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OIL POLLUTION
COMPENSATION
FUND 1971

EXECUTIVE COMMITTEE
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Agenda item 3

71FUND/EXC.62/8/1
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INCIDENTS INVOLVING THE 1971 FUND

NAKHODKA

Note by the Director

Summary:

The IOPC Funds' experts have examined the reports of the investigations into the cause of the incident carried out by the Japanese and Russian authorities. They have also considered other information available, *inter alia* documents provided by the shipowner. The experts' conclusion is that the *Nakhodka* was not seaworthy at the start of the voyage and that the shipowner was or should have been aware of the unseaworthiness. In the light of the opinions expressed by the experts the Director has examined whether the IOPC Funds should take recourse action against the shipowner and other third parties to recover the amount paid by the Funds in compensation.

Action to be taken:

Decide whether the 1971 Fund should take recourse action against the shipowner and his insurer and against any other third parties.

1 Investigations into the cause of the incident

1.1 The Japanese and Russian authorities decided to co-operate in the investigation into the cause of the *Nakhodka* incident (Japan, 2 January 1997). The Japanese investigation was carried out by a special committee set up for this purpose.

1.2 The Japanese investigation report was published in July 1997. An English translation of the Report has been made available to the Director. The conclusions of the Japanese investigation can be summarised as follows:

If the *Nakhodka* had been properly maintained she would have been capable of withstanding the wind and wave conditions prevailing at the time of the incident. Due to the extensive corrosion weakening the internal structure of the ship, the stresses on the hull as a result of the heavy weather caused the ship to break in two. The weather conditions in the Sea of Japan at the time of the incident were among the worst reported. Also, the unusual distribution of the cargo would have increased the stresses in the ship's hull.

1.3 The Russian report states that the technical condition of the hull at the time of the incident was considered to be satisfactory. It is also stated that the *Nakhodka* must have broken due to the bow section having hit a half-submerged object, most probably a Russian trawler that had sunk in the vicinity shortly before the *Nakhodka* incident. The theory of the Russian investigators is that the ship was being subject to acceptable still water stresses, induced by cargo distribution, to which were added high dynamic loading stresses due to bad weather, particularly high seas. The bow section of the ship then came into close proximity of a large semi-submerged object, which it is alleged induced further high dynamic stresses. The report refers to still water bending moments and stresses in the structure of the ship, and states that these were within the limits in the classification rules for stresses in "still water". According to the Russian report the calculations show that the still water bending moments and stresses were within allowable limits when the ship sailed, but were towards the upper limits. It is maintained by the Russian investigators that the forces produced by the rough weather, the still water condition and contact with an alleged submerged object, when added together, caused overloading and failure of the ship's structure.

2 Consideration by the Executive Committee at its 55th session

2.1 At the 55th session of the Executive Committee, several delegations noted that the conclusions of the Japanese report suggested that the incident had occurred as a result of the actual fault and privity of the shipowner, and that therefore all steps should be taken to preserve the IOPC Funds' right to take recourse action against the shipowner. It was suggested that a decision on whether the IOPC Funds should challenge the shipowner's right to limit his liability or to take recourse action should be taken by the Executive Committee at an early stage. The Committee instructed the Director to examine the reports on the cause of the incident and to submit his findings to the Committee as soon as possible, so as to enable it to take a decision on issues relating to limitation of liability and recourse (document 71FUND/EXC.55/19, paragraph 3.11.10).

3 Documentation obtained from the shipowner

3.1 In May 1997 the Director requested from the shipowner and the UK Club access to all classification records, repair and maintenance records, statutory certificates, port state surveys and reports, P & I condition survey reports and all documents concerning the voyage when the incident occurred, including crew statements and communications between the ship and the office.

3.2 Some documentation was received from the shipowner in October 1998. After a request for further documentation had been made, additional documentation was received in April 1999.

3.3 Unfortunately the documents provided by the shipowner and the UK Club are not complete. In particular they do not include a full set of drawings, historical classification records or the repair history of the *Nakhodka*. It is known that the *Nakhodka* underwent significant repairs in 1993 at a shipyard in Singapore. However details of these repairs have not been made available to the Funds.

4 Preliminary assessment by the IOPC Funds' experts presented at the Executive Committee's 59th session

4.1 The Director studied the Japanese and Russian reports, with the assistance of legal and technical experts. The preliminary assessment by the experts of the conclusions set out in these reports was presented to the Executive Committee at its 59th session, as follows:

The Russian report states that the condition of the hull at the time of the incident was satisfactory, with sufficient residual strength to withstand normal loading and dynamic forces exerted by bad weather, sea and swells. This is in direct contradiction to the Japanese investigators' findings, and takes no account of survey results and steel thickness measurements of the structure recorded in Japan after the bow section was salvaged. The survey and the thickness measurements clearly revealed significant corrosion of the steel structure and defects in the welding. Many parts of the structure, including frames and bulkhead stiffeners, had been improperly repaired by fitting double plates in such a manner that the resistance to buckling of the structure was not significantly improved.

The Russian report states that the hull of the *Nakhodka* must have broken due to the bow coming into contact with a semi-submerged object. It is suggested in the report that this object could have been the wreck of a Russian trawler, which sank in the same area shortly before the *Nakhodka* incident. However, no physical damage was found on the bow section of the *Nakhodka* by either the Japanese or the Russian investigators to support the theory put forward in the Russian report.

The theory advanced in the Russian report requires the flat forward part of the bottom of the *Nakhodka* and the flat bottom of a capsized and semi-submerged object of some 500 to 1 000 tons weight to come very close together, without physical contact. Such a unique flat to flat encounter is necessary to explain why there were no marks of contact found by either the Japanese or the Russian investigators. This scenario is virtually impossible. Further, the dynamic bending moment caused by such an alleged close contact would have had to take place at exactly the same instant as when the maximum wave bending moment occurred in the ship's structure in order for failure to occur, which in the experts' view would be very unlikely. Even allowing for this theory to be plausible, careful consideration by the experts of the calculations put forward to support the Russian theory reveal that several major points remain to be explained in order for the Russian theory to be valid. The theory is based on assumptions which are not valid, the most important being that the motions of the forefoot of the tanker and of the semi-submerged object referred to in the Russian report are so similar that it would have been unlikely for the object to have come very close to contact with forepart of the tanker and to have caused the failure of the tanker hull. Even if the object had under-ridden the tanker, the difference in velocity between the object and the tanker would have been small and could not have generated forces of the magnitude which the Russian report assumes. In addition, due to differences in motion between the object and the tanker, the dynamic contact stress could not have occurred at the same instant as the maximum wave stress on the tanker hull, which would have been required to cause serious damage to and failure of the structure of the *Nakhodka*.

4.2 The experts engaged by the IOPC Funds expressed the opinion that the ship was improperly maintained and therefore unseaworthy.

4.3 The shipowner made the following observations on the views expressed by the IOPC Funds' experts:

The Russian report cannot be totally discounted in the manner which has been suggested. If the forepart of the *Nakhodka* came close to, but did not come in contact with, the submerged object one would not expect to see signs of physical contact.

The vessel was built to Russian class standard, with scantlings which greatly exceeded the present internationally accepted classification standards, and indeed the *Nakhodka* was built with greater scantlings than minimum Russian Class standards. The vessel was classed by the Russian register. The Russian register is a State body which has long held responsibility to survey Russian vessels entered with it. The vessel was fully in class without any outstanding recommendations at the time of the casualty.

Reference is made to the fact that the corrosion emphasized by the Japanese report was of shell plating near the forward end of the hull. It is not correct to use ultrasonic readings taken well forward to assess the strength of the hull amidships. The Japanese

team based their calculation on the gauging of samples taken from pieces of deck plating that had been torn from the ship and found near the bow section and which had been severely beaten by waves against the rocky sea bottom, and also from scrap.

The elasticity in the forward deck plating, as a result of it having parted in that part of the ship, is another factor which has not been taken into account in the Japanese report. No proper account has been taken of the fact that the deck plating and under deck longitudinal girders in the area of the break were missing from the bow section.

The Japanese report implies that the ship was loaded in an unsatisfactory manner with an unusual distribution of cargo. Although not loaded in one of the conditions given by way of example in the stability book, the vessel was loaded in a manner which was well within the loading criteria therein.

As the Japanese report does mention, the weather at the time of the incident was the worst that can be expected in the Sea of Japan, and this was critical.

Slamming is another factor not properly considered in the Japanese report and would have occurred with wave heights of twelve metres or more. This generates large forces on the bottom plate, which in turn generates significant sagging bending moments, additional to the normal wave bending moments.

The shipowner's own researches show that there are other relevant factors which should have been considered by the Japanese and Russian inquiries.

Whatever caused the loss of the vessel, it was not with the actual fault or privity of the shipowner, even if the 1969 Civil Liability Convention test were to be relevant.

5 Further consideration by the IOPC Funds' technical experts

5.1 The IOPC Funds' technical experts^{<1>} have again reviewed the Japanese and Russian investigation reports and have considered the documents provided by the shipowner. They have also considered the observations by the shipowner set out in paragraph 4.3 above.

5.2 The experts have noted a technical paper published in the Japanese 'Journal of Marine Science and Technology' (1998, Volume 3, pages 171-180), co-authored by Dr Hideomi Otsubo and Dr Iwao Watanabe, the Chairman of the Japanese 'Committee for the Investigation of the causes of the *Nakhodka* Casualty' and one of the Committee members, respectively. In their conclusions the authors state:

'... the scenario and the cause of the incident is believed to be as follows. The strength of the *Nakhodka* was estimated to be 1068 935KN*m on the sagging side at Fr.153. This value was half of the original strength due to severe corrosion. The deck structure aft from Fr.153 was renewed in 1993 in order to restore the strength, but the fore part from Fr.153 was kept as it was. Although the middle part aft from Fr.153 was subjected to a larger sagging bending moment than the section at Fr.153, the strength there was great enough to sustain the bending moment. It is considered that the hull structure collapsed near Fr.153, where the hull girder strength was relatively weak against the bending moment.

The main cause of the accident is attributed to the reduction in strength due to corrosion. One of the subsidiary causes was the cargo loading condition, which was different from that recommended by the loading manual and which produced an excessive sagging moment near the midship region. Another subsidiary cause was that the ship unfortunately encountered a very severe storm, of a strength which probably only happens about once a year.'

<1> Mr A T Stanley, marine engineer, BMT Murray Fenton Edon Liddiard Vince Ltd, Marine Consultants
Mr J F Deegan, metallurgist, Atlantic Engineering Ltd
Mr J C Colman, naval architect, Burness Corlett & Partners (IOM) Ltd

5.3 As for the observations by the shipowner set out in paragraph 4.3, the IOPC Funds' technical experts make the following comments:

As regards the conclusion in the Russian report that the incident was likely caused by a near collision with a low buoyancy object, the experts have previously given their opinion as set out in paragraph 4.1 and have no further comments.

The Russian report states that a special survey was carried out in Singapore in 1993, when repairs had been carried out. During 1994, 1995 and 1996 other surveys were carried out. Despite repeated requests to the shipowner, the IOPC Funds' experts have not been given access to the Russian Maritime Register records and other documents relating to maintenance and repairs and they can not therefore make any comments on the ship's condition and whether or not it met class requirements.

Thickness measurements referred to in the Japanese Committee report indicate severe corrosion bringing the ship's strength below the minimum requirements of the International Association of Classification Societies (IACS). The IOPC Funds' experts do not have sufficient information to enable them to check the findings of the Japanese Committee. The fact that all classification certificates are in order does not necessarily ensure that a ship is in a seaworthy condition.

The experts of the IOPC Funds were present when the ultrasonic readings were made and confirm that the readings were properly taken on the available parts of the hull structure. It is normal practice to take ultrasonic thickness readings at a distance of not less than 200mm from fractures in plating to avoid plastic deformation resulting in incorrect readings. This procedure was followed. There is no doubt that the hull structure of the *Nakhodka* was severely corroded and weakened by wastage.

It is established that the ship was loaded in an unconventional manner, with cargo in tanks N°s 2 port and starboard which were designated as ballast tanks. The loading caused high hull bending moments, particularly at frame 153 where the ship broke. This bending moment was in excess of 80% of the permitted still water bending moment. On well maintained ships a bending moment of 80% of the permitted value would be acceptable since it would still provide a margin for the wave induced bending moment. However, on severely corroded ships the wave induced bending moment in bad weather added to the still water bending moment could produce stresses higher than the weakened structure can withstand.

The weather conditions at the time of the incident were described by the Japanese Committee as prevailing about once a year in the Sea of Japan, with seas at a significant height of about 8 metres. Such weather although bad is not exceptional. The *Nakhodka* was classed for unrestricted trading and could normally expect to encounter much worse weather than that experienced at the time of the incident, for example during the winter in the North Pacific.

Slamming occurs if the bow emerges from the sea in rough weather and then slams down on the water as the wave passes under the ship causing the ship to pitch. This usually occurs when ships are lightly loaded or in a ballast. For slamming to occur with a loaded tanker requires very large seas or swell and high speed. It is the opinion of the Funds' experts that, in the prevailing weather and with the tanker fully laden, slamming would not produce sufficient stresses for the hull to break.

The shipowner has stated that his own research shows that there are other relevant factors which should have been considered by the Russian and Japanese Committees. The shipowner's research has not been made available to the IOPC Funds' experts.

5.4 In conclusion the IOPC Funds' experts are of the opinion that the *Nakhodka* was in a seriously dilapidated condition. There is in their view evidence of serious wastage of hull strength members and inadequate repairs. They state that it is clear that the hull strength was seriously reduced. While the actual loading of the ship was not in accordance with the loading manual which increased the stress in

the ship, this would not in their view have affected a well maintained ship. They consider that there is no evidence of collision or near collision with a low buoyancy object nor of any other contact or any explosion. The fact that the ship failed in these circumstances supports the experts' view that the ship was unseaworthy. The *Nakhodka* did experience bad weather but such bad weather is not in their view exceptional in the Sea of Japan in January. The experts are also of the opinion that the shipowner was or should have been aware of the actual condition of the hull structure.

6 IOPC Funds' policy in respect of recourse actions

6.1 The 1971 Fund's policy in respect of recourse action as laid down by the Assembly and the Executive Committee can be summarised as follows (document 71FUND/EXC.55/19, paragraph 3.3.10):

The Executive Committee examined the question of possible recourse action, basing its considerations on the Director's analysis as set out in paragraph 6.3 of document 71FUND/EXC.55/4 and on the note presented by the Spanish delegation (document 71FUND/EXC.55/4/1). The Director drew attention to the fact that the Executive Committee had taken the view that the policy of the 1971 Fund was to take recourse action whenever appropriate and that the Fund should in each case consider whether it would be possible to recover any amounts paid by it to victims from the shipowner or from other parties on the basis of the applicable national law. It was recalled that the Committee had stated that if matters of principle were involved, the question of costs should not be the decisive factor for the Fund when considering whether to take legal action. It was further recalled that the Committee had stated that the 1971 Fund's decision of whether or not to take such action should be made on a case by case basis, in the light of the prospect of success within the legal system in question (document FUND/EXC.42/11, paragraph 3.1.4).

6.2 In his consideration of this issue, the Director has taken account of the view expressed by the Executive Committee at its 60th session, in dealing with the corresponding issues in respect of the *Sea Empress* incident, that a decision whether to take recourse action in that case should be taken on legal grounds on the basis of the policy laid down by the Assembly and the Executive Committee as set out in paragraph 6.1 above and that the interests of the contributors should be taken into account when deciding whether to take recourse action (document 71FUND/EXC.60/17, paragraphs 3.7.18 and 3.7.19).

7 Possible recourse actions by the IOPC Funds

7.1 The Director has considered the views expressed by the IOPC Funds' technical experts and has discussed the available documentation with the IOPC Funds' legal advisers^{<2>}.

7.2 The Director shares the views expressed by the technical experts that the *Nakhodka* was unseaworthy at the time of the incident and that the defects which caused the ship to be unseaworthy were causative to the incident. He also agrees with the experts that the shipowner was or at least should have been aware of the defects that caused the ship to be unseaworthy. In the Director's view, the incident was therefore caused by the fault or privity of the shipowner. Consequently, pursuant to Article V.2 of the 1969 Civil Liability Convention the shipowner is not entitled to limit his liability.

7.3 It will be recalled that the shipowner and the UK Club have raised the issue of the applicability of the 1992 Civil Liability Convention to the *Nakhodka* incident^{<3>}. This issue was considered by the Executive Committee at its 52nd session when the Committee noted that the 1992 Protocols to the 1969 Civil Liability Convention and the 1971 Fund Convention had entered into force in respect of Japan on 30 May 1996 and that the 1992 Civil Liability Convention and the 1992 Fund Convention were therefore

<2> Mr Y Ogawa, Yoshida & Partners, Tokyo
Mr David Hebden, Thomas Cooper & Stibbard, London

<3> As the Committee is aware, there is considerably less scope for depriving the shipowner of the right to limit his liability under the 1992 Civil Liability Convention than under the 1969 Civil Liability Convention. The 1992 Convention also contains channelling provisions which go further than those in the 1969 Convention.

in principle applicable to this incident. It was noted that the *Nakhodka* was registered in the Russian Federation, which had not ratified the 1992 Protocols but which was Party to the 1969 Civil Liability Convention and the 1971 Fund Convention. The Committee endorsed the Director's view that the shipowner's right of limitation should be governed by the 1969 Civil Liability Convention, to which both Japan and the Russian Federation were Parties (document 71FUND/EXC.52/11, paragraph 3.7.5)^{<4>}.

7.4 In the light of these considerations, the Director takes the view that, if the shipowner initiates limitation proceedings, the IOPC Funds should oppose his right to limit his liability.

7.5 An important issue is whether the IOPC Funds should take recourse action against the shipowner, the UK Club and other third parties to recover the amounts paid by the Funds in compensation. This issue gives rise to the following observations by the Director.

7.6 It should first be noted that a recourse action by the IOPC Funds against the shipowner would be based on subrogation of the rights of the victims of pollution damage under the 1969 Civil Liability Convention. This would therefore be subject to the time bar provisions of the 1969 Civil Liability Convention, ie that legal action will have to be brought within three years of the date when the damage occurred (Article VIII). Recovery actions against any other person would fall outside the Conventions and the normal time bar period relating to actions in tort would apply, which under Japanese law is also three years from the date of the damage. For these reasons, any recovery actions would have to be brought within the three-year period, ie by 2 January 2000.

7.7 As stated above the Director agrees with the technical experts that the *Nakhodka* was unseaworthy at the time of the incident, that the defects which caused the ship to be unseaworthy were causative to the incident and that the shipowner was or at least should have been aware of the unseaworthiness. The Director takes the view that the IOPC Funds have a firm basis for a recovery action in tort against the shipowner.

7.8 The registered owner of the *Nakhodka*, Prisco Traffic Limited, is a company incorporated in the Russian Federation. It is recognised that for a number of reasons a recovery action against the company may not result in any money being recovered. The investigations carried out by the IOPC Funds indicate that it is unlikely that this company has any significant assets against which a judgement could be enforced. The company has disposed of its fleet and no longer appears in the list of shipowners published by Lloyds' Register. It is possible that steps are being taken to dissolve the company. Legal advice indicates that it will take considerable time to serve legal proceedings on the company in Russia. The Director considers that nevertheless the IOPC Funds should take recovery action against the shipowner.

7.9 In view of the likely financial situation of the registered owner, the Director has considered whether the IOPC Funds should also take recovery action against the other companies in the same group as Prisco Traffic Ltd, in particular the parent company Primorsk Shipping Corporation ("Primorsk"). The Prisco Traffic fleet was formed with older units of the Primorsk fleet, including the *Nakhodka*. It seems that these units traded mainly in Russian waters when part of the Primorsk fleet. According to Lloyds Intelligence Service it had never traded internationally before joining the Prisco Traffic fleet. Both companies shared the same office until 1996. Prisco Traffic appeared as a subsidiary of Primorsk in Lloyds Confidential Index until late in 1996 and as a separate entry after the incident in 1997. Both companies have the same hull insurer and the same P&I Club. It is apparent that Primorsk had a considerable involvement with Prisco Traffic in matters of shipping. The proximity of the two companies and the links between them suggest that the parent company exercised a considerable degree of control over Prisco Traffic and the fleet. In the Director's view, such control brings with it responsibility for the seaworthiness and safe operations of the fleet. For this reason the Director considers that the IOPC Funds should take recovery action against Primorsk.

7.10 A further question is whether recovery action should be brought against the UK Club. Under the 1969 Civil Liability Convention the shipowner is obliged to maintain insurance covering the limitation amount applicable to the ship under the Convention, in the case of the *Nakhodka* 1 588 000 SDR (approximately ¥229 million or £1.3 million). However, it is believed that the *Nakhodka* was covered for

<4> In the Director's view, the 1992 Civil Liability Convention could be applicable to pollution damage not covered by the 1969 Civil Liability Convention. So far no claims have been presented for such damage.

its legal liabilities for pollution damage up to an amount of US\$500 million, as is normally the case for oil tankers.

7.11 In this context it should be noted that the UK Club's Rules contain a "pay to be paid" clause^{<5>} (ie that the Club is under an obligation to indemnify the shipowner only for compensation actually paid by him to third parties), and that this clause has been upheld by the United Kingdom courts^{<6>}. However, the legal advice given to the Director indicates that the "pay to be paid" clause may not be upheld in Japan. In the light of this advice, the Director takes the view that the IOPC Funds should take recovery action against the UK Club.

7.12 The *Nakhodka* was subject to classification under the rules of the Russian Register. It is recognised that litigation against classification societies is difficult, due to the special role they play in international shipping. It appears, however, that the Russian Register failed to ensure that the *Nakhodka* met its requirements and that this failure was causative to the incident. For this reason, the Director considers that the Funds should initiate recovery action against the Russian Register.

7.13 As mentioned above, significant repairs were carried out on the *Nakhodka* in 1993 at a shipyard in Singapore. The IOPC Funds' technical experts are investigating the extent of these repairs.

7.14 The Director is aware that there is a risk inherent in any litigation. Recourse action against any of the potential defendants referred to above would give rise to complex legal issues. The IOPC Funds do not have access to important documents which would be of relevance for the determination of the cause of the incident and the liabilities of the various parties, and this adds to the difficulty in predicting the outcome of the case. Important documentation may only become available once the legal proceedings have commenced. In view of the significant amounts of money at stake, the Director considers that the IOPC Funds should nevertheless initiate recourse actions against the shipowner, the parent company, (Primorsk Shipping Corporation), the UK Club and the Russian Maritime Register of Shipping.

8 Action to be taken by the Executive Committee

The Executive Committee is invited:

- (a) to take note of the information contained in this document;
- (b) to decide whether the 1971 Fund should oppose the shipowner's right to limit his liability (paragraph 7.4); and
- (c) to decide whether the 1971 Fund should pursue recourse action against:
 - (i) the registered owner, Prisco Traffic Ltd (paragraph 7.7);
 - (ii) the parent company of the owner, Primorsk Shipping Corporation (paragraph 7.9);
 - (iii) the UK Club (paragraph 7.11); and
 - (iv) the Russian Maritime Register of Shipping (paragraph 7.12).

<5> The UK Club's Rules contain the following provision in Rule 5:

A. PAYMENT FIRST BY THE OWNER

Unless the Directors in their discretion otherwise decide, it is a condition precedent of an Owner's right to recover from the funds of the Association in respect of any liabilities, costs or expenses that he shall first have discharged or paid the same.

<6> House of Lords' decisions in the *Firma-Trade SA v Newcastle Protection and Indemnity Association (The 'Fanti')* and *Socony Mobil Oil Co Inc and Others v West of England Ship Owners Mutual Insurance Association (London) Ltd (The 'Padre Island')* cases.