 <p>INTERNATIONAL OIL POLLUTION COMPENSATION FUNDS</p>	Agenda item: 4	IOPC/OCT10/4/3	
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CONSIDERATION OF THE DEFINITION OF 'SHIP'

Note by the Director

Summary:	The document informs the 1992 Fund Assembly and Supplementary Fund Assembly of the latest work undertaken regarding the interpretation of the definition of 'ship' in relation to floating storage units (FSUs), and provides a summary of a consultants' report, including an overview of the numbers, types and use of vessels used for the storage of persistent oils, as well as information relating to the gradual shift in oil production from onshore to offshore regions and associated operational changes in oil storage.
Action to be taken:	<p><u>1992 Fund Assembly</u></p> <p>Provide such guidance to the Secretariat as to the requirements for further work, research and analysis regarding the interpretation of the definition of 'ship', in particular in connection with:</p> <ul style="list-style-type: none"> (a) the operation of FSUs and the legal questions of interpretation of such operations in practice; (b) issues of strict liability, compulsory insurance and certification; and (c) issues relating to the calculation of contributions and compensation payments for incidents involving FPSOs and FSUs. <p><u>Supplementary Fund Assembly</u></p> <p>Information to be noted.</p>

1 Introduction

- 1.1 In October 2009, the 1992 Fund Assembly and the Supplementary Fund Assembly recalled that in 2008, the 1992 Fund Executive Committee had considered the definition of 'ship' in connection with the *Slops* incident and, after discussion, had instructed the Director to further examine the 1992 Fund's policy regarding that definition (document IOPC/OCT09/4/3).
- 1.2 The governing bodies noted that the Director had examined the 1992 Fund's policy on the definition of 'ship', in particular in relation to floating storage units (FSUs) such as the *Slops*, with a view to determining whether there was a serious risk of unequal treatment as a result of courts in some, but not all, Member States applying the definition of 'ship' in accordance with the 1992 Fund's policy. The Director had also examined whether, if that were the case, the choice of another, wider policy on the definition of 'ship' would diminish that risk. In order to provide the 1992 Fund Assembly with a

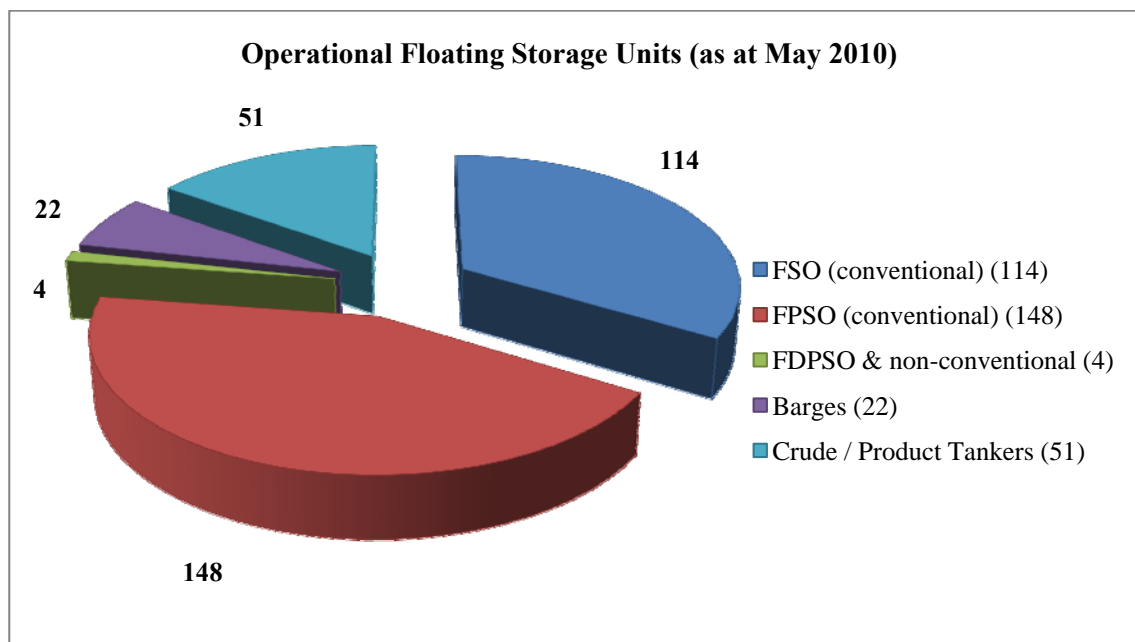
complete overview, the Director had reviewed the relevant policy considerations and decisions taken within the Organisation over the years.

- 1.3 The governing bodies decided that the 1992 Fund and the Supplementary Fund should further explore the possibility of a change in the interpretation of the definition of 'ship', in particular in connection with the question as to whether pollution damage caused by FSUs such as the *Slops* should be covered under the 1992 Fund Convention.
- 1.4 The governing bodies instructed the Director to undertake this work, engaging outside consultants, and to submit the result to the governing bodies at their next regular session.
- 1.5 In accordance with the governing bodies' instructions, the Director commissioned Douglas Westwood as external consultants to identify and review the type and number of vessels that may be considered FSUs. Their report identifies the way FSUs are operated around the world and assesses the possible consequences of any policy change within the Funds in relation to contributions, as well as the applicability of the 1992 Conventions, ie strict liability, compulsory insurance and certification. In addition, the report examines the likelihood of incidents involving FPSOs and FSUs.
- 1.6 A summary of Douglas Westwood's report follows in sections 2-5.

2 Categories of operational FSUs (as at May 2010)

2.1 The array of operational FSUs world-wide, can be categorised as follows:

- (1) Floating storage units (FSU)/Floating Storage & Offloading (FSO);
- (2) Conventional Floating Production Storage & Offloading (FPSO);
- (3) Unconventional FPSO/FSO and hybrid systems including:
 - (a) Floating Drilling Production & Offloading (FDPSO) systems;
 - (b) Cylindrical-hull FPSOs;
 - (c) Barge FSO and FPSOs;
- (4) Oil tankers deployed as temporary storage systems or (retired) oil tankers used as permanent or semi-permanent storage systems.



- 2.2 A total of 339 offshore units used for the storage of persistent oil (excluding refined products) have been identified, together totalling 453 million barrels (72 million m³)^{<1>} of storage capacity.
- 2.3 In addition to the 339 units above, 102 new FPSO and FSO units are likely to become operational over the next five years, the majority of which will be high-throughput FPSOs, adding significantly to the total operational storage capacity in future years.
- 2.4 Current estimates of offshore field production rates indicate a total of 18.2 million barrels (2.89 million m³) of potentially contributing oil throughput each day, inclusive of production from fixed platforms utilising FSOs as a storage solution prior to export. This figure may include an element of double counting where multiple-vessel storage solutions (eg an FSO tied into an FPSO) are used.

3 Deployment, storage capacity and oil throughput of floating units

- 3.1 Offshore production of crude oil accounts for approximately one third of global daily output. This proportion is likely to increase as onshore basins mature and improving technology allows access to deeper water fields. Further details concerning future developments can be found in section 4 below.
- 3.2 Excluding tankers temporarily used as storage, some 288 operational floating units with storage capability were identified in the report. Approximately 45% of these units are located in the Asia Pacific region. This area has seen a doubling of fleet size in the last decade.
- 3.3 Almost all world regions (with the exception of Western Europe) have seen significant growth over the last decade, although the Latin American region has seen the most significant growth, driven largely by one oil major's (Petrobras) development of deep and ultra deepwater reserves.
- 3.4 In addition, the Asia Pacific and African regions have recorded rises in their daily throughput of oil of 10.6% and 14.1% respectively.
- 3.5 Furthermore, daily throughput in Eastern Europe and the Former Soviet Union has increased in recent years with the development of the Sakhalin and Korchagin fields in the Sea of Okhotsk, Russia and North Caspian Sea respectively. Conversely, the United Kingdom's offshore production profile has decreased by 1.7% per year over the last decade.
- 3.6 Deployment of FSUs/FSO units

Region	Number of conventional FSU/FSO units	Oil Storage Capacity (millions of barrels)	Oil throughput (millions of barrels per day)
Africa	25	32.20	2.14
Asia Pacific	59	53.60	4.64
Eastern Europe and Former Soviet Union	4	3.8	0.47
Latin America	9	12.3	1.71
Middle East	11	17.3	0.72
North America	0	0	0
Western Europe	6	5.4	0.42
	114	124.60	10.10

^{<1>} In this report the following conversions are used: 1 Barrel oil = 6.29 m³, and 1m³ = 1 tonne of oil.

- 3.6.1 The majority of conventional FSUs operate within the Asia Pacific region, with Indonesia hosting 26 operational units. Other important areas include Africa and the Middle East, the latter of which benefits from a number of temporary operational FSO units within its waters, while not having any FPSOs currently installed. An estimated 10.1 million barrels (1.53 million m³) of potentially contributing oil is received by FSO units worldwide each day, approximately 43% of which is from the Asia Pacific region.
- 3.6.2 The report indicates the existence of four operational units within the Eastern European and Former Soviet Union waters, and six units in Western European waters, as shown in the table below.

3.7 Deployment of Conventional FPSO units

Region	Number of conventional FPSO units	Oil Storage Capacity (millions of barrels)	Oil throughput (millions of barrels per day)
Africa	41	57.30	3.36
Asia Pacific	52	45.50	2.19
Eastern Europe and Former Soviet Union	0	0	0
Latin America	32	39.50	2.36
Middle East	0	0	0
North America	3	1.70	0.22
Western Europe	20	11.50	0.68
	148	155.50	8.81

- 3.7.1 Over the last 15 years, a move towards deep water drilling, in which fixed structures are no longer viable, has led to tremendous growth in the number of FPSOs in operational use. Together, Africa, Asia and Latin America account for approximately 91% of the world's FPSOs by capacity. Brazil is the largest single State user of FPSO units with 28 in operation and significant growth plans over the next decade. While the Asia Pacific region holds the largest number of units (52), they tend to have the lowest average throughput per FPSO of all regions, with the exception of Western Europe where production levels are lower and in decline. Each Asian FPSO unit averages 39 000 barrels/day (6 200 m³/day), compared to over 80 000 barrels/day (12 719 m³/day) for West African and 73 000 barrels/day (11 606 m³/day) for Latin American units.
- 3.7.2 Due to the recent significant growth in the number of FPSOs in use, an estimated throughput of 8.8 million barrels (1.39 million m³) of oil per day has been achieved in 2010, representing an average annual increase of 21.9% in the last decade.

3.8 Deployment of FDPSO units

Region	FDPSO units	Oil Storage Capacity (millions of barrels)	Oil throughput (millions of barrels per day)
Africa	1	1.4	0.02
	1	1.4	0.02

Although several FDPSO units have been developed by either adding drilling-capability to an FPSO, or by adding FPSO capability to a drill-ship, the research conducted indicates that at present only one unit is in operation in the Congo.

3.9 Deployment of Cylindrical-hull FPSO units

Region	Cylindrical hull FPSO units	Oil Storage Capacity (millions of barrels)	Oil throughput (millions of barrels per day)
Latin America	1	0.3	0.02
Western Europe	2	0.6	0.01
	3	0.9	0.03

Only two regions currently operate cylindrical-hull FPSO units as shown above. These units offer more stability over conventional 'square' semisubmersible drilling units. A further cylindrical-hull FPSO is due to be delivered in 2012.

3.10 Deployment of Barge FSO and Barge FPSO units

Region	Barge FSO and Barge FPSO units	Oil Storage Capacity (millions of barrels)	Oil throughput (millions of barrels per day)
Africa	4	11.00	0.13
Asia Pacific	16	69.60	0.29
Eastern Europe and Former Soviet Union	0	0	0
Latin America	2	9.00	0.05
Middle East	0	0	0
North America	0	0	0
Western Europe	0	0	0
	22	89.60	0.47

3.10.1 A total of 22 operational barge storage FSO/FPSOs have been identified, mostly located within the Asia Pacific region, many of which were purpose-built for offshore storage projects in Japan. Average storage capacity of these units is in excess of 4 million barrels (635 949 m³), almost four times higher than that of most self-propelled FPSO or FSO units.

3.10.2 Whilst the amount of potentially contributing oil received on barges is generally less than on conventional FSO and FPSO units, storage volumes are far higher and a small number of units account for a high oil throughput each year.

3.10.3 A summary of these tables showing the numbers and distribution of offshore floating storage vessels worldwide may be found in the Annex.

3.11 Deployment of oil tankers as temporary storage systems or (retired) oil tankers used as permanent or semi-permanent storage systems

3.11.1 As no official source of data exists which tracks the use of vessels as temporary storage units, the report uses estimates from Gibsons shipbrokers. Research indicates that shortly after the fall in oil prices which bottomed-out in April 2009, 64 tankers were being used for temporary storage. More recently, due to the improving economic outlook, approximately 50 units have been used as temporary storage facilities, the majority of which are very large crude carriers (VLCCs).

3.11.2 As at April 2010, a total of 81 million barrels of oil (12.88 million m³) was held in temporary tanker storage.

3.12 Considerations as regards permanent/disconnectable floating storage

Region	Permanent floating storage	Disconnectable floating storage
Africa	44	0
Asia Pacific	38	15
Eastern Europe and Former Soviet Union	0	0
Latin America	28	5
Middle East	0	0
North America	1	1
Western Europe	20	2
	131	23

- 3.12.1 The consultants have investigated and classified the number of floating storage vessels, which benefit from disconnectable turret mooring systems. Such systems permit the FPSO to move out of the path of hurricanes and icebergs, allowing the vessel to leave the field for operational repairs. In such an event, it may be possible to replace the original FPSO unit with an alternative unit pending the repairs being conducted, or alternatively the oil well may be temporarily suspended.
- 3.12.2 Twenty-three operational FPSO units have been identified, located predominantly in the Asia Pacific region. Although units with disconnectable mooring systems might be removed from the field on occasion, generally the units remain within the field for the majority of the year. However, there are several exceptions, notably within colder climates, where the FSO unit is moored during the ice-free season, but disconnected each December.

4 Future developments in floating storage solutions

- 4.1 The report indicates that over the last decade there have been significant developments both in the number and technology of floating oil storage solutions. Further growth is expected and will be driven by four main factors, namely:
- (a) Development of subsea production technology;
 - (b) Development of deep-water fields (>500 metres depth);
 - (c) Exploitation of marginal fields; and
 - (d) Fast-track and/or phased developments.
- 4.2 Development of subsea production technology
- 4.2.1 The development of subsea technology within recent years has enabled more economical development of previously unreachable offshore fields. Growth in production from subsea-completed wells has averaged 17.4% per annum since 2005, with Africa currently dominating subsea production with an estimated 36% of 2010 throughput. Production from this region has the potential to double by 2012 to 6.3 million barrels/day (1 million m³/day).
- 4.2.2 Assuming no additional fields are developed, the number of wells is set to decline back to 2005 levels by 2033 (possibly earlier). However, a number of significant field developments are scheduled to become operational over the next decade, and together with production from existing fields, will plateau to an average of 13.3 million barrels (2.11 million m³) of production/day.

4.2.3 This factor is relevant insofar as the development in subsea technology correlates very closely to the rise in number of FPSO units in existence and/or which are required, in order to service the demand. Recent technology developments may assist in the extraction of oil from more exposed and/or deeper water installations.

4.3 Development of deep water fields

4.3.1 In 2008, approximately 32% of world oil production came from offshore fields and 68% came from onshore. However, many of the onshore fields are mature and often require increasing levels of effort and expenditure to extract hydrocarbons. By 2018 therefore, it is expected that the onshore share of production will have fallen to 61% of total world oil production. For offshore areas, shallow water production is not expected to grow significantly, however deepwater production (>500 metre depth) is expected to grow from 7% of total global production in 2008, to 13% by 2026.

4.3.2 The increase in oil production and the change in balance between oil production onshore and offshore (both shallow water and deep water) over the last 40 years and projected forward to 2025, is indicated in the three tables below:

4.3.3 *Onshore Oil Production (1970-2025)*

ONSHORE	1970-1980	1981-1990	1991-2000	2001-2010	2011-2020	2021-2025
	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)
Africa	53.64	35.80	45.44	53.23	59.52	26.86
Asia	30.19	36.70	42.23	41.07	41.83	18.11
Australasia	0.49	0.92	1.72	1.13	0.99	0.48
Eastern Europe and Former Soviet Union	109.67	124.64	80.52	110.88	117.92	52.49
Latin America	52.59	44.72	60.50	58.30	57.70	27.79
Middle East	177.92	109.33	157.99	184.89	218.54	131.81
North America	118.22	104.28	88.70	78.06	80.25	44.52
Western Europe	4.01	3.32	3.90	2.90	3.00	1.21
Total	546.73	459.71	481.00	530.46	579.75	303.27

4.3.4 *Offshore (Shallow Water) Oil Production (1970-2025)*

OFFSHORE SHALLOW	1970-1980	1981-1990	1991-2000	2001-2010	2011-2020	2021-2025
	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)
Africa	11.83	18.93	27.64	42.05	70.47	31.76
Asia	7.20	15.79	23.82	31.19	41.87	18.92
Australasia	4.09	4.90	5.97	6.56	9.38	4.84
Eastern Europe and Former Soviet Union	2.45	2.20	2.16	7.57	28.92	21.74
Latin America	3.47	23.04	31.03	43.88	51.00	26.60
Middle East	41.07	30.23	49.30	56.60	75.57	44.17
North America	16.21	13.55	18.56	24.65	31.62	16.44
Western Europe	7.89	34.86	55.87	51.19	28.07	8.76
Total	94.21	143.50	214.35	263.69	336.90	173.23

4.3.5 *Offshore (Deep Water) Oil Production (1970–2025)*

OFFSHORE DEEP	1970-1980	1981-1990	1991-2000	2001-2010	2011-2020	2021-2025
	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)	(millions of barrels/day)
Africa	0.00	0.00	0.20	11.84	43.38	21.14
Asia	0.00	0.00	0.00	0.72	9.22	6.69
Australasia	0.00	0.00	0.00	0.34	0.74	0.56
Eastern Europe and Former Soviet Union	0.00	0.00	0.00	0.00	0.84	1.76
Latin America	0.00	0.12	2.70	12.69	26.18	18.80
Middle East	0.00	0.00	0.00	0.00	0.00	0.32
North America	0.00	0.02	2.27	9.97	19.72	9.60
Western Europe	0.00	0.00	0.29	0.77	0.77	0.53
Total	0.00	0.14	5.46	36.33	100.85	59.40

Nb While the figures above include some Natural Gas Liquids, these form a very small proportion of the totals.

4.4 Exploitation of marginal fields

4.4.1 Factors such as low volumes of recoverable reserves, unfavourable reservoir characteristics (eg hydrocarbon type, temperature, pressure etc), remoteness, technologically challenging water depths, and/or environmental characteristics, as well as the size of the hydrocarbon reserve, will all impact upon the likelihood of exploitation of a marginal oil field.

4.4.2 In mature offshore regions such as the United Kingdom North Sea, the size of the hydrocarbon reserve is the main factor which influences the likelihood of exploitation of a marginal field, whereas in more recently-developed areas, the oil wellhead location, water depth, hydrocarbon type and environmental conditions are likely to be the key determinants.

4.5 Fast-track and/or phased developments

4.5.1 A fast-track development is designed to ensure a swift start to the project's revenue stream, and will usually feature a vessel conversion with a relatively large topsides capacity, to allow extensive field development, once the project has been established.

4.5.2 Once the fast-track project is up and running, production capacity can be added in subsequent phases by expanding the topside equipment on the original vessel, or by deploying a larger replacement vessel, or additional FSU/FPSOs in support.

4.6 Estimated future numbers of FPSOs and FSOs

4.6.1 An estimation of the likely numbers of new vessels entering the floating storage unit fleets is difficult, due to the fact that those fields which may become operational after 2017 and beyond (and which may need floating storage vessels), generally will not go into the development phase until 2013 or later. In addition, the impact of marine legislation, making all single-hull tankers obsolete in their original role, is a strong incentive to refit them as FPSO vessels, and some sources^{<2>} indicate that such conversions are expected to make up more than half of the prospective units forecast for deployment around the world in the next five years.

4.6.2 So far as is possible, the report estimates the likely future fleet additions for FPSO and FSO vessels as shown in the tables below:

Estimated future FPSO fleet additions

Region	Year of addition to fleet							
	2010	2011	2012	2013	2014	2015	2016	2017
Africa	1	3	3	5	9	2		
Asia Pacific	3	4	7	5	4	2	2	1
Eastern Europe and Former Soviet Union						1		
Latin America		5	3	3	2	5	5	
Middle East	1							
North America	1				1			
Western Europe		2	1	6	3	1		
Country to be confirmed	1			1				
	7	14	14	20	19	11	7	1

Estimated future FSO fleet additions

Region	Year of addition to fleet							
	2010	2011	2012	2013	2014	2015	2016	2017
Africa			1					
Asia Pacific	2	2	3					
Eastern Europe and Former Soviet Union								
Latin America		2						
Middle East								
North America			2	2	1			
Western Europe		1			1	1		
	2	5	6	2	2	1	0	0

Nb For conventional FSO and FPSO fleet additions currently likely to become operational, the consultants expect a total additional throughput capacity of 9.4 million barrels (1.49 million m³) per day to 2014. The amount of potentially contributing oil would obviously depend on the production capability of each wellhead to which the units are attached.

5 The likelihood of an incident involving FPSOs or FSUs

5.1 The report has provided some limited data on recent incidents involving FPSO and FSO vessels. The research and data is constrained by the fact that it is rare for information relating to accidents from FPSOs and/or FSUs to be made publicly available. In addition, some reporting schemes do not provide sufficient details of the vessel type to enable useable information to be retrieved to a sufficient level for the purpose of this study. The limited information available, may be summarised as follows:

5.2 Africa

5.2.1 According to one source^{<3>} the loading/transfer hose of the *Abo* FPSO off Nigeria was damaged by a swordfish in 2003 (reportedly the third incident). A similar incident was reported on the *Girassol* FPSO off Angola in February 2010.

5.2.2 A number of spills of crude were reported from the *Kribi 5* FSO during 1997, including one of 220 barrels (34.98 m³). No further details are available.

5.2.3 A spill of 3 500 m³ from the *Dahlia* FPSO occurred in February 2008 as a result of a hose rupture.

^{<3>} Delta-P Risk.

5.3 Asia Pacific

5.3.1 According to sources^{<4>}, two FPSOs were damaged by fire in 1990 and 2008 respectively, one FPSO shifted on its moorings in 2009 and one was damaged during the passage of typhoon 'Sally' in 1996. No details have been provided as to any spills of oil from these incidents, which occurred in India, Indonesia and China.

5.3.2 In respect of Australasia, a spill of 23 000 litres (22.99 m³) of crude occurred off the Taranaki coast of New Zealand in 2007, caused by human error leading to an accidental release during loading/transfer operations.

5.3.3 No further details have been provided of any spills in the Asia Pacific region.

5.4 Eastern Europe and the Former Soviet Union

5.4.1 One FSU that serves the Sakhalin field lost 10 litres (0.009 m³) of crude during transfer operations due to a weather-damaged loading buoy in 2007.

5.5 Latin America

5.5.1 Two Petrobas FPSOs (the P-34 and P-43) suffered an electrical fault and a cracked hull respectively, which led to one spill of crude oil, the amount of which is unknown. One further major spill from a barge transporting fuel oil on the Parà River in 2000, was estimated at 19 million litres (19 000 m³).

5.6 Middle East

5.6.1 No spills have been recorded or data provided.

5.7 North America

5.7.1 Data from the National Response Centre managed by the US Coastguard indicates that since 2001, the average number and volume of spills has continued to decline, with a slight increase in 2006. Average numbers of spills of less than 10 gallons (0.03 m³) continue to rise and average volume of spills of 100 000 gallons (378.5 m³) or more continue to account for the majority of spill volume into US navigable waters.

5.7.2 In respect of Canada, the largest spill was 165 000 litres (164.99 m³) of crude from the produced water system of the *Terra Nova* FPSO in November 2004, but other reported incidents include losses during transfer. No details have been provided of any spills from these incidents.

5.8 Western Europe

5.8.1 Such information as exists and is available for general public release, indicates that by far the largest spill from a FPSO on the United Kingdom Continental Shelf (UKCS) was 685 tonnes (approximately 685 m³) of crude oil from the *Texaco Captain* in 1997, which followed a collision between a shuttle tanker and the FPSO. Four other impacts and collisions have occurred at other FPSOs on the UKCS, but no information has been provided of any spills.

5.8.2 A report conducted by the UK Health & Safety Executive (UK HSE) entitled 'Accident Statistics for floating offshore units on the continental shelf 1980-2005', gives some data relating to FPSO and FSO units. The data relates to all accidents occurring onboard such vessels as no oil-spill specific information is available. However, such information as is available, indicates that the vast majority of leaks, operational and accidental releases were up to 0.5 litres in volume and did not reach the water but were contained within the vessel.

^{<4>} Upstream Online and UK Health & Safety Executive.

- 5.8.3 Fourteen contact incidents were reported between vessels which could have led to hose damage and a potential risk of spills of oil.
- 5.8.4 The table below indicates the number of accidents and accident frequencies from FPSO units and FSUs on the UKCS, and relates to all accidents occurring on such units, not just spills^{<5>}.

FPSOs and FSUs-Number of occurrences/occurrence frequencies (per unit year) United Kingdom Continental Shelf 1980-2005				
1980-1989			1990-2005	
Type of event	Number of incidents	Frequency per unit year	Number of incidents	Frequency per unit year
Anchor failure	-	-	14	0.087
Blowout	-	-	-	-
Capsize	-	-	-	-
Collision	-	-	-	-
Contact	-	-	15	0.094
Crane	2	0.207	61	0.381
Explosion	-	-	2	0.012
Falling object	2	0.207	78	0.487
Fire	1	0.103	55	0.343
Foundering	-	-	-	-
Grounding	-	-	-	-
Helicopter	-	-	1	6.2•10 ⁻³
Leakage	-	-	1	6.2•10 ⁻³
List	-	-	1	6.2•10 ⁻³
Machinery	-	-	1	6.2•10 ⁻³
Off position	1	0.103	1	6.2•10 ⁻³
Spill/release	1	0.103	326	2.034
Structural	1	0.103	6	0.037
Towing/towline	-	-	-	-
Well problem	-	-	2	0.012
Other	-	-	25	0.156

- 5.8.5 The only other recorded information concerning spills of oil within the Western Europe region provided within the Douglas Westwood report, relates to two spills of crude from shuttle tankers within Norwegian waters, of 4 000 m³ and 63 barrels (10.01 m³) in 2007 and 2008, respectively. No reference has been made to the *Slops* spill, which perhaps highlights some of the difficulties faced in obtaining raw data relating to both the number and frequency of oil spills from FSUs and FPSOs.
- 5.8.6 No further information relating to spills from FSUs or FPSOs has been provided.

^{<5>} Source 'Accident Statistics for floating offshore units on the continental shelf 1980-2005' compiled by Det Norske Veritas for the United Kingdom Health & Safety Executive

6 Director's conclusions

- 6.1 At present no consideration has been given within the report, to the issues of strict liability, compulsory insurance and certification under the 1992 Civil Liability Convention, which will all require further consideration before any possible change in Fund policy could be addressed.
- 6.2 Due to the importance of the issues outlined above, the Director intends to continue studying, with the help of Member States, the implications which a change in the interpretation of 'ship' would have from various points of view, including the likelihood of incidents involving FPSOs and FSUs, and the potential increase in contributing oils received in the Fund Member States, and report to the governing bodies at a later session.

7 Action to be taken**7.1 1992 Fund Assembly**

The 1992 Fund Assembly is invited:

- (a) to take note of the information contained in this document; and
- (b) to provide such guidance to the Secretariat as to the requirements for further work, research and analysis regarding the interpretation of the definition of 'ship', in particular in connection with:
- 1 the operation of FSUs, and the legal questions of interpretation of such operations in practice;
 - 2 issues of strict liability, compulsory insurance and certification; and
 - 3 issues relating to the calculation of contributions and compensation payments for incidents involving FPSOs and FSUs;
- (c) to give any such instruction as the 1992 Fund Assembly may deem appropriate.

7.2 Supplementary Fund Assembly

The Supplementary Fund Assembly is invited to take note of the information contained in this document.

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ANNEX

Numbers and the distribution of Offshore Floating Storage Vessels Worldwide**(Excluding crude/product tankers used as temporary storage (51))**

Region	Conventional FSO	Conventional FPSO	Barge FSO	Barge FPSO	Cylindrical FPSO	FDPSO	Total units/region
Africa	25	41	2	2	0	1	71
Asia Pacific	59	52	15	1	0	0	127
Eastern Europe and Former Soviet Union	4	0	0	0	0	0	4
Latin America	9	32	2	0	1	0	44
Middle East	11		0	0	0	0	11
North America	0	3	0	0	0	0	3
Western Europe	6	20	0	0	2	0	28
Total	114	148	19	3	3	1	288