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**REPORT ON
THE CIRCUMSTANCES
SURROUNDING THE
DETENTION OF THE OIL
TANKER "PRINCESS EVA" IN
KILLYBEGS, IRELAND ON
28 JANUARY, 2003.**

The Marine Casualty Investigation Board was established on the 25th, March 2003 under The Merchant Shipping (Investigation of Marine Casualties) Act 2000

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1.	SYNOPSIS	4
2	FACTUAL INFORMATION	5
3	EVENTS PRIOR TO DETENTION OF THE VESSEL	6
4	EVENTS FOLLOWING THE DETENTION OF THE VESSEL	10
5	FINDINGS AND CONCLUSIONS	17
6	RECOMMENDATIONS	19
7	PHOTOGRAPHS OF THE VESSEL	20
8	APPENDICES	27
	8.1 Cargo oil specification sheet	28
	8.2 Cargo tank condition after loading	42
	8.3 PSC Report - Copenhagen	43
	8.4 Weather reports	48
	8.5 PSC Detention - report and list of fractures	54
	8.6 Ship Surveyor's report on condition of vessel	63
	8.7 ClassNK Special Survey Condition Evaluation Report 1999	72
	8.8 ClassNK letter to MSD	78
	8.9 Extract from vessel's SOPEP manual	79
	8.10 Comparative Thickness gaugings taken in 2000 and 2001	80
9	INDEX OF CORRESPONDENCE RECEIVED	84

1. SYNOPSIS.

- 1.1 The Princess Eva, a 60,945 dwt oil tanker, sailed from Copenhagen on 19th January 2003 on route to Houston / Corpus Christi, Texas with a 53,422 tonne cargo of V.G.O. (vacuum gas oil - a black residual product of partial crude oil refinement) in two parcels, one of high sulphur, the other of low sulphur (specification sheet - Appendix 8.1).
- 1.2 The voyage planning routed the vessel around the north of Scotland and then South West passing about 150 miles off the northwest coast of Ireland. During the voyage down the West coast of Scotland and off the North West coast of Ireland severe weather was encountered with winds reported of up to force 11.
- 1.3 On the morning of the 28th January 2003, the ford liferaft broke free from its cradle and inflated. Whilst attempting to re-secure the raft, three crewmembers were hit by a large wave breaking over the bow of the ship. Two crewmembers lost their lives in the incident, the third was seriously injured but survived and was airlifted from the vessel to Galway Hospital.
- 1.4 Following the accident the vessel proceeded to Killybegs to land the bodies of the deceased and to collect replacement crewmembers. It arrived and anchored in McSwayne's Bay off Killybegs early afternoon on the 29th January.
- 1.5 After arrival, the crew found a number of structural cracks on the deck of the vessel. The managing company in Argentina was informed.
- 1.6 Following receipt of a report from the Coast Guard, The Chief Surveyor of the Maritime Safety Directorate sent two surveyors to conduct inspection of the vessel. The vessel was inspected on the morning of the 30th January and deemed to be unseaworthy. It was detained under the provisions of Port State Control legislation.

2. FACTUAL INFORMATION DESCRIPTION OF THE VESSEL

2.1	Name:	Princess Eva
	Previous names:	Emerald Sun, Eastern Light, Eastern Vanguard
	IMO number:	7908847
	Flag:	Panama
	Builder:	Koyo Dockyard Co., Japan
	Overall length:	217.73 m
	Moulded breadth:	36 m
	Moulded depth:	18.3 m
	Gross tonnage:	37,062 tonnes
	Net registered tonnage:	16,891 tonnes
	Deadweight tonnage:	60,945 tonnes
	Main propulsion:	Semt-Pielstick 18PC2-5V400, 4-stroke driving single controllable pitch propeller
	Auxiliary machinery:	2 X diesel generators, 1 X 38 tonne/hr boiler, 1 X shaft alternator
	Vessel keel laid:	18 December, 1979
	Vessel launched:	31 March, 1980
	Vessel delivered:	30 June, 1980
	Register owner:	Tipton Marine Inc., Plaza Bancomer, Avenue Nicanor A. de Obarrio, Apartado 7412, Panama 5, Republic of Panama.
	Manager (ISM):	Ravenscroft Shipping Inc, 3251 Ponce de Leon Blvd., Coral Gables - Florida 33134, USA.
	Class society:	Nippon Kaiji Kyokai - ClassNK
	Safety Management Certificate (ISM):	Bureau Veritas

3. EVENTS PRIOR TO THE DETENTION OF THE VESSEL

3.1 Loading

The vessel arrived in Copenhagen, Denmark on 14th January 2003. Its previous voyage was in ballast from Freeport, Bahamas. Its loading was conducted both alongside and at anchorage by transshipment. The cargo consisted of two parcels of vacuum gas oil - one high sulphur, the other low sulphur (Appendix 8.1 - specification sheets).

The load consisted of 25,670 tonnes of low sulphur vacuum gas oil plus 27,751 tonnes of high sulphur vacuum gas oil, giving a total cargo of 53,421 tonnes (Appendix 8.2 - stowage plan). The loading was completed on the 19th January. The vessel departed Copenhagen at 15.40 hrs (local time).

3.2 Regulatory Control & Inspection

There were no class or flag inspections of the vessel during the vessel's stay in Denmark. All Convention Certificates were in date. The Danish Administration, under Port State Control (PSC), carried out an "expanded" inspection. The vessel was eligible due both to its target factor and its "priority" as an oil tanker over 15 years old. A total of ten deficiencies were recorded against the vessel (Appendix 8.3 - Form A, Form B). None of the deficiencies merited detention of the vessel. There were no deficiencies recorded with respect to hull corrosion, cracking, etc. Inspection of the internals of ballast tanks (or cargo tanks) was not possible as they were not empty (or safe to enter) at the time of the PSC inspection.

3.2 Passage to Position Where Liferaft Broke Free

The vessel routing from Copenhagen was into the North Sea through the Kattegat and Skagerrak. From the North Sea the vessel sailed north of the Shetland Islands into the North Atlantic. After clearing land at Shetland the course was roughly South West to the position of the liferaft incident about 150 miles off the NW coast of Donegal. The weather during the early part of the passage was generally fair with winds moderate occasionally strong up to force 8. During the morning of the 25th January, very strong winds from SW and W blew up to reported force 11, possibly force 12 before moderating later in the day and into the next day to force 7 or 8. During the time leading up to the breaking free of the forward liferaft (morning of 28th), a second storm was encountered with winds being reported up to force 12 in the ship's log. Winds from a SW through to NW direction of strength force 11 or force 12 were being recorded in the bridge log from midday on the 27th January through to late morning on the 29th January. (A weather report and table of comparison between the weather recorded on board with that sourced from Met Eireann is included in Appendix 8.4).

3.3 Incident of Attempted Recovery of Forward Liferaft

At approx. 11.00hrs GMT on the 28th January, the bridge watch reported that the forward liferaft had broken free and had inflated on the starboard side of the fore deck. A decision was taken to send personnel forward to attempt to secure the liferaft. The Chief Officer - Mr. Andres Manrique, the Bosun - Mr. Pedro Sanchez and an AB - Mr Carlos Hernandez were tasked and donned heavy weather gear. During the attempt to recover the raft, it was reported that the vessel's heading was altered to reduce effects of sea and wind on bow. The recovery of the raft was from the starboard side. The raft was successfully recovered and dragged into a position forward near the centreline of the ship and under the walkway and cargo / steam piping. While it was being made fast, a very large wave, described by the master as coming from an unusual direction, broke over the bow and washed over the deck as far aft as the midships housing. The three crewmembers on the foredeck were hit by the wave. The remaining ship's crew immediately undertook a rescue operation and all three were recovered to the accommodation aft. The bosun was dead when recovered. The Chief Officer had sustained serious injuries and died on board later the same day. The AB had lost his left leg and sustained other serious injuries. He was evacuated from the ship by Coast Guard helicopter at 18.00 hrs and taken to Galway Regional Hospital. He survived and was repatriated on release from hospital three weeks later. (See photographs 7.1.1, 7.1.2 showing details of liferaft & position of cradle).

3.4 Arrival at Anchorage off Killybegs

Following the incident and the subsequent airlift of the injured AB, a decision was made by the Master in consultation with the vessel's managers to deviate from the planned passage and sail for Killybegs where the two deceased crewmembers could be landed. Three replacement crewmembers would be provided there. The vessel arrived off Killybegs at about 12.00hrs on the 29th January 2003. The deceased were landed and the crew interviewed by the local Garda for the purposes of ascertaining cause of death.

3.5 Report of Finding Cracks on the Deck of Vessel

During the afternoon of the 29th January, at about 15.00hrs, while the vessel was at anchor off Killybegs, the Master and Chief Engineer stated that they were informed by a member of the crew that there was a crack on the maindeck in way of No.4 Port water ballast tank (WBT). Both went to inspect the damage and subsequently found other deck cracks at No.4 Starboard WBT and No.2 Port WBT. The Master informed their managers, Ravenscroft Ship Management Ltd. in Buenos Aires of the cracks initially by phone and subsequently faxed a hand drawn plan of the position and extent of the cracking. The Master stated that he believed that the managers would inform

the relevant Authorities in Ireland. He did not report the hull fractures - a potential pollution incident - as mandated by the vessel's SOPEP (Ship Oil Pollution Emergency Preparedness) manual, to the "nearest coastal contact" (see Appendix 8.9).

At 22.06hrs, Malin Head Coast Guard (CG) station had a phone call from the local agent for the vessel in Killybegs, saying that he had heard that cracks had been found on board and that a surveyor from ClassNK would arrive in the morning to attend the vessel. Malin Head CG informed the Chief Surveyor of the Maritime Safety Directorate (MSD). Two surveyors from the Maritime Safety Directorate were tasked with inspecting the vessel.

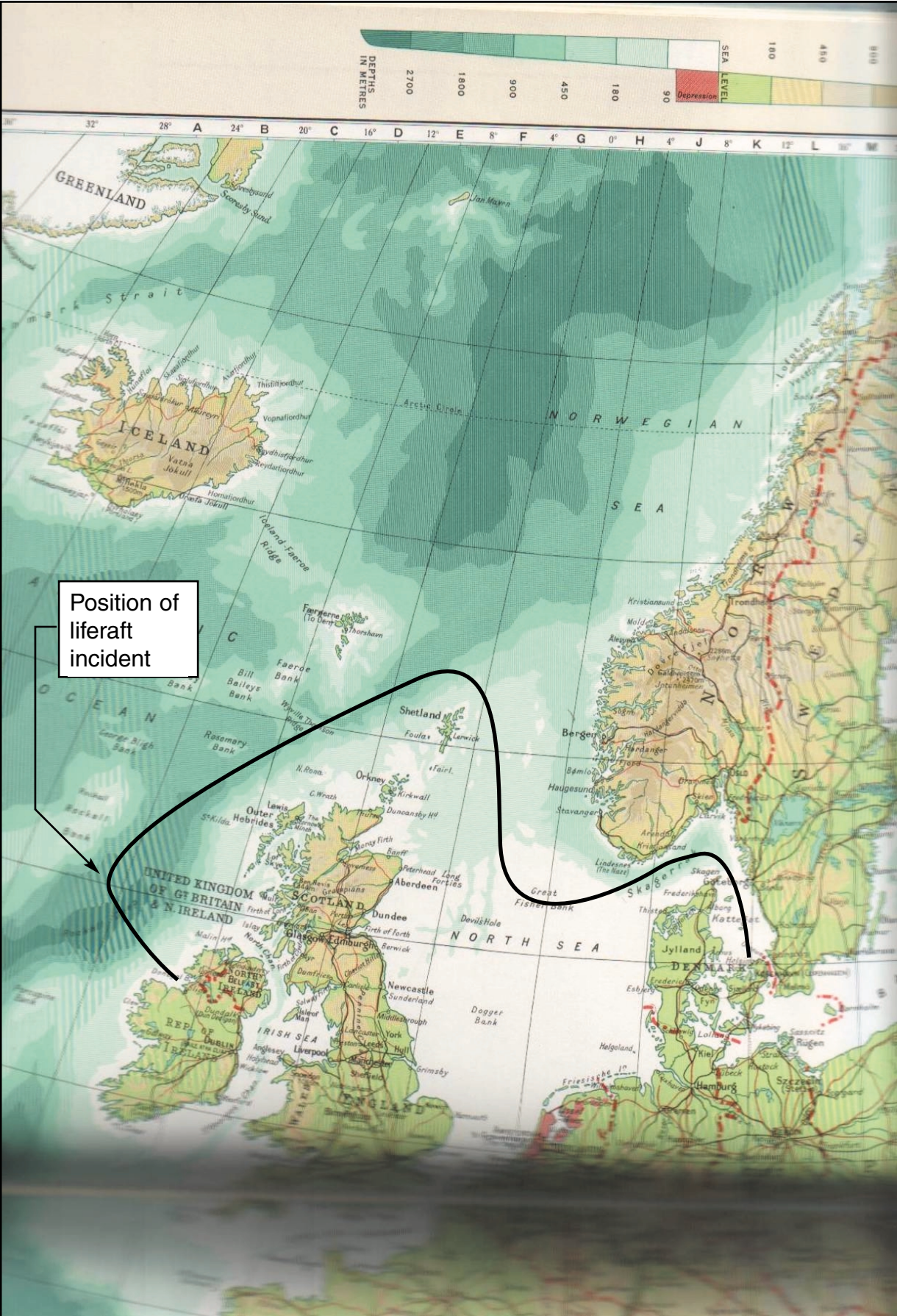
3.6 Inspection and Detention of the Vessel

A Port State Inspection was conducted while the vessel was at anchor, on the 30th January. The vessel was found to be unseaworthy and was detained (see appendices 8.5.1 & 8.5.2). The three most significant cracks noted on the maindeck were at:

- frame 59 in way of No.4 Port water ballast tank (WBT);
 - at frame 69 in way of No.2 Port WBT; and
 - frame 59 in way of at No.4 Starboard WBT.
- (see photographs 7.1.3 to 7.1.8)

All three fractures were considered sufficiently serious to merit detention as individual defects. A hole was also found in the maindeck in an area of deck wastage at the aft end of a deck winch in way of No.4 Starboard WBT. This was also deemed a detainable defect. In all, during this and later inspection, eight deck plating faults / fractures were found (see Appendix 8.5.2). Previous deficiencies noted during inspection in Copenhagen on 15th January 2003 were inspected and found to have been satisfactorily rectified. Two surveyors from ClassNK attended the vessel and conducted initial investigation to determine extent of damages.

Passage: COPENHAGEN to (KILLYBEGS)



(Reproduced by kind permission of the Controller of Her Majesty's Stationary Office and the UK Hydrographic Office)
CHART NOT TO BE USED FOR NAVIGATION PURPOSES

4. EVENTS FOLLOWING DETENTION OF THE VESSEL

4.1 Initial response

The Coast Guard, the responsible authority for responding to pollution incidents or threat of pollution, became the controlling authority following the detention of the vessel. A local command centre was set up in Killybegs. Due to the nature of the anchorage in McSwayne's Bay and its exposure to prevailing Westerly winds, the Coast Guard ordered that a tug should stand by the vessel at anchor. The Harbour Master at Killybegs stayed on the "Princess Eva" acting as pilot and liaison with the Coast Guard ashore.

On Saturday night, 1st February, the winds strengthened and the vessel started to drag anchor. The vessel was moved to an anchorage in Inver Bay - the next bay to the East of Killybegs - where it was deemed to be safer and more protected. Initially, the owners proposed that they be allowed to tranship a part of the cargo to another ship, instigate a repair, return the cargo and be allowed to complete the voyage. This was rejected on the grounds that the deck fractures were clearly progressive in nature and sufficiently serious that the longitudinal strength of the vessel had been compromised to an unknown extent. It was decided by MSD that temporary repairs could be allowed at anchor but only following the removal of all the cargo from the vessel.

4.2 More Detailed Examination of the Hull Failures

A Naval Architect (Ship Surveyor) from the MSD was instructed by MCIB to carry out an examination of all accessible hull areas. His report is contained in Appendix 8.6. His inspection was limited by the still loaded condition of the vessel and having access only to the permanent walkways provided internally in ballast tanks. Close-up inspection of much of the ballast tank internals was impossible. In general, it was found that the coatings of the ballast tanks were poor. The underside of the deck plating in these tanks was pitted and grooved as described in appendix 8.6. It was clear that the replacement of framing within tanks had been an on-going process. In a number of instances, the replacement of longitudinal framing on the underside of deck had been stopped short of the bulkhead of the cargo tank. This had resulted in sections of between 200mm and 400mm of the deck longitudinal close to the cargo bulkhead being heavily corroded and holed in some instances. In these boundary areas of the ballast tanks close to the cargo tank bulkhead, it was also noted that the deck underside was severely grooved close to the fillet weld of the deck and bulkhead. It was in these areas that the fractures of the deck occurred (see fig. 8.6.1, 8.6.2 & photograph 7.1.6). Locally, at the fractures, the plate-edge thickness of the deck plating ranged between 4mm and 8mm (original thickness 15.5mm). Deformation and detachment of bulkhead stiffening was also found during inspection of fore peak tank.

4.3 History of Survey

Special Hull Survey 1999

The last special hull survey was completed on 31 May 1999. ClassNK surveyors conducted the survey in Argentina. Thickness measurements used in the evaluation of hull had been taken, also in Argentina, during the months of July/August 1998. The measurements were taken by a ClassNK approved contractor Ultralux SRL. The Condition Evaluation Report (Executive Hull Summary) produced following the special survey is included at Appendix 8.7. Ballast tanks No.2 P&S and No.4 P&S are noted as having been "areas close-up surveyed".

Repairs carried out in these tanks, during the special survey, were of a minor nature, including: -

WBT No.2 P&S - web frame face plates at frames 72,73 (both) and vertical brackets and stiffeners at frames 70,71 & 72 (Starboard only);
WBT No.4 P&S - various vertical and horizontal stiffeners.

No repair work was carried out at frames 59 or frame 69 (location of deck fractures at detention Killybegs). In the thickness measurements, the deck longitudinals (No. 20 & 21 port) at frame 58/59 were noted to have a spot diminution of 19%. This was the site of one deck fracture. Certain areas of the vessel were highlighted as "points of attention for future survey". Included in these areas were the web frames in WBT No.2 and various maindeck plating. The protection coating condition of all these tanks at that time was described as "Fair". A separate note described the web faceplates in WBT 2 & 4 (P&S) as having 20-30% diminution with "corrosion in general".

The Special Hull Survey as reported in the record referred to in sheet 1 of the Special Hull Survey 1999, is considered reasonable and satisfactory to be credited in the light of the society's rules which are in line with present IMO Guidelines. The ship is evaluated on her structural condition / its residual scantlings and verified as stated in the sheet 2 of this report.

Annual survey Load line & Safety Construction 2000

In this survey, No.2 WBT (P&S) and the deck plating "noted" in the Special Survey were examined and reported with "no deficiency". It was however noted on the same form (CLB) that due to "progressive deterioration of paintwork and thickness diminution" previous special watch should be kept on these areas. Thickness measurement of nine deck strakes (individual sections of plating) revealed that diminution was typically 15 - 20%. None of the plates checked were in way of (Killybegs) deck fractures. No repair / remedial work was recorded done during this survey.

Intermediate Survey and Drydocking 2001

Two reports pertain to this survey. The initial survey/inspection was conducted in water apparently at the request of owners to ascertain the likely scope of work due during the drydocking. The survey was conducted in Argentina on the 10th/11th August 2001. The scope of the survey seems to have been limited to the Aft Peak tank, No.2 WBT (P&S) and No.4 WBT (P&S). A 5-page report was subsequently produced with quite detailed lists of deficiencies detected in the ballast tanks. The recommendation given was that all WBT deficiencies noted were to "be permanently repaired by next docking survey by 30th August 2001". Thickness measurement of some of the "noted" areas was also carried out. These measurements recorded thickness of similar areas on deck plating as those taken a year earlier. Discrepancies exist between the readings taken on the same strakes, for instance, "plate H" in 2000 had 14% diminution, in 2001 it had 3%; "plate D" in 2000 had 17% diminution, in 2001 it had 4%. No replacement of deck plating is recorded in class records for this period. The discrepancies on the above readings may possibly be explained by the averaging of ultrasonic readings. The second report is on the actual drydocking for Intermediate Survey. It was conducted in Rio de Janeiro between 18/08/01 and 10/10/01. A close up survey was conducted in No. 2 & 4 (P & S) WBT's by using permanent access and also an inflatable boat. The level of detail of the repairs, contained in this report, is vague and imprecise. Whereas in the pre-docking report, individual damages were identified in detail as to their extent and location, in the drydock report mainly generalisations were used in the description of repairs. So in the case of the No.4 WBT (S), the scope of survey and repairs undertaken was described as follows:-

- *No signal of oil noted*
- *Some heavily corroded internal structures were partly cropped out and renewed*

This description of the structural defects / repairs should be compared to that found in the pre-drydocking survey for this tank where one full page of defects were noted during a restricted survey from permanent walkways only. Despite the extent of the corrosion evident in the ballast tanks, only the partial thickness measurements mentioned above were availed of during the survey.

These (partial) measurements did identify: -

two holes in the deck plating - one on fore castle deck and one on port side at frame 73/74;

a fracture in the ship's side plating in way of No. 4 P WBT at frame 51;

Severe local diminution of plating in longitudinal bulkheads No. 4 WBT (P&S)

A pattern of wastage and holes in side shell longitudinal in way of No. 2 WBT (S) at frame 69.

Insufficient detail is supplied in the survey report to establish if all defects were (a) identified and (b) fully rectified. At the end of this docking survey, the protection of the ballast tanks was described as: -

F.P.T.	Fair
A.P.T.	Poor
No.2 WBT (P&S)	Poor
No.4 WBT (P&S)	Poor

No remedial work on the tank coatings is recorded as having been carried out. The anodes were, however, renewed in all the ballast tanks.

A "Note" (Form ATT) was attached to the survey report file that: -

"No.2 WBT (P&S), No.4 WBT (P&S) and F.P.T. are to be examined at each annual interval due to coating breakdown."

Annual Loadline and Safety Construction 2002

The required Annual Loadline and Annual Safety Construction surveys were conducted in Argentina between the 14/08/02 and 27/08/02. This was the last ClassNK survey prior to the vessel being detained in Killybegs. The ballast tanks were inspected as required by "Special Note". The two ClassNK surveyors who conducted these surveys had carried out the pre-docking survey (to Intermediate Survey) in 2001, so it is reasonable to assume that they were aware of the general condition of the tanks and the problems of coating breakdown, etc. The Fore Peak Tank, No 2 WBT (P&S) and No 4 WBT (P&S) were all inspected and remarked, "found satisfactory". No other remarks, on the condition of the hull or tanks, were made in the report of this survey.

4.4 Response of Flag State

Maritime Safety Directorate (MSD) informed the flag state -Panama - on the 30th January 2003 of the detention of the vessel. Copies of the Port State Control forms were sent detailing the grounds for detention. The notification of the vessel's detention included a standard request for the Flag State to inform the Irish Administration when they were satisfied that repairs were completed and all deficiencies were rectified. No response was received by MSD from the Panama Flag Authorities during the detention period of the vessel. There were no visits to the vessel by representatives of Flag (other than ClassNK) during the period of detention.

4.5 Response of Class Society

Initially the Class Society - ClassNK -, at the request of the managers of the vessel in Argentina, sent Mr. P. Southern, a local (Irish) non-exclusive surveyor, to investigate the crew report of hull fracture. He boarded the vessel on the 30th January and remained on board during the time of the Port State inspection and detention. The Principal Surveyor from the London Office of ClassNK, Mr. M. Kikusui, joined him, the next day. Later, ClassNK also sent Mr. H. Suga, a Naval Architect from the London Office as the responsible surveyor to conduct the survey for class maintenance. During the period of detention of the vessel, Mr. Y. Tsudo, a Vice-President of ClassNK in Tokyo, came to Ireland for a meeting with the Chief Surveyor of the MSD. In a follow up letter, he expressed his thanks to the Irish Maritime Authorities for accepting the vessel

into our waters and preventing a possible "Prestige" type pollution incident (Appendix 8.8). In general, ClassNK cooperated fully and in a professional manner with the Maritime Safety Directorate during the detention. During the subsequent investigation by the MCIB, ClassNK provided most requested material promptly and were helpful in providing background information on survey procedures, instructions to surveyors, etc.

4.6 Control of pollution threat

The Coast Guard set up a command centre in Killybegs once it became clear that a pollution threat existed. Due to the size of the vessel, bringing it alongside in Killybegs was not an option. Consideration was given to moving the vessel to the nearest safe port to conduct the transshipment of its cargo. The nearest suitable port (within the state) was Moneypoint in the Shannon Estuary, which was approx. 150 miles to the South. In view of the known extent of the hull damage (fractures) and the likely sea conditions on the Atlantic coast in winter, moving the vessel there was ruled out. During the initial response, the Coast Guard ordered a tug to stand-by the vessel. The potential problems posed by poor weather conditions, an exposed anchorage and the vessel's hull fractures, clearly merited this precaution. This tug was sourced in Cork harbour and took approximately 24 hours to arrive in Killybegs. It was available only on short-term contract due to prior charter arrangements. Subsequently, the Coast Guard instructed the owners that they were liable for the on-going cost of hire of the stand-by tug. The owners (and their insurers) wished to engage a different tug on more favourable contract terms. To this end the owners proposed the tug "Point Spencer". It arrived at Killybegs on the morning of the 5th February and took up stand-by duty. The Coast Guard also instructed the owners that they would have to provide another tug and a pollution control vessel during the period of the ship-to-ship (STS) transfer of cargo. To this end the tug "Oakgarth" and the multi-purpose vessel "Voe Trader" were contracted. Both arrived on site prior to the initial transfer of cargo. Prior to the STS cargo transfer, the Coast Guard implemented:-

- (a) a hydrographic survey of STS transfer area and its surrounds;
- (b) transfer of extra anti-pollution booms and equipment from national storage to local area;
- (c) test deployments of the booms;
- (d) provision of boom deploying vessels and shoreline pollution response vessels;
- (e) permit and discharge plan approval system for cargo transfer with STS expert on site;
- (f) briefings and consultation meetings with local authorities, fishery officers, D_chas (environmental protection), local representatives, fishermen, fish farmers and other interested parties;
- (g) provision of adequate ship fendering of appropriate dimensions;
- (h) sampling of cargo and bunkers for testing / identifying; sampling of sea water quality from area before and after transfer; and
- (i) the provision of full pollution prevention measures during each transfer.

The Maritime Safety Directorate (MSD) carried out Port State Control inspections on "Bro Jupiter", "Voe Trader" and "Princess Pia" prior to their usage. MSD implemented control over the "Princess Eva" under the rules and procedures of Port State Control. The hull stresses generated during unloading operations were calculated and analysed by ClassNK and approved by MSD.

4.7 Transhipment of cargo

Due to the unavailability of a single tanker of sufficient size, the cargo transfer operation was completed in two parts:

1. transfer to MT "Bro Jupiter" of approximately 6000 tonnes; and
2. transfer of remainder of cargo to MT "Princess Pia".

Both transfer operations were completed without any incident. The first transfer took place on the 12th February. The second transfer took place over three days from 19th February to the 21st February. A further transfer of 50 tonnes of bunker gas oil from the "Princess Eva" to the "Princess Pia" was carried out at the owner's request after completion of cargo transfer.

4.8 Temporary repair

Following successful completion of the cargo transfer, work commenced to clean and gas-free the cargo tanks on the "Princess Eva". The managers of the ship proposed their plans for temporary repairs to the MSD and ClassNK for approval. The scope of work involved: -

- (1) the drilling of ends of all deck cracks to prevent propagation.
A total of eight separate cracks were treated by this method;
- (2) Gouging out and welding up all cracks;
- (3) the welding on of doubler plates of sufficient size to bridge weakened areas of deck plating;
- (4) Damaged longitudinal frames were gouged and welded and fitted with doubler plates as found necessary;
- (5) Local corrosion and hole in deck plating midships was closed with doubler plating.

4.9 Release from detention

The repairs were completed on the 05 March 2003. ClassNK issued a single voyage Safety Construction Certificate (having obtained permission from Flag State - Panama) for passage, in ballast only, to Argentina for permanent repair. The final PSC inspection for release of the vessel for a single voyage to repair yard was conducted by MSD on 06 March 2003.

4.10 Final repair of vessel

The vessel arrived in Buenos Aires and survey for repairs was commenced on the 3rd April 2003. The report of survey for repair contains fifty pages detailing cropping out and renewal of over 250 sections of framing / stiffening within ballast tanks No.2 & No.4. Approx. 30 sections of framing / stiffening were replaced in the fore peak tank along with three sections of transverse (collision) bulkhead (frame 82). Fifteen sections of maindeck plating were also cropped out and renewed. The final visit to complete the survey was on 30th May 2003.

5. FINDINGS AND CONCLUSIONS

5.1 Condition of the ship

- 5.1.1 The vessel, when initially inspected in Killybegs, was in an unseaworthy condition and a potential hazard to the marine environment.
- 5.1.2 The nature and extent of the deck fractures was serious. It could be expected that crack propagation would have impacted hull integrity within a relatively short period of continued passage in the prevailing weather and sea state.
- 5.1.3 No evidence was found that the fractures existed prior to the vessel's departure from Copenhagen nor was any evidence found that the crew were aware of the fractures prior to the vessel's arrival in Killybegs.
- 5.1.4 The owners of the vessel, their managers (if not directly managed) and the officers and crew of the vessel have ultimate responsibility for the safe operation of the vessel, its maintenance and the protection of the environment under the requirements of the International Safety Management Code (ISM Code). While, at the time of its detention at Killybegs, the vessel had valid statutory certificates and was "in Class" with ClassNK, the evidence of fracture failure of the deck structure, extensive corrosion within the ballast tanks with resultant diminution of scantlings and corrosion hole in the main deck clearly indicate a failure on the part of the vessel management to comply with all of the requirements of the code.
- 5.1.5 The Flag State, Panama, had delegated its responsibility for issue of statutory certificates to ClassNK. The evidence from the survey reports indicates that, while ClassNK were aware of the problem (and extent) of corrosion within the ballast tanks, as set out in the special survey of 1999 and ClassNK surveys of 2000 and 2002, it appears that insufficient attention was paid to the problem areas in subsequent surveys and hence appropriate corrective action was not taken.

5.2 Threat to environment

- 5.2.1 The vessel's cargo - vacuum gas oil - is a light black fuel oil which is a mixed product of partially refined crude oil.
- 5.2.2 If a hull failure had occurred off the West coast of Ireland, the resultant spill and slick had the potential to be on a scale similar to that of the "Erika" or "Prestige".
- 5.2.3 Dependant on prevailing weather conditions, the areas most likely to have been affected would have been the West, North-West and North coasts of Ireland and possibly the West coast of Scotland.

CONCLUSIONS

CONTD.

5.2.4 The cost in environmental and ecological terms of such a spill would have been considerable. Much of this coastline is particularly sensitive to an oil pollution incident given the geographical layout, the ecological diversity and the economic dependence of the indigenous population on the marine environment.

5.3 Outcome of the incident

5.3.1 While the loss of life of the two crewmembers on board the "Princess Eva" was a tragic event, the consequent diverting of the vessel to Killybegs (to land the bodies) inadvertently provided a timely safe haven for the vessel.

5.3.2 Had the vessel proceeded on its intended passage, it is unlikely that the deck fractures would have been discovered by the crew before significant hull failure had occurred, due to the poor weather conditions which prevented work on deck.

5.3.3 The immediate availability of an emergency-towing vessel (ETV) in any potential at-sea pollution incident is critical. The need for such a vessel on our South-West and West coast has previously been identified by the Coast Guard. As yet the vessel is not in place. In this incident, a large capacity tug was required. It took 24 hours to have it in place (from Cork) and then it had to be replaced three days later due to prior contractual obligations.

5.3.4 The response to the potential pollution incident by MSD and the Coast Guard was correct, effective and handled in a professional manner.

6. RECOMMENDATIONS

- 6.1 The Government should further engage with and strongly support current efforts within IMO, EU and other International fora to achieve worldwide consensus for, and implementation of, improved quality of all tankers by elevating surveying standards especially in the areas of Special Hull Surveys and Condition Assessment Schemes.
- 6.2 Consideration should be given to the permanent position of an ETV (emergency towing vessel) on Ireland's west coast.
- 6.3 An oil pollution response vessel should be made available with the capability of at-sea recovery of oil and treatment / recovery of oil slicks. Both the functions of ETV and pollution response could be combined in a single purpose built vessel.
- 6.4 The Government should pursue early implementation of West European Particularly Sensitive Sea Area (PSSA) through the International Maritime Organisation (IMO). Establishment of the PSSA will (initially) require mandatory reporting for all tankers passing through the area. The PSSA should be used as a basis for development of a comprehensive marine environment protection regime for the seas, seabed and coastal areas of the Atlantic margin.

PHOTOGRAPHS

7. PHOTOGRAPHS OF THE VESSEL

Figure 7.1.1 showing ford liferaft cradle (top) and replacement packed liferaft



Figure 7.1.2 Views looking forward (top) and aft at recovered liferaft - approx. position of three crewmembers struck by wave



PHOTOGRAPHS

CONTD.

Figure 7.1.3 Crack at frame 59 port showing (top) cargo manifold save all and (bottom) to ship side length of crack approx. 0.65 m



Figure 7.1.4 Deck at frame 59 port side showing same crack and general spot corrosion wastage of deck



PHOTOGRAPHS

CONTD.

Figure 7.1.5 Double crack at frame 69 port side 1.6 m long at ship's side and 1.2 m long inboard in way of No. 2 WBT aft bulkhead with No. 3 COT

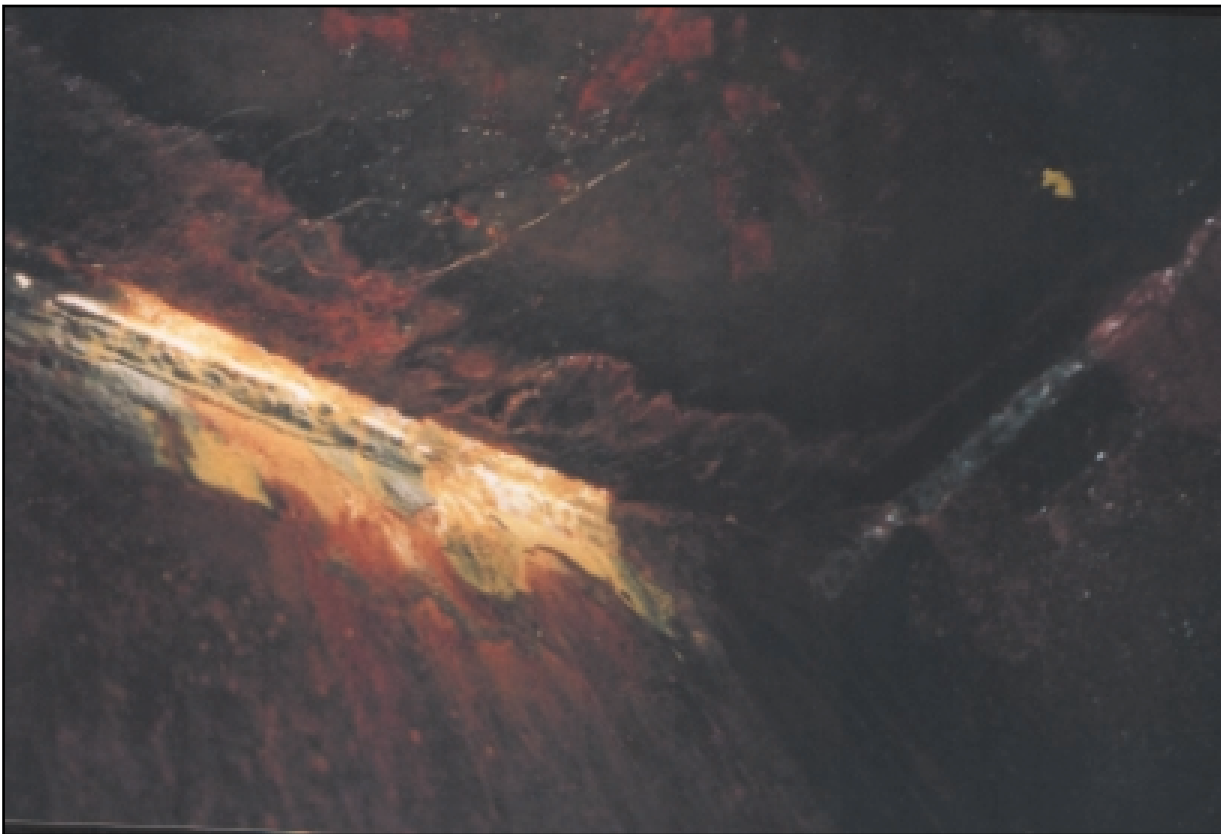


Figure 7.1.6 view of 1.6 m crack from within ballast tank

Figure 7.1.7 view of 1.6 m crack from above deck



PHOTOGRAPHS

CONTD.

Figure 7.1.8 Crack at frame 59 starboard side length approx. 0.8 m

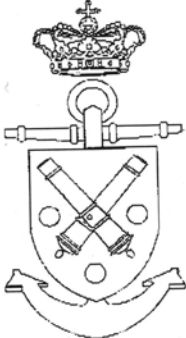


8. APPENDICES

- 8.1. Cargo oil specification sheet
- 8.2 Cargo tank condition after loading
- 8.3 PSC Report - Copenhagen
- 8.4 Weather reports
- 8.5 PSC Detention - report and list of fractures
- 8.6 Ship Surveyor's report on condition of vessel
- 8.8 ClassNK Special Survey Condition Evaluation Report 1999
- 8.8 ClassNK letter to MSD
- 8.9 Extract from vessel's SOPEP manual
- 8.10 Comparative Thickness gaugings taken in 2000 and 2001

APPENDIX 8.1

8.1. Cargo oil specification sheet

30/01 '03 THU 21:50 FAX 353 1 6620795		353 1 6620795		MRCC Dublin		+++ Marine Surveyors		001						
SHIP REPORTING CENTER DENMARK														
Søværnets operative Kommando Postboks 483, 8100 Aarhus C. Telefon: 89 43 32 82 Fax: 89 43 32 83					Admiral Danish Fleet P.O. Box 483, DK-8100 Aarhus C. Telephone: +45 89 43 32 82 Fax: +45 89 43 32 83									
TELEFAX Ekspeditionsbilag UKLASSIFICERET										TELEFAX Transmission Enclosure UNCLASSIFIED				
Til:		Side 1 af 9 sider.		Page 1 of 9 pages.		Ref. Nr.:		Ref. No.:						
To:		Dato: January 30, 2003		Date:		Fra: Ship Reporting Center		From:						
0W0035316620795														
Emne: Subject: REF PRINCESS EVA'S CARGO LOADED IN COPENHAGEN														
Tekst / Supplerende tekst: Message (if any):														
Afsendt af: Transmitter signature: Ship Reporting Center					Godkendt af: Releasing Officer:									
ANNEX 8.1 CARGO OIL SPECIFICATION SHEETS														

80/01 '03 THU 21:50 FAX 353 1 6620795 MRCC Dublin →→→ Marine Surveyors 002
30/01/2003 21:11 OILTANKING → 89433283 NO.238 002



SAFETY DATA SHEET

**Atmospheric Residue (high and low sulphur content)
Waxy Distillate/ Heavy Vacuum Gas Oil**

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of substance/preparation
Atmospheric Residue (high and low sulphur content)
Waxy Distillate/ Heavy Vacuum Gas Oil
Alternative Names: Heavy Vacuum Distillate

Application

Refinery feedstock
Fuel blending component
For specific application advice see appropriate Technical Data Sheet or consult your BP representative

Company Identification

BP Oil International Limited
Britannic House
1 Finsbury Circus
London, EC2M 7BA

Emergency Telephone Number

+44 (0) 20 7496 4411

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Composition

Complex hydrocarbon substance, one of the following:
Residues (petroleum), atm. lower. EINECS No: 265-045-2, CAS No: 64741-45-3
Residues (petroleum), atmospheric. EINECS No: 269-777-3, CAS No: 68333-22-2
Gas oils (petroleum), heavy vacuum. EINECS No: 265-058-3, CAS No: 64741-57-7

Hazardous Components

Hydrogen sulphide (H₂S), an extremely toxic and highly flammable gas, and other flammable light hydrocarbon gases may collect in vapour spaces where product is stored.
Polycyclic aromatic hydrocarbons will be present, some of which have been shown by experimental studies to induce skin cancer.

30/01 '03 THU 21:50 FAX 353 1 6620795
30/01/2003 21:11 OILTANKING → 89433283

MRCC Dublin

→→→ Marine Surveyors 003
NO. 238 003

3. HAZARDS IDENTIFICATION

Contact with hot product may cause burns.

May cause cancer, classified as a category 2 carcinogen.

This material may contain significant quantities of polycyclic aromatic hydrocarbons (PAHs), some of which have been shown by experimental studies to induce skin cancer.

Repeated exposure may cause skin dryness or cracking.

Vapours containing hydrogen sulphide may accumulate during storage or transport and may also be vented during filling of tanks. Hydrogen sulphide has a typical "bad egg" smell but at high concentrations the sense of smell is rapidly lost, therefore do not rely on sense of smell for detecting hydrogen sulphide. Use specially designed measuring instruments for determining its concentration.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST-AID MEASURES

Eyes

Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.

If hot material enters the eye, flood immediately with cold water to dissipate the heat, if possible, ensuring eyelids are held open. Take the casualty to hospital for examination and treatment without delay.

Skin

Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin.

If hot product causes burns, the affected area should be flooded immediately with, or immersed in cold water for 10 minutes, or longer if pain persists. Burns should be covered with clean cotton or gauze, and the casualty taken to hospital as soon as possible for examination and treatment.

Never use gasoline, kerosine or other solvents to remove fuel oil from skin or clothing.

Medical advice must be obtained urgently if product under high pressure has been injected through the skin.

Ingestion

If contamination of the mouth occurs, wash out thoroughly with water.

Except as a deliberate act, the ingestion of large amounts of product is unlikely. If it should occur, do not induce vomiting; obtain medical advice.

Inhalation

If inhalation of mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If symptoms persist obtain medical advice.

EXPOSURE TO HYDROGEN SULPHIDE:

Casualties suffering ill effects as a result of exposure to hydrogen sulphide should be immediately removed to fresh air and medical assistance obtained without delay.

Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth to mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.

It is advisable that all who are engaged in operations in which contact with H2S may reasonably be anticipated, should be trained in the techniques of emergency resuscitation and in the care of an unconscious patient.

Medical Advice

If ingested, do not induce vomiting.

Inhalation of hydrogen sulphide may cause central respiratory depression leading to coma and death. It is irritant to the respiratory tract causing chemical pneumonitis and pulmonary oedema. The onset of pulmonary oedema may be delayed for 24 to 48 hours. Treat with oxygen and ventilate as appropriate. Administer broncho-dilators if indicated and consider administration of corticosteroids. Keep casualty under surveillance for 48 hours in case pulmonary oedema develops.

Note: High Pressure Applications

Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

Page: 2

Sheet No: ST12205 Issue Date: 17/07/2000 Revision of Sheet Dated: 02/09/98 Name of Product: Atmospheric Residue (high and l

80/01 *03 THU 21:51 FAX 353 1 6620795 MRCC Dublin
30/01/2003 21:11 OILTANKING → 89433283

→→→ Marine Surveyors 004
NO. 238 004

5. FIRE-FIGHTING MEASURES

For major fires call the Fire Service. Ensure an escape path is always available from any fire.
Use foam, dry powder or carbon dioxide. **DO NOT USE** water jets. Avoid spraying directly into storage containers because of the danger of boil-over.
Fires in confined spaces should be dealt with by trained personnel wearing approved breathing apparatus.

Combustion Products

Toxic fumes may be evolved on burning or exposure to heat.
See Stability and Reactivity, Section 10 of this Safety Data Sheet.

6. ACCIDENTAL RELEASE MEASURES

Ensure good ventilation.
Evacuate all non essential personnel from the immediate area.
Wear protective clothing. See Exposure Controls/Personal Protection, section 8, of this Safety Data Sheet.
Depending upon its temperature the product may be liquid, semi-solid or solid.
Protect drains from spills and prevent entry of product, since this may result in blockage on cooling. Should blockage occur, notify the appropriate authority immediately.
Scrape up bulk of solid material and remove liquid with sand or other suitable inert absorbent material. If necessary, clean the contaminated area using hot water and detergent; absorb the washings - do not wash into drains.
Spilled material may make surfaces slippery.
Recovery of large spillages should be effected by specialist personnel.
It is advised that stocks of suitable absorbent material should be held in quantities sufficient to deal with any spillage which may be reasonably anticipated.
Large and uncontained spillages should be smothered with foam to reduce the risk of ignition.
The foam blanket should be maintained until the area is declared safe.
Spillages of hot product in confined spaces may be especially hazardous because highly toxic hydrogen sulphide gas may be present. For spillages in such confined spaces the use of approved breathing apparatus by personnel specially trained in its use may be required.
Vapour may collect in any confined space.
In the case of spillage on water, prevent the spread of product by the use of suitable barrier equipment. Recover product from the surface. Protect environmentally sensitive areas and water supplies.
The product may sink making recovery difficult.
In the case of spillage at sea approved dispersants may be used where authorised by the appropriate government/regulatory authorities.
Regular surveillance on the location of the spillage should be maintained.
In the event of spillages contact the appropriate authorities.

7. HANDLING AND STORAGE

Storage Conditions

Store and dispense only in well ventilated areas away from heat and sources of ignition.
Store and use only in equipment/containers designed for use with this product.
Containers must be properly labelled and kept closed when not in use.
Do not remove warning labels from containers.
Empty packages may contain some remaining product. Retain hazard warning labels on empty packages as a guide to the safe handling, storage and disposal of empty packaging.
Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapour concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume.
Confined spaces contaminated with hydrogen sulphide must always be considered as constituting potentially life threatening environments. Entry into such spaces must never be undertaken except under extreme emergency when no alternative is possible and then only by trained operators wearing air-supplied breathing apparatus of an approved type and following procedures strictly in accordance with the Statutory Regulations governing such entry. Please see the comments in Section 8 (Exposure Controls/Personal Protection) of this data sheet.
Always have sufficient people standing by outside the tank with appropriate breathing apparatus and equipment to effect a quick rescue.
It is advisable that all who are engaged in operations in which contact with hydrogen sulphide may be reasonably anticipated, should be trained in the techniques of emergency resuscitation and in the care of an unconscious patient.

30/01/03 THU 21:51 FAX 353 1 6620795 MRCC Dublin
30/01/2003 21:11 OILTANKING → 89433283

→→ Marine Surveyors 005
NO. 238 005

Handling Precautions

Ensure good ventilation and avoid as far as reasonably practicable the inhalation and contact with vapours, mists or fumes which may be generated during use. If such vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

Avoid contact with skin and observe good personal hygiene.

Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate.

Avoid inhalation of dust from combustion/exhaust spaces.

Whilst using do not eat, drink or smoke.

Wash hands thoroughly after contact.

Use disposable cloths and discard when soiled. Do not put soiled cloths into pockets.

Take all necessary precautions against accidental spillage into soil or water.

Fire Prevention

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks.

Will present a flammability hazard if heated above flash point but bulk liquids at normal storage temperatures will present virtually no fire hazard. If fuel contacts hot surfaces, or leaks from high pressure fuel pipes, the vapour and/or mists generated will create a flammability or explosion hazard.

When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge.

Ensure equipment used is properly earthed or bonded to the tank structure.

Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

Empty containers represent a fire hazard as they may contain some remaining flammable product and vapour. Never cut, weld, solder or braze empty containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

There is no appropriate occupational exposure limit for this material.

Ensure good ventilation.

Avoid, as far as reasonably practicable, inhalation of vapour, mists or fumes generated during use.

If vapour, mist or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

Relevant exposure limits are:

Hydrogen sulphide

ACGIH (USA): TLV 10 ppm (8 hr TWA); 15ppm (15 min STEL)

Protective Clothing

Wear face visor or goggles in circumstances where eye contact can accidentally occur.

When handling heated material suitable protective clothing of an appropriate standard should be worn to prevent thermal burns.

If skin contact is likely, wear impervious protective clothing and/or gloves.

Protective clothing should be regularly inspected and maintained; overalls should be dry-cleaned, laundered and preferably starched after use.

Respiratory Protection

If operations are such that the excessive generation of vapour, mist or fume may be anticipated, to which operators may unavoidably be exposed, then suitable approved respiratory equipment should be worn. Note: Approved air-supplied breathing apparatus must be worn where there may be potential for inhalation of hydrogen sulphide gas.

The use of respiratory equipment must be strictly in accordance with the manufacturers' instructions and any statutory requirements governing its selection and use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical Values

Page: 4

Sheet No: ST1205 Issue Date: 17/07/2000 Revision of Sheet Dated: 02/09/98 Name of Product: Atmospheric Residue (high and l

30/01/03 THU 21:51 FAX 353 1 6620795 MRCC Dublin →→ Marine Surveyors 006
30/01/2003 21:11 OILTANKING → 89433283 NO.238 006

Grades:	Test Method	Units	Atmospheric Residue (high and low sulphur content)	Waxy Distillate / Heavy Vacuum Gas Oil
Physical state			liquid black oily	liquid dark brown characteristic
Colour				
Odour				
Density @ 15°C	ASTM D 1298	kg/m ³	900	900
Kinematic viscosity @ 100°C	ASTM D 445	mm ² /s		6 - 12
Boiling point/Range	ASTM D 86	°C	>300	
Flash point (PMC)	ASTM D 93	°C	>61	>100
Pour point	ASTM D 97	°C		10 - 50

10. STABILITY AND REACTIVITY

Stable at ambient temperatures.
Hazardous polymerisation reactions will not occur.

Materials to Avoid

Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition products will vary with conditions.
Overheating in storage may cause partial vapourisation and decomposition with the production of toxic hydrogen sulphide gas (H₂S).
Incomplete combustion will generate smoke, carbon dioxide and hazardous gases, including carbon monoxide.
Fuel oil ash/dust can be hazardous if inhaled. Before working in combustion/exhaust spaces or handling fuel oil ash/dust the area should be thoroughly damped down with water. If this is not possible, wear full breathing apparatus or positive pressure filter sets. Protective clothing must always be worn. When inspecting combustion/exhaust spaces, wear full face dust respirator and protective clothing.

11. TOXICOLOGICAL INFORMATION

Eyes

Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.
Will cause burns if hot material contacts eyes.

Skin

Will cause burns if hot material contacts skin
As with all such products containing potentially harmful levels of PCA6, prolonged or repeated skin contact may eventually result in dermatitis or more serious irreversible skin disorders including cancer.

Ingestion

Unlikely to be swallowed in view of the high handling temperatures.

Inhalation

May be irritating to eyes, nose and throat at high vapour concentrations.
May be toxic by inhalation when hydrogen sulphide is present in the vapour.
Hydrogen sulphide gas may in addition produce irritation of the eyes and respiratory tract.
Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer. The inhalation of vapour, mists or fumes over long periods may therefore be hazardous.

Dusts generated during the removal of ash deposits from engine/boiler combustion surfaces or exhaust spaces, will be harmful if inhaled and may cause nausea and eye, nose and throat irritation. Repeated contact may result in serious irreversible disorders.

12. ECOLOGICAL INFORMATION

Mobility

Spillages may penetrate the soil causing ground water contamination.

30/01 '03 THU 21:52 FAX 353 1 6620795 MRCC Dublin
30/01/2003 21:11 OILTANKING → 89433283

→→→ Marine Surveyors 007
NO. 238 007

Persistence and degradability

This product is inherently biodegradable.

Bioaccumulative potential

This material may accumulate in sediments.

Aquatic toxicity

Harmful to aquatic organisms, may cause long term effects in the aquatic environment
Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.
German WGK Classification: Light fuel oil 2: Heavy fuel oil 1

13. DISPOSAL CONSIDERATIONS

Dispose of by incineration or other suitable means under conditions approved by the local authority or via a licensed waste disposal contractor.

At sea, used or unwanted product should be stored for eventual discharge into port approved waste oil disposal facilities. Empty packages may contain some remaining product. Hazard warning labels are a guide to the safe handling of empty packaging and should not be removed.

14. TRANSPORT INFORMATION

Not classified as hazardous for transport (ADR, RID, UN, IMO, IATA/ICAO).

15. REGULATORY INFORMATION

EU Category of Danger

Carcinogenic category 2
Dangerous for the environment

EU Labelling

Symbol:
Skull and crossbones

Indication of danger:
None

Risk (R) Phrases:

R45 May cause cancer
R66 Repeated exposure may cause skin dryness or cracking
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety (S) Phrases:

S53 Avoid exposure - obtain special instructions before use.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)
S61 Avoid release into the environment. Refer to special instructions/Safety data sheets.

The label must carry the following additional information: "EC Label". Substance name, EINECS No.
Substance Name: Heavy Fuel Oil, EINECS No: 265-045-2, 265-058-3, 269-777-3

For non-fuel use only - "Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use."
must be marked on packaging.

16. OTHER INFORMATION

Compiled by:

Product Stewardship Group
BP Oil Technology Centre
Chertsey Road
Sunbury-on-Thames
Middlesex, TW16 7LN

This data sheet and the health, safety and environmental information it contains is considered to be accurate as of the date

Page: 6
Sheet No: ST12205 Issue Date: 17/07/2000 . Revision of Sheet Dated: 02/09/98 Name of Product: Atmospheric Residue (high end)

30/01 '03 THU 21:52 FAX 353 1 6620795 MRCC Dublin →→ Marine Surveyors 008
30/01/2003 21:11 OILTANKING → 89433283 NO.238 008

specified below. We have reviewed any information contained herein which we received from sources outside the BP Amoco Group of Companies. However, no warranty or representation, express or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorization given or implied to practise any patented invention without a valid licence. The BP Amoco Group shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

Sheet Revisions

Date:	Sections revised:
02/09/98	1, 4, 8, 11, 12, 15
17/07/2000	2, 3, 11, 8, 9, 13, 15

SHEET NO: ST12205
ISSUE DATE: 17/07/2000
REVISION OF SHEET DATED: 02/09/98
REPLACEMENT OF SHEET NO: ST12206 dated 21/09/98

APPENDIX 8.1

CONTD.

U. S. OIL & REFINING CO.

M A T E R I A L S A F E T Y D A T A S H E E T

Page 1 of 6

FCC FEEDSTOCK

MSDS No. 644500

Revised 8/11/98

U. S. OIL & REFINING CO.
3001 Marshall Ave.
Tacoma, WA 98421

EMERGENCY ASSISTANCE:
COMPANY: (253) 383-1651
CHEMTREC: (800) 424-9300

IMPORTANT: Read this MSDS before handling or disposing of this product.
Pass this information on to employees, customers and product users.

1. GENERAL

Trade Name: FCC FEED STOCK
Other Names: RAW VACUUM GAS OIL

Chemical Family: HYDROCARBON
Generic Name: FUEL OIL
DOT Hazard Class: COMBUSTIBLE LIQUID
Proper Shipping Name: FUEL OIL
DOT UN ID No.: NA/UN 1993

NFPA Hazard Rating: HEALTH: 2
FIRE: 2
REACTIVITY: 0
SPECIAL:

2. PRODUCT COMPONENTS

Component	CAS Number	Percent
RESIDUAL FUEL OIL CONSISTS OF MIXTURES OF STRAIGHT RUN AND RESIDUAL FRACTIONS. THIS PRODUCT IS LIKELY TO CONTAIN TRACE AMOUNTS OF HYDROGEN SULFIDE (A TOXIC GAS).	68476-33-5	100 (AP) VARIABLE

COMPONENTS INCLUDE:

1. PETROLEUM RESIDUUM	68558-00-4	0-80 (AP)
2. PETROLEUM DISTILLATES	68476-34-6	20-100 (AP)
3. HYDROGEN SULFIDE	77831-06-4	TRACE

FCC FEEDSTOCK

Page 2 of 6

3. OCCUPATIONAL EXPOSURE LIMITS

Substance	Value	Time/Type	Date	Source
OIL MIST, MINERAL (SEE SECTION 11)	5 MG/M ³	8 Hr PEL	1989	OSHA
	10 MG/M ³	15 Min STEL	1983	ACGIH
HYDROGEN SULFIDE	10 PPM	8 Hr PEL	1989	OSHA
	15 PPM	15 Min STEL	1989	OSHA

4. HEALTH INFORMATION

Summary: SKIN CONTACT WITH HOT OIL MAY CAUSE SEVERE THERMAL BURNS.

Routes of Exposure

Signs and Symptoms

Inhalation

NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURES.

Eye Contact

EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MISTS, AND/OR VAPORS.

Skin Contact

SKIN IRRITATION MAY OCCUR UPON PROLONGED OR REPEATED SKIN CONTACT.

Ingestion

NAUSEA, VOMITING, DIARRHEA, AND RESTLESSNESS

Overexposure Effects:

THIS PRODUCT MAY CONTAIN AROMATIC OILS. ALTHOUGH THERE IS NO SPECIFIC EVIDENCE THAT THIS MATERIAL IS CARCINOGENIC TO HUMANS, EXPERIMENTS HAVE SHOWN THAT SIMILAR MATERIALS CONTAINING POLYCYCLIC AROMATIC HYDROCARBONS HAVE CAUSED SKIN CANCER ON TEST ANIMALS.

5. FIRE AND EXPLOSION

Flash Point (Method): GT 250°F (PMCC) SEE BELOW

Autoignition Temperature (Method): AP 750 (ESTIMATE)

Flammable Limits (% Vol. in air) LOWER: AP 0.6
 at Normal Atmospheric Temperature UPPER: AP 7.5
 and Pressure

FCC FEEDSTOCK

PAGE 3 OF 6

Unusual Fire and Explosion Hazards:

MODERATELY COMBUSTIBLE! WHEN HEATED ABOVE THE FLASH POINT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH IF EXPOSED TO A SOURCE OF IGNITION CAN BURN OR BE EXPLOSIVE IN CONFINED SPACES. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT. KEEP AWAY FROM HEAT AND OPEN FLAME.

Extinguishing Media:

DRY CHEMICAL, HALON, AND CARBON DIOXIDE. FOAM AND WATER FOG ARE EFFECTIVE, BUT MAY CAUSE FROTHING.

Special Firefighting Procedures:

FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER. IMPROPER USE OF WATER AND EXTINGUISHING MEDIA CONTAINING WATER MAY CAUSE FROTHING WHICH CAN SPREAD THE FIRE OVER A LARGER AREA.

6. EMPLOYEE PROTECTION

- Respiratory:** NONE IS NEEDED UNDER NORMAL CONDITIONS WITH ADEQUATE VENTILATION. IF EXPOSURE EXCEEDS THE CONTROL LIMITS, RESPIRATORY PROTECTIVE EQUIPMENT WHICH MEETS 29 CFR 1910.134 AND IS NIOSH/MSHA APPROVED MUST BE WORN.
- Ventilation:** USE ADEQUATE VENTILATION TO KEEP OIL MISTS/VAPORS BELOW THE OCCUPATIONAL EXPOSURE LIMITS. SPECIAL VENTILATION MAY BE REQUIRED FOR HANDLING CONDITIONS AT ELEVATED TEMPERATURES.
- Eye:** EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. EYE WASH WATER SHOULD BE PROVIDED.
- Skin:** WHEN SKIN CONTACT IS POSSIBLE, AND ESPECIALLY WHEN HANDLING HOT MATERIAL, PROTECTIVE CLOTHING SUCH AS GLOVES, IMPERVIOUS APRON, LONG-SLEEVES, BOOTS, AND FACE PROTECTION MUST BE WORN.
- Other:** USE GOOD PERSONAL HYGIENE PRACTICES. IN CASE OF SKIN CONTACT, WASH WITH MILD SOAP AND WATER OR A WATERLESS HAND CLEANER. IMMEDIATELY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. DISCARD OIL-SOAKED LEATHER GOODS.

7. EMERGENCY AND FIRST AID

Inhalation: IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE OXYGEN OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN PROMPT MEDICAL ATTENTION.

Eye Contact: FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.

Skin Contact: REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CLOTHING THOROUGHLY BEFORE REUSE, BUT DISCARD CONTAMINATED LEATHER GOODS. HOT LIQUID MAY CAUSE BURNS; FLUSH WITH COOL LOW-PRESSURE WATER AND GET MEDICAL TREATMENT.

Ingestion: DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. MUST OBTAIN MEDICAL ATTENTION PROMPTLY.

8. SPILL AND DISPOSAL

Actions if Material is Spilled or Leaked:

CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. SPILL MAY CREATE SLIPPING HAZARDS. IN URBAN AREAS CLEAN UP ASAP; IN NATURAL ENVIRONMENTS, SEEK ADVICE FROM ECOLOGISTS. EVACUATE ALL NON-ESSENTIAL PERSONNEL. USE PROPER PROTECTIVE EQUIPMENT. PADS/ABSORBENT MATERIAL CAN BE USED. THIS MATERIAL WILL FLOAT ON WATER AND RESULTING RUNOFF MAY CREATE A FIRE HAZARD. NOTIFY THE NATIONAL RESPONSE CENTER (800/424-8802) AND COMPLY WITH ALL LAWS. THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.

Waste Disposal Methods:

MAXIMIZE PRODUCT RECOVERY FOR REUSE PRIOR TO DISPOSAL. CONDITIONS OF USE MAY CAUSE THIS MATERIAL TO BECOME A "HAZARDOUS WASTE" AS DEFINED BY STATE OR FEDERAL LAWS. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. PROPERLY ACCLIMATE THE BIOMASS TO THE SPILL MATERIAL. POTENTIAL DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION AND LAND DISPOSAL, IF PERMITTED.

FCC FEEDSTOCK

PAGE 5 OF 6

9. PHYSICAL AND CHEMICAL DATA

Specific Gravity (H₂O = 1 @ 39.2°F): AP 0.91 to .93

Hazardous Polymerization: NOT EXPECTED TO OCCUR

Evaporation Rate (Ratio of Time): N/AP

Vapor Pressure: (REID-PSIA AT 100°F) LT 0.1

Viscosity Units, Temp. (Method): 25 TO 50 CST AT 122 °F

Dry Point: N/AP

Volatile Characteristics: NA

Other Physical and Chemical Properties: BLENDED TO MEET REGULATORY AND CUSTOMER REQUIREMENTS INCLUDING VISCOSITY, POUR, SULFUR, AND HEAVY METALS.

Appearance and Odor: BROWN TO BLACK COLORED VISCOUS LIQUID; SLIGHTLY CRACKED OR BURNT TO ASPHALTIC ODOR.

Conditions to Avoid: HEAT, AND OPEN FLAME

Materials to Avoid: STRONG ACIDS, ALKALIES, AND STRONG OXIDIZERS.

Hazardous Decomposition Products: BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES AND VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF SULFUR AND NITROGEN.

10. SARA TITLE III

Extremely Hazardous Substances for Emergency Response and Planning:

Component	CAS Number	Percent	TPQ(lbs)	RQ(lbs)
NONE				

Toxic Chemicals for Emission Reporting

Component	CAS Number	Percent (Typical)
NONE		

EPA Hazard Classification:

Acute Health Hazard:
 Chronic Health Hazard:
 Fire Hazard: X
 Pressure Hazard:
 Reactive Hazard:
 Not Applicable:

FCC FEEDSTOCK

PAGE 6 FO 6

11. ADDITIONAL PRECAUTIONS

Handling & Storage:

PARTS AND EQUIPMENT USING OR CONTAINING THIS MATERIAL MUST BE STEAM-CLEANED PRIOR TO ALL MAINTENANCE PROCEDURES. ALL MATERIAL SAMPLING SHOULD BE CONDUCTED IN A MANNER WHICH AVOIDS VAPOR INHALATION OR SKIN CONTACT. SPECIAL CARE AND LABELING MUST BE PROVIDED DURING TRANSPORTATION/HANDLING OF LABORATORY SAMPLES. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USE OF TOILET FACILITIES. DO NOT USE SOLVENTS (GASOLINE, KEROSENE, ETC.) OR ABRASIVE SKIN CLEANERS. OIL-SOAKED CLOTHING MUST BE PROMPTLY REMOVED AND LAUNDERED BEFORE REUSE. DISCARD CONTAMINATED LEATHER GOODS.

General Comments:

SPECIFIC EXPOSURE STANDARDS/CONTROL LIMITS FOR THIS MATERIAL HAVE NOT BEEN AGREED UPON; THEREFORE, ACGIH TLV GUIDELINES (SEE SECTION 3) ARE SUGGESTED FOR INTERIM USE UNTIL SPECIFIC STANDARDS/CONTROL LIMITS ARE ADOPTED.

SOME OF THE INFORMATION PRESENT AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

-----NOTE-----Qualifications

EQ = Equal	AP = Approximately	N/AV = Not Available
LT = Less Than	UK = Unknown	N/AP = Not Applicable
GT = Greater than	TR = Trace	N/DA = No Data Available

Disclaimer of Liability

The information in this MSDS was obtained for sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS ACCURACY OR CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

APPENDIX 8.2

8.2 Cargo tank condition after loading

B/T "PRINCESS EVA"

STORAGE PLAN

PUERTO: COPENHAGEN - DINAMARCA
OPERACION: CARGA
FECHA: 19-Ene-03
VIAJE: 133 L

PRODUCTO: VACUUM GAS OIL HIGH AND LOW SULPHUR

TK	SON	MR	FT	DENS	CRUDO
1C	3,60	6074	0,98	0,9	5357
2C	3,60	4051	0,98	0,9	3573
3C	6,90	6449	0,98	0,9	5688
4C	4,40	6153	0,98	0,9	5427
5C	2,90	6377	0,98	0,9	5625
1P	5,70	3636	0,98	0,91	3243
1S	5,70	3636	0,98	0,91	3243
3P	1,72	8080	0,98	0,91	7206
3S	2,12	7900	0,98	0,91	7045
5P	1,52	3850	0,98	0,91	3433
5S	1,81	3780	0,98	0,91	3371
SLP	0,00	0	0	0	0
SLS	15,90	211	1	1	211
EPPT	2,00	250	1	1,025	256
2P	-	36	1	1,025	37
2S	-	36	1	1,025	37
4P	-	36	1	1,025	37
4S	-	36	1	1,025	37


SLOP PORT		5 PORT		11 NT 4P		3 PORT		11 NT 2P		1 PORT	
CRUDO	CARGA	CRUDO	CARGA	CRUDO	LASTRE	CRUDO	CARGA	CRUDO	LASTRE	CRUDO	CARGA
0,00	0,00	1,52	3850	0,00	0,00	1,72	8080	0,00	0,00	5,70	3636
0	0	3850	3433	36	37	36	37	36	37	3636	3243
0	0	3850	3433	36	37	36	37	36	37	3636	3243

5 CTER		4 CTER		3 CTER		2 CTER		1 CTER	
CRUDO	CARGA	CRUDO	CARGA	CRUDO	CARGA	CRUDO	CARGA	CRUDO	CARGA
2,90	6377	4,40	6153	6,90	6449	3,60	4051	3,60	6074
6377	5625	6153	5427	6449	5688	4051	3573	6074	5357
6377	5625	6153	5427	6449	5688	4051	3573	6074	5357

11 NT 4S		3 STBD.		11 NT 2S		1 STBD.	
CRUDO	CARGA	CRUDO	CARGA	CRUDO	CARGA	CRUDO	CARGA
15,90	1,81	2,12	7900	0,00	0,00	5,70	3636
211	3780	7900	7045	0,00	0,00	3636	3243
211	3780	7900	7045	0,00	0,00	3636	3243

CHILDOS	S.H.	F.H.
PROA =	10,80	11,07
POPA =	11,50	11,79
Ats.		Ats.

TOTAL CARGA 53421
TOTAL LASTRE 404
(BARRAS (Compensación))


 Andrés Montique
 Chief Officer

8.3 PSC Report - Copenhagen


27 05 '03 08:59 ☎39174423 SFS SYNSKONTOR 003

28 FOI

199930927

REPORT OF INSPECTION IN ACCORDANCE WITH THE PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL*)

copy to: master if ship is detained, copy to:
head office flag State
PSCO recognized organization; if applicable

 **Danish Maritime Authority**
Ministry of Trade and Industry
TF 30
Vermundsgade 38 C
DK-2100 Copenhagen Ø
Denmark
Telephone +45 39 17 44 01
Telefax +45 39 17 44 01
Cable address: Soefart DK
E-mail: sfs@dma.dk

1 reporting authority of DENMARK

2 name of ship PRINCESS EVA ✓

3 flag of ship PANAMA ✓ 4 type of ship OIL TANKER ✓

5 call sign ZEDDS ✓ 6 IMO number 7908847

7 gross tonnage 37062 ✓ 8 deadweight (where applicable) 6945

9 year of build 1980 ✓ 10 date of inspection 15.01.03 11 place of inspection COPENHAGEN

12 classification society NKK ✓ 13 date of release from detention

14 particulars of owner/operator (delete as appropriate) 16/103

15 name and signature of master to certify that the information under 14 is correct:

16 relevant certificate(s) **)	name	signature
a. title	b. issuing authority	c. dates of issue and expiry
1 SAFETY EQUIPMENT	CL	200202 190204
2 SAFETY CONSTRUCTION	-	081099 300504
3 SAFETY RADIO	-	200202 190203
4 LOAD LINE	-	081099 300504
5 I.O.P.P.	-	081099 300504
6 SAFE MANNING	FLAG	210699 -
7 PASSENGER SHIP SAFETY	-	-
8 Doc	BUREAU VERITAS	060902 050207
9 SMC	-	260698 080503
10 LIA	-	-
11	-	-
12	-	-

d. information on last intermediate or annual survey **)

date	surveying authority	place
1		
2		
3		
4		
5		

17 expanded inspection no yes

18 deficiencies no yes (see attached FOI)

19 ship detained no yes (**)

20 do any detainable deficiencies meet the criteria for Class responsibility no yes

21 supporting documentation no yes (see annex)

Scannet 16.1.03

regional office COPENHAGEN name Tom A. ANDERSEN / S. JUSSEN.
telephone 39174400 (duly authorized PSCO of reporting authority)
telefax signature

This report must be retained on board for a period of two years and must be available for consultation by Port State Control Officers at all times.

*) This inspection report has been issued solely for the purpose of informing the master and other port States that an inspection by the port State, mentioned in the header has taken place. This inspection report cannot be construed as a seaworthiness certificate in excess of the certificates the ship is required to carry.
**) to be completed in the event of a detention.
***) Masters, shipowners and/or operators are advised that detailed information on a detention may be subject to publication.

ANNEX F 3 PSC REPORT COPENHAGEN

APPENDIX 8.3

CONTD.

27/05 '03 09:00

☎39174423

SFS SYNSKONTOR

004

REPORT OF INSPECTION IN ACCORDANCE WITH THE PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL

copy to: master
head office
PSCO

if ship is detained, copy to:
flag State
recognized organization, if applicable



FOI

**Danish Maritime
Authority**
Ministry of Trade
and Industry

Vermundsgade 38 C
DK-2100 Copenhagen Ø
Denmark

Telephone +45 39 17 44 0
Telefax +45 39 17 44 0
Cable address: Soefart DK
E-mail: sfs@dma.dk

2 name of ship PRINCESS EVA
6 IMO number 7908847
10 date of inspection 15.01.03
11 place of inspection COPENHAGEN

22 code	nature of deficiency ¹⁾	convention ²⁾ references	23 action taken ³⁾
1270	ADJUSTING OF DOORS TO ACCOMMODATION.		17 10
0620	BOTH LIFERAFT PAINTER DISCONNECT TO HYD. RELEASER.		17 10
0663	IMMERSION SWITCH TO BE DMEB		17
1240	HATCH COVER FORECASTLE TO STORE ROOM 3 LASHES TO BE REPAIRED.		17 10
0956	GANGWAY TO BE REPAIRED BROKEN STANCHIONS. SMALL LEAKAGE STEAMPIPE FOR WINCHES		17 16
079A	WATER SPRINKLER PAINT STORE		17
1850	FOAM MONITORS, TENSION TO BE ADJUSTED.		17

name TOMAS C. ANDERSEN / S. JENSEN
(duly authorized PSCO of reporting authority)


signature

¹⁾ This inspection was not a full survey and deficiencies listed may not be exhaustive. In the event of a detention, it is recommended that a full survey is carried out and deficiencies are rectified before an application for re-inspection is made.
²⁾ To be completed in the event of a detention.
³⁾ Codes for actions taken include i.a.: ship detained/released, flag State informed, classification society informed, next port informed (for codes see reverse side of c)

27/05 '03 09:00 39174423 SFS SYNSKONTOR 005

REPORT OF INSPECTION IN ACCORDANCE WITH THE PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL

copy to: master if ship is detained, copy to:
 head office flag State
 PSCO recognized organization, if applicable



F

Danish Maritime Authority
 Ministry of Trade and Industry

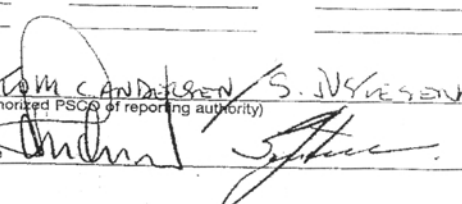
Vermundsgade 38 C
 DK-2100 Copenhagen C
 Denmark

Telephone +45 39 17 44
 Telefax +45 39 17 44
 Cable address: Søefart D
 E-mail: sfs@dma.dk

2 name of ship PRINCESS EVA
 6 IMO number 7908847
 10 date of inspection 15.01.03
 11 place of inspection COPENHAGEN

22 code	nature of deficiency ¹⁾	convention ²⁾ references	23 action taken
0730	FIREHOSE ENGINE ROOM TO BE RENEWED		17
0371	MEDICINE OUT OF DATE TO BE RENEWED		17
0735	AIR BREATHING APPARATUS TO BE READY FOR USE (1 SET DEUMSCORE)		17

name TOM C. ANDERSEN / S. JENSEN
 (duly authorized PSCO of reporting authority)

signature 

¹⁾ This inspection was not a full survey and deficiencies listed may not be exhaustive. In the event of a detention, it is recommended that a full survey is carried out all deficiencies are rectified before an application for re-inspection is made.
²⁾ To be completed in the event of a detention.
³⁾ Codes for actions taken include i.a.: ship detained/released, flag State informed, classification society informed, next port informed (for codes see reverse side of cr

27/05 '03 09:02

☎39174423

SFS SYNSKONTOR

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Official Journal of the European Communities

22.1.2002

ANNEX II

ANNEX V

A. CATEGORIES OF SHIPS SUBJECT TO EXPANDED INSPECTION (as referred to in Article 7(1))

1. Gas and chemical tankers older than 10 years of age, as determined on the basis of the date of construction indicated in the ship's safety certificates.
2. Bulk carriers older than 12 years of age, as determined on the basis of the date of construction indicated in the ship's safety certificates.
3. Oil tankers with a gross tonnage of more than 3 000 gross tonnes and older than 15 years of age, as determined on the basis of the date of construction indicated in the ship's safety certificates.
4. Passenger ships older than 15 years of age other than the passenger ships referred to in Article 2(a) and (b) of Council Directive 1999/35/EC of 29 April 1999 on a system of mandatory surveys for the safe operation of regular ro-ro ferry and high speed passenger craft services (1).

B. INFORMATION TO BE NOTIFIED TO THE COMPETENT AUTHORITY (as referred to in Article 7(3)(a))

- A. name,
- B. flag,
- C. IMO identification number, if any,
- D. dead-weight tonnage,
- E. date of construction of the ship, as determined on the basis of the date indicated in the ship's safety certificates,
- F. for tankers:
 - F.a. configuration: single hull, single hull with SBT, double hull,
 - F.b. condition of the cargo and ballast tanks: full, empty, inerted,
 - F.c. volume and nature of the cargo,
- G. probable time of arrival at the port of destination or pilot station, as required by the competent authority,
- H. planned duration of the call,
- I. planned operations at the port of destination (loading, unloading, other),
- J. planned statutory survey inspections and substantial maintenance and repair work to be carried out whilst in the port of destination.

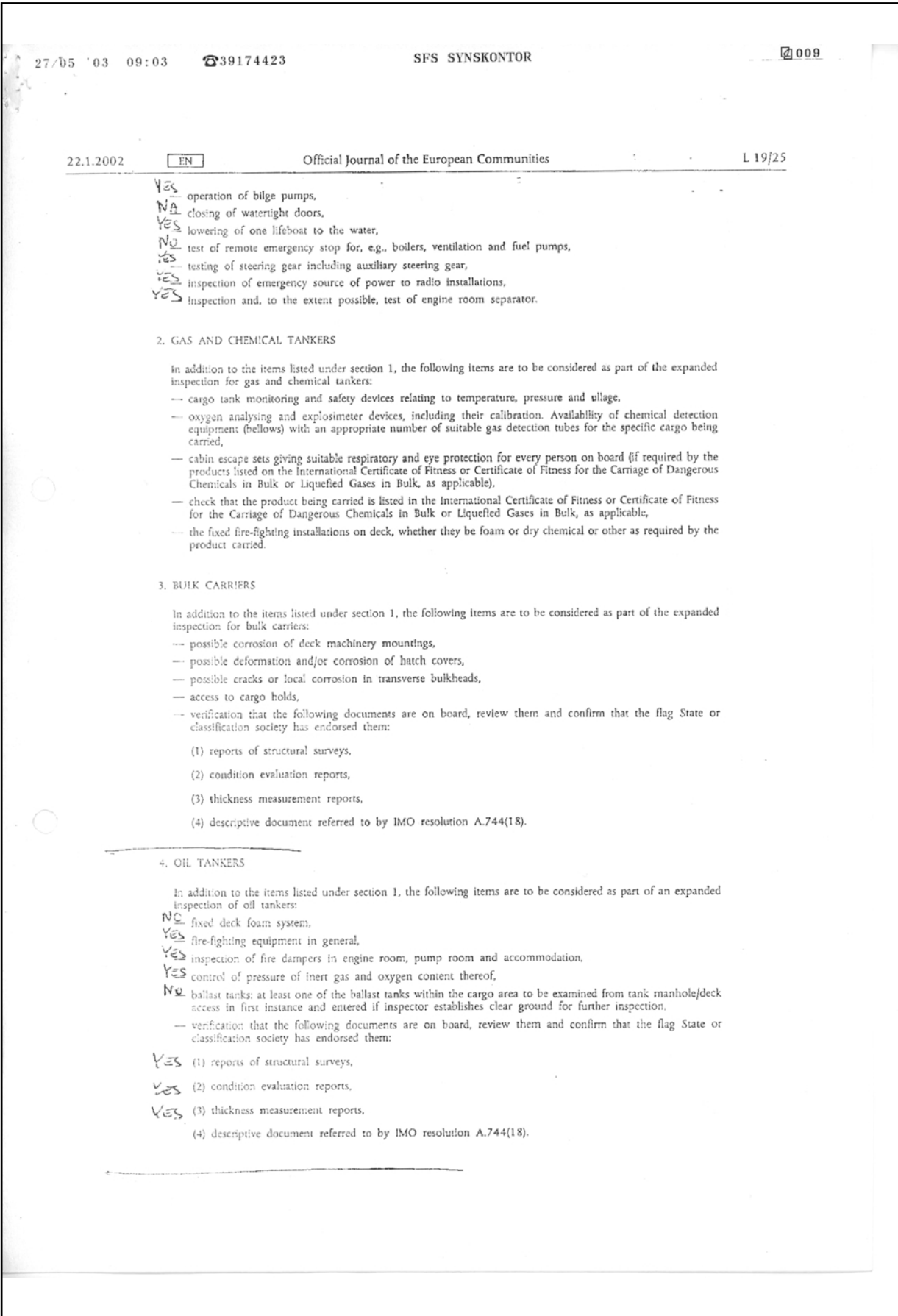
C. PROCEDURES RELATING TO EXPANDED INSPECTION OF CERTAIN CATEGORIES OF SHIPS (as referred to in Article 7(5))

Subject to their practical feasibility or any constraints relating to the safety of persons, the ship or the port, the following items at least must be part of an expanded inspection. Inspectors must be aware that it may jeopardise the safe execution of certain on-board operations, e.g. cargo handling, if tests having a direct effect thereon are required to be carried out during such operations.

1. SHIPS IN GENERAL (categories in section A)

- ~~NO~~ Black-out and start of emergency generator,
- ~~YES~~ inspection of emergency lighting,
- ~~YES~~ operation of emergency fire-pump with two fire hoses connected to the fire main-line,

(1) OJ L 138, 16.1999, p. 1.



8.4 Weather reports



MET ÉIREANN
The Irish Meteorological Service

Glasnevin Hill,
Dublin 9, Ireland.

Cnoc Ghlas Naíon
Baile Átha Cliath 9, Éire.
www.met.ie

Tel: +353-1-806 4200
Fax: +353-1-806 4247
E-mail: met.eireann@met.ie

**Weather Report for the sea area between Copenhagen
and the north-west of Ireland
Between the 21st January 2003 and 29th January 2003.**

It was a very 'unsettled' period with deep depressions/ Low pressure areas over and to the north-west of the ship area and Frontal Troughs moved frequently across the ship area.

Details

21-1-03 00Z location: 57 48N 05 54E
Winds: Southerly Force 6 to Gale Force 8

21-1-03 12Z location: 57 49N 03 07E
Winds: Southerly Force 5 to 6

22-1-03 00Z location: 58 42N 02 31E
Winds: Southerly Force 3 to 5

22-1-03 12Z location: 60 19N 01 26E
Winds: north-easterly Force 3 to 5

23-1-03 00Z 61 22N 00 33E
Winds: northerly Force 5 to 7

23-1-03 12Z location 61 24N 02 29W
Winds: southerly Force 6 to Gale Force 8(v. gusty)

24-1-03 00Z location 60 50N 04 14W
Winds: south-west Force 7 to Gale Force 8
Weather heavy rain
Visibility: moderate to poor

24-1-03 12Z location 60 15N 05 36W
Winds: south-west Force 6 to 7
Weather: cloudy,dry
Visibility: good

25-1-03 00Z location 59 29N 07 23W
Winds: south-west Force 5 to 6
Weather: showers
Visibility: good

25-1-03 12Z location 58 58N 08 24W
Winds: west Gale Force 8 to Strong Gale Force 9
Weather: showers
Visibility: good

26-1-03 00Z location 58 49N 09 27W
Winds: south-west Force 5 to 6
Waves: Buoy at 57N 9.9W winds: south-south-west 20 knots, waves 5.4 metres
Weather: cloudy, rain
Visibility: moderate

26-1-03 12Z location 58 03N 10 32W
Winds: south-west Force 6 to 7
Buoy at 59.1N 11.4W south-west 23 knots, waves 4.6 metres
Weather: cloudy, rain and drizzle
Visibility: moderate to poor

27-1-03 00Z location 57 24N 11 31W
Winds: west-south-west Force 4 to 6
Closest Buoy at 57N 9.9W winds: west-south-west 24knots, waves 6 metres
Weather: showers, (rainbelt just cleared the area)
Visibility: good

27-1-03 12Z location 56 37N 12 28W
Winds: westerly Force 7
Wave model waves: 6.8 metres, significant wave height
Buoy at 57N 9.9W winds: west-south-west 31 knots, waves: 6 metres
Buoy at 55N 12.7W winds: west 31 knots, waves: 6.7 metres
Weather: showers
Visibility: good

28-1-03 00Z location 56 06N 12 54W
Winds: north-west Storm Force 10 or possibly Violent Storm Force 11
Wave model waves: 10.1 metres
Nearest buoy at 55N 12.7W winds n/a; waves: 8.6 metres
Weather: showers
Visibility: poor in seaspray.

APPENDIX 8.4

CONTD.

28-1-03 06Z location 55 52N 13 11W
Winds: west-north-west Gale Force 8
Wave model waves: 11.07 metres
Nearest buoy at 55 N 12.7W winds: west 32knots
waves: 9.4 metres

Weather: showers
Visibility: poor in showers.

28-1-03 12Z location 55 30N 12 30W
Winds: north-west Gale Force 8 to Strong Gale Force 9
Wave model waves: 12.1 metres
Nearest buoy at 55N 12.7W winds: north-west 34 knots
waves: 10.5 metres

Weather: showers, some of hail
Visibility: poor in showers, also with seaspray

28-1-03 18Z location 55 09N 12 01W
Winds: north-north-west Force 7
Wave model waves: 11.3 metres
Nearest buoy at 55N 12.7W winds: north 30 knots ;
waves: 10 metres

Weather: showers
Visibility: poor in showers otherwise good.

29-1-03 06 hours location 54 38N 09 34W
Winds: north-north-west Force 6
Wave model waves: 7.9 metres
Weather: showers, some of hail
Visibility: good

29-1-03 12Z location Killybegs
Winds: north Force 4 to 5

Note: The winds are taken from the routine charts drawn up by this service which combines all available observations. The waves are taken from our wave model and has grid points every quarter of a degree i.e. the grid point could be 7 n.miles from the ship. Whenever available the closest buoy report is also included – but please note the buoy can be a considerable distance from the ship. Reports from the buoys give wind speed in knots and Significant wave heights in metres.



BEAUFORT SCALE OF WIND

BEAUFORT NUMBER	DESCRIP- TIVE TERM	VELOCITY EQUIVALENT AT A STANDARD HEIGHT OF 10 METRES ABOVE OPEN FLAT GROUND				SPECIFICATIONS			Probable wave height* in metres	Probable wave height* in feet
		Mean velocity in knots	m s ⁻¹	km h ⁻¹	m.p.h.	Land	Sea	Coast		
0	Calm	< 1	0-0.2	< 1	< 1	Calm; smoke rises vertically	Sea like a mirror	Calm	—	—
1	Light air	1-3	0.3-1.5	1-5	1-3	Direction of wind shown by smoke drift but not by wind vanes	Ripples with the appearance of scales are formed, but without foam crests	Fishing smack just has steerage way	0.1 (0.1)	¼ (¼)
2	Light breeze	4-6	1.6-3.3	6-11	4-7	Wind felt on face; leaves rustle; ordinary vanes moved by wind	Small wavelets, still short but more pronounced; crests have a glassy appearance and do not break	Wind fills the sails of smacks which then travel at about 1-2 knots	0.2 (0.3)	½ (1)
3	Gentle breeze	7-10	3.4-5.4	12-19	8-12	Leaves and small twigs in constant motion; wind extends light flag	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses	Smacks begin to career and travel about 3-4 knots	0.6 (1)	2 (3)
4	Moderate breeze	11-16	5.5-7.9	20-28	13-18	Raises dust and loose paper; small branches are moved	Small waves, becoming longer; fairly frequent white horses	Good working breeze, smacks carry all canvas with good list	1 (1.5)	3½ (5)
5	Fresh breeze	17-21	8.0-10.7	29-38	19-24	Small trees in leaf begin to sway; crested wavelets form on inland waters	Moderate waves, taking a more pronounced long form; many white horses are formed (chance of some spray)	Smacks shorten sail	2 (2.5)	6 (8½)
6	Strong breeze	22-27	10.8-13.8	39-49	25-31	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty	Large waves begin to form; the white foam crests are more extensive everywhere (probably some spray)	Smacks have double reef in main-sail; care required when fishing	3 (4)	9½ (13)
7	Near gale	28-33	13.9-17.1	50-61	32-38	Whole trees in motion; inconvenience felt when walking against wind	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind	Smacks remain in harbour and those at sea lie to	4 (5.5)	13½ (19)
8	Gale	34-40	17.2-20.7	62-74	39-46	Breaks twigs off trees; generally impedes progress	Moderately high waves of greater length; edges of crests begin to break into the spindrift; the foam is blown in well-marked streaks along the direction of the wind	All smacks make for harbour, if near	5.5 (7.5)	18 (25)
9	Strong gale	41-47	20.8-24.4	75-88	47-54	Slight structural damage occurs (chimney pots and slates removed)	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may affect visibility	—	7 (10)	23 (32)
10	Storm	48-55	24.5-28.4	89-102	55-63	Seldom experienced inland; trees uprooted; considerable structural damage occurs	Very high waves with long overhanging crests; the resulting foam, in great patches, is blown in dense white streaks along the direction of the wind; on the whole, the surface of the sea takes on a white appearance; the tumbling of the sea becomes heavy and shock-like; visibility affected	—	9 (12.5)	29 (41)
11	Violent storm	56-63	28.5-32.6	103-117	64-72	Very rarely experienced; accompanied by widespread damage	Exceptionally high waves (small and medium-sized ships might be for a time lost to view behind the waves); the sea is completely covered with long white patches of foam lying along the direction of the wind; everywhere the edges of the wave crests are blown into froth; visibility affected	—	11.5 (16)	37 (52)
12	Hurricane	64 and over	32.7 and over	118 and over	73 and over	—	The air is filled with foam and spray; sea completely white with driving spray; visibility very seriously affected	—	14 (—)	45 (—)

* This table is only intended as a guide to show roughly what may be expected in the open sea, remote from land. It should never be used in the reverse way, i.e., for logging or reporting the state of the sea. In enclosed waters, or when near land, with an off-shore wind, wave heights will be smaller and the waves steeper. Figures in brackets indicate the probable maximum height of waves.

Wave Heights:

The wave height is the vertical distance between the crest and the preceding or following trough. The table below gives a description of the wave systems associated with a range of significant wave heights. The significant height is defined as the average height of the highest one-third of the waves. It is very close to the value of wave height given by an experienced seaman when making visual observations of wave height.

Individual waves in the wave train will have heights in excess of the significant height. The highest wave of all will have a height about twice the significant height.

STATE OF SEA

Descriptive terms	Height* in metres
Calm	0 - 0.1
Wavelets	0.1 - 0.5
Slight	0.5 - 1.25
Moderate	1.25 - 2.5
Rough	2.5 - 4
Very rough	4 - 6
High	6 - 9
Very high	9 - 14
Phenomenal	Over 14

MCIB
Marine Casualty Investigation Board

04/06/2003


Date & time	Location	Wind force & Direction - Ship's deck log	Wind force & Direction Met Eireann report	Comments
21/01/03 00Z	57 48N 05 54E	Southerly 6	Southerly 6 to 8	
21/01/03 12Z	57 49N 03 07E	South West 4	Southerly 5 to 6	
22/01/03 00Z	58 42N 02 31E	Southerly 3	Southerly 3 to 5	
22/01/03 12Z	60 19N 01 26E	Northerly 8	North-easterly 3 to 5	
23/01/03 00Z	61 22N 00 33E	Northerly 7	Northerly 5 to 7	
23/01/03 12Z	61 24N 02 29W	Southerly 4	Southerly 6 to 8	
24/01/03 00Z	60 50N 04 14W	Southerly 9	South-west 7 to 8	
24/01/03 12Z	60 15N 05 36W	Westerly 7	South-west 6 to 7	
25/01/03 00Z	59 29N 07 23W	South-west 5	South-west 5 to 6	
25/01/03 12Z	58 58N 08 24W	Westerly 11/12	Westerly 8 to 9	
26/01/03 00Z	58 49N 09 27W	South-south-west 7	South-south-west 6 to 7	
26/01/03 12Z	58 03N 10 32W	South-west 8	South-west 6 to 7	
27/01/03 00Z	57 24N 11 31W	South-west 8	West-south-west 4 to 6	
27/01/03 12Z	56 37N 12 28W	South-west 11	Westerly 7	
28/01/03 00Z	56 06N 12 54W	Westerly 11	North-west 10 poss. 11	
28/01/03 06Z	55 52N 13 11W	Westerly 12	West-north-west 8	Accident occurred
28/01/03 12Z	55 30N 12 30W	Westerly 12	North-west 8 to 9	
28/01/03 18Z	55 09N 12 01W	North-west 11	North-north-west 7	
29/01/03 06Z	54 38N 09 34W	North-west 11	North-north-west 6	
29/01/03 12Z	Killybegs	North-north-west 7	North 4 to 5	

The winds for the Met Eireann report are compiled from a combination of all available observations. All times and positions are approximate based on the vessel's records in the deck log

APPENDIX 8.5

CONTD.

8.5 PSC Detention - report and list of fractures



**REPORT OF INSPECTION IN ACCORDANCE WITH THE
PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL***

FORM A

Copy to: master
head office
PSCO
if ship is detained, copy to:
flag State
recognised organisation, if applicable

Marine Surveyor's Office
26/27 Eden Quay, Dublin 1, Ireland.
Telephone: 8744900 / 8743325
Telefax: 8724491

Report authority, Department of the Marine (Ireland) 2 Name of ship PRINCESS EVA
Flag of ship PANAMA 4 Type of ship OIL TANKER 5 Call sign 3EAD5
6 IMO number 7905847 7 Gross tonnage 37062 8 Deadweight (where applicable) 60945
9 Year of build 1979 10 Date of final report 11 Place of inspection KILLYBEGS
12 Classification society NKK 13 Date of issue of detention order 19/02/04
14 Particulars of owner/operator (delete as appropriate) PAVANSRAFT SHIPPING LTD
3251 POWER DR LION BOULEVARD, CORAL GABLES, 33134 FLORIDA **
15 Name and signature of master to certify that the information under 14 is correct:
Name D.E. RATIO Signature [Signature]
16 Relevant certificate(s)

a Title	b Issuing authority	c Dates		d Last intermediate / Annual Survey**		
		Issue	Expiry	Date	Authority	Place
Safety Construction	NKK	05/10/99	30/05/04	27/05/02	NKK	ARG.
Safety Equipment	NKK	20/02/02	19/02/04			
Safety Radio	NKK	20/02/02	19/02/03			
Load line	NKK	05/10/99	30/05/04	27/05/02	NKK	ARG.
I.O.P.P.	NKK	05/10/99	30/05/04	27/05/02	NKK	ARGENTINA
Safe Manning	FAAG	21/06/99	—			
Passenger Certificate						
Cargo ship Safety Cert						
ISM SMC	BV	26/06/98	05/05/03	25/04/01	BV	ARG.
ISM DOC	BV	06/09/02	05/05/07			

17 Expanded inspection no yes
18 Deficiencies no yes (see attached FORM B)
19 Ship detained no yes ***
20 Do any detainable deficiencies meet the criteria for Class responsibility no yes
21 Supporting documentation no yes (see annex)

District office (P.S. Dublin) Name T. D. TAYLOR STAMP
(duly authorised PSCO of reporting authority) [Stamp]
Telephone Signature [Signature]
Telefax

This report must be retained on board for a period of two years and must be available for consultation by Port State Control Officers at all times

* This inspection report has been issued solely for the purpose of informing the master and other port States that an inspection by the port State, mentioned in the heading, has taken place. This inspection report cannot be construed as a seaworthiness certificate in excess of the certificates the ship is required to carry.
** to be completed in the event of a detention.
*** Masters, shipowner and/or operators are advised that detailed information on a detention may be subject to publication.

ANNEX B51. PSC REPORT / NOTICE OF DETENTION



REPORT OF INSPECTION IN ACCORDANCE WITH THE PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL

FORM B

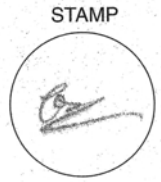
Marine Surveyor's Office
26/27 Eden Quay, Dublin 1, Ireland.
Telephone: 8744900 / 8743325
Telefax: 8724491

Copy to: master
head office
PSCO
if ship is detained, copy to:
flag State
recognised organisation, if applicable

2 Name of ship PRINCESS EVA 6 IMO number 7908847
10 Date of final report 11 Place of inspection KILLYBEGS (AT ANCHOR)
22 Code Nature of deficiency¹ Convention references² 23 Action taken³

22 Code	Nature of deficiency ¹	Convention references ²	23 Action taken ³
0989	DECK CRACKING @ FOLLOWING ① No. 2 PORT BALLAST IN WAY OF BULKHEAD WITH NO. 3 C.O.T. 2.5M LONG [1M FROM STRINGER PLATE] ② @ ABOVE POSITION BUT INBOARD BY 2.5M LENGTH OF CRACK 0.5M ③ No. 4 PORT BALLAST TR. FWD IN WAY OF BULKHEAD WITH 3 P.C.O.T. 1M LONG ④ No. 4 STABD BALLAST TR. FWD IN WAY OF BULKHEAD WITH 3 S.C.O.T. 0.5M LONG ⑤ WASTAGE / CRACKING OF DECK IN WAY OF AFT SIDE OF CARGO WUICH FRAMING SS (STR)	S74/C1/R11 LL66/AIS	30/55/70
	⑥ CRACKING OF DECK IN WAY OF FWD SIDE OF CARGO WUICH FRAMING SS (PORT). (1.2M LONG)		

Name T. D. TAYLOR
(duly authorised PSCO of reporting authority)
Signature [Signature]



This report must be retained on board for a period of two years and must be available for consultation by Port State Control Officers at all times

1. This inspection was not a full survey and deficiencies listed may not be exhaustive. In the event of a detention, it is recommended that a full survey is carried out and all deficiencies are rectified before an application for re-inspection is made.
2. To be completed in the event of a detention.
3. Codes for action taken i.e.: ship detained/released, flag State informed, classification society informed, next port informed (for codes see reverse side of copy).

063



PORT STATE CONTROL

Department of the Marine and Natural Resources - Ireland

NOTICE OF DETENTION

To the Master of

Vessel PROCESS EVA IMO number 7908847
 Port of Registry PANAMA Flag State PANAMA
 Class Society NKK Berthed at ANCHOR (KILBEGGS)

The undersigned, duly authorised inspector appointed under Regulation 5 (1) of European Communities Merchant Shipping (Port State Control) Regulations 1998, herewith notifies you that the vessel specified above has been detained in accordance with the provisions of the Regulation 10 of the above Regulations for failure to meet all the requirements of relevant International Conventions.

The specific grounds for detention are detailed in attached Form B.

Direction to ship. [Given under regulation 10, paragraph (2) of the European Communities Merchant Shipping (Port State Control) Regulations]

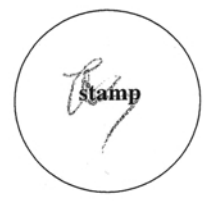
1. The vessel shall not proceed to sea before issue of Notice of Release by an authorised officer.
2. The vessel may be allowed to shift to a particular berth or anchorage for repair with the permission of the Chief Surveyor, Marine Survey Office.
3. When the deficiency(ies) is (are) fully rectified in accordance with the Conventions, the vessel must notify the Marine Survey Office and request a re-inspection of the vessel.
4. A charge, mandated by the E.C., will be levied for this re-inspection.

Signature [Signature] Printed T. D. Taylor
 (Detaining officer)

Date 30/01/02

Marine Survey Office DUBLIN

Telephone 01 8724900 Fax 01 8724491



The Master is hereby informed of the Right of Appeal against the detention (see reverse for details).

Reporting

Page 1 of 4



FORM A/1

**REPORT OF INSPECTION IN ACCORDANCE WITH THE
PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL *)**

Maritime Safety Directorate, DCMNR
26/27 Eden Quay
Dublin 1
35318744900
35318724491

copy to : master
head office
PSCO
if ship is detained, copy to :
flag state
recognized organization, if applicable

SHIP PARTICULARS

1. Name of ship	PRINCESS EVA	2. Flag of ship	Panama
3. Type of ship	Oil Tanker	4. Call sign	3EDD5
5. IMO number	7908847	6. Gross tonnage	37062
7. Year of build	1980	8. Dead Weight	60945

9a. Classification society(ies) responsible for issuance of class certificates :

No record

9b. Classification society(ies) responsible for issuance of certificates on behalf of the flag State :

Nippon Kaiji Kyokai (Japan)
Nippon Kaiji Kyokai (Japan)
Nippon Kaiji Kyokai (Japan)
Bureau Veritas (France)
Bureau Veritas (France)
Nippon Kaiji Kyokai (Japan)
Nippon Kaiji Kyokai (Japan)

10. Full particulars of company (identical to particulars as in the ISM DoC))**

Ravenscroft Shipping Inc, 3251 Ponce de Leon Boulevard, Coral Gables., 33134 Florida., Manager

11. Name & address of charterer : (Only ships carrying liquid or solid cargoes in bulk, pref. 1st charterer record.)

Voyage Charterer Tintrade Ltd., Santa Sofia, La Rue de la Sente Grouville., Jersey JE3 9UT

12. name and signature of master to certify that the information under 11 is correct :

name : signature

INSPECTION PARTICULARS*)**

13. Date of first boarding	30-01-2003	13b. Date of final report	10-03-2003
14. Place of inspection	KILLYBEGS		
15. If Vessel is detained : Date of issue of detention notice	30-01-2003		
16. Type of inspection :	Initial inspection		
17. Operational controls :			
- No record			

This report must be retained on board for a period of two years and must be available for consultation by Port State Control at all times.

*) This inspection report has been issued solely for the purpose of informing the master and other port States that an inspection by the port State, mentioned in the heading, has taken place.

This inspection report cannot be construed as a seaworthiness certificate in excess of the certificates the ship is required to carry.

**) Non-ISM ships: Master to supply and sign under 12. for correct full particulars of company

***) Masters, Shipowners and/or Operators are advised that detailed information on the inspection may be subject to publication (www.parismou.org).

Form A - Page 1

Reporting

18. Areas inspected :

- No record

19. Relevant certificate(s)

- 1) Cargo ship safety construction
issuing by Nippon Kaiji Kyokai (Japan) on 06-03-2003 expiry on 30-04-2003
- 2) Cargo ship safety equipment
issuing by Nippon Kaiji Kyokai (Japan) on 20-02-2002 expiry on 19-02-2004
- 3) Cargo ship safety radio
issuing by Nippon Kaiji Kyokai (Japan) on 06-03-2003 expiry on 05-08-2003
- 4) Document of compliance (DoC)
issuing by Bureau Veritas (France) on 06-09-2002 expiry on 05-08-2007
surveying by Bureau Veritas (France) on 06-09-2002 at Argentina
- 5) Load lines certificates
issuing by Nippon Kaiji Kyokai (Japan) on 08-10-1999 expiry on 30-05-2004
surveying by Nippon Kaiji Kyokai (Japan) on 27-08-2002 at Argentina
- 6) Oil pollution prevention (iopp)
issuing by Nippon Kaiji Kyokai (Japan) on 08-10-1999 expiry on 30-05-2004
surveying by Nippon Kaiji Kyokai (Japan) on 27-08-2002 at Argentina
- 7) Safety management certificat (SMC)
issuing by Bureau Veritas (France) on 26-06-1998 expiry on 08-05-2003
surveying by Bureau Veritas (France) on 25-04-2001 at Argentina
- 8) Safety manning document
issuing by Panama on 21-06-1999 expiry on

20. Ship related inspection action taken:

No record

21. Deficiencies Yes

District office Maritime Safety Directorate' West

PORT STATE PARTICULARS

Address -
-
-
Telephone -
Telefax -
E-mail -

This report must be retained on board for a period of two years and must be available for consultation by Port State Control at all times.

*) This inspection report has been issued solely for the purpose of informing the master and other port States that an inspection by the port State, mentioned in the heading, has taken place.

This inspection report cannot be construed as a seaworthiness certificate in excess of the certificates the ship is required to carry.

**) Non-ISM ships: Master to supply and sign under 12. for correct full particulars of company

***) Masters, Shipowners and/or Operators are advised that detailed information on the inspection may be subject to publication (www.parismou.org).

Reporting

Page 3 of 4

Name (duly authorized PSCO of reporting authority) Taylor David

Signature

This report must be retained on board for a period of two years and must be available for consultation by Port State Control at all times.

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This inspection report cannot be construed as a seaworthiness certificate in excess of the certificates the ship is required to carry.

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***) Masters, Shipowners and/or Operators are advised that detailed information on the inspection may be subject to publication (www.parismou.org).

Form A - Page 3

http://195.25.216.218/sirenac/Report?FROM_SCREEN=Conclude&P_DETAINED=Y... 10/03/2003

Reporting

Page 4 of 4



FORM B/1

**REPORT OF INSPECTION IN ACCORDANCE WITH THE
PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL *)**

Maritime Safety Directorate, DCMNR
26/27 Eden Quay
Dublin 1
35318744900
35318724491

copy to : master
head office
PSCO
if ship is detained, copy to :
flag state
recognized organization, if applicable

1. name of ship PRINCESS EVA 2. Imo number 7908847
3. Date of final report 10-03-2003 4. Place of inspection Killybegs

DEFICIENCIES FOUND AND FOLLOW UP ACTIONS *)**

Group deficiencies Structural Safety
Defective item 1) Decks - cracking - Cracked -
Convention reference 2) S74P78/CII/R11
Action taken Ground for detention, At an agreed repair port,
Additional comments

Group deficiencies Structural Safety
Defective item 1) Decks - corrosion - Damaged -
Convention reference 2) S74P78/CII/R11
Action taken Ground for detention, At an agreed repair port,
Additional comments

Group deficiencies Structural Safety
Defective item 1) Ballast, fuel and other - Corroded -
Convention reference 2) S74-2/CII-2/R15
Action taken Ground for detention, At an agreed repair port,
Additional comments Eight cracks in total found on deck in way of ballast tanks No2 and No 4 P & S

Name (duly authorized PSCO of reporting authority) Taylor David

Signature

***) Masters, Shipowners and/or Operators are advised that detailed information on the inspection may be subject to publication (www.parismou.org)
1) This inspection was not a full survey and deficiencies listed may not be exhaustive. In the event of a detention, it is recommended that a full survey is carried out and all deficiencies are rectified before an application for re-inspection is made.
2) To be completed in event of a detention.(for non-convention ships <500 GT for reference only)

codes for action taken

code

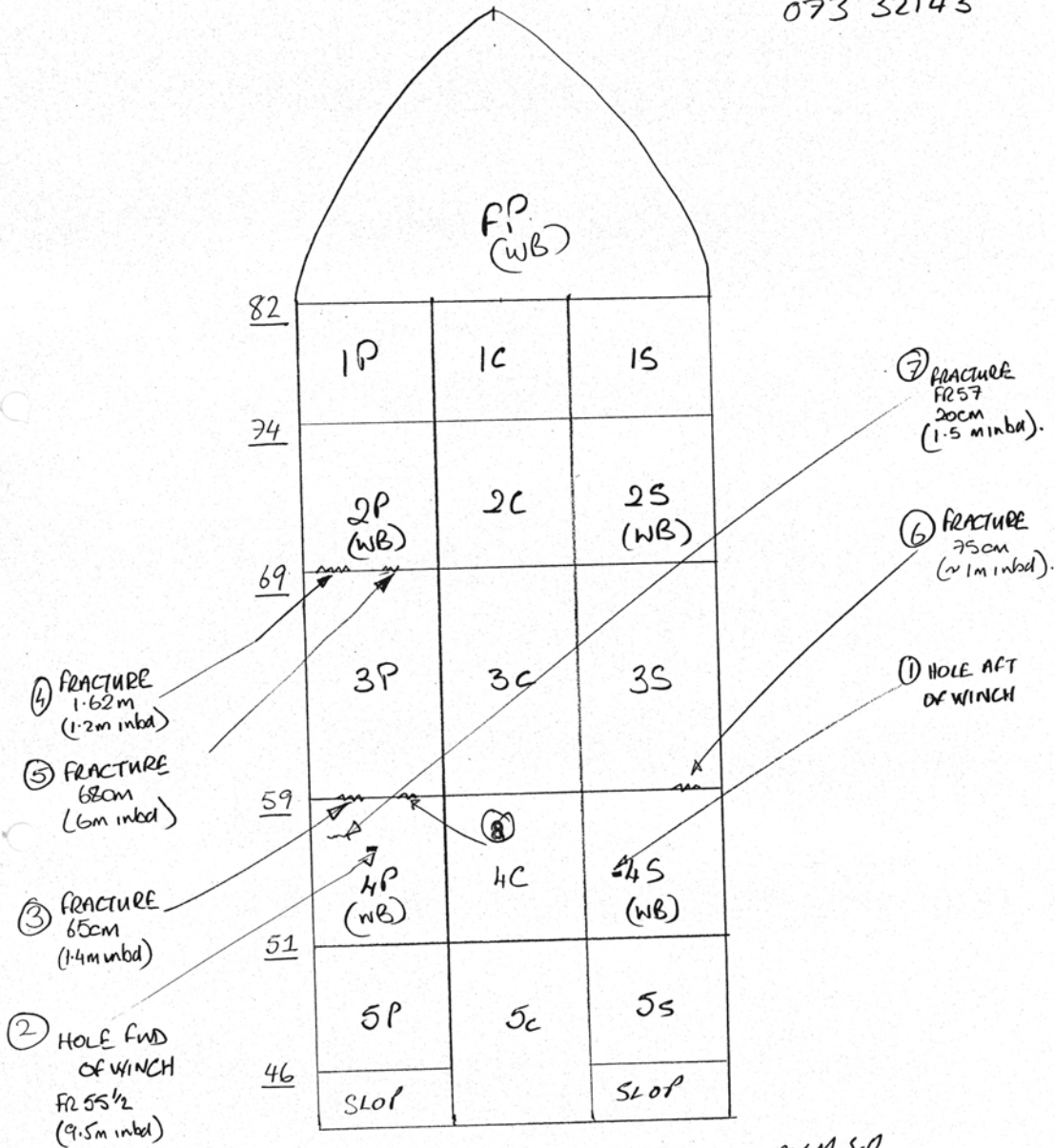
- 00 no action taken
- 10 deficiency rectified
- 12 all deficiencies rectified
- 15 rectify deficiency at next port
- 16 rectify deficiency within 14 days
- 17 master instructed to rectify deficiency before departure
- 18 ISM non-conformities : rectify non-conformity within 3 months
- 19 ISM non-conformities : rectify major non-conformities before departure
- 30 grounds for detention
- 35 ship allowed to sail after detention
- 36 ship allowed to sail after follow-up detention
- 40 next port informed
- 45 next port informed to re-detain
- 50 flag state/consul informed
- 55 flag state consulted
- 70 classification society informed
- 80 temporary substitution of equipment
- 85 investigation of contravention of discharge provisions (MARPOL)
- 95 letter of warning issued
- 96 letter of warning withdrawn
- 99 other (specify in clear text)

APPENDIX 8.5

CONTD.

AS REQUESTED

COASTGUARD
OFFICE
KILLYBEGS.
073 32143



REPORTED NEW FRACTURE FR 59 NOTSEEN BY M.S.O.

JOHN TOWER.
MSO.
17/12/03.

FIG. 8.5.2

8.6 Ship Surveyor's report on condition of vessel

PRINCESS EVA IMO NO. 7908847

INVESTIGATION INTO THE STRUCTURAL DAMAGE BY MSD SHIP
SURVEYOR.

Vessel Original Name Eastern Vanguard, KOYO Yard No 872
211 M LENGTH
36M WIDE
18.3M DEPTH
61,000 T DWT TONNES

Vessel was loaded with full load of Vacuum Gas Oil, High and Low Sulphur SG 0.9.

According to Loading Plan:	Total Cargo on board -	53,421 tonnes
	Total ballast on board -	404 tonnes

RESULTS OF VISUAL INSPECTION:

INITIAL INSPECTION 30/01/2003

DECK:

Transverse fractures found in the following locations:

- A. Port Side, Frame 59**, 1 fracture 65cm long at 1.4 metres from the top of round of gunwhale.
- B. Port side, Frame 69**, 2 fractures 1.62meters and 0.68meters long at 1.21 and 5.98 meters from the top of round of gunwhale.
- C. Port side, frame 57** 1 fracture 0.2 meters long at 1.5 meters from the top of gunwhale.
- D. Port side frame 55½**, fracture and wastage 20cm in way of winch, 9.5 meters inboard of top of gunwhale.
- E. Stbd Side Frame 59**, fracture 0.75 m long approx 1meter inboard of top of gunwhale.
- F. Stbd Side frame 55**, deck fractured and holed locally in way of steam winch.

An extended inspection of the tank internals was not carried out at this time due to the unknown levels of risk for tank entry.

From deck side it was established that the fractures were located at the ballast tank side of the transverse bulkheads between the ballast and cargo oil tanks and that the deck plating was diminished in the area of the fractures.

It was considered that the fractures were progressive in nature and the longitudinal strength of the vessel had been compromised to an unknown extent. No evidence was presented or considered to assure that the vessel was capable of withstanding any further cyclic loading without risk of progressive failure of the hull.

Meantime following consultation with the Coast Guard and local pilot, the vessel was moved to safer holding anchorage in Inver Bay.

EXTENDED INSPECTION

DECK:

The fractures as noted in the initial inspection were examined using dye penetrant examination technique with a qualified operator. The ends of the fractures were established and drill stopped.

The MCIB provided an ultrasonic technician to carry out thickness measurement of the areas relevant to the investigation but this action was not permitted on the basis that the ultrasonic equipment was not intrinsically safe for operation on the deck of loaded tanker.

It was noted that fractures, which had previously been drilled, when examined using dye penetrant, were found to have progressed beyond the original drilled hole.

These fractures were re-drilled at the ends.

Though no ultrasonic thickness measurement of the locally grooved area could be carried out, sample visual examination of the fracture plate indicated a remaining thickness of 5 to 7 mm (original thickness 15.5mm).

TANKS INTERNAL:

A general examination of the condition of the No2 and No4 port and stbd ballast tanks and forepeak tank was carried out. Access was restricted due to the loaded condition of the vessel and the access available to the top of the tanks and the items noted are those visible from the walkways in the tanks. No thickness measurement could be carried out due to the advised safety implications from the owners.

NO2 AND NO 4 PORT AND STBD BW TANKS:

An internal examination of the No2 and No4 Port and Stbd ballast tanks was carried out before the discharge of the cargo. A general examination of the tank to the extent visible from the upper walkways showed coatings in a poor condition but with the general structural condition good.

The underside of the deck plating was found to be pitted and grooved over 30% to 50% of the area.

Close up examination of the structural elements to the extent afforded by the access to the platforms and accessible stringers showed the following defects:

- The transverse fractures in the deck plate were noted to be adjacent to the transverse watertight bulkheads between the ballast and the cargo tanks.
- The fractures were on the ballast tank side of these bulkheads and located between 5 and 20 mm from the fillet weld connection.
- The deck plating in the affected ballast tanks adjacent to the bulkheads to the cargo tanks was found generally pitted and grooved. The thickness of the deck plating locally in way of the fractures ranged from about 4 to 8 mm (original thickness 15.5 mm). The fractures were all located in way of the transverse grooving.
- Deck longitudinals were found to have been repaired by inserting in several areas and it was noted that a number of these inserts were stopped about 30cm short of the bulkhead penetration of the longitudinal (fig 8.6.1). This avoids cleaning and gas freeing the adjoining cargo tank to hot work standard.
- 2 longitudinals to which there was adequate access were found corroded and holed.
- The bulkhead collar areas at the longitudinal penetration were found generally heavily corroded.

- The Inboard Bulkhead longitudinals were found to be evenly corroded particularly on the web plating and adjacent to the transverse bulkhead to the cargo tanks.

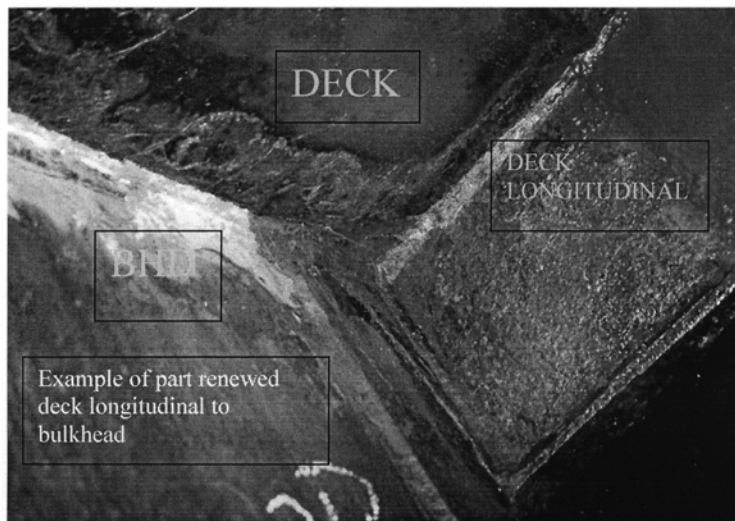


Fig. 8.6.1

General:

The Princess Eva is a medium sized tanker of 60,945 dwt.

It has a single hull, which means that there is only the steel shipside between the oil cargo and the sea. It is typical of the tanker design produced at the time of building, 1979. It has 11 cargo oil tanks which are only used for carrying cargo, 2 slop tanks, which are used to store the mixture of oil and water resulting from the cleaning of cargo tanks and 6 ballast tanks. The foremost tank at the front of the vessel called the Forepeak tank is one of the ballast tank. The arrangement of the tanks is shown in Figure 8.6.3

Ballast tanks are used when the vessel is proceeding on a passage when there is no cargo on board. This is common in oil tanker trade where most vessels will have alternate loaded voyages and ballast voyages.

When the ship is light, ballast (sea water) is pumped into the ballast tanks in order to sink the ship down in the water to immerse the propeller and also to control the trim of the vessel. Ballast tanks therefore are positioned along the vessel length so that when they are filled they do not impose high stresses on the hull of the vessel.

The tank arrangement on this vessel is 3 tanks across the vessel Port, Centre and Starboard and 5 tanks along the length of the vessel numbered from forward 1.2.3.4.5. NO 5 Port and Starboard are segregated at the after end to form slop tanks.

On this vessel the ballast tanks are forepeak tank, No2 starboard, No2 port, No4 starboard, No4 Port and aft peak tank.

The vessel is divided into tanks by longitudinal and transverse steel bulkheads. The bulkheads form an integral part of the strengthening of the vessel's hull. The deck, side shell and bottom are stiffened/ strengthened by longitudinal girders and stiffeners. The ballasted tanks on this vessel were coated from new building and the condition of the coating as described in ClassNK records was poor. There was significant local breakdown of coatings

See Midship Section Drawing 8.6.4

During the normal operating cycle of the vessel the bulkheads, which are between the cargo tanks, and the ballast tanks are loaded first on one side and then the other from loaded voyage to ballast voyage.

The cargo tanks are generally heated when the ship is carrying viscous high flash point cargo – such as vacuum gas oil. The cargo has to be heated to allow it to be pumped. Heating is generally effected by steam heating coils, which are fitted in the cargo tanks. The ballast tanks are not heated.

The pumping temperature (pour point) of this particular cargo was approx. 30 degrees centigrade.

In the loaded condition:

The ballast tanks are empty except for residues of ballast water in the bottom of the tank. The tanks can have high humidity and are thus susceptible to general atmospheric corrosion.

In the Ballast Condition:

The ballast tanks are filled, but the very top of the tank can contain an air space known as the ullage space. Ullage is the distance from the top of the tank to the upper surface of the liquid in the tank.

In some situations, where the tank is not completely full, the sloshing of the liquid across the tank due to the movement of the vessel can impose additional loads on the deck structure.

Due to the movement of the vessel and the cyclic loading of the sea waves, the area at the connection of the dividing bulkhead to the deck can experience higher stresses. These stresses are still within the allowable limits when material thickness is as original but become excessive with diminution of scantlings.

The exact process by which certain fillet welds can experience grooving corrosion, to our knowledge, is not fully understood but it is generally acknowledged that fatigue due to cyclic loading, coating breakdown, corrosive atmosphere, and galvanic action of the weld metal with the base metal, all contribute to an accelerated localised corrosion which results in a groove beside the weld.

In the original construction, the top of the bulkhead is stiff as it is supported by the connections of the bulkhead stiffeners to the deck longitudinals.

As the vessel flexes in seaway, whether in ballast or loaded, the deck structure tends to experience the highest global bending stresses. The integrity of the deck structure depends on the loads being efficiently distributed into the substantial bulkhead structure and web frames through the connections of the deck structure to these elements.

These connections consist of the deck longitudinals being bracketed to the matching stiffeners on the bulkhead and to a lesser extent, the welded connection of the deck to the bulkhead.

The deck longitudinals, which in most tankers are connected to the underside of the deck can therefore be subjected to a combination of a corrosive atmosphere and to transient or cyclic loads.

The steel used in this vessel for the deck plating and longitudinals was High Tensile Steel grade AH.

The weld of the bulkhead to the deck can progressively lose its protective coating and a combination of galvanic action and fatigue can cause a sharp groove of accelerated corrosion parallel to the weld. It would appear that this was the case in this instance.

It should be noted that similar corrosion patterns were noted in the reports on the Prestige and the Erika sinkings (fig. 8.6.2 below).

APPENDIX 8.6

CONTD.

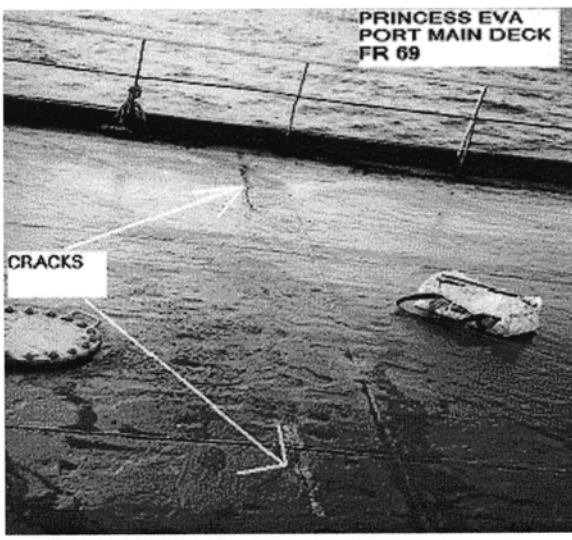
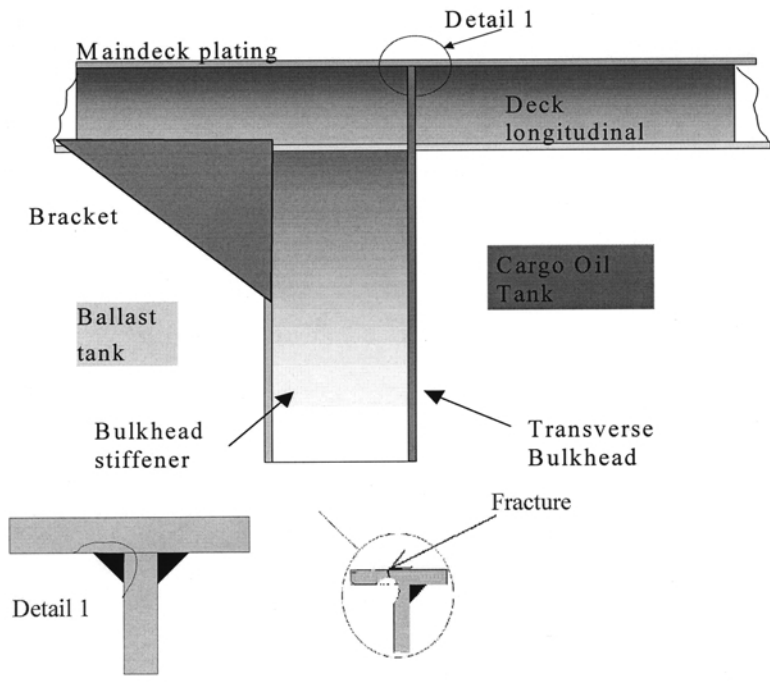


Fig. 8.6.2

It is not the intention of this report to research and make conclusions as to the mechanism of the grooving corrosion found and the probable causes are only suggested. This report does assume that the nature of this corrosion is progressive and is developed over a period of years. This report does enquire into the probable series of events by which this type of structural deficiency was allowed to progress to the extent that it led to failure (fracturing) of the deck plating with the possibility of serious global failure of the hull.

The vessels records show that this ship was operating in the coastal region of Argentina for the last 2 years and it is reported that the vessel may have operated in this area for up to 5 years prior to this voyage.

The voyage across the Atlantic was the first such voyage for the vessel in recent history.

It is suggested that slow progressing deficiencies such as those found could have progressed without indication by minor failure. Had the vessel been operating in harsh conditions such as those experienced prior to the structural failure, minor failures may have alerted the owners or class to the dangers.

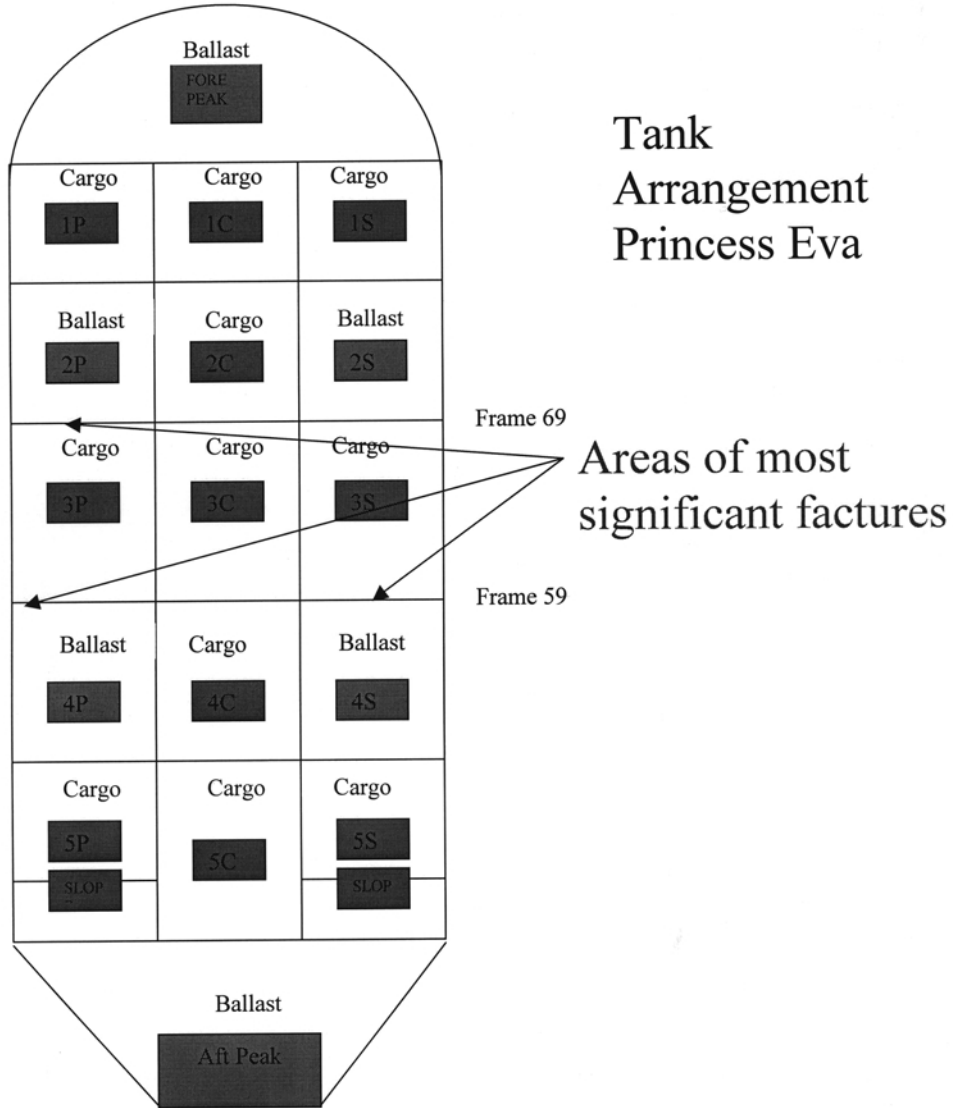


Fig. 8.6.3

Midship section (frame 58/59)

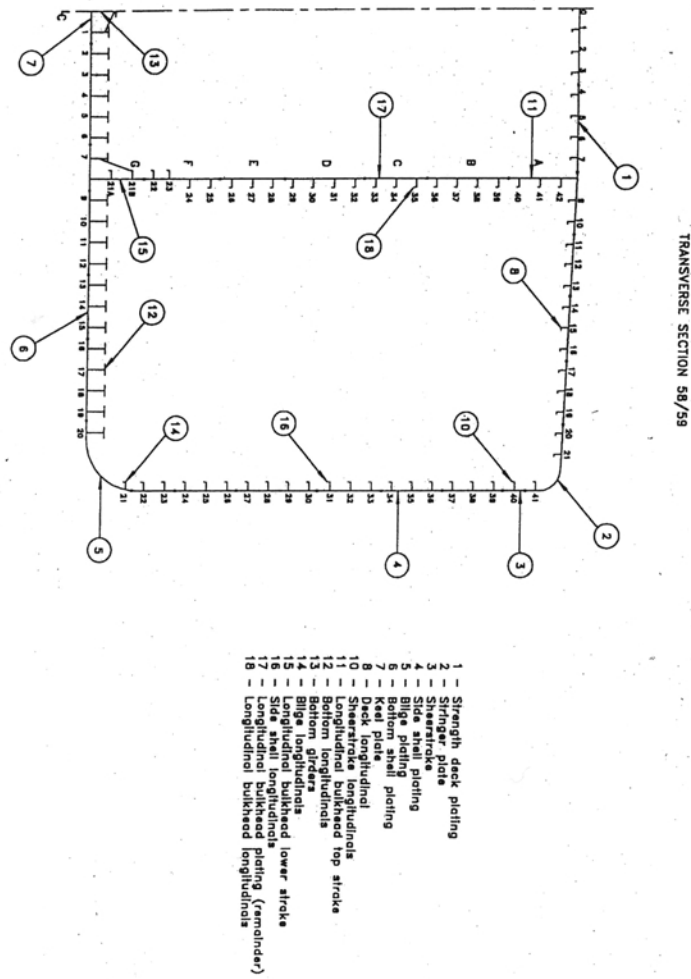


Fig. 8.6.4

8.7 ClassNK Special Survey Condition Evaluation Report 1999

ClassNK

THIS IS TO CERTIFY that the vessel has been accepted by Nippon Kaiji Kyokai on behalf of the Flag Administration



**CONDITION EVALUATION REPORT
(EXECUTIVE HULL SUMMARY)**

Issued upon completion of Special Survey (Periodical Survey)
~~Issued upon completion of Special Survey (Commence, Incomplete)~~

*SPECIAL SURVEY
(1999)*

Report No. 99TIE 282

1995. 6 (Revised)

GENERAL PARTICULARS

SHIP'S NAME: PRINCESS EVA

CLASS/ ADMINISTRATION ID No.: 802198/15949-86-CH

PREVIOUS CLASS ID No.: ---

PREVIOUS ADMINISTRATION ID No.: ----

IMO ID No.: 7908847

PORT OF REGISTRY: PANAMA

PREVIOUS NATIONAL FLAG: ----

DEADWEIGHT (METRIC TONNES): 60945

GROSS TONNAGE NATIONAL:

ITC (69): 37062

DATE OF BUILD: 18th DECEMBER 1979

CLASSIFICATION NOTATION: NS*(TOB)(ESP)MNS*

DATE OF MAJOR CONVERSION: -----

OWNER TIPTON MARITIME INC.

TYPE OF CONVERSION: -----

PREVIOUS OWNER: TRANSPETROL CARRIERS PTE LTD

- a) The survey records and documents listed below have been reviewed by the undersigned and found to be satisfactory.
- b) The hull special survey (Periodical Survey, ~~Commence, Incomplete~~) has been completed in accordance with the requirements of the Society's Rules which are in line with the present IMO Guidelines on 31st May 1999
- c) The ship's condition evaluation has been completed with this report and the following ones filed on board:

Condition Evaluation Report No. 98TIE 302 for Special Survey (Commence)
 Condition Evaluation Report No. 98TIE 386 for Special Survey (Incomplete)
 Condition Evaluation Report No. for Special Survey (Incomplete)

Condition Evaluation Report completed by	Name: JORGE E. VAZQUEZ Signature: <i>[Signature]</i>	Title: GENERAL MANAGER
OFFICE	BUENOS AIRES	DATE 31 st May, 1999
Condition Evaluation Report verified by	Name: I. Katashima Signature: <i>[Signature]</i>	Title: General Manager
OFFICE	Head Office	DATE July, 1999

Reports and documents to be referred to:

- 1) Survey Record No. 99BU0103
- 2) Thickness Gauging Record 00215/ 98 and 00269/ 99

attached/ filed on board
 attached/ filed on board
 attached/ filed on board
 attached/ filed on board
 attached/ filed on board

ClassNK

CONDITION EVALUATION REPORT (Sheet 2)

CONDITION OF CLASS/ FLAG STATE REQUIREMENTS:

As far as concerned with hull structural integrity and soundness of hull piping systems, the ship is considered fit to retain her class complying with flag state requirements for the period to the next special survey (Periodical Survey) subject to proper maintenance and to periodical surveys being carried out in accordance with the requirements of the Society's Rules which are in line with the present IMO Guidelines.

The Ship is under the recommendation(s) outstanding as follows:

1. Following items are to be re-examined and dealt with during next docking survey:

- Spot indentation btw long 34&35 in vicinity of Fr 76 at COT N° 1 (S)
- Spot indentation btw long 30&31 and btw Fr 51&52 at WBT N° 4 (P)
- Spot indentation btw long 48&49 and btw Frs 48&49 at COT N° (S)

Memoranda:

Defects considered acceptable are left as follows;

Suspect areas or other points of attention for future surveys;

1. The following suspected areas are to be examined and dealt with as necessary at each periodical survey:

a. Web face plates in all web frames at WBT N° 2 (P+S).

b. Main deck plating at following locations:

- 2nd strake inboard:
Plate position 7th, forward (S).
Plate position 7th and 8th, amidship, (P+S).
- 3rd strake inboard:
Plate position 5th forward, (P).
Plate position 9th, amidship, (P).
- 4th strake inboard:
Plate position 3rd, forward, (P*S).
- Streight deck and sheer strake plating.
Strake position 5th, at Fr.69-70, S.

Extended Annual/ Intermediate Survey due to coating breakdown;

Other notes;

ClassNK

CONDITION EVALUATION REPORT (Sheet 3)

REPAIRS CARRIED OUT:

Fore Peak Tank:

- Deck Plating renewal btw Frs. 82-83 and 84-85 (S)
- At Fr .82: Upper brackets renewal at under deck Long. No 9,10 and 14.
- At Fr.82 ½: Side stiffener at Side Long N° 41A (P&S).
 - Side bracket at Side Long N° 41 (P&S).
 - Stiffener on upper web at ship side (P)
 - Bracket at Side Long.N° 38.
- At Fr.83: Face plate on transverse stiffener on Blkhd.
 - Stiffener at CL Blkhd. (S).
 - Bracket at Side Long N° 37 (S).
- At Fr.86-87: Diagonal Stiffener at side Long N° 36 (S)
 - Stiffener adjacent to diagonal stiffener.

Water Ballast Tank N° 2 (S):

- Web face plates at Fr.72-73.
- Vertical brackets on ship(s) side at frs. 70,71,72.
- Vertical stiffener at Fr. 70.

Water Ballast Tank N° 2 (P):

- Web face plates at Frs 72,73

Water Ballast Tank N° 4 (S):

- Upper web frame in way of ship's side at Fr.58.
- Vertical stiffeners on web plate strut on Frs.52 to 57.
- Inner Long. btw Aft Blkhd and Fr.52.
- Horizontal stiffeners at upper transverse section of Blkhd. at Fr.59.
- Side Long on N°2 Girder at Fr.59.

Water Ballast Tank N° 4(P):

- welding seams completion at Side Long L39.
- Access ladders to WBTks N° 2 and 4 (P&S).
- Stuffing boxes at E/R aft blkhd.
- Automatic closing device on the door btw. E/R and Steering gear room.
- Insulation on Auxiliary Engines.
- Closing devices of four discharge valves in E/R.
- Brackets btw. Long and sea chest top plating in E/R (S).
- Derrick boom in way of derrick boom rest (P&S).
- IGS Analyzer.
- Sea water piping in E/R and in main deck.
- Cofferdam spaces in E/R.

CONCLUSION:

The Special Survey as reported in the record referred in the sheet 1 is considered reasonable and satisfactory to be credited in the light of the Society's Rules which are in line with present IMO Guidelines.

The ship is evaluated on her structural condition/ its residual scantlings and verified as stated in the sheet 2 of this report.

ClassNK

CONDITION EVALUATION REPORT (Sheet 4)

SPECIAL SURVEY REVIEWED THIS TIME:

The survey has been mainly done from **21st May** to **31st May 1999**
including ----- days in drydock at **Rio Gallegos - Argentina.**

TANKS, HOLDS AND AREAS THAT UNDERWENT CLOSE-UP SURVEYS:

TANK/ HOLD	AREAS CLOSE-UP SURVEYED
Water Ballast Tank 2 (S)	All web frames, transverse and longitudinal bulkheads.
Water Ballast Tank 2 (P)	All web frames, transverse and longitudinal bulkheads.
Water Ballast Tank 4 (S)	All web frames, transverse and longitudinal bulkheads.
Water Ballast Tank 4 (P)	All web frames, transverse and longitudinal bulkheads.

THICKNESS MEASUREMENTS:

Thickness Measurement was carried out in **JULY 98** by **ULTRALUX SRL** qualified by the Society.
18 AUG 98

Summary of the locations where measured:

- | | |
|--|---|
| MAIN DECK PLATING
TRANSVERSE SECTIONS
SIDE WBT No2 (P) AND (S)
SIDE WBT No 4 (P) AND (S)
FORE PEAK TANK
AFT PEAK TANK
WIND & WATER STRAKES.
CARGO TANK N° 1 (P) AND (S)
CARGO TANK N° 3 (P) AND (S)
CARGO TANK N° 5 (P) AND (S)
SLOP TANKS (P) AND (S)
CARGO TANKS 1,2,3,4,5 CENTER
BOTTOM SHELL PLATING.. | TRANSVERSE SECTIONS
WIND AND WATER STRAKES
BOTTOM SHELL PLATING
CARGO TANK No. 1 (P) & (S)
CARGO TANK No. 3 (P) & (S)
CARGO TANK No. 5 (P) & (S)
SLOP TANKS (P) & (S)
CARGO TANK No. 1 (CENTER)
CARGO TANK No. 2 (CENTER)
CARGO TANK No. 4 (CENTER)
CARGO TANK No. 5 (CENTER) |
|--|---|

ClassNK

CONDITION EVALUATION REPORT (Sheet 5)

Extract of Thickness Measurements

Position of substantially corroded Spaces/ Areas ¹⁾	Thickness Diminution (%)	Corrosion Pattern ²⁾	Remarks ³⁾
MAIN DECK	20	C	
WEB FACE PLATES IN WBT 2 AND 4 (P&S)	20-30	C	

Remarks:

- 1) Substantial corrosion, i.e. 75 – 100 % of acceptable margins wasted
- 2) P = Pitting
C = Corrosion in general
- 3) e.g., Ref. attached sketches

ClassNK

CONDITION EVALUATION REPORT (Sheet 6)

Tank/ Hold Corrosion Prevention Systems

Space ID ¹⁾	Corrosion Prevention System ²⁾	Coating Condition ³⁾	Remarks ³⁾
WBT 2 (P)	C+A	FAIR	
WBT 2 (S)	C+A	FAIR	
WBT 4 (S)	C+A	FAIR	
WBT (P)	C+A	FAIR	

Remarks:

- 1) Tanker : All water ballast tanks and combined cargo/ ballast tanks to be listed.
Bulk Carrier : All ballast tanks and cargo holds to be listed.
- 2) C = Coating A = Anodes NP = No Protection
- 3) Coating condition according to the following spot rusting
 - GOOD : condition with only minor spot rusting.
 - FAIR : condition with local breakdown at edges of stiffeners and weld connections and/ or light rusting over 20% or more of areas under consideration, but less than as defined for POOR condition
 - POOR : condition with general breakdown of coating over 20% or more of areas or hard scale at 10% or more of areas under consideration.

CONTD.

8.8 ClassNK letter to MSD

ClassNK NIPPON KAIJI KYOKAI
4-7, KIOI-CHO, CHIYODA-KU,
TOKYO 102-8567, JAPAN.

Department of Communications Marine and Natural Resources
Marine Surveyor's Office
26-27 Eden Quay
Dublin 1
REPUBLIC OF IRELAND
Attention: Mr. Brian Hogan, Chief Surveyor

Our Ref: 03TZ **02689** PH

Date: March 4, 2003

Dear Mr. Hogan

First of all I would like to express my sincere appreciation for your good and snap decision to have allowed M/T "PRINCESS EVA" to enter into a port of refuge, Kellybegg. She might have followed the way the Prestige sank, if she was not allowed to enter into the refugee port.

I have been informed by Mr. M. Kikusui, our Principal Surveyor at London office, that she is now being temporarily repaired for the voyage to the repair yard in Brazil. I have instructed Mr. T. Matsui, our Manager of Survey Department, to arrange our Hull Expert to be on board in Brazil from our Technical Investigation Department. Taking this opportunity, we will investigate thoroughly her damages in order to improve our procedural and technical requirements of repairs, especially for aged ship's wasted areas.

Again I would like to thank you to accept visit of our staffs to your office in spite of such a short notice. I am not sure whether this is the first time or not for us to visit your office. I hope this visit to help you to understand us, ClassNK. Because our commitments to European maritime community are increasing year by year, I would like to exchange mutual concerns on ship safety and marine environment protection with more EU governments.

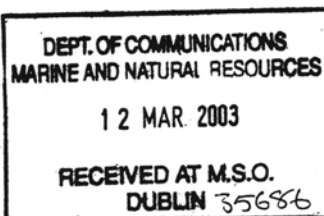
I look forward to seeing you soon.

Yours sincerely,



Yukio Tsudo

Executive Vice President



8.9 Extract from vessel's SOPEP manual

Document Title: SHIPBOARD OIL POLLUTION EMERGENCY PLAN	Issue: 02.15.00
Document Section: APPENDIX C - EMERGENCY PROCEDURES	Rev: 0
	Page: 14

HULL FAILURE

Action to Be Taken	Master	Chief Engineer	Chief Officer	Watch Officer	Local Affiliate	Ref.
Report Casualty (internal)				●		
Alert vessel's crew-account for and ensure their safety			●	●		
Implement emergency response plan procedures	●					
Initiate damage control measures		●	●			
Isolate cargo and fuel pipeline sources to affected tanks		●	●			
Determine vessel's structural integrity (damage stability and hull stress)		●	●			
Conduct tank/void gauging			●			
Initiate required notification of agencies and company	●					
Determine need for commercial salvage assistance	●	●	●			
Initiate oil spill removal and verify containment			●			
Coordinate shore-side clean-up support (if applicable)	●				●	
Ascertain cause of casualty	●	●	●			
Determine corrective action	●	●	●			

APPENDIX 8.10

CONTD.

8.10 Comparative Thickness gaugings taken in 2000 and 2001

RONA

REPORT ON THICKNESS MEASUREMENT OF ALL DECK PLATING, ALL BOTTOM SHELL PLATING OR
SIDE SHELL PLATING

(Annex 2)

Ship's Name:	M/T PRINCESS EVA		IMO: 7908847	Report Nr: 291/2001
S STRAKES POSITION	D			

PLATE POSITION	No. or Letter	Or. Thk.	FORWARD READING				AFT READING				Mean Diminution %	
			Gauged P.	Gauged S.	Diminution P mm	Diminution P %	Diminution S mm	Diminution S %	Diminution P mm	Diminution S %		
12th forward												
11th												
10th												
9th												
8th												
7th												
6th												
5th												
4th												
3rd												
2nd												
1st												
Amidships												
1st aft												
2nd												
3rd												
4th												
5th												
6th												
7th												
8th												
9th	D9	13,5	13,0		0,5	3,7						
10th												
11th												
12th												

Operator's Signature	Surveyor's Signature
MARCOS TERCENIO DA SILVA	ENGº NAMIO/ALEXANDRE / GRIMALDI
FOPM/Trm1	RONA .178 st 109, Amaraí Peixoto ave. 24020-945, Niterói . RJ . Brazil . phone/fax (021) 2 621/8727

NOTE: **AVERAGE BETWEEN SPOTS** ↗

RONA REPORT ON THICKNESS MEASUREMENT OF ALL DECK PLATING, ALL BOTTOM SHELL PLATING OR SIDE SHELL PLATING

Ship's Name: **M/T PRINCESS EVA** IMO: **7908947** Report Nr: **291/2001**

STRAKES POSITION

PLATE POSITION	No. or Letter	Or. Thk.	FORWARD READING			AFT READING			Mean Diminution %	
			Gauged P.	S.	Diminution S mm %	Gauged P.	S.	Diminution P mm %	P	S
12th forward										
11th										
10th										
9th										
8th										
7th										
6th										
5th										
4th										
3rd	H3	15.5	15.0	0.5	3.2	15.1	0.4	2.6	2.9	
2nd										
1st										
Amidships										
1st aft										
2nd										
3rd										
4th										
5th										
6th										
7th										
8th										
9th										
10th										
11th										
12th										

Operator's Signature: **MARCOS TERCENIO DA SILVA** FCSM Tm1
 Surveyors Signature: *[Signature]*
 NOTE: **AVERAGE BETWEEN SPOTS**
 ENGº NAMIO/ALEXANDRE / GRIMALDI
 RONA .178 sl 109 , Amarel Peixoto ave. 24020-075, Niterói . RJ . Brazil . phone/fax (021) 2 621/8727

TM6-T
Page 5 of 5

Report of THICKNESS MEASUREMENT OF MISCELLANEOUS STRUCTURAL MEMBERS


Ship's Name: M/T PRINCESS EVA Class Identity No: 802186 Report No: 00307700


STRUCTURAL MEMBER: MAIN DECK PLATING

LOCATION OF STRUCTURE: MAIN DECK

ULTRALUX S.R.L.
Moussy 1040 Ip. of. 2 :
(1162) Buenos Aires
ARGENTINA
Tel./Fax: (+54-11) 4302-4605

Description	Original Thickness mm.	Gauged		Diminution P		Diminution S		Max. Allow. Diminution mm.
		P	S	mm.	%	mm.	%	
Plate A 2nd Strake Inboard 7th Fwd. (Fwd Read Stbd)	12,00		9,70			2,30	19,17	8,60
Plate B 2nd Strake Inboard 7th Aft. (Aft Read Port)	15,50	13,00		2,50	16,13			11,40
Plate C 2nd Strake Inboard 7th Aft. (Fwd Read Stbd)	15,50		12,50			3,00	19,35	11,40
Plate D 2nd Strake Inboard 8th Aft. (Fwd Read Port)	13,50	11,20		2,30	17,04			9,60
Plate E 3rd Strake Inboard 5th Fwd. (Aft Read Port)	13,50	10,90		2,60	19,26			9,60
Plate F 3rd Strake Inboard 9th Aft. (Aft Read Port)	15,50	12,70		2,80	18,06			11,40
Plate G 4th Strake Inboard 3rd Fwd. (Aft/Fwd Read Stbd)	15,50		13,10			2,40	15,48	11,40

Operators Signature: 

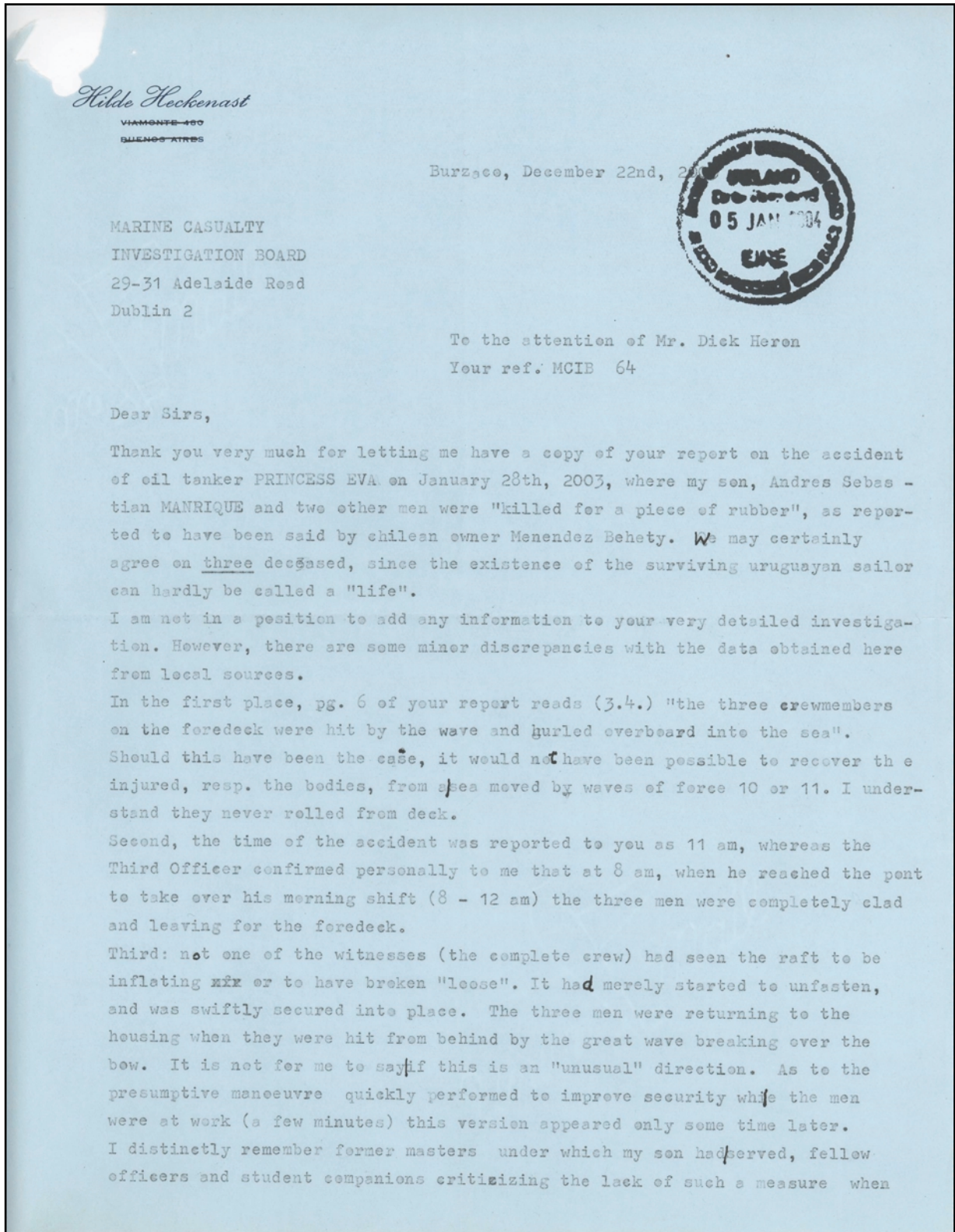
Surveyors Signature: 

SKETCH

9. INDEX OF CORRESPONDENCE

9.1.	Ms. Brunilda Heckenast (letter dated 22 December, 2003)	85
	MCIB response	87
9.2.	Ms. Brunilda Heckenast (letter dated 11 January, 2004)	88
	MCIB response	88
9.3.	Mr. Yukio Tsuda, Executive Vice-President, ClassNK	89
	MCIB response	99

9.1. Ms. Brunilda Heckenast (letter dated 22 December, 2003)
MCIB response



Hilde Heckenast

WAMONTE-490
BUENOS AIRES

-2-

they reunited at our home after the cemetery services.

Last but not least I would like to point out that the cracks "casually" discovered as soon as the boat was at anchor in Killibegs, were most probably perfectly known to the authorities before that time.

To the amusement of the whole crew, not lacking however a certain amount of respect, my son thoroughly inspected the deck at least once a day, no matter how heavy the weather conditions. His capacity probably exceeded the task of an ordinary head officer, since he was to receive his diploma of engineer specialised in mechanics from the State University this very year. Besides, he always had himself accompanied by the chief engineer, in charge of the machinery department.

It strikes even me as odd, ignorant as I am of this métier, that two skilled technicians should have overlooked such bad failures, only to be so easily discovered by the untrained eye of a plain sailer the next day.

Unfortunately I could not get in touch with the engineer; the local agents of RAVENSCROP painfully prevented any contact with potential witnesses of their staff. As I heard, the chief was promoted to a supervising position immediately after the accident, and sent abroad.

Notwithstanding, the other deck officers communicated with me as soon as they terminated their contracts. What follows is only hearsay with no guarantee of objectivity, as is too all the data obtained from some unfaithful employees who were only too eager to gossip in return to some dollars.

Please forgive me for abusing of your time and patience, but try to understand that I have lost my only son at the age of 29, and with a brilliant future. At least, I wish to know as much as possible as to why and how this could happen.

Captain Daniel RAGO took over command from Cap. Julio Martinez at Copenhagen. He seems to be a young and not very experienced seaman, who has never before had any contact with the Northern Seas, in no position whatsoever, winter or summer. Highly insecure himself, he was furthermore bound to the authority of an "inspector" appointed by the owners. This was a man of Indian nationality, whose task it was to secure the maximum profit at the minimum expense.

Apparently, it was his decision to fasten the raft immediately, without waiting for a more calm time, when the operation could have been performed at a lower risk. Rago was so shocked after the accident that he secluded himself in his cabin and did not show up until they reached port.

Due to the difference in time (you are 3 hours ahead of Buenos Aires) it was

Hilde Heckenast

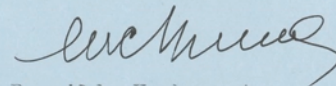
WARMONTE 480
BUENOS AIRES

-3-

decided to wait until the people in Argentina took up work in order to ask for instructions of the medical team in charge in Argentina (this may account for the difference of 3 hours in reporting the accident to your authorities). In the meantime, my son was conscious and talked normally. As it seems he was the only man on board whose English was fluent enough to understand eventual measures of help to be provided by your emergency staff. No one asked. Besides, as mandatory for all deck officers, my son had duly absolved his First Aid course. Apparently no one else did, because he was administered 2 aspirins and a little quantity of alcohol (0,3 appeared in his blood) in spite of the heavy blow on his forehead. After this he slept for over an hour and when he came to, his condition had deteriorated to the point that a second call to Dr. Garcia in Buenos Aires proved necessary. His diagnosis: aneurism. His prognosis: wait for him to die. This event occurred within the following hour or so. Yet, no traces of an aneurism were found by Dr. Sicher, a forensic specialist to whom I submitted the very accurate autopsy received from the Coroners Office in Denegal.

Please let me express my sincere gratitude for the respect and consideration you, as also did Father Sharkey who performed the funeral at Killebegs, are giving to be unfortunate loss of human lives, regardless of the fact that they came from an underdeveloped country, both in welfare and morals. Your attitude makes me feel part of a civilized world. Thank you very much for it.

Very truly yours



Brunilda Heckenast
mother of Andres Manrique

Perravicini 235
Burzaco, (1852)
Argentina

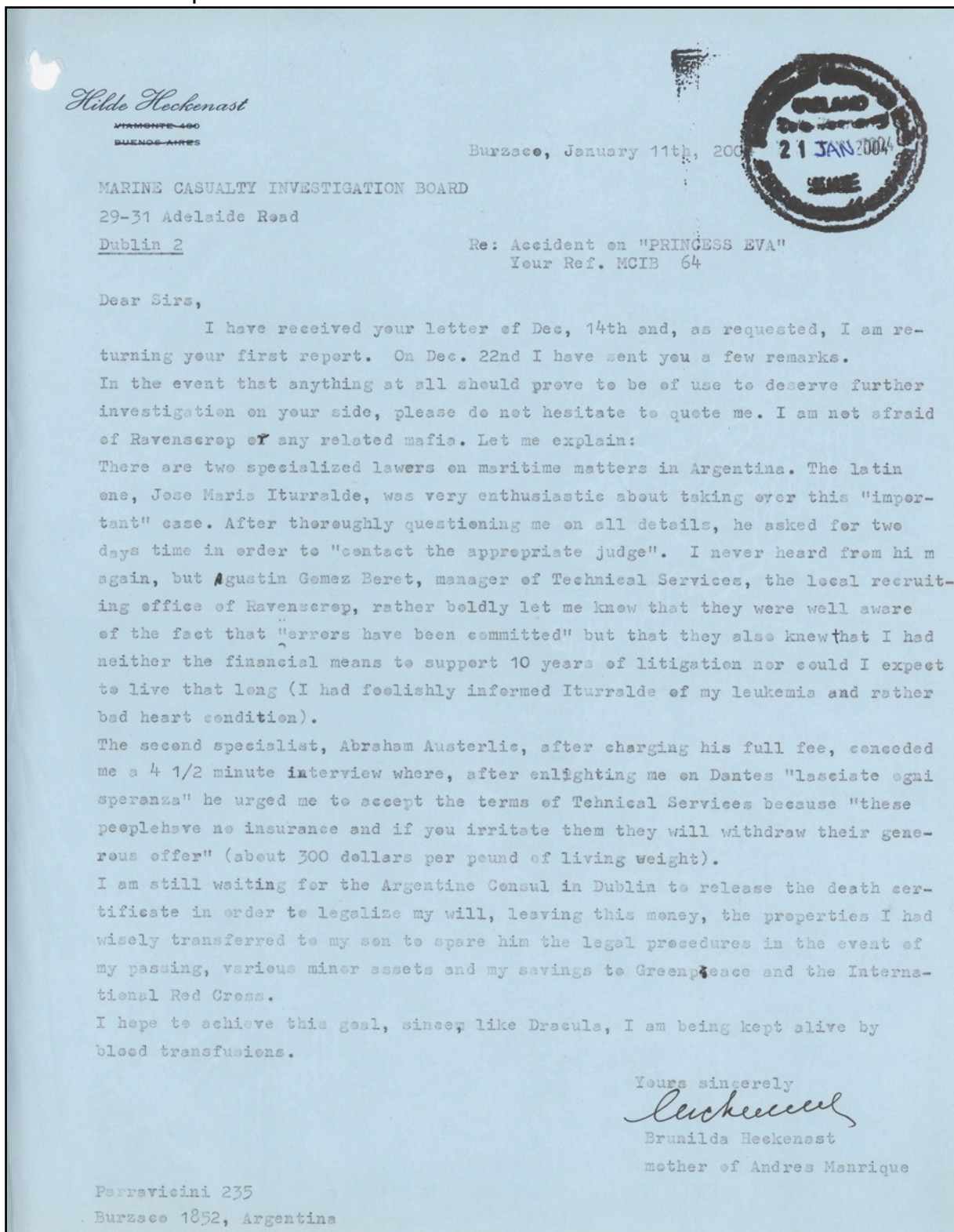
MCIB RESPONSE

The MCIB notes the contents of this letter and has amended the Report where appropriate. The MCIB points out that the liferaft incident, which occurred on the "Princess Eva", was outside Irish territorial waters and was not within the remit of the MCIB to investigate in accordance with its statutory obligations under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000. The MCIB can only assume that this incident will be investigated by the appropriate Flag State of the "Princess Eva".

CORRESPONDENCE

CONTD.

9.2. Ms. Brunilda Heckenast (letter dated 11 January, 2004) MCIB response

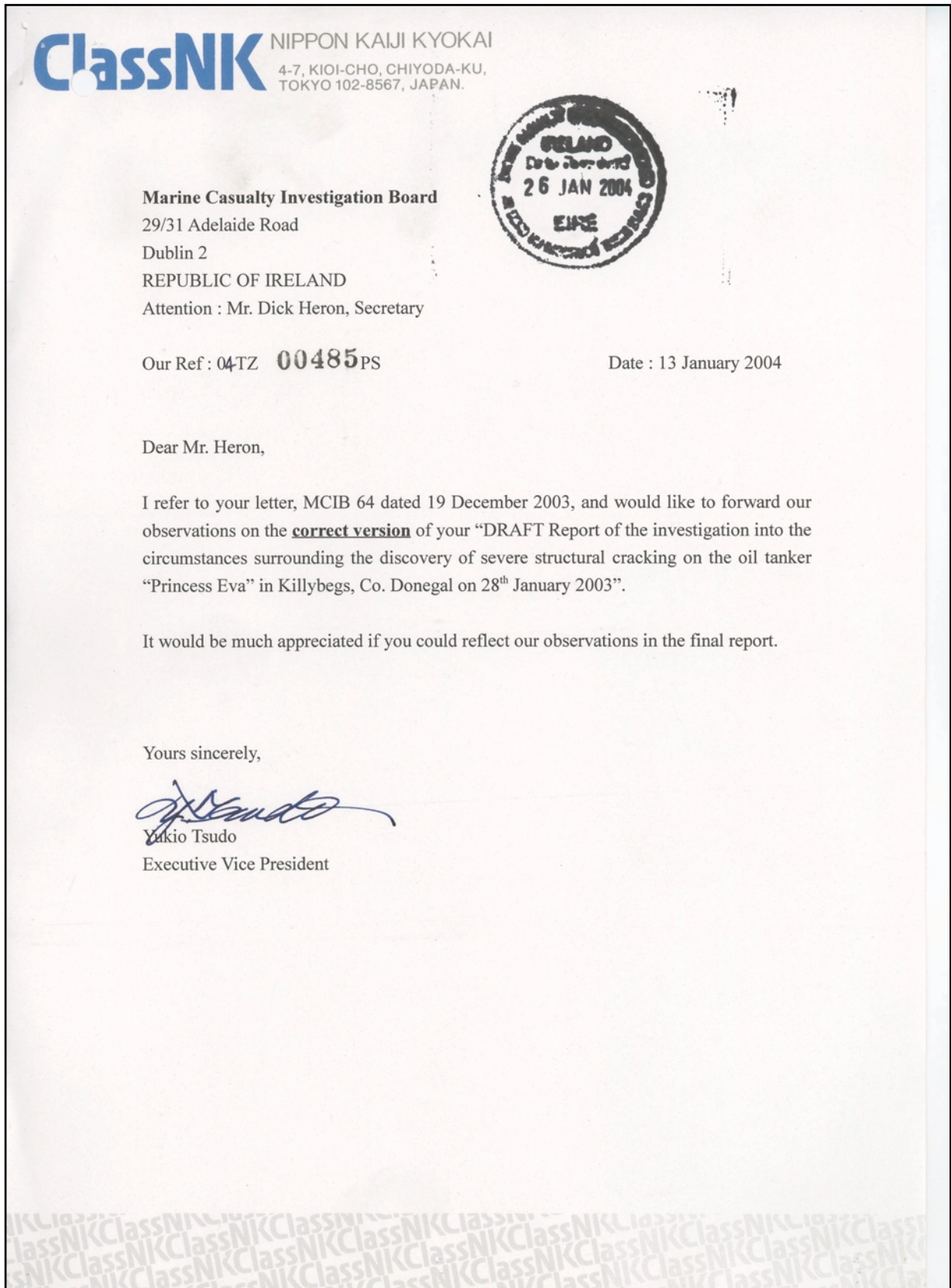


MCIB RESPONSE

The MCIB notes the content of this letter and would convey its sympathy to Mrs. Heckenast on the tragic loss of her son, Andres Manrique, and to the families of the other crewman who also lost his life.

9.3. Mr. Yukio Tsuda, Executive Vice-President, ClassNK

89



General

Having been given an opportunity to respond, ClassNK reviewed the DRAFT report with the following points taken into consideration and comments made in the subsequent pages;

1. Any expression without objective grounding should not be used for the purpose of this report.
2. In particular, Paragraph 4.3 "History of survey" was carefully reviewed and traced to ensure consistency with the actual class survey records.

Section 1 Synopsis

(No observation)

Section 2 Factual Information

Particulars of vessel

Name: **Princess Eva**
 Previous Names: ~~Emerald Sun, Eastern Vanguard, Eastern Light~~
Emerald Sun, Eastern Light, Eastern Vanguard
 IMO number: 7908847
 Flag: Panama
 Builder: Koyo Dockyard Co., Japan
 Overall length: 217.73 m
~~Extreme~~ **Moulded** breadth: 36 m
 Moulded depth: 18.3 m
 Gross tonnage: 37062 tonnes
 Net registered tonnage: 16891 tonnes
 Deadweight tonnage: 60945 tonnes
 Main propulsion: Semt-Pielstick 18PC2-5V400, 4-stroke driving single
 controllable pitch propeller
 Auxiliary machinery: 2 X diesel generators, 1 X 38 tonne/hr boiler,
 1 X shaft alternator
 Vessel keel laid: ~~18 Sept. 1979~~ **18 Dec. 1979**
 Vessel launched: 31 March 1980
 Vessel delivered: ~~01 June 1980~~ **30 June 1980**
 Register owner: Tipton Marine Inc., Plaza Bancomer, Avenue Nicanor A. de
 Obarrio, Apartado 7412, Panama 5, Republic of Panama
 Manager (ISM): Ravenscroft Shipping Inc, 3251 Ponce de leon Bvrd., Coral
 Gables – Florida 33134, USA
 Class society: Nippon Kaiji Kyokai – ClassNK
Safety Management Certificate (ISM) : Bureau Veritas

(Observation on Particulars of Vessel)

- Corrected in accordance with our databases.
- Inserted the name of body issuing the Safety Management Certificate.

Section 3 Events leading up to detention of vessel

(No observation on the sub-paragraphs 3.1 to 3.6)

3.7 Inspection and detention of the vessel

A Port State Inspection was conducted while the vessel was at anchor, on the 30th January 2003. The vessel was found to be unseaworthy and was detained (See Appendix 8.5.1 & 8.5.2). The three most significant cracks were noted on the maindeck were at:

(Observation) :

- *It is advisable to clarify exactly who judged the vessel as unseaworthy, e.g. "The vessel was judged to be unseaworthy by the PSC officer and was detained (See Appendix 8.5.1 & 8.5.2)"*
- *The wording "most significant" is not an objective expression.*

Section 4 Events following detention of the vessel

4.1 Initial response

(No observation)

4.2 More detailed examination of the hull failures

A Naval Architect (Ship Surveyor) from the MSD was instructed by MCIB to carry out an examination of all accessible hull areas. His report is contained in annex 8.6. His inspection was limited by the still loaded condition of the vessel and having access only the permanent walkways provided internally in ballast tanks. Close up inspection of much of the ballast tank internals was impossible. In general, it was found that the coatings of the ballast tanks were severely degraded. The underside of the deck plating in these tanks was pitted and grooved over a considerable extent (30% - 50%) of the area.

(Observation) :

- *The wording "severely" is not an objective expression.*
- *It is advisable to clarify exactly who judged the grade of pitting/grooving, e.g. "The*

MSD surveyor reported that the underside of the deck plating(30% - 50%) of the area."

4.3 History of survey

Special Hull Survey 1999

The last special hull survey was completed on 31 May 1999. ClassNK surveyors conducted the survey in Argentina. Thickness measurements used in the evaluation of the hull had also been taken, also in Argentina, during the months of July/August 1998. The measurements were taken by a ClassNK approved contractor Ultralux SRL. The Condition Evaluation Report (Executive Hull Summary) produced following the special survey at Appendix 8.7.

Ballast tanks No.2 P&S and No.4 P&S are noted as having been "areas close-up surveyed".

Repairs carried out in these tanks, during the special survey, were of a minor nature, including:

(Observation) :

The wording "minor nature" is not based on objective grounds.

WBT No.2 P&S – web frame face plates at frames 72, 73 (both) and vertical brackets and stiffeners at frames 70, 71 & 72 (Starb only)

WBT No.4 P&S – various vertical and horizontal stiffeners.

No repair work was carried out at frames 59 or frame 69 (location of deck fractures at detention Killybegs).

In the thickness measurements, the deck longitudinals (No.20 & 21 port) at frame 58/59 were noted to have a spot diminution of 19%. This was the site of one deck fracture.

Certain areas of the vessel were highlighted as "points of attention for future survey". Included in these areas were the web frames in WBT No.2 and various maindeck plating. The protection coating condition of all these tanks at that time was described as "Fair". A separate note described the web faceplates in WBT 2 & 4 (P&S) as having 20-30% diminution with "corrosion in general".

(Observation) :

This description is contradictory to the results of the hull survey in 1999.

All structural members exceeding the allowable diminution level were renewed at that

time. See, the abstract of thickness measurement record signed by the attending surveyor as attached, and all structural members over 20% diminution with the remark "P" were renewed (placed in order).

Some structural members in No.2 WBT(P&S) and main deck plates were found with substantial corrosion (corrosion in excess of 75% of allowable margins but within allowable limits). As required according to the IACS unified requirements, the attending surveyor nominated these members as a "Suspect Area" for attention at future surveys and requested an examination at each periodical survey (Class Survey Record, 99BU0103). These "Suspect areas" were also shown in the Condition Evaluation Report on page 2 (Appendix 8.7).

Annual survey Load line & Safety Construction 2000

In this survey, No.2 WBT (P&S) and the deck plating "noted" in the Special Survey were examined and reported as "no deficiency". It was however noted on the same form (CLB) that due to "progressive deterioration of paintwork and thickness diminution" previous special watch should be kept on these areas. Thickness measurement of nine deck strakes (individual sections of plating) revealed that diminution was typically 15-20%. None of the plates checked were in way of (Killybegs) deck fractures. No repair/remedial work was recorded in this survey.

(Observation) :

Thickness measurement had not been required by the rules, and no report was submitted to our Society. Please confirm the date of the thickness measurement report.

Intermediate Survey and Drydocking 2001

Two reports pertain to this survey. The initial survey/ inspection was conducted in water apparently at the request of the owners to ascertain the likely scope of work due during the drydocking. The survey was conducted in Argentina on the 10/11 August 2001. The scope of the survey seems to have been limited to the Aft Peak tanks, No.2 WBT (P&S) had No.4 WBT (P&S). A 5page report was subsequently produced with quite detailed list s of deficiencies detected in the ballast tanks. It was recommended that all WBT deficiencies noted were to "be permanently repaired by next docking survey by 30 August 2001". Thickness measurement of some of the "noted" areas was also carried out. These measurements recorded thickness of similar areas on deck plating as those taken a year earlier. discrepancies exist between the readings taken on the same strakes, e.g. "plate H" in 2000 had 14% diminution, in 2001 it had 3%; "plate D" in 2000 had



17% diminution, in 2001 it had 4%. No replacement of deck plating is recorded in class records for this period.

The second report is on the actual drydocking for Intermediate Survey. It was conducted in Rio de Janeiro between 18/08/01 and 10/10/01.

A close up survey was conducted in No.2 & 4 (P&S) WBT's by using permanent access and also an inflatable boat.

The level of detail of the repairs, contained in this report, is vague and imprecise

(Observation) :

The wording "vague and imprecise" is not an objective expression.

Annual Loadline and Safety Construction 2002

The required Annual Loadline and Annual Safety Construction surveys were conducted in Argentina between the 14/08/02 and 27/08/02. these were the last surveys undertaken by ClassNK prior to the vessel being detained in Killybegs. The afore-mentioned note (recommendation concerning the ballast tanks No.2 and No.4) does not appear on the Form ATT attached to this report and there is no evidence in the report that the tanks mentioned in the "note" were examined. The two ClassNK surveyors who conducted these surveys may have been unaware of the recommendation at the time of survey. However, both of them had carried out the pre-docking survey (to Intermediate Survey 9 in 2001), so it is reasonable to assume that they were aware of the general condition of the tanks and the problems of coating breakdown, etc. No other remarks on the condition of the hull were made in the report of this survey.

(Observation) :

This description is contradictory to the results of the survey in 2002. Internal inspections in No.2 WBT and No.4 WBT were in fact carried out as required by the NOTE in the previous Survey Record and the rules. Evidence is shown in Sheet No. H/2/2 of the Class Survey Record 02BU0118. Also, this note was carried over for future surveys as a NOTE in the Form ATT.

4.4 Response of Flag State

(No observation)

4.5 Response of Class Society

Initially the Class society – ClassNK - , at the request of the managers of the vessel in Argentina, sent Mr. P. Southern, a local (Irish) non-exclusive surveyor, to investigate the crew report of hull fracture. He boarded the vessel on the 30th January 2003, and remained on board during the time of the Port State inspection and detention. The Principal Surveyor from the London Office of ClassNK, Mr. M. Kikusui, joined him, the next day. Later, ClassNK also sent Mr. H. Suga, a naval Architect from the London office to supervise the temporary repairs. During the period of detention of the vessel, Mr. Y. Tado, a Vice President of ClassNK in Tokyo, came to Ireland for a meeting with the Chief Surveyor of the MSD. In a follow up letter, he expressed his thanks to the Irish Maritime Authorities for accepting the vessel into our waters and preventing a possible “Prestige” type pollution incident (see Annex 8.8). In general, ClassNK cooperated fully and in a professional manner with the Marine Safety Directorate during the detention.

(Observation) :

Mr. H. Suga, is not a “supervisor” but was the responsible surveyor to conduct the survey for class maintenance. He conducted the survey on the temporary repairs for maintenance of class of the vessel.

4.6 Control of pollution threat

(No observation)

4.7 Transshipment of cargo

(No observation)

4.8 Temporary repair

Following successful completion of the cargo transfer, work commenced to clean and free all gas from the cargo tanks on the Princess Eva. ClassNK submitted their proposed temporary repairs for approval by MSD. The scope of work involved:-

(Observation) :

The managers of the ship proposed their plans for temporary repairs to the MSD and ClassNK for approval.

4.9 Release from detention

(No observation)

4.10 Final repair of vessel

(No observation)

Section 5 Findings

5.1 Condition of the ship

(No observation on 5.1.1 to 5.1.4)

5.1.5 The Flag State, Panama, had delegated its responsibility for issue of statutory certificates to ClassNK. The evidence from the survey reports indicates that, while ClassNK were aware of the problem (and extent) of corrosion within the ballast tanks, at least since last special survey in 1999, insufficient attention was paid to the problem areas in subsequent surveys and hence appropriate corrective action was not taken.

(Observation) :

This description is contradictory to the results of surveys in 2000, 2001 and 2002. See the comment on paragraph 4.3.

5.2 Threat to environment

(No observation)

5.3 Outcome of the incident

(No observation)

Section 6 Recommendations

(No observation)

Section 7 Photographs

(No observation)

Section 8 Annexes

(No observation)

MCIB response

MCIB RESPONSE

Item No.

2. Factual Information: The MCIB notes and has made appropriate amendment.
- 3.7 Inspection & Detention of Vessel: As the Report states the vessel was judged to be unseaworthy by the Port State Control Officer from the Maritime Safety Directorate, whose judgement was found to be correct and the PSC Officer consequently detained the vessel. The PSC Officer noted the 3 most significant cracks and therefore the Report remains unaltered in this regard.
- 4.2 More Detailed Examination of the Hull Failures: The MCIB notes and has amended the Report accordingly.

Observation No. 1: The MCIB investigator considered these to be of a minor nature and the Report remains unaltered in this regard.

Observation No. 2: The MCIB has clarified the Report in response to this.
- 4.3 Special Hull Survey 1999: The MCIB investigator considered these to be of a minor nature and the Report remains unaltered in this regard.

Annual Survey Load Line & Safety Construction 2002: The MCIB has appended the Thickness Reports of 2000 and 2001 in Appendix 8.10.
- 4.3 Intermediate Survey & Drydocking 2001: The MCIB stands over this description.
- 4.3 Annual Loadline & Safety Construction 2002: The MCIB notes and has amended the Report accordingly.
- 4.5 Response of Class Society: The MCIB notes and amends the Report accordingly.
- 4.8 Temporary Repair: The MCIB notes and amends the Report accordingly.
- 5.1 Condition of Ship: The MCIB refers ClassNK to their surveys of 1999, 2000 and 2002.

