

To all members of the HNS
Correspondence Group

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Dear colleagues

HNS Correspondence Group – Incidents Paper

Further to my letter of 29 July on a comparison of States' implementing legislation I now enclose a draft paper on HNS incidents for consideration and submission to the 85th session of the IMO Legal Committee in October. This paper has been drafted following a suggestion at the 84th session of the Legal Committee in April 2002 that the HNS Correspondence Group should document the reasons why Governments should join the HNS regime, as well as the nature of the problems encountered by States in ratifying the Convention (see para. 122 of document LEG 84/14). The latter point has generally been covered by the overview, the work undertaken by the IOPC Fund on the development of an electronic database to identify and report the contributing cargoes, as well as further work of the Group as posted on the HNS website. I shall also cover the discussions at LEG 85 on the work of the HNS Correspondence Group in this letter.

HNS Incidents Paper to be submitted to LEG 85

The enclosed paper contains a brief overview of a small number of specific incidents involving HNS cargo, primarily around the UK coastline (simply due to the more detailed data on UK incidents that we had access to). Further contributions to this overview are invited. The paper also includes a list of shipping incidents involving HNS cargo since the Convention was adopted in 1996. The list has been compiled from various databases, but is not exhaustive and is only an indication of the type of incidents that have taken place involving the carriage of HNS by sea. It does not include incidents prior to this date. We will consider whether to update the list with brief details of incidents prior to 1996 for the paper to be submitted to Legal Committee in order to place further emphasis on the occurrence of incidents involving the carriage of HNS by sea over a longer period.

The list of incidents referred to are not confined to any specific areas, although more have occurred, naturally, in the busier shipping routes. However, it does indicate that incidents are occurring, and in this respect I refer to the following statement



from the Chairman of the International Tanker Owner's Pollution Federation (ITOPF), as contained in the ITOPF Review 2002:

'this year, as in the past, we have been involved in a number of incidents where the cargo on the ship was either a chemical or a substance other than oil..... Given the possible entry into force of the IMO HNS Convention in the next few years and the greater attention that this is likely to bring to chemical spill, ITOPF staff, with the support of the Board, are beginning to prepare for calls for assistance by identifying relevant data sources and service providers.'

The HNS Convention was developed, and adopted by the IMO, in advance of widespread public pressure that would certainly follow a serious pollution, or catastrophic, incident involving the carriage of HNS by sea. The enclosed information, and the reference by ITOPF on the increasing numbers of chemical incidents in which they are involved, highlights the clear risk that exists and the subsequent necessity for the implementation of the regime. With this in mind I refer to the first incident covered in the enclosed paper involving a collision between a cruise ship (the *Norwegian Dream*) and a container vessel (the *Ever Decent*) off the east coast of England in 1999. The incident resulted in substantial physical damage to both vessels, including a fire on board the *Ever Decent* whose cargo included cyanide and other hazardous and noxious substances. Whilst the incident, fortunately, did not result in a significant number of serious injuries, or fatalities, it does highlight the potential of a serious catastrophic HNS incident occurring.

Whilst there is no doubt that the HNS Convention is a complex instrument, such complexities should not prevent the entry into force of the regime whilst such risks, on whatever scale or nature, are present. Indeed, the list includes incidents involving the carriage of HNS by sea where fatalities have occurred.

The intention of the paper is simply to emphasise that incidents are occurring on a global, and relatively frequent, basis involving the carriage of HNS incidents by sea. The intention is not to provide a detailed account of each of the incidents that have been used as examples, but focuses on specifics of certain incidents, the substances involved and the clean up operations and preventative measures initiated in the responses.

In the meantime, I would be grateful for any information from members of the Correspondence Group, similar to the type of information provided in the enclosed paper, on incidents involving the carriage of HNS by sea which have necessitated a response for clean up, or preventative, measures. Any further information from Member States of this type will help to emphasise the importance of the work that the Group is undertaking and the need for implementation of the Convention itself. I would be grateful for any information from the Group **by Friday 13th September** in order to allow for submission of the paper before the IMO deadline of 20 September 2002.

Discussion at LEG 85 & Future work of the Group

As referred to in para. 119 of the final report of LEG 84 among the issues still to be addressed by the Group were those of the contributing cargo, insurance, policing of the system and model legislation. It is the UK's intention to cover the issues of insurance and policing of the system during the intersessional period between LEG

84 and LEG 85, although delegations will be aware that papers on each of these issues have already been drafted by Norway and Canada and are posted on the HNS Correspondence Group website. In the meantime, I encourage members of the group to refer to these papers. I also look forward to the completion of the work of the IOPC Fund on the contributing cargo database and, in respect of model legislation, refer the Group to the UK, Irish and Russian Federation HNS implementing legislation on the web-site and the previous correspondence of 29 July.

If there are any other issues that the Group wishes to be covered I would be grateful for any indications, or comments, from delegations. The UK can only co-ordinate work that will facilitate implementation of the HNS Convention if it is aware of the issues which States wish to be covered.

It is not our intention that a considerable amount of time will be taken up at LEG 85 on the work of the HNS Correspondence Group. Rather, a short report of the progress since LEG 84 (i.e. the website, contributing cargo database, implementing legislation etc), and notification of the enclosed paper on HNS incidents that we intend to submit as an information paper.

Regards

John Wren

John Wren

Report on incidents involving the carriage of hazardous and noxious substances (HNS) by sea.

Introduction

This report aims to highlight, and detail, a number of incidents that have occurred involving the carriage of hazardous and noxious substances by sea, and the subsequent need for implementation of the HNS Convention.

The first part of the paper consists of a broad description of some notable incidents that have occurred in recent years. The Annex consists of a list of global incidents involving HNS since 1996, which although may not have received high media coverage, serve as a reminder of what can, and does, happen.

Examples of Recent Incidents

Collision between Ever Decent and Norwegian Dream

On 23 August 1999 the Panamanian registered container vessel *Ever Decent* (pictured right) with a crew of 25 was on passage to Zeebrugge. The cruise ship *Norwegian Dream* carrying 1750 passengers and 638 crew was on passage to Dover.



The vessels collided 20 miles north east of Margate, south east England; this area lies within the UK's counter pollution zone. The weather at the time was good with a slight sea and good visibility. Both vessels reported the collision to the Dover Coastguard. The *Norwegian Dream* lost 2 lifeboats and suffered substantial damage to her bow and bridge wing, but, fortunately, there was no ingress of water. The *Ever Decent* was severely damaged and listing 25 degrees to port. Search and rescue efforts comprising lifeboats, two rescue helicopters and a maritime patrol aircraft were immediately despatched to the scene. Other vessels in the vicinity offered assistance and were asked to attend the site.

The *Ever Decent* continued to list until eventually being stabilised at 40 degrees. It was reported that the vessel had lost some containers overboard and that others on deck were on fire. The *Ever Decent* confirmed that her cargo included all IMO classes except Class 1 (explosives) including hazardous and noxious substances covered by the HNS Convention. A plume of toxic smoke formed and it was confirmed that four containers in close proximity to the fire contained paint and paint hardeners and therefore posed a risk of explosion. As a result, a five mile Temporary Exclusion Zone was implemented (under the powers of intervention of the UK's Merchant Shipping legislation).

It was also confirmed that two containers of cyanide had been on board, which posed a significant toxic hazard. An Atlantic 404 UK Maritime and Coastguard Agency (MCA) aircraft flew over the *Ever Decent* on an anti-pollution sweep and

confirmed that the fire had spread down the port side of the vessel releasing more toxic smoke, as well as a sheen of oil on the water surface.

A Salvage Control Unit (SCU) was established by the UK's MCA. The main cause for concern was the content of the lost containers, particularly with the knowledge that cyanide had been on board. The risk of explosion decreased as the fire was brought under control and the amount of oil pollution was considered to be negligible. Fortunately, the missing containers were confirmed to be containing non-hazardous substances, and, air samples showed there was no presence of cyanide or phosgene in the air. Seven days after the collision, after a diving survey, further aerial surveillance and a technical report, it was confirmed that the vessel was fit to sail to Zeebrugge for repairs. The UK, through the response co-ordinated by the UK's MCA, incurred significant costs for these clean up and preventative measures.

Whilst very few people were injured in the incident, particularly given the scale, it was potentially, a catastrophic event involving the carriage of HNS that could have resulted in serious injuries or loss of life to a number of passengers/crew.

Multitank Ascania

On 19 March 1999, fire broke out in the boiler room of the *Multitank Ascania* (pictured right) as she passed through the Pentland Firth, Scotland. The vessel's engine was stopped and attempts were made to try and extinguish the fire. However, the vessel began to drift in severe weather conditions, with wind blowing to gale force eight and rough seas.



The vessel carried 70 tonnes of heavy fuel oil and 20 tonnes of diesel oil. The vessel had a cargo of 1750 tonnes of vinyl acetate (classified as a dangerous chemical carried in bulk by the IBC Code and should not be exposed to excessive heat although no comprehensive risk assessment has been made).

The Pentland Coastguard in Scotland was notified and immediately co-ordinated a search and rescue effort consisting of an RAF helicopter, local lifeboats, a coastguard rescue helicopter, a harbour tug and a Coastguard Emergency Towing Vessel. All crew except the master were airlifted to safety.

The UK's MCA's Marine Pollution Control Unit (MPCU) were alerted due to the risk of pollution from the vessel's cargo and also the fuel oil and diesel which was onboard. An eight person chemical strike team was formed. The MCA's aerial contractor provided an aircraft to fly the team and specialist monitoring equipment to Scotland. A second aircraft was chartered to fly response equipment to the scene.

It was considered that the main hazard posed by the incident was a very significant risk of explosion due to the presence of vinyl acetate, and any ensuing pollution that would certainly have resulted. Chemical spill modelling was used to predict what areas would be at risk should the chemical be released into the atmosphere and the

decision was taken to implement a 5km exclusion zone around the vessel. The local police force also considered it necessary to evacuate 600 local residents from their homes.

The master was able to release one anchor before being lifted to safety. Without this action the vessel could well have grounded and the incident ended in disaster. Thermal imaging from cameras onboard the Coastguard helicopter were also used to monitor the intensity of the heat and once it was considered safe for salvors to board the vessel, the vessel was towed to safety.

Non-contamination risk arising from persistent oils – the Sletreal

On 30 January 2000, *the Sletreal* was waiting to load its cargo of crude oil at Cardenas, Cuba, when there was an explosion on board, thought to be caused by crude oil vapours. The Liberian tanker broke in two and one part sank (pictured right). Three crew members were killed in the accident.



Although instances of pollution arising from crude oil would be covered under the IOPC Fund, non-contamination risks, such as in this case explosion, are provided for under the HNS Convention and demonstrates how the HNS Convention would provide recourse for claimants involved in such an incident arising from fire or explosion involving persistent oils. Residues from the previous carriage in bulk of certain hazardous and noxious substances are also covered under the HNS Convention.

Grounding of the Jessica

On 16 January 2001 *the Jessica* ran aground at San Cristobal in the Galapagos Islands (pictured right). The tanker had been carrying 240 000 gallons of fuel oil consisting of 160 000 gallons of Diesel Oil #2 (DO#2) and 80 000 gallons of intermediate fuel oil 120 (IFO120 or bunker fuel). Only the diesel fuel would be covered by the HNS Convention. In spite of efforts made to remove the cargo, 105,000 gallons of DO#2 and 75,000 gallons IFO120 leaked from the ship.



Weather and ocean currents quickly dispersed most of the diesel oil and bunker fuel. However, this incident demonstrates how even relatively low levels of pollution can have a considerable impact on the marine environment. A study of iguanas living on the nearby Santa Fe Island showed that by December 2001, 62% of the marine iguanas had died, compared to an expected mortality of 2 – 7%. Consequently, the Islands' National Park incurred considerable damage.

Sinking of levoli Sun

On 31 October 2001, the Italian registered chemical tanker *levoli Sun* sank 20 miles north of Alderney in the Channel Isles (pictured right). The crew of 14 had already been airlifted to safety when the vessel began taking on water during severe weather in the English Channel.



The vessel had been carrying 3998 tonnes of styrene; 996 tonnes of Isopropyl Alcohol (IPA) and 1027 tonnes of Methyl Ethyl Ketone (MEK); along with 170 tonnes of intermediate fuel oil, 45 tonnes of gas oil, and 16 tonnes of lubricants.

A pollution control response was co-ordinated by the French with assistance from the UK's MCA. Scientists from both countries agreed that the MEK and IPA posed no threat to the environment and would dissipate immediately on contact with water, however the presence of styrene did pose a threat to the environment and would require careful monitoring. Styrene, a known carcinogen, is classified as a dangerous chemical carried in bulk in the IBC Code and comes under the substances covered by the HNS Convention. The marine diesel oil and intermediate fuel oil onboard also posed a risk of pollution although the HNS Convention would only cover pollution arising from the marine diesel as pollution damage arising from the intermediate fuel oil comes under the IOPC fund.

Daily surveillance flights by both the UK and French authorities monitored the slicks arising from the vessel; France, Germany and the UK also deployed counter pollution vessels. The salvage operation, which was severely hampered by bad weather, involved the use of remote controlled specialist robotic vessels to penetrate both the outer and inner hulls before removing the chemicals.

Fortunately, there was very little reported pollution from the wreck but a lengthy salvage operation ensued. Due to bad weather and the lengthy time period involved, it was not until June 2001 when the underwater wreck was confirmed to be free of the chemicals and intermediate fuel oil following the salvage operation.

Annex: List of Global incidents involving vessels carrying HNS

The following list gives examples of some of the incidents involving ships carrying hazardous and noxious substances that have occurred around the globe since the adoption of the HNS Convention in 1996.

Ship (flag)	Incident	Date	Location	Hazard	Outcome
<i>Formosa Eight</i>	Chemical tanker grounded.	17/10/96	Off Matsuyama, Japan	32000t acrylonitrile. Extensive damage to port side of ship but no pollution.	Tanker refloated.
<i>Sampet Hope</i>	Second vessel broke anchor and collided with the <i>Sampet Hope</i>	17/11/96	Port Phillip Bay, Australia	Kerosene-type solvent.	
<i>Onur K</i>	Sank in stormy weather	08/01/97	135km off Cagliari, Sicily.	Cargo of 1500t zinc and lead concentrates lost.	
<i>Bona Fulmar</i>	Tanker struck by vessel whilst at anchor.	18/01/97	Off Dover, English Channel.	Tanker had a cargo of 40,000 litres of gasoline, 1,500 litres were spilt.	Fumes spread 200 miles.
<i>Konemu</i>	Tanker grounded on reef.	24/01/97	New Caledonia, South Pacific.	The tanker was laden with gasoline, about 120 litres was spilled when vessel grounded causing 1000m ² oil slick.	Divers plugged hole in hull to prevent further pollution.
<i>Ichiyo Maru No 21</i>	Collided with another vessel.	07/05/97	Off Oita Prefecture, Japan.	Tanker had cargo of 630,000 litres of gasoline of which about 50,000 litres were spilt as a result of the collision	
<i>Freja Nordic</i>	Engine room explosion & fire.	16/07/97	Bandar Khomeini, Iran.	Four crew killed, cargo of 9 000t naphtha untouched.	
<i>Allegra</i>	Collision with cargoship during fog.	01/10/97	Off Devon Coast, English Channel	800-900t palm oil leaked from ship following collision.	Minimal environmental damage.
<i>Bow Panther</i>	Spillage from	09/10/97	Yokohama, Japan	Xylene spilled into port waters.	Oil booms set up to contain spill.

	pinhole in tank.				
<i>Yusup K</i>	Tanker lost power and drifted in heavy seas.	12/10/97	Pentland Firth, UK.	Cargo of 9500t naphtha	Vessel drifted towards Scottish mainland before being towed to safety.
<i>Bahamas</i>	Leak in hull and tank	02/09/98	Rio Grande, Brazil	12 000t sulphuric acid. Some pumped ashore but 600t had to be pumped overboard to avoid explosion.	
<i>Emerald Sky</i>	Tanker rammed jetty on arrival at terminal.	12/10/98	Hazira, India	40,000t naphtha	Jetty decommissioned, ship dented but not holed.
<i>Martina</i>	Vessel ran hard aground.	13/11/98	Koster Fjord, Denmark.	Cargo included 280t hydrochloric acid and other chemicals.	Chemicals were transhipped.
<i>Kriti Gold</i>	Fire onboard tanker.	23/11/98	Thessalonkia, Greece.	Tanker was waiting to discharge its cargo of 23,000t gasoline when fire broke out spreading to a tug alongside.	Four crew members from the tug were killed.
<i>Jessie Maersk</i>	Valve mis-operated prior to emptying of tank.	05/01/99	Off Gibraltar	Discharged cloud of ammonia drifted over Gibraltar after valve mis-operated.	
<i>Bocau</i>	Struck by another tanker.	09/05/99	Balanga, Bataan, Philippines.	The Bocau had been carrying gasoline and oil. As a result of the collision thousands of litres of gasoline were spilt.	The spill was contained with chemicals.
<i>Simge</i>	Grounded on rocks after loading.	06/03/99	Off Selaata, Lebanon.	6000t sulphuric acid	Some cargo lightered, ship refloated.
<i>CMA Djakarta</i>	Fire onboard	10/07/99	Eastern Mediterranean Sea.	Fire in box of calcium hypochlorite spread to 100 other boxes.	Crew abandoned ship.
<i>Young Chemi</i>	Sank in rough seas	09/11/99	Off Pusan, South Korea.	Tanker had been carrying chloroform.	Some pollution reported & at least one crew member died.
<i>Martina</i>	Vessel sank after collision with containership & broke in two.	28/03/00	Off Hoganas, Sweden	600t hydrochloric acid.	
<i>Gulf Star</i>	Struck quay whilst berthing	24/06/00	Port Louis, Mauritius.	Tanker was carrying 13,000t jet fuel and motor gasoline, some gasoline was spilt.	
<i>Hikari II</i>	Collided with dredger.	04/08/00	Off Squance Bay, Singapore.	Cargo of 500t phenol, of which approximately 230t was spilt to sea.	Swimming and fishing in the area was banned until the spill diluted naturally.
<i>Taisei Maru</i>	Collision with	23/11/00	Kamaishi City ,	4,939,000 litres of gasoline, of which,	

	fishing vessel 10km offshore		Japan	230 litres were reported to have been spilled as a result of the collision.	
<i>Castor</i>	Crack on main deck	31/12/00	Off Nador, Morocco	Tanker had cargo of 29,500t gasoline.	Tanker was prevented from entering port and cargo was lightered.
<i>Agamemnon</i> (Belize)	Sank during loading operations	01/01/01	Rayong, Thailand	2,000 tons of containerised ammonium nitrate lost causing mass fish death in the area and concerns over the formation of an algal bloom.	
<i>Kapitan Rudnyev</i> (Cyprus)	Struck wharf while docking	16/01/01	Quebec, Canada	Spillage of linear alkyl benzene in the harbour.	
<i>Happy Lady</i> (Norwegian)	Ran aground	21/01/01	off Shoeburyness, UK	Cargo of butane	Ship was refloated
<i>Kilgas Centurion</i>	Grounded on a sandy beach.	15/02/01	Yarmouth, UK	1000t propane	The vessel was eventually refloated with no pollution from cargo or fuel.
<i>Balu</i> (Malta)	Sank in heavy seas	20/03/01	130 nm north of Ribadeoin (Bay of Biscay).	The ship had been carrying 8000t sulphuric acid.	
<i>Tejo Chemist</i> (German)	Grounded due to navigational error.	25/03/01	off Pori, Finland	3300t cargo including sodium chlorate	Hull bottom sustained several cracks though no pollution occurred.
<i>Bahagia</i> (Singapore)	Struck by a chemical carrier whilst unloading	28/03/01	Belawan, Indonesia	Spillage of about 1 tonne of kerosene.	
<i>Endah Lestari</i>	Ship began to list then capsized whilst under tow.	13/06/01	Tebrau Straits.	Approx 630 tonnes of phenol spilled.	Phenol is highly volatile and poses a serious risk of pollution to the surrounding waters.
<i>Vasiliki</i>	Tanker grounded causing hull to crack.	18/06/01	Off Cape Maleas, Greece.	Cargo of benzene and gasoil.	Some cargo leaked but most dispersed. Booms were deployed and remaining cargo removed.
Panamanian registered chemship	Collision with a Taiwanese navy ship	28/06/01	Kaoshiung, Taiwan.	Cargo of 3000t paraxylene, of which about 80t was spilt.	The lost cargo floated, endangering personnel with noxious fumes.
<i>Nand Smiti</i>	<i>Engine breakdown caused tanker to</i>	26/07/01	Arabian Sea, 90nm south of	Cargo of 4700t naphtha	Tanker drifted towards the coast until the fault could be rectified.

	<i>drift</i>		Karachi.		
<i>Jovanna</i>	Ran aground whilst entering Recife Port	30/08/01	Brazil	30 520t ammonium sulphate	Approx 600t seawater entered the forepeak tank.
<i>Ikan Tanda</i>	Lost power & ran aground during severe storm.	05/09/01	off Cape Town	Sulphate in bags and potassium chloride.	Ship took on water.
<i>Formosa One</i>	Collision with Petrolimex 1	07/09/01	Vung Tau, Vietnam	Collision resulted in spillage of 615t gas oil. Possible claims for alleged damages to tourism, fisheries, agriculture and the environment.	Some oil washed up on beaches but its non-persistent nature prevented need for a major clean-up operation.
<i>AB Bilbao</i> (Antigua)	Explosion in hold of ship	01/10/01	Off Margate, English Channel.	Cargo of 3300t ferrosilicone, Potentially very hazardous as ferrosilicone, if exposed to moisture releases flammable and toxic gases (hydrogen, arsine and phosphine).	Explosion thought to be the result of a build up of hydrogen in the hold.
Chemical tanker <i>Dutch Aquamarine</i> (Netherlands)	Collision with general cargo carrier <i>The Ash</i>	09/10/01	English Channel	The chemical tanker was carrying 4400 t acetic acid	<i>The Ash</i> sank with loss of Master. Chemical tanker was able to proceed with a damaged bow.
<i>Norma</i>	Tanker grounded on rocks whilst loading	19/10/01	Parangua, Brazil,	Lost up to 1800m ³ of its 22 000m ³ cargo of naphtha.	Hole in hull from grounding allowed escape of part of cargo.
<i>Rosebank.</i>	Fire broke out in the paint store	14/12/01	off the Farne Islands, UK	1326 t of fertilizer, marine diesel and lubricating oil.	The crew was airlifted to safety while vessel continued to blaze and drift.
<i>The Dina</i>	Sank	16/12/01	Southwest coast of Wales	Vessel sank carrying 2430t of Fluorspar and 35t marine gas oil.	
<i>Seven Ocean</i>	Ran aground	14/03/02	En route from Antwerp to North Sea	11000t urea & ammonium sulphate	

