ANNEX X

THE FLEETS TO BE DISMANTLED

Annex X

The fleets to be dismantled

I. European naval fleets

Although the draft IMO Convention on the dismantling of ships at the end of their useful lives does not include naval ships in its general field of application, two approaches seem to be emerging in France which will allow the inclusion of such ships in the “best practices” arising out of the international dismantling process:

- the introduction of a Green Passport for new ships entering into service in the French navy, and the launch of think-tanks on the application of these practices to obsolete naval ships.
- the voluntary integration of naval ships into the scope of the Convention with respect to their last voyage to a recycling facility.

A similar attitude has been taken by several European countries such as the United Kingdom, Germany and Sweden, even though a systematic reference to the Green Passport is not an expressed goal of these countries. An inventory of European government-owned ships likely to be dismantled over the ten coming years is becoming of essential importance in order to acquire sufficient vision of the adequacy of national and European dismantling means that are available or to be developed. This inventory is also necessary to estimate the financial expense this will represent. Having regard to the preponderant share of naval ships both in displacement and in number within this inventory, it is in this area that European cooperation should give priority attention. Government-owned civilian ships and merchant ships immobilised in ports for which the European States must bear the cost and responsibility for dismantling, could benefit from the solutions found for naval ships. The possible destinations of naval ships withdrawn from active service are numerous:

- sale to the navy of a friendly State;
- laying-up as stock for spare parts;
- sale for conversion to a civilian ship;
- loan or sale to a museum;
- target for testing new weapons, followed by sinking;
- sinking to form an artificial reef;
- dismantling for recycling.

These different destinations evolve in relation to national or international circumstances, which complicate even further the planned management of dismantling.

To the population of ships still in active service, must be added all those ships already withdrawn from service and whose dismantling cannot be avoided:

- breakwaters whose floatability, stability or structure are in jeopardy;
- museum ships which owners are unable or unwilling to continue to maintain;
- ships in reserve having no further use;
- targets which cannot be sunk.

It would be helpful to complete this deterministic analysis with a statistical analysis that is essentially based on the size of each navy, the average age at which its ships are withdrawn from service, the population of the oldest ships, and a credible forecasted development in the size of this navy. On this latter point, the trend which most European naval fleets has been following in recent years is a general reduction in the number and tonnage of its fleets. This trend is not expected to be reversed over the coming decade.

I.1. The French naval fleet:

Recent large ships (Appendix I):

The latest figures for the dismantling of ships of over 1000 tonnes issued by the French navy show that around twenty ships are expected to be dismantled over the eight coming years, totalling a tonnage of approximately 80 000 tonnes. This finding is based on a prior assumption that forty-seven ships will be sold for re-use over the same period. However, with the French strategy of putting up ships for sale which frequently have more than thirty years of service behind them whereas our European neighbours start selling their ships when they are ten to fifteen years old, this assumption appears to be optimistic (Appendix III). However, the possible reintegration of some of these ships into the population to be dismantled should not greatly affect the total tonnage of ships to be dismantled over these eight years owing to their low unit displacement, with a few rare exceptions.

Aside from the hull of the ex-Clemenceau which could require means and infrastructure of a special capacity, the size of all the other government-owned ships (all less than 11 000 tonnes and less than 200m in length) do not give rise to any problem regarding means or infrastructure for their dismantling.

As a result, there should be an average supply of 3 ships to be dismantled each year providing a mean annual tonnage of 10 000 tonnes, over the eight coming years.

Large ships in poor condition:

A few large, old ships which have long been maintained in floating graveyards or used as breakwaters along each coastline are in poor condition. Given the uncertainty as to how long they can be kept afloat it is urgent to find specific dismantling solutions for these ships, separating them from the case of other naval ships of small and large tonnage. The recourse to large hoisting ships to transport these fatigued hulls could be examined rapidly to find a solution adapted to each particular case.

The smallest vessels (Appendix II):

A quick analysis for the ten coming years shows that in each of the large naval ports in France (Brest and Toulon) there are a high number (sixty odd units and 4000 tonnes in each port) of small vessels or port equipment which will be scrapped and will have to be destroyed. For technical reasons (towing impossible) and economic reasons (transport costs) essentially related to the size and number of these vessels, it would be better for them to be dismantled locally. Local solutions will no doubt have to be found in each of these large ports by organizing dismantling sites so as to group needs and spread out costs in the best manner possible in relation to the contract holder for each corresponding dismantling contract. The search for these solutions in consultation with non-military government authorities should start by giving thought to the different possible contract strategies, taking into account the local industrial network and the population of naval and civilian ships concerned.

I.2. The British naval fleet:

This fleet comprises the ships of the Royal Navy (RN), the Royal Fleet Auxiliary (RFA) and Royal Maritime Auxiliary (RMA). On the other hand, the means deployed by the Customs and the Maritime and Coastguard Agency (MCA) being of small size, of reduced number or mostly chartered (MCA), these are not taken into consideration in this inventory. These latter ships will probably be dismantled locally when they reach the end of their operating lives.

As part of a deliberate policy to sell off recent ships, the RN has transferred 87 ships to friendly foreign navies and the RFA and RMA have transferred 202 ships since 1990. This has reduced by the same amount the number of government-owned ships remaining to be dismantled despite a reduction in the official size of the naval fleet by over one quarter. The British authorities estimate that there are around thirty government-owned ships of over 1 000 tonnes having a total tonnage of around 90 000 tonnes to be dismantled over the ten coming years. However, recent information points to serious financial restrictions which would affect the Royal Navy as early as 2007 to finance outside operations, compelling it to sell or place in reserve numerous combat ships. Any such measures would force the Royal Navy, to reduce reserve support costs, to dismantle ships that are currently in reserve.

DEFRA (Department of Environment, Food and Rural Affairs) which pilots the committee examining the dismantling of government-owned ships, has drawn up a government dismantling strategy which has been submitted to the opinion of all publicly concerned bodies (Associations, NGOs, recycling facilities…). Its update is due to be published in March 2007. An international invitation to tender has currently been launched in the United Kingdom for the dismantling of the Intrepid. The choice of dismantling site will be known in February 2007 and should enable the Royal Navy, at least it is hoped, to recover several hundred thousand pounds from the sale for cleaning and dismantling the ship.

I.3. The Germany naval fleet:

The vast majority of the German Navy's current maritime force has been in service since the early 90s and most ships, and the few older ships, are to undergo modernisation programmes thereby protecting them against any dismantling in the near future. This means that only a very low of number of ships will have to be dismantled over the ten coming years.

Mention is made of the frigate Rommel which was dismantled in Turkey in 2004, after undergoing previous partial pollutant removal in Germany. An identical fate in 2007 or 2008 possibly awaits the last sister-ship in the series, the Lutjens. Four small submarines and a small support ship are to be dismantled, probably in Europe. Two former small oil tankers are to be dismantled in 2012 but as yet no specific destination has been determined.

To conclude, less than ten units of small or medium tonnage will be sent for dismantling in the ten coming years, the total tonnage being in the order of 15 000 tonnes.

I.4. The Italian naval fleet:

The Italian navy has not dismantled any large-size unit since 1999. However its difficult financial situation and the arrival of new large ships could mean that it will withdraw from service and dismantle earlier than expected those ships which are around twenty years old or more (including the aircraft carrier Garibaldi) unless they are sold like the Luppo frigates.

At the present time its intentions for the near future are to scrap a cruise ship (10 000 tonnes), two frigates (3500 tonnes) and a corvette (2500 tonnes).

Over the ten coming years, the Italian navy could be led to dismantling approximately ten ships of small and medium tonnage, the total tonnage being in the region of 30 000 tonnes.

I.5. The Spanish naval fleet:

In the past the Spanish naval fleet eliminated its time-expired ships, after prior pollutant removal, by using them as shooting targets. However the constraints connected with sinking operations are liable to bring a reduction in this destination for all naval ships.

Two landing ships of 5000 tonnes each, two submarines of less than 1000 tonnes and two frigates of 4000 tonnes will be dismantled in the near future. Other frigates should follow over the ten coming years. The remainder of the ships to be dismantled is all of small size.

Over the coming ten years, the total tonnage of Spanish naval ships to be dismantled can be estimated at less than 30 000 tonnes.

I.6. The Portuguese naval fleet:

The major part of the Portuguese naval fleet consists of ships of less than 2000 tonnes.
A few older units (3 despatch escort vessels, 4 corvettes and one oil tanker) are to be withdrawn from active service on and after 2010. Since they will no doubt be dismantled on account of their age, this should represent a tonnage of less than 20 000 tonnes over the ten coming years.

I.7. The Dutch naval fleet:

The Dutch naval fleet consists of small or medium-sized units except for two recent tank landing ships. A policy of selling recent ships is applied by the Dutch authorities to the benefit of friendly foreign navies. Four frigates were sold under these conditions and a tanker could be sold in 2011.

In 2005 and 2006, the dismantling of two frigates of Tromp type was completed at a site close to Rotterdam. Two submarines, previously on loan to a foreign navy, were dismantled on a site in South-east Asia.
The Dutch navy has no plans for any significant ship dismantling operations between now and 2015.

I.8. The Romanian naval fleet:

The Romanian navy apparently has 26 decommissioned naval ships which it is currently considering to dismantle. The largest ships in this list are two frigates of 1800 tonnes and an oceanographic ship of 1500 tonnes, the remaining ships being offshore patrol vessels of small size. The entire decommissioned fleet is thought to represent a total tonnage of less than 8000 tonnes.

I.9. The Greek naval fleet:

Between now and ten year’s time the Greek navy is expected to withdraw from active service 26 vessels of small or medium size. However no dismantling plans have been made since contacts are currently in progress to sell these ships to friendly foreign navies.

I.10. The Polish naval fleet:

For budgetary reasons, the Polish navy is apparently intending to part with around fifty ships (sale or dismantling) between now and 2010. However, a very large majority of these ships are of small size with the exception of the Tarentul frigates which should be sold to a foreign country. These ships will probably be disposed of in Poland on account of their small size.

I.11. The Swedish naval fleet:

Over the coming decade, the Swedish navy is expected to withdraw around twenty ships from active service. Some ships, like the Göteborg corvettes, are less than 15 years old and could be sold. The remainder consists of one supply ship of 2000 tonnes, two submarines, small offshore patrol vessels, mine layers and old gun boats which will probably be dismantled in Sweden or at a site close to Sweden owing to their size. All these ships to be dismantled when combined together should not represent a tonnage of more than 6000 tonnes.

I.12. Other European naval fleets:

The other European naval fleets (Belgium, Finland, Norway, Cyprus, Denmark, Malta) do not have any ships due to be withdrawn from service whose number and tonnage is of any significant size. In addition, many of these fleets, in particular those of Northern Europe, apply a policy of selling recent ships and are only rarely confronted with dismantling operations.

It can be estimated that over the ten coming years, all the above navies will dismantle a maximum tonnage of naval ships that does not exceed 10 000 tonnes.

I.13. Summary:

Over the coming decade it can be therefore be estimated that all the European navies taken together will be led to dismantling a total tonnage of around 300 000 tonnes, representing approximately 150 naval ships of large and medium tonnage (over 1000 tonnes). On average, this therefore only represents a flow of approximately 30 000 tonnes per year.

Among these ships, only a very few will be units of the size of the ex-Clemenceau requiring special means and infrastructures. This does not amount to a supply of ships to be dismantled which definitely requires the creation of new dismantling sites, or the far-reaching conversion of existing facilities which should be able to adapt to specific cases.

On the other hand this modest flow requires the organising of coordination at European level so that it can be spread over the period under consideration, and so that dismantling can be contracted under the best economic and environmental conditions and the best conditions to ensure worker protection.

II. European government-owned civilian fleets

In its usual acceptance under maritime law, this category of ships covers civilian units belonging to public bodies whose activity is conducted solely outside industrial and commercial spheres. However, with a view to managing the end of their operating lives, the inclusion must also be made of those ships which belong to public bodies and territorial authorities (Appendix IV) when they are withdrawn from the industrial and commercial sectors in which they were operated (chiefly dredging, laying of water and cable transits).

II.1. The situation in France:

Consultation of the file held by the maritime affairs office (Ministry of transport, equipment, tourism and maritime affaires) indicates that 245 units of over 100 tonnes come under this category of government-owned ships. This highlights the difficulties faced by public bodies to manage the end of the operational life of their ships, which difficulties still frequently give rise to solutions of floating storage at the end of a basin, supposedly provisional “mothballing”, etc. This list of 245 ships comprises a considerable number of small-sized units whose issue of dismantling is raised in similar terms as for the pleasure craft sector. This number is reduced to 16 units once the tonnage condition is brought down to 500 tonnes and a certain number of material errors have been deleted from the list. It is to be pointed out however that, for the completeness of this analysis and having regard to the follow-up difficulties entailed, the exact future of several units of over 500 tonnes is currently the subject of additional reflection by the government administration which had use thereof.

II.2. Other European countries:

It was not possible for the French inter-ministerial committee on ship dismantling (MIDN) to obtain precise indications from other Member States on their government-owned civilian fleets.

II.3. Summary of the European situation:

It can however be reasonably estimated that, taking all European countries together, the total lightweight tonnage will be in the order of 100 000 tonnes.

III. Merchant fleets – situation

At the start of 2006, the world's merchant fleet of over 300 tonnage units (Universal Measurement System) was in the region of 45 000 ships having a total deadweight tonnage of 950 million tonnes (950 mdwt).

This tonnage is up by 6.4% over the previous year, which amounts to the strongest increase for many years.

In 2005, newbuilds reached 70 mdwt. These 70 million deadweight tonnes represent 1627 new ships, whereas the increase for new ships in 2004 was only 1341 ships totalling 62 million deadweight tonnes.

III.1. Relative shares of the different types of ships:

As at 1st January 2006, tanker vessels represented 41% of the world's fleet, with a transport capacity of 387 mdwt. The dry bulk fleet for its part represented 36% of the world's fleet with 341 million deadweight tonnes. With 111 million deadweight ones, i.e. 8 million TEU[1], container carriers correspond to 11% of the world's merchant ships.

Passenger ships and roll-on/roll-off vessels account for less than 1% of the total figure.

III.2 Average age:

The average age of the world's fleet as at 1st January 2006 was 19 years. 58% of the total number of ships exceeded 15 years. Strong divergences are to be pointed out:

- 7,037 cargo vessels are more than 25 years old;
- 4,017 tankers are more than 15 years old;
- 28.7% of container carriers are less than 5 years old.

The average age of ships flying the flag of a Member State of the European Union is 15 years. For the record, the age of merchant ships plying under the French flag does not exceed 7.3 years. This is

[1] TEU: Twenty-foot Equivalent Unit, unit expressing the transport capacity of a container carrier

a clear indication that when they are withdrawn from the European fleet, and all the more so from the French fleet, merchant ships are sold and are only rarely dismantled.

III.3. Ownership and flag State of merchant ships:

495 mdwt, i.e. 53% of the world's fleet, are registered under flags of convenience. 442 mdwt are listed under "conventional" national registers.

Panama, Liberia, the Bahamas, the Marshall Islands and Malta alone represent 46% of the world's merchant fleet.

As at 1st January 2006, 8,250 ships were under the flag of a Member State of the European Union, i.e. 26% of the world's fleet or 23% of the world's deadweight tonnage.

Beyond this flag issue, analysis of the ownership of the world's fleet shows that it is largely controlled by shipowners set up in Asia (44%) or Western Europe (43%). As at 1st January 2006, 17,241 ships of over 1000 UMS were controlled by OECD shipowners i.e. 64% of the world's fleet of ships in this size group.

This fleet controlled by OECD shipowners represents:

- 74% of container carriers,
- 71.1% of passenger ships,
- 64.3% of tankers,
- 63.9% of bulk carriers.

III.4. Current situation of time-expired merchant ships:

Whereas statistically, on the basis of an initial life expectancy of 30 years at the design stage, the average number of ships dismantled each year should be more than one thousand merchant ships throughout the world, the maximum figures reached in the last ten years have never reached one thousand units and have been well below five hundred units in these last two years.

This inevitably leads to lengthening of the average age of ships being dismantled, which in just a few years has moved up from less than 30 years of age to over 30 years.

This trend is clearly detrimental to the safety of seafarers and navigation, and to the protection of the environment.

III.5. Summary of European merchant ships:

By grouping together firstly the population of small merchant and fishing vessels and working vessels (barges …) that are too small or in too poor condition to be sent by their owners to Asia, and secondly the population of large merchant ships for which some image-conscious shipowners will follow the example of their national government, the total tonnage of European merchant ships to be dismantled in Europe over the ten coming years can be estimated at between 100 000 and 300 000 tonnes.

III.6. Abandoned merchant ships:

The European States are frequently faced with ship abandoning by unscrupulous owners of merchant ships, these ships being abandoned in their ports or on their coasts after suffering damage. Experience has shown that the actual capacities available for the taking of action against these owners to compel them to free these spaces and to take in charge these abandoned ships, is very scant, including through the use of national or international courts of justice. Under these conditions, for national authorities the only way of clearing away and disposing of these ships often in very poor condition is to take in charge their dismantling both financially and technically.

Although the increased life expectancy of numerous merchant ships statistically leads to a credible increase in such abandons, the total tonnage of ships to be dismantled under these conditions over the ten coming years in all Europe will not exceed a few ten thousand tonnes, and will give rise to the search for nearby dismantling sites to avoid the risks of long voyages in tow.

III.7. Summary of the European situation:

To conclude, these different populations of European ships (naval ships, government-owned civilian ships, merchant ships) which will be dismantled in Europe over the coming decade amount to a total tonnage of 500 to 700 000 lightweight displacement tonnes. This is a low tonnage compared with the world tonnage of merchant ships to be dismantled over the same period (60 to 100 million lightweight displacement tonnes).

Appendix I
Dismantling programme for French navy vessels over the period 2007-2014.

Year	2007-2009		2010		2011		2012		2013		2014		Total
	type	**t**	**type**	**t**	**type**	**t**	**type**	**t**	**type**	**t**	**type**	**t**	
	*tanker	8390	*cruiser	8500	cruiser	10500	*frigate	4650	repair-ship	7800	frigate	3900	
	*transport vessel	1750	*tug	400									
	*dispatch ship	1100											
	*lighter	540											
	*aircraft carrier	24400											
	*frigate	3750											
	*frigate	2800											
	*dispatch ship	1750											
	*tanker	630											
	*dredger	365											
	*tug	400											
	transport vessel	1750											
Total		47500		8900		10500		4650		7800		3900	83375

Key	* ship types preceded by an asterisk have already been withdrawn from active service
	ship types in italics concern breakwaters
Hypotheses: Ships not included in this list.	7 ships (total 16 000 tonnes) are identified to be used as targets over the period 2007-2014
	47 ships (Total 35 000 tonnes) are identified to be sold over the period 2007-2014

Appendix II

The dismantling of small vessels belonging to the French navy over the period 2007/2017

Preamble

In its preliminary report on the dismantling of naval and government-owned civilian ships, the inter-ministerial committee on ship dismantling (MIDN) clearly mentioned the particular case of small naval and government-owned civilian ships for which considerations relating to environmental and navigational safety and economic considerations argue in favour of the search for a dismantling site close to the location at which these ships are withdrawn from service.

Based on the analysis conducted by the French navy on the number of its ships and port equipment vessels having a lightweight displacement of less than 350 tonnes, the MIDN has set out to compare the advantage of the different dismantling strategies and their impact in terms of quantity, tonnage and flow of supply that this category of vessels would have on any dismantling facilities set up for larger ships.

Analysis

With a view to initiating a global examination in line with the above-mentioned orientations, the MIDN conducted an analysis of this population of small naval vessels per year and per location of withdrawal from active service, but also per type of ship structure (steel, wood or composite materials). Dismantling methods and tooling, the recycling of raw materials and the treatment of end wastes are effectively related to the type of main constituent material of this structure. The dismantling of small steel ships could benefit from an existing facility for large ships, and the dismantling of small ships in composite materials could benefit from an existing facility for fishing vessels or pleasure craft.

This analysis is based on the three tables given in the annexes which reproduce the French navy's forecasted figures for the ten coming years. The following main points emerge from these tables:

- In number and in tonnage a very large proportion of these ships has a metal structure in steel. Only the smallest boats having a maximum length of 25 m and a displacement at the outside of 50 tonnes are frequently in composite materials and more rarely in wood.

- For the ships in steel, as for the vessels in composite materials, the dismantling of these small vessels could be largely carried out at the ports of Brest and Toulon, or close to these ports, if the French navy's current programme is strictly followed.

- Over the ten coming years the ports of Brest and Toulon could each be the scene of the local dismantling of approximately 3500 tonnes of small steel ships and approximately 300 tonnes of vessels in composite materials. When smoothed over this period, this workload in no way warrants the creation of specific infrastructures. In addition, this tonnage is marginal (5%) compared with the tonnage of French navy vessels of over 1000 tonnes which are to be broken up over the ten coming years (80 000 tonnes). However, the size and number of these small-sized naval vessels mean that it is difficult to consider having them dismantled at places far away from these ports, which is not the case for ships of large size.

- The size of the ships to be dismantled in Brest and Toulon, and their respective conditions, should allow this workload to be smoothed evenly over these ten years so as to optimise and ensure the sustained activity of local industrial tooling which makes reuse of existing equipment and infrastructures.

- With only one exception in the ports of Djibouti and Fort de Portugal, all decommissioning operations in the ports of Cherbourg, Lorient, Nouméa, Papeete, Dakar, Mayotte, Djibouti and Fort de Portugal only concern a reduced number of ships and tonnage over the ten coming years. Ad hoc dismantling contracts could be sought. However, grouping by means of long-term programmes and regional synergies could be contemplated, in particular if the local industrial network for dismantling or waste treatment came to experience technical difficulties or entailed a disproportionate financial burden. Having regard to the tonnages under consideration, any return of ships to Metropolitan France should not require any re-sizing of existing industrial tooling and would not upset the economy of local markets in operation in Brest and Toulon.

Conclusions

In Metropolitan France, the feasibility of organising a dismantling contract on the Atlantic coastline and Mediterranean coastline is clearly inferred from the above. The use of more than one dismantling site on each of these coasts appears little credible having regard to the tonnage of ships to be dismantled. The *ex nihilo* creation of a new site does not appear expedient in either case taking into consideration the annual supply of metal concerned (350 tonnes). The reuse of existing infrastructures and facilities for recycling metals would appear to have economic preference.

Only the recourse to existing facilities on these coasts for the dismantling of fishing vessels or pleasure craft can be considered for the marginal share of small naval vessels that are built of composite materials, should the possible use of industrial tooling dedicated to steel ships prove to be technically and economically insufficient.

The analysis for Metropolitan France regarding the creation of new industrial facilities is even more valid for the different French overseas ports, since the number and tonnage of ships concerned is even lower. The local industrial fabric will have to be examined on a case-by-case basis in these ports to assess the whether a ship should be brought back to Metropolitan France for dismantling, or whether to organise the regional grouping of hulls to be dismantled.

Several contract strategies can be considered for steel recycling in order to provide the French navy with a flexible timeframe for its dismantling programme. In absolute terms, and at first sight, the framework of a renewable annual contract under which orders are placed would appear to offer the best advantage. However, the existence or non-existence of a nearby facility on the same coastline, dedicated to the dismantling of large naval and civilian vessels which cannot be towed over long distances, will be determinant in the choice of this strategy (even taking into account the probable difference in the intrinsic size of industrial facilities and in the economies of the respective circuits).

By definition, the locating of the single dismantling circuit for small steel ships on each of the coastlines cannot be too far distant from the naval ports of Brest and Toulon. Nonetheless the prior existence of a scrap collection or treatment circuit at a merchant port on this coastline could produce a strong technical and economic attraction for these specific facilities.

Also, most of these ships were designed and built by small shipyards distributed along the coasts of Metropolitan France, often having no link with the ministry department for naval shipbuilding (DCN). Many of these sites have disappeared or have been largely restructured, and the technical synergies which may exist in the naval ports of Toulon and Brest with the DCN for large naval ships are scarce or even non-existent.

With an approach as novel as this global planning for the dismantling of small naval vessels, at least in Metropolitan France, it is difficult to predict the industrial groupings and synergies which could be deployed by existing or new economic players, on the basis of current infrastructures and equipment capacities existing on the Atlantic coast and Mediterranean coast.

Therefore, a contractual approach by the French navy, based on global planning of ship dismantling, could prove to be beneficial by bringing novel, economically advantageous industrial solutions.

The results of this approach could then be compared with possible industrial solutions which might emerge in Metropolitan France for the treatment of large naval vessels, or could even be compared with European solutions which may be organised. However this approach is becoming urgent and should become one of the priorities of the French naval departments concerned.

Appendix II cont.

Withdrawal programme for small naval vessels and craft belonging to the French navy

TOTAL	Toulon		Brest		Cherbourg		Nouméa		Papeete		Lorient		Mayotte		Djibouti		Fort de Portugal		Dakar		Total	
	number	t	number	t	number	t	number	t	number	t	number	t	number	t	number	t	number	t	number	t	number	t
2006	22	1793	17	1350	1	92	1	14	3	332	3	114	2	20	0	0	0	0	0	0	49	3715
2007	7	165	4	74	3	169	1	16	0	0	0	0	1	56	0	0	0	0	0	0	16	480
2008	8	306	7	452	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	774
2009	2	14	5	410	0	0	0	0	1	9	0	0	1	14	0	0	0	0	0	0	9	447
2010	3	183	9	495	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	678
2011	3	376	2	32	2	132	0	0	0	0	0	0	0	0	1	325	0	0	0	0	8	865
2012	1	20	3	50	1	27	0	0	0	0	1	56	1	56	0	0	1	200	0	0	8	409
2013	8	304	3	56	0	0	0	0	0	0	0	0	0	0	0	0	2	40	0	0	13	400
2014	2	136	1	5	0	0	2	40	2	54	0	0	0	0	1	20	0	0	0	0	8	255
2015	1	35	0	0	1	41	0	0	1	27	0	0	0	0	2	112	0	0	1	56	6	271
2016	5	305	1	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	332
2017	2	62	7	750	1	80	1	27	1	27	0	0	0	0	2	54	0	0	0	0	14	1000
Total	64	3699	59	3701	10	557	5	97	8	449	4	170	5	146	6	511	3	240	1	56		

Appendix III

Recent sales or planned sales of naval vessels in service by the navies of our European neighbours

1. Royal Navy:

Frigates Coventry and London sold to Romania in 2004 and 2005, subsequent modernisation in the United Kingdom with delivery in 2007.
The aircraft carrier Invincible withdrawn from active service could be sold to India before 2010.
Three mine sweepers of Sandown type (Inverness, Sandown and Bridport) sold in 2006 to Estonia after modernisation in progress in the UK.
Type 23 frigates, Norfolk, Grafton and Marlborough, to Chile in July 2006.
N.B. These three frigates have rejoined the Sheffield frigates previously bought by Chile from the RN, and replace the ex-British Leander type frigates probably sold to Ecuador.

2. Italian navy:

Two frigates of Luppo type (Luppo and Orsa) sold and delivered to Peru in 2004 and 2005.
Two frigates Luppo type (Sagittario and Perseo) delivered to Peru in 2006.
N.B. Peru already had 4 other frigates of the same type built locally under licence from the Fincantieri shipyard.

3. Dutch Royal Navy (Koninklijke Marine):

Two frigates of Van Hermskerck type: Jacob Van Heemskerck and Witte De With arrived in Chile in 2006.
Two frigates of Doorman type: Abraham Van Der Hulst (2005) and Tjerk Hiddes (2007) will arrive in 2007.
Two frigates of the same type, Karel Doorman and Willem Van Der Zaan, to Portugal in 2007 and 2008.
The two last frigates of Karel Doorman type (the Van Nes and Van Galen) could be sold to another foreign navy (Portugal perhaps if this country sells its two despatch-escort ships João Belo [ex-type Commandant Rivière] to Uruguay).
Five Tripartite class Mine Hunters (CMTs) in composite materials were sold to Latvia in 2005.

4. Belgian navy:

Frigate Wandelaar sold to Bulgaria in 2005.
The frigates Wielingen and Westdiep of the same type could be sold to Bulgaria in 2007.
The mine hunter Myosotis could be sold to Lithuania.

5. German navy:

Six missile-launcher patrol vessels to Tunisia in 2004 and 2005.
Sale of two mine hunters of 332 type, Frakenthal and Weiden, to the United Arab Emirates in 2005.
Delivery of two torpedo recovery ships, Kalkgrund and Bant, to Israel in 2006.
Contacts in progress with Bulgaria and Egypt for the sale of second-hand, Class U206A naval submarines.

6. Polish navy:

Five patrol vessels of Pilika type (100t) will be sold to Latvia in 2006.
Two frigates of Tarentull type, decommissioned, could be sold to Vietnam.

7. Spanish navy:

The Descurbierta corvettes should be sold to Uruguay and Venezuela in the coming years.

8. Portuguese navy:

Possible sale of 2 frigates of Jao Belo type (ex-Cdt Rivière type) to Uruguay in 2010.

9. Finnish navy:

Sale to Egypt in 2006 of four OSA II missile launcher patrol vessels (ex-Russian) converted to mine layers in 1993.

10. Swedish navy:

The sale of two submarines, Vastergoland class, non-modernised, to Singapore with delivery in 2010 does not appear to have been definitely negotiated.
The last remaining SPIC II missile launcher patrol vessels could be sold to a friendly foreign navy.

11. Danish navy:

Three patrol ships of Stanflex 300 type were sold to Lithuania in 2006.
Sale of a mine layer of Lindormen type to Estonia in 2005.
Possible sale to Bulgaria of U209 submarines withdrawn from service.

12. Greek navy:

The Greek navy is negotiating with Pakistan for the sale of four of its ten frigates of Elli type (ex-Dutch Kortenaer 1981).
The Greek navy has been seeking to sell its U209 submarines to Egypt since 2000.

13. Norwegian navy:

Sale of the mine layer Vidar to Lithuania in 2006

Appendix IV

List of ships of + 450 GT that are government-owned or belong to a public body and are to be demolished over the 5 coming years										
Name	**Ship N°**	**DoB**	**Oslo GRT**	**London GT**	**dwt**	**Overall length**	**Operator**	**Port**	**Type of ship**	**In/Out of service**
G.F 21 GUSTO	188 920	1946	749				Port Autonome	Le Havre	Floating crane	In
CHARLES BABIN	329 162	1949	517				Port Autonome	St Nazaire	Lighthouse tender	In
ATLAS	914 123	1965	1406			42.7	Port Autonome	Marseille	Floating crane	Out
HERCULE	924 239	1968	907				Port Autonome	Marseille	Roll-on/Roll-off	In
COTES DE BLAYE	293 553	1970	495		147		Régie départementale des bacs GIRONDE	Le Verdon	Ferry	In
GIRONDE	718 178	1967	997				Régie départementale des bacs GIRONDE	Bordeaux	Ferry	Out
LOUIS COLET	225 613	1973	455			44.72	Port Autonome	Marseille	Pump boat	In
EMILE ALLARD	275 508	1949	548				Service maritime du Nord	Dunkerque	Lighthouse tender	Out
ROBERT PEYRONNET	188 925	1973	1199	1295		65.9	Port Autonome	Le Havre	Grab dredger	In