL Contract was also amended in 1987. The purpose of the amendments was to introduce levels of compensation similar to those available under the 1984 (subsequently 1992) Protocols to the 1969 Civil Liability Convention and the 1971 Fund Convention. One significant difference between the amended CRISTAL Contract and the 1984/1992 Fund Protocols was that whereas the latter provided a fixed amount of compensation irrespective of the size of the ship, compensation under the CRISTAL Contract was related to ship size, with a maximum of US\$125 million being available for ships greater than 140 000 gross tonnes. However, a key feature of the amendments to the voluntary schemes was that the higher levels of compensation were available worldwide, including in those States that were parties to the 1969/1971 Conventions. This had the effect of ensuring that the financial benefits of what were to become the 1992 Conventions were available worldwide some nine years before the 1992 Fund Convention entered into force. At the time of the amendments the owners and bareboat charterers of some 97% of the world's tanker tonnage were parties to TOVALOP and most contributors to the 1971 Fund were also parties to the CRISTAL Contract.
- 2.3 Another key feature of the 1987 amendments to the voluntary schemes was that in the case of an incident in a State party to the 1969 Civil Liability Convention and the 1971 Fund Convention, the shipowner was required to reimburse the parties to CRISTAL that had contributed to the 1971 Fund's payment of claims, up to the applicable TOVALOP Supplement limit. Such reimbursement was subject to the shipowner first having paid any amounts required to fulfil his legal obligations under the 1969 Civil Liability Convention and was also subject to the tanker having at the time of the incident been carrying a cargo owned by a party to CRISTAL. This reimbursement mechanism has applied, or will apply to some 10 pollution incidents involving the 1971 Fund, including the *Aegean Sea, Braer, Keumdong N°5, Sea Prince, Yuil No.1* and *Sea Empress* incidents. The total amount reimbursed or to be reimbursed by shipowners to parties to CRISTAL in 1971 Fund Member States is some US\$92 million.

3 Results of the study

Overall sharing of the financial burden

- 3.1 Around 98% by number of all reported oil pollution incidents involving tankers during the period 1978-2002 worldwide outside the United States of America were fully compensated by the shipping industry under the 1969 and 1992 Civil Liability Conventions or TOVALOP.
- 3.2 As regards the sharing of the financial burden between the shipping industry and oil cargo interests (including parties to CRISTAL) the data is summarised in Table 1 below.
- 3.3 In the study the Director first looked at the gross payments made by the two sectors on the basis of the financial limits under the relevant Conventions and voluntary schemes. The data shows

that the shipping industry paid out a total of US\$669 million compared with US\$1 060 million paid by oil cargo interests, ie the shipping industry and oil cargo interests paid 39% and 61% of the total amount of compensation paid respectively.

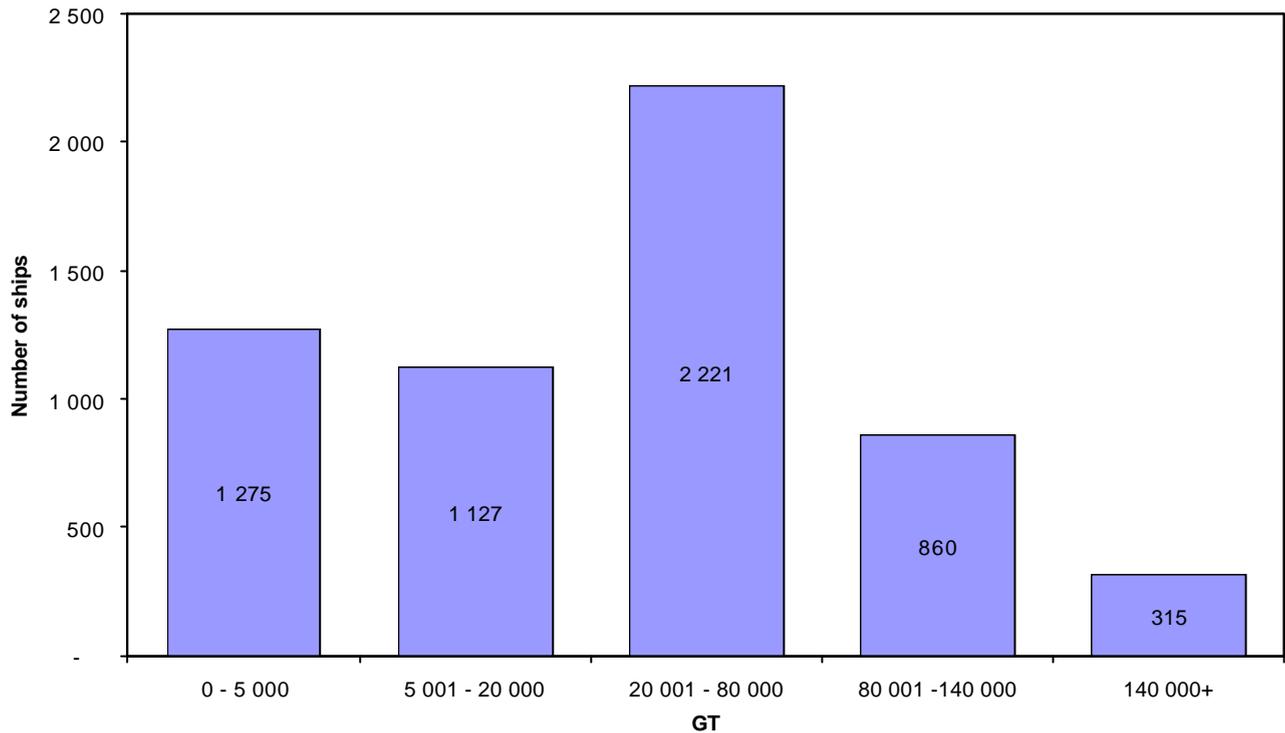
- 3.4 As indicated above, for incidents occurring between 1987 and 1996 the shipping industry undertook to reimburse those parties to the CRISTAL Contract that had contributed to the 1971 Fund's payment of claims, up to the applicable TOVALOP Supplement limit (corresponding to the limits under the 1992 Civil Liability Convention). Taking these reimbursements into account, the shipping industry paid a total of US\$785 million compared with US\$944 million by the oil cargo interests, ie the shipping industry and oil cargo interests paid 45% and 55% respectively of the total amount of compensation paid.
- 3.5 Finally, after taking into account recourse actions taken by the IOPC Funds since 1978 and additional payments made by the shipping industry to third parties, ie governments and private claimants, the total amount paid by the shipping industry was US\$944 million compared with US\$844 million paid by the oil cargo interests, ie the shipping industry and oil cargo interests paid 53% and 47% respectively of the total amount of compensation paid. This analysis does not take into account contributions made by individual oil companies towards the costs of specific incidents, for example the payments made by TotalFinaElf in response to the *Erika* incident. It should be noted that the net amount paid by the oil cargo interests includes a reimbursement of US\$32 million as a result of the recourse action taken by the 1971 Fund against the Milford Haven Port Authority in respect of the *Sea Empress* incident. It should also be noted that all the recourse actions taken by the IOPC Funds against shipowners were under the 1969 Civil Liability Convention, under which it was easier to break the shipowner's right of limitation than under the 1992 Civil Liability Convention.

Basis of payments	Total paid by shipping industry US\$	Total paid by oil cargo interests US\$
Gross payments within the financial limits under the relevant Conventions or voluntary agreements	668 892 249	1 059 856 835
Net payments after taking into account reimbursements by the shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents	784 568 261	944 180 823
Net payments after taking into account reimbursements by the shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents and payments to the 1971 Fund and third parties (governments and private claimants) as a result of recourse actions	944 335 469	844 344 354

TABLE 1: Contributions by the shipping industry and oil cargo interests to payments of compensation for pollution damage in respect of 5 802 incidents in the period 1978–2002

Sharing the financial burden according to ship size

- 3.6 The Director also examined the effect of ship size on the sharing of the financial burden between the shipping industry and oil cargo interests. Graph 1 shows the number of incidents covered by the study for ships in the following size categories: 5 000 gross tonnes and below, 5 001 to 20 000 gross tonnes, 20 001 to 80 000 gross tonnes, 80 001 to 140 000 gross tonnes and greater than 140 000 gross tonnes.

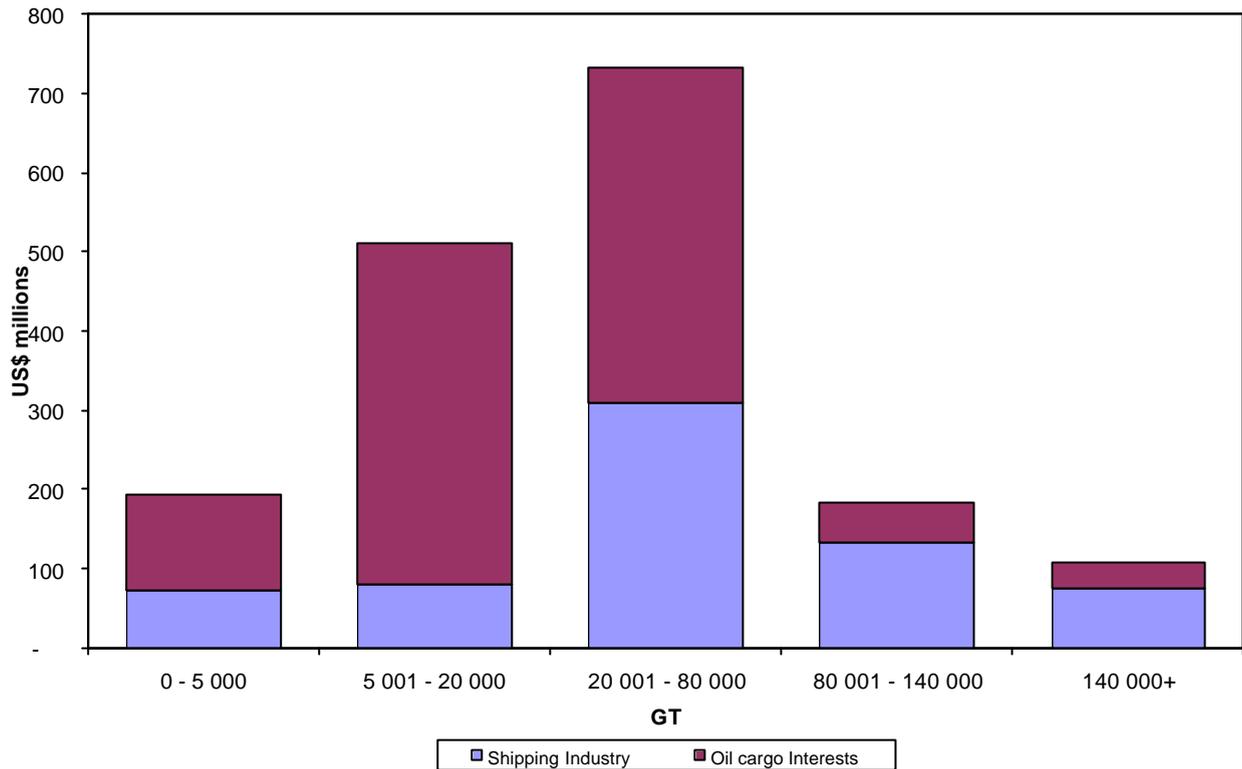


GRAPH 1: Number of incidents covered by the cost study for different size categories of ships

3.7 As with the analysis of the overall sharing of the financial burden the Director considered three scenarios: gross payments made by the two industry sectors within the financial limits under the relevant Conventions or voluntary schemes; net payments after taking into account reimbursements by the shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents; and net payments after taking into account reimbursements to parties to CRISTAL and payments to the 1971 Fund and third parties as a result of recourse actions. Graphs 2A, 2B and 2C show the total costs of incidents and the sharing of those costs between the two industry sectors for ships in the above size ranges for the three scenarios. It should be noted that the data for three incidents had to be excluded from this analysis since the gross tonnages of the vessels involved were not known. For the same reason compensation paid by the 1992 Fund in respect of an incident in the United Kingdom in 2002 from an unknown tanker has been excluded.

Ship gross tonnage	Number of incidents	Total compensation paid US\$	% paid by shipping industry	% paid by oil cargo interests
≤ 5 000	1 275	194 661 610	37	63
5 001 – 20 000	1 127	510 344 080	16	84
20 001 – 80 000	2 221	732 038 755	42	58
80 001 – 140 000	860	183 268 260	73	27
>140 000	315	107 905 839	69	31
TOTAL	5 798	1 728 218 543	39	61

TABLE 2A – Gross payments within the financial limits under the relevant Conventions and voluntary schemes

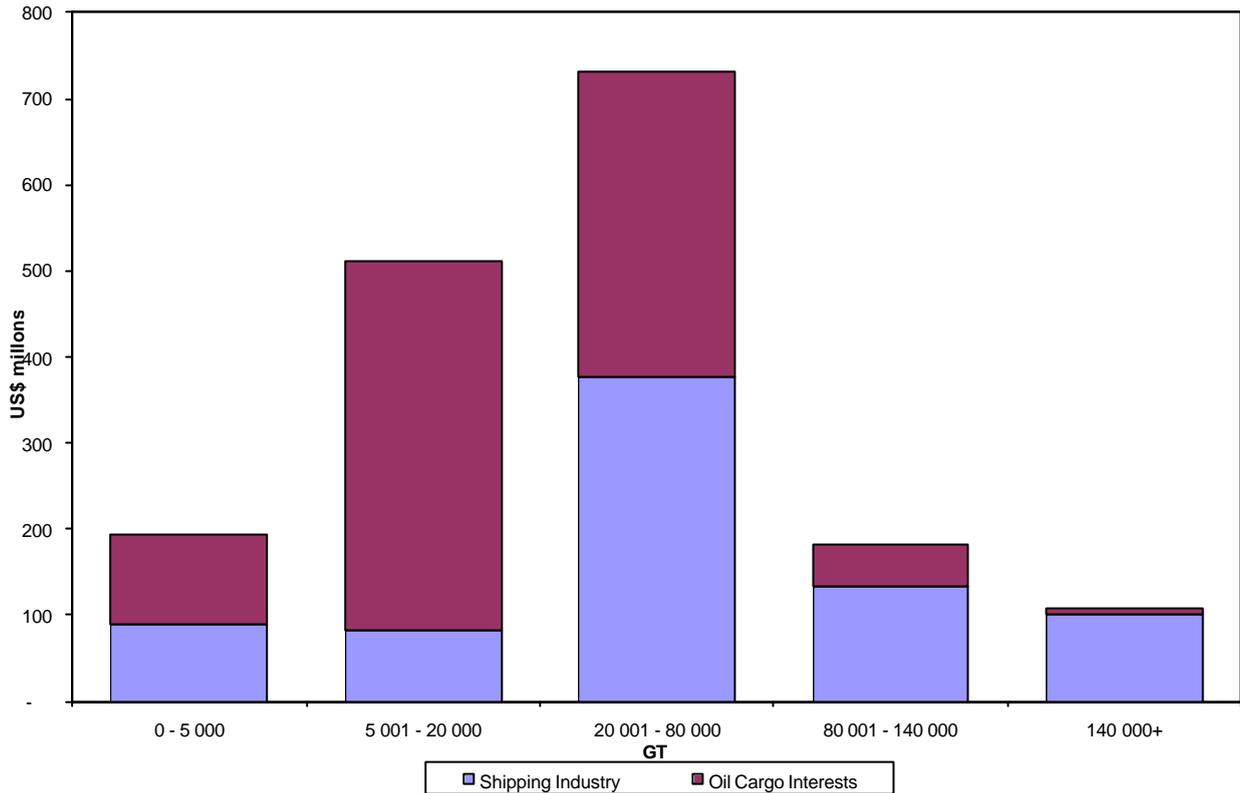


GRAPH 2A: Total costs of oil spills and amounts paid by shipping industry and oil cargo interests within the financial limits under the relevant Conventions and the voluntary scheme

3.8 As can be seen from Table 2A, payments by oil cargo interests exceeded significantly those of the shipping industry for incidents involving ships of 80 000 gross tonnes and below, particularly in the case of vessels in the size range 5 001 and 20 000 gross tonnes. In contrast the shipping industry made a significantly greater contribution to compensation payments for incidents involving ships in excess of 80 000 gross tonnes.

Ship gross tonnage	Number of incidents	Total compensation paid US\$	% paid by shipping industry	% paid by oil cargo interests
≤ 5 000	1 275	194 661 610	46	54
5 001 – 20 000	1 127	510 344 080	16	84
20 001 – 80 000	2 221	732 038 755	51	49
80 001 – 140 000	860	183 268 260	73	27
>140 000	315	107 905 839	95	5
TOTAL	5 798	1 728 218 543	44	56

TABLE 2B: Net payments after taking into account reimbursements by the shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents

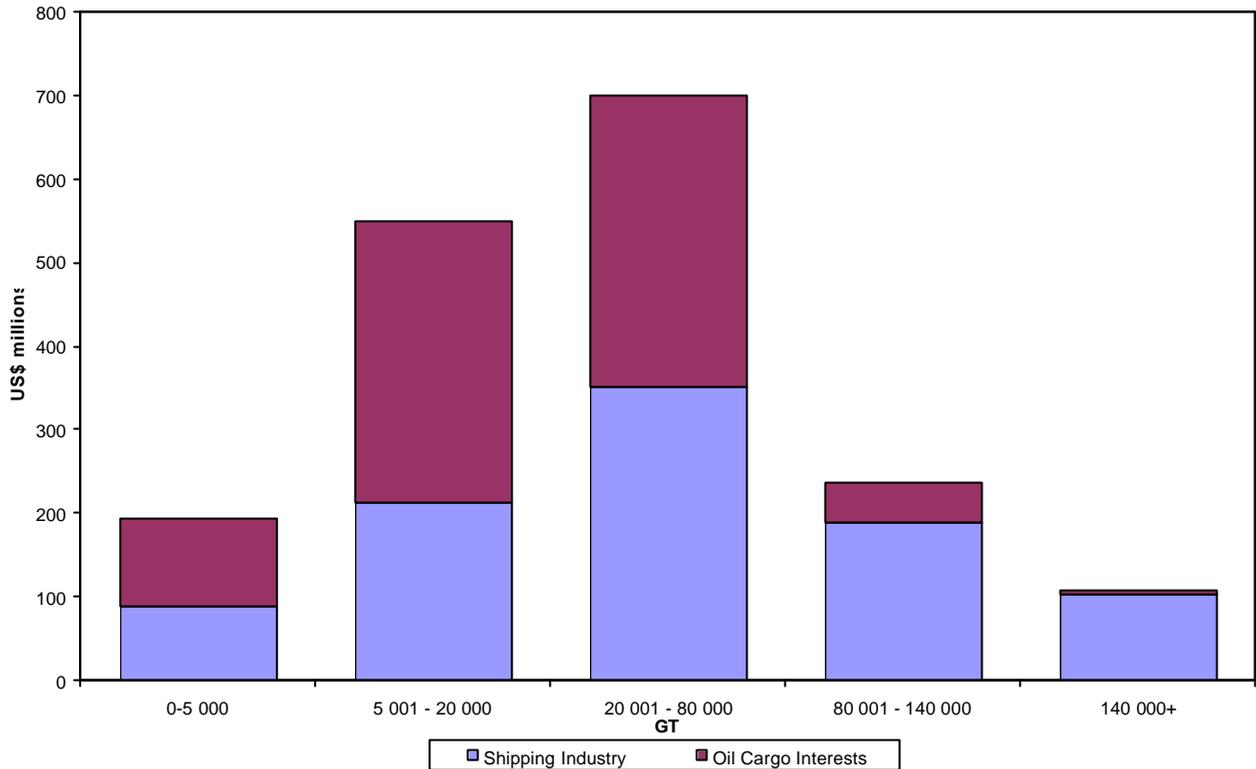


GRAPH 2B: Total costs of oil spills and amounts paid by the shipping industry and oil cargo interests after taking into account reimbursements by shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents

3.9 Table 2B shows that when reimbursements by the shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents are taken into account, payments by oil cargo interests still exceeded those made by the shipping industry for incidents involving ships of 20 000 gross tonnes and below. In fact, the relative contributions of the two sectors remained unchanged for ships in the size range 5 000 – 20 000 gross tonnes. However, in the case of ships in the size range 20 001 – 80 000 gross tonnes, the relative contributions towards pollution costs of the two sectors were almost 50:50. The effect of the CRISTAL reimbursements did not significantly alter the relative contributions of the two sectors for incidents involving ships greater than 80 000 tonnes.

Ship gross tonnage	Number of incidents	Total compensation paid US\$	% paid by shipping industry	% paid by oil cargo interests
≤ 5 000	1 275	194 661 610	46	54
5 001 – 20 000	1 127	548 847 246	39	61
20 001 – 80 000	2 221	699 590 723	50	50
80 001 – 140 000	860	237 674 405	79	21
>140 000	315	107 905 839	95	5
TOTAL	5 798	1 788 679 822	53	47

TABLE 2C: Net payments after taking into account reimbursements by the shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents and payments to the 1971 Fund and third parties as a result of recourse actions

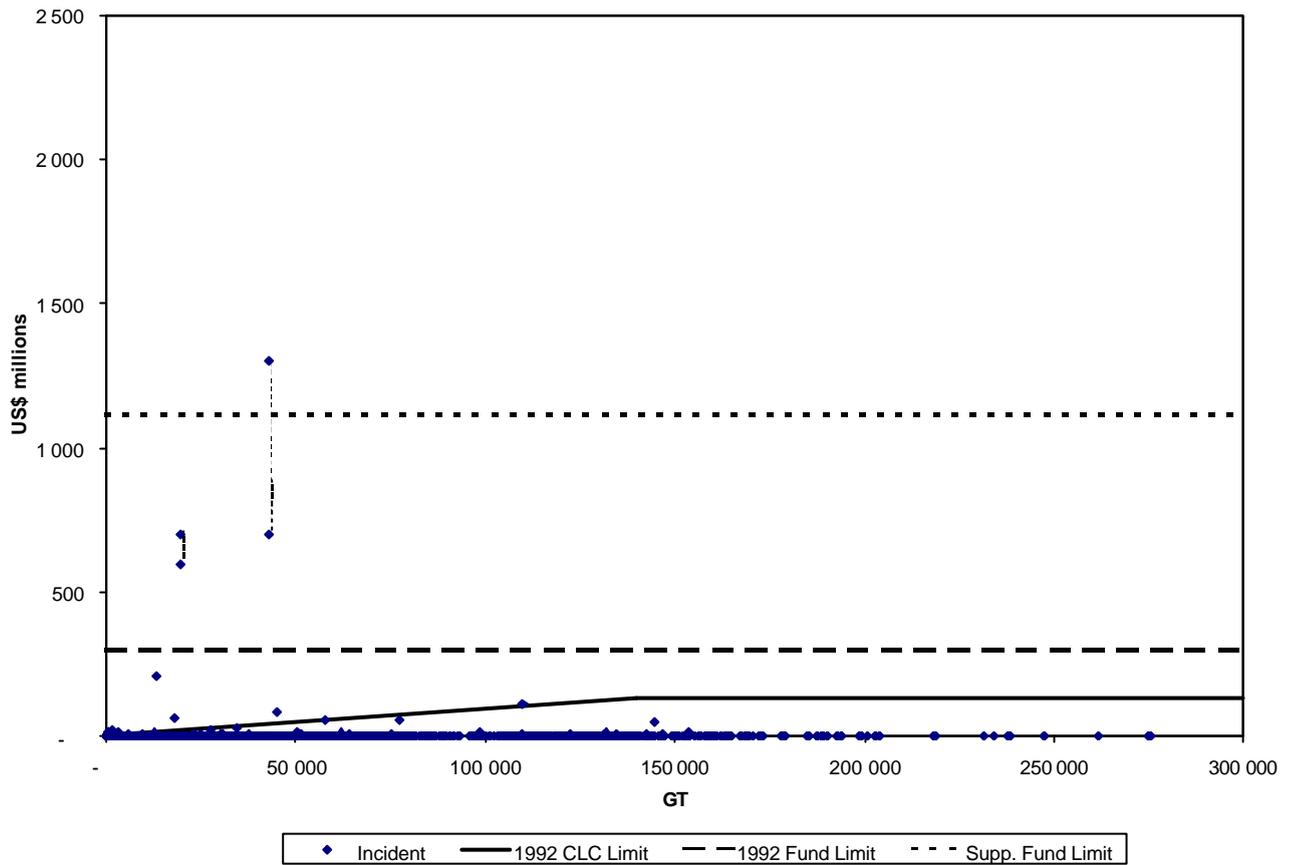


GRAPH 2C: Total costs of oil spills and amounts paid by shipping industry and oil cargo interests after taking into account reimbursements by shipping industry to parties to CRISTAL that made contributions to 1971 Fund incidents and payments to the 1971 Fund and third parties as a result of recourse actions

- 3.10 Table 2C shows the relative contributions of the shipping industry and oil cargo interests after taking into account CRISTAL reimbursements and payments by the shipping industry to the 1971 Fund and third parties as a result of recourse actions. It can be seen that the most marked effect on the relative contributions of the two sectors is in relation to incidents involving ships in the size range 5 001 – 20 000 gross tonnes. This is due mainly to the successful recourse actions by the 1971 Fund against the owners of the *Tanio* and the *Nakhodka* which were settled out-of-court. Nevertheless, the contributions by oil cargo interests still exceeded those of the shipping industry for this size category of ships.

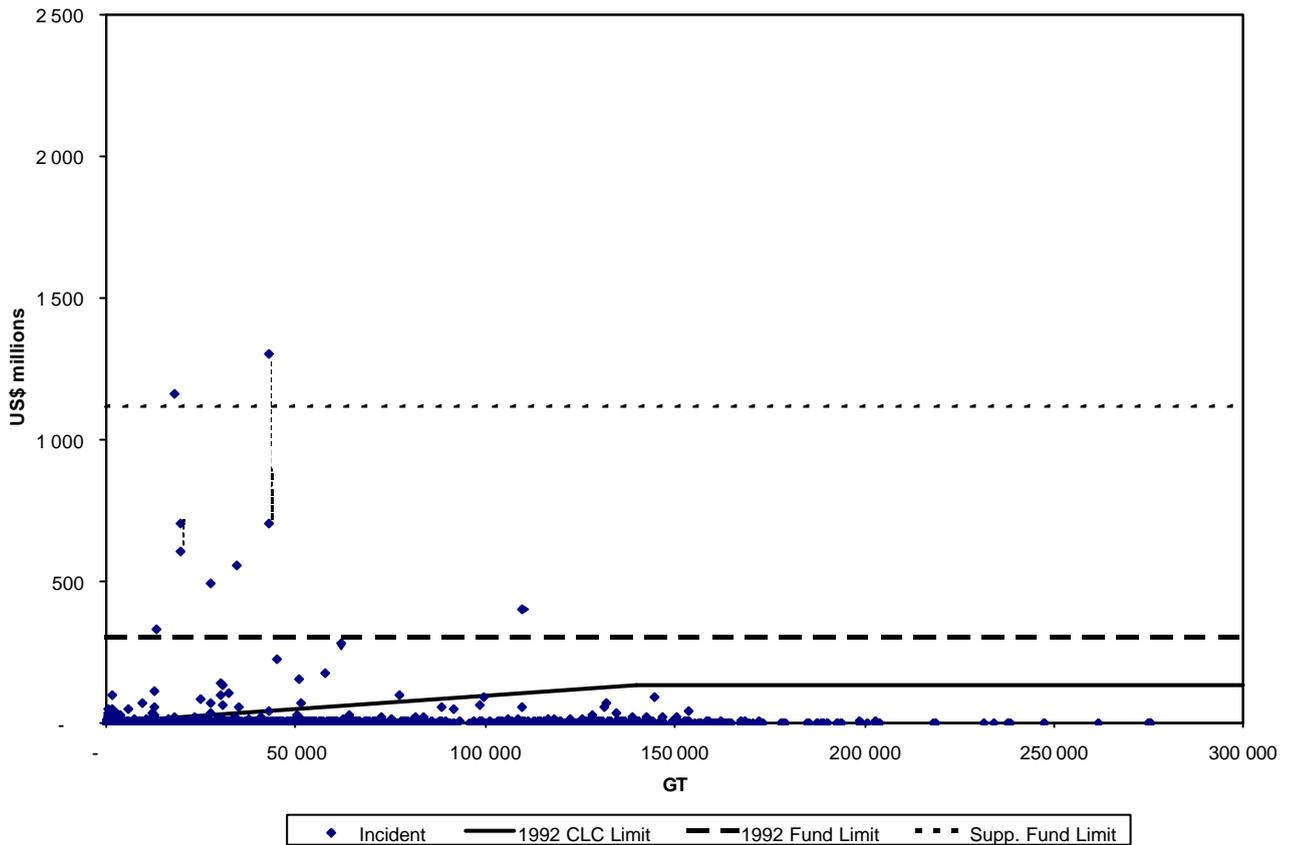
Comparison of the actual and inflated costs of oil spills against the financial limits under the existing 1992 Conventions and the Supplementary Fund Protocol and the relative contributions of the shipping industry and oil cargo interests to compensations payments

- 3.11 The financial limits under the 1992 Civil Liability Convention and the 1992 Fund Convention were increased by 50.73% in respect of incidents occurring after 31 October 2003. In May 2003 a Diplomatic Conference adopted the Supplementary Fund Protocol. The total amount of compensation available for any one incident in a State Party to the Protocol will be 750 million SDR (US\$1 115 million), including the amounts payable under the 1992 Civil Liability Convention and the 1992 Fund Convention.



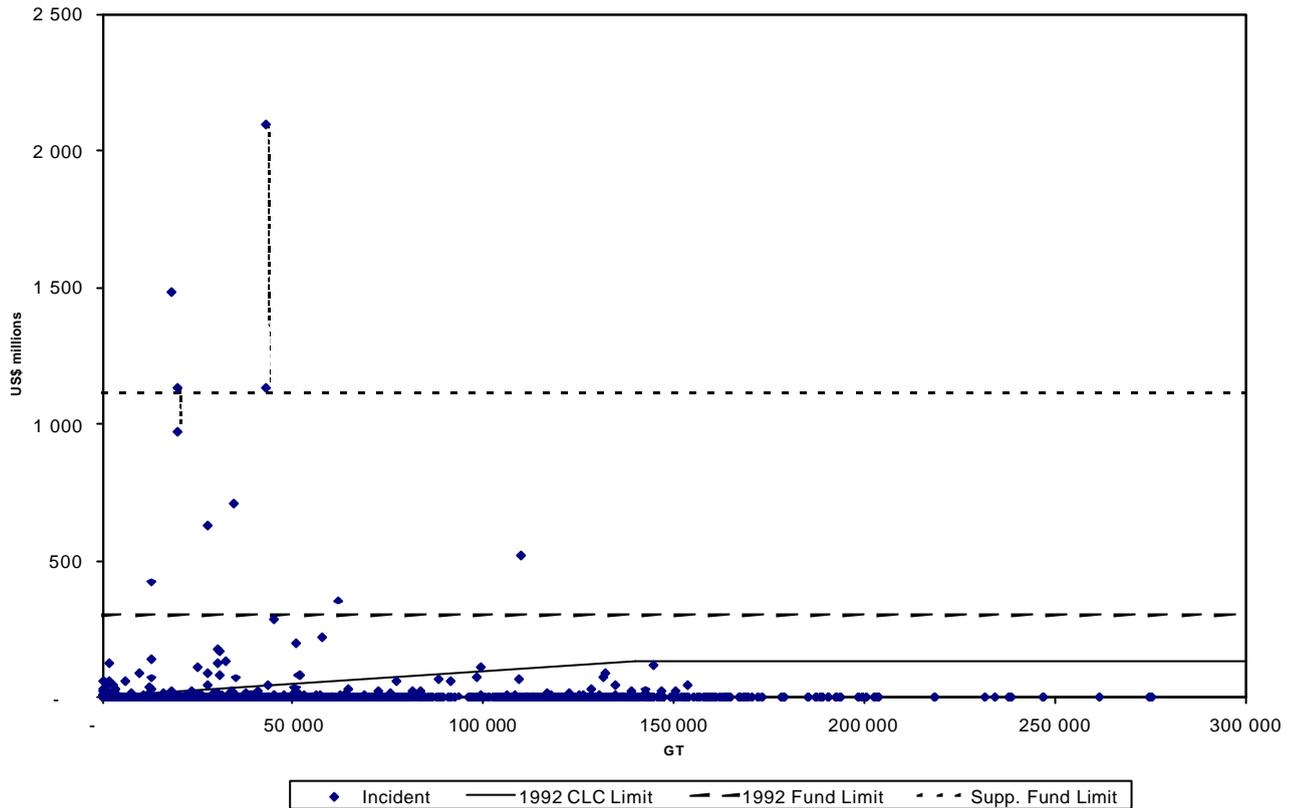
GRAPH: Costs of past oil spills compared with the financial limits under the 1992 Conventions and the Supplementary Fund Protocol

3.12 Graph 3 shows the costs of past spills in relation to the financial limits under the 1992 Civil Liability Convention, the 1992 Fund Convention and the Supplementary Fund Protocol referred to in paragraph 3.10. If the costs of past incidents had remained at the same monetary levels oil cargo interests would have paid compensation in respect of just 15 incidents, two of which would have involved the Supplementary Fund. The total cost of the 5 798 incidents was some US\$1 821 million of which the shipping industry would have paid 63% and the oil cargo interests 37%.



GRAPH 4: Costs of past oil spills inflated to 2002 monetary values and compared with the financial limits under the 1992 Conventions and the Supplementary Fund Protocol

- 3.13 Graph 4 shows the inflated costs of past spills in relation to the financial limits under the 1992 Conventions and the Supplementary Fund Protocol. The pollution cost of each incident has been inflated from the year of the incident to 2002 monetary values using the International Monetary Fund (IMF) World Consumer Price Index (CPI). Although this index gives inflation values that are considerably higher than the indices of many States affected by spills, it was considered most appropriate to use it in view of the worldwide occurrence of tanker spills. On the basis of the inflated costs of incidents over the last 25 years, the new financial limits under the 1992 Conventions and the additional amount that will be available under the Supplementary Fund Protocol, the Director has calculated what the relative contributions of the shipping industry and oil cargo interests would have been to the total costs. The total cost of the 5 798 incidents covered by the study would be some US\$6 592 million. Although the oil cargo interests would only have paid compensation in respect of 50 incidents, six of which would have involved the Supplementary Fund, their contributions would represent 57% of the total costs compared with 43% by the shipping industry. If the anticipated full admissible costs of the *Erika* and *Prestige* incidents were taken into account the total costs would be in the region of US\$7 890 million and the shipping industry and oil cargo interests would contribute 36% and 64% respectively.
- 3.14 The Director also considered the future costs of incidents by projecting the costs of past spills to the likely monetary values in 2012. The CPI data of the IMF on inflation over the past 25 years shows fluctuations ranging from 3.4% per annum to 27.9% per annum. However, since 1996 the inflation has remained steady between 3.4% per annum and 8.3% per annum. In view of the fact that low inflationary values are predicted to remain for some time, the Director decided to project costs to 2012 on the basis of an inflation of 5% per annum.



GRAPH 5: Costs of past oil spills inflated to predicted 2012 monetary values compared with the financial limits under the 1992 Conventions and the Supplementary Fund Protocol

- 3.15 Graph 5 shows the costs of past spills expressed in predicted monetary values in 2012 in relation to the financial limits under the 1992 Conventions and the Supplementary Fund Protocol. The total cost of the 5 798 incidents would be some US\$10 605 million. The oil cargo interests would have contributed to 61 incidents, eight of which would have involved the Supplementary Fund, and their contributions would represent 64% of the total costs compared with 36% by the shipping industry.

4 Summary of findings

- 4.1 The Director has analysed data relating to the costs of pollution damage in respect of 5 800 tanker incidents that occurred over a 25-year period between 1978 and 2002.
- 4.2 The data showed that on the basis of compensation payments made within the financial limits of the relevant Conventions (1969 Civil Liability and 1971 Fund Conventions and 1992 Civil Liability and Fund Conventions) and/or the voluntary schemes (TOVALOP and CRISTAL), including reimbursements made by shipowners to parties to CRISTAL that made contributions to 1971 Fund incidents, the shipping industry and oil cargo interests contributed 45% and 55% of the total costs. When payments by the shipping industry to the 1971 and 1992 Funds and to third parties (governments and private claimants) as a result of recourse actions are taken into account, the sharing of the financial burden between the shipping industry and oil cargo interests was found to be 53% and 47% respectively.
- 4.3 The data also showed that the sharing of the financial burden varied considerably with different size ranges of ships. For ships in the size range 5 001 – 20 000 gross tonnes, the shipping industry contributed only 16% of the total costs of some 1 127 incidents on the basis of payments made within the financial limits of the relevant Conventions and/or voluntary schemes. Even after successful recourse actions against shipowners by the 1971 and 1992 Funds were taken into

account the shipping industry only contributed 39% of the total costs for incidents involving ships in this size range. In contrast, there was a 50:50 sharing of the financial burden between the shipping industry and oil cargo interests for incidents involving ships in the size range 20 001 and 80 000 gross tonnes both before and after the effects of recourse actions were taken into account.

- 4.4 When the costs of all 5 800 incidents were inflated to 2002 levels the total cost would be some US\$6 592 million. On the basis of the existing financial limits under the 1992 Conventions and the Supplementary Fund Protocol, the 1992 Fund would only have been required to pay compensation in respect of 50 incidents and the Supplementary Fund would only have been liable to pay compensation in respect of six incidents. The oil cargo interests and the shipping industry would have contributed 57% and 43% of the total costs respectively. If the anticipated full admissible costs of the *Erika* and *Prestige* incidents were taken into account the total costs would be in the region of US\$7 890 million and the contributions by oil cargo interests and the shipping industry would become 64% and 36% respectively.
- 4.5 When the costs of all incidents, including the anticipated full admissible costs of the *Erika* and *Prestige* incidents, were inflated to predicted monetary values in 2012 the total costs were some US\$10 605 million. On the basis of the existing financial limits under the 1992 Conventions and the Supplementary Fund Protocol, the 1992 Fund would have been required to pay compensation in respect of 61 incidents and the Supplementary Fund would only have been liable to pay compensation in respect of eight incidents. The oil cargo interests and the shipping industry would have contributed 64% and 36% of the total costs respectively.
-