

Decision-Making Processes In Shipping Acquisitions And Shipbuilding
by

Vasileios Maroulis

M.Eng in Naval Architecture and Marine Engineering, University College London, 2002

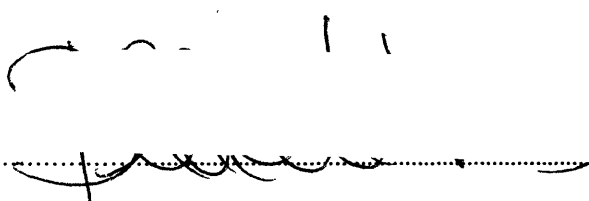
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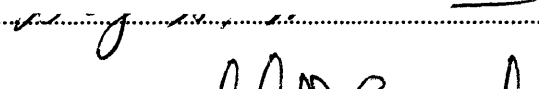
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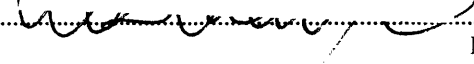
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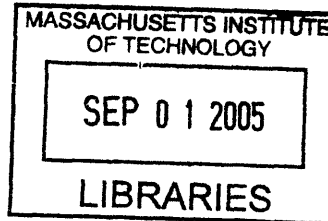
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ABSTRACT

The purpose of this thesis is to expand and analyze the decisions that are constantly being made by shipping companies concerning acquisition of newbuildings, the construction of newbuildings, operational aspects as well as financial issues concerning a shipping company. The issues that shall be analyzed and discussed have been deduced after extended discussions with technical directors of some of the major Greek Shipping Companies.

Once all issues at hand have been deduced, this thesis shall provide a general introduction, and consequently an analysis of each and every major event at hand, indicating Shipping Company's various options. The next step shall be to analyze the results of all the interviews, and then finally give further comments and suggestions concerning each and every major event at hand shall be indicated.

Thesis Supervisor: Henry S. Marcus

Title: Professor of Marine Systems

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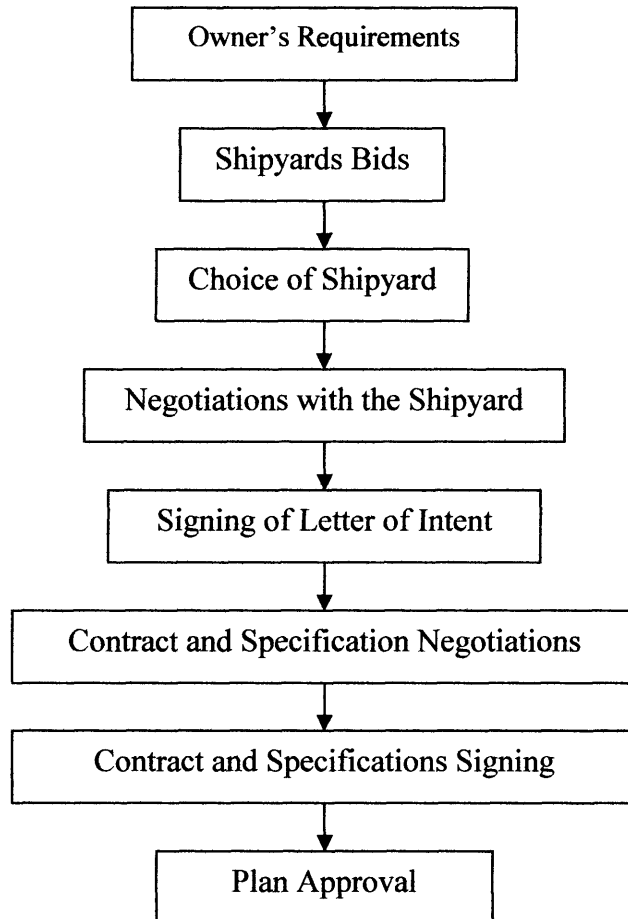
1. INTRODUCTION

The purpose of this thesis is to expand and analyze the decisions that are constantly being made by shipping companies concerning acquisition of newbuildings, the construction of newbuildings, operational aspects as well as financial issues concerning a shipping company.

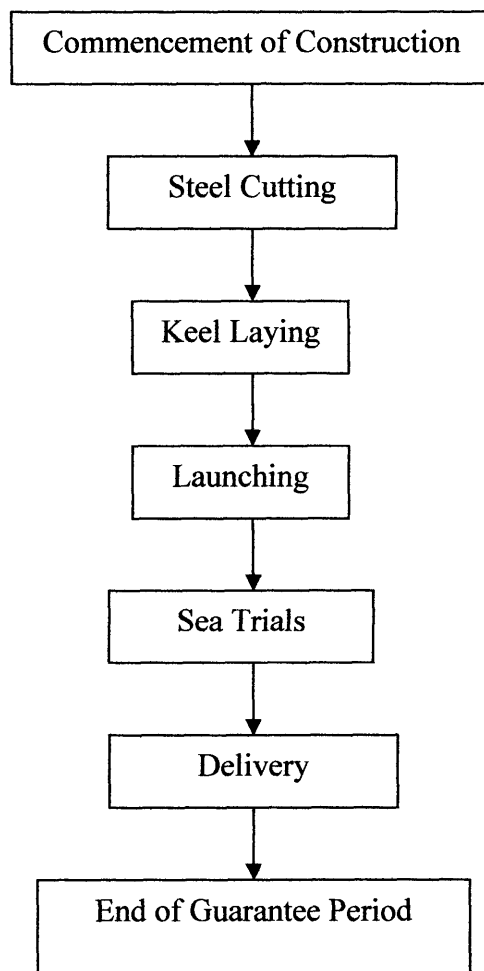
This chapter will outline the major events of a ship's life. They have been deduced after extended discussions with technical directors of some of the major Greek Shipping Companies.

These major events are represented in the following four flow charts. The first flow chart represents the main steps up until the point of the commencement of the construction of a newbuilding. The second flow chart represents the major events that occur during the construction process of a newbuilding. The third flow chart represents some of the major issues that a shipping company is concerned with when it is operating the vessel. Finally the fourth flow chart represents some of the main concerns that shipping company faces in terms of financing a newbuilding.

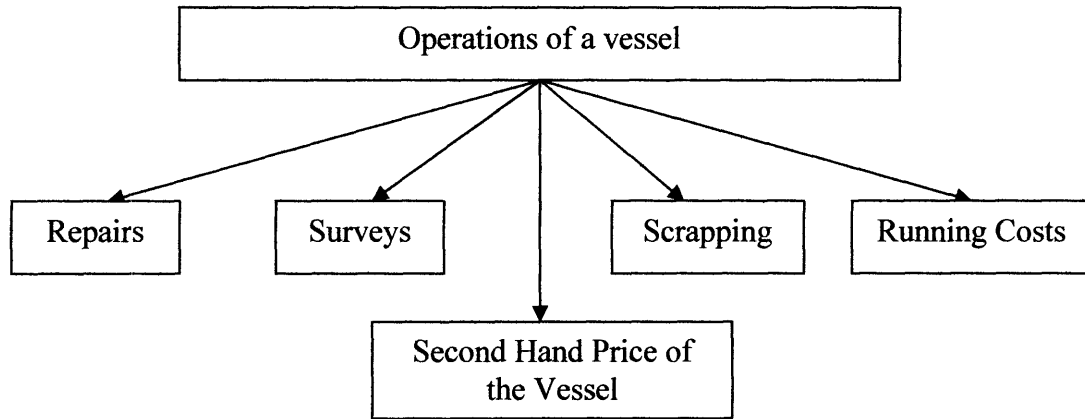
FLOW CHART 1: Major Events up until the point of the Commencement of the Construction of a newbuilding.



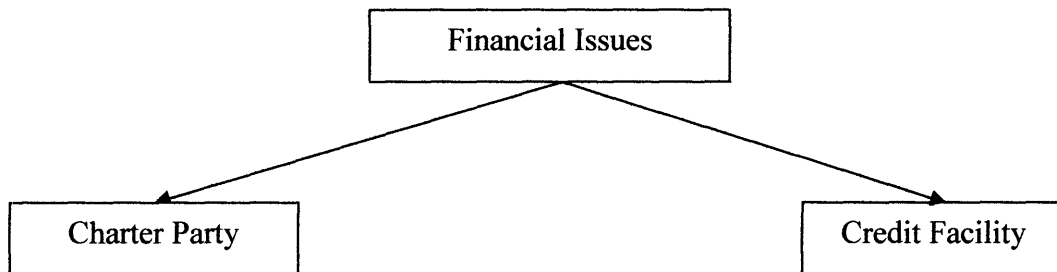
FLOW CHART 2: Major Events During the Construction Process of a newbuilding.



FLOW CHART 3: Major Issues of the Vessel's Operation



FLOW CHART 4: Major Financial Issues Concerning a Newbuilding.



Once all the flow charts had been outlined, the next step is to analyze each and every event that was fore-mentioned, indicating the various options, then what shall be done is to analyze the results of the interviews, and then finally the author will try to present his personal opinion concerning all the main items of this thesis.

2. PRE-CONSTRUCTION PHASE

2.1 INTRODUCTION

The combined influence of excessive and sometimes irrational legislation, the intensive reliance on computer based analyses, and recent monetary crises have brought about revolutionary changes in the new building market.

The fierce competition between Classification Societies for securing Class, and the uncontrolled production of legislation by the ever increasing Regulatory bodies plus the known difficulties in securing good quality work in many or most shipyards worldwide has resulted to a situation whereby an owner cannot rely on the Class Society that in most instances may protect the yard interests.

For this reason it should be realized that times have changed dramatically from the romantic era whereby the owner worked hand in hand with the Class Society and the yard in order to achieve the best possible product, and when the entire building process was an educational experience for all the parties concerned.

Today the yard has to work at an unprecedented pace since the only way to generate profit at current prices is maximization of production and will therefore continuously attempt to 'cut corners'. On the other hand the Class Society will approve the design and survey a product that is completed almost always in a way that it would less affect the productivity of the yard and in most instances to the detriment of the ship's quality itself. The owner has therefore to resume the largest part of the role that the yards quality control and the Class Surveyors used to cover in the past.

Consequently, a questionnaire (Appendix 1) was created and the author met with technical directors and independent consultants (Appendix 2) who operate in Greece in order to see whether there is any correlation in the ways in which Greek Shipping Companies operate and record their views and opinions on major issues that concern the Shipping Community.

2.2 OWNER'S REQUIREMENTS

It is usually the case that the owner's requirements for a new building should only depend on the state of the segment of the shipping market in which that the potential new vessel shall operate and the actual state of the owner's fleet (in terms of size and age) at the specific moment when the vessel shall be delivered.

The former statement is indeed true for many shipowners and for many shipping companies, but what is also true is the fact that newbuildings are considered as very prestigious; therefore, many times shipowners that have successful shipping companies and respectable amounts of capital available are tempted to purchase new ships. There is also the factor of what are the rest of the competitors or the owner's friends are doing. Especially in the Greek shipping community where the leadership of the shipping company remains in the hands of the actual shipowner, decisions concerning newbuildings lay upon the judgment and the intuition of the shipowner. Thus the actual decision making process concerning the requirements for a newbuilding may vary very much.

One more factor that needs to be considered is that every shipping company usually has very strong ties with specific shipyards and thus on many occasions the

shipyard on its own or through a broker will approach the shipping company stating that there is an available berth for a specific type of vessel at a very specified time and therefore the decision making process may last close to five days.

2.2.1 INTERVIEW RESULTS

The questionnaire that was created incorporated a question concerning the length of the actual decision making process for a newbuilding order.

All of the interviewees immediately answered that there is no rule of thumb and that it varies a lot depending on the experience of the shipping company and the market conditions. Even though as far as this question is concerned the results of the interviews were not specific enough, all of the interviewees indicated that the whole decision making process is always there, since the shipowners are always looking for opportunities to expand their fleet and make profits. What was impressive was the fact that some of the interviewees indicated their company's policy.

Most of the technical directors that were interviewed indicated the fact that the fleet of a successful shipping company needs to be comprised of different sized vessels in order for the shipping company to be able to hedge itself against seasonality. Another important fact was that the majority of the interviewees indicated that the fleet of the shipping company needs to be young (especially after the Prestige incident) and this is always taken into consideration when a newbuilding is being considered.

Some other factors that are considered is that the decision making process for a newbuilding depends on the actual size of the shipping company, since as I was told the 'big' shipowners of Greece tend to build when the orders for the shipyards are down and

therefore the prices are down independent of the status of the market the vessel is going to operate in, since the large shipping companies have cash flows that are relatively assured and therefore they do not mind taking a slight loss, for the prospect of fully capitalizing on potential future potential upside of the market.

2.2.2 FURTHER COMMENTS AND SUGGESTIONS

The way the Greek shipping companies operate as far as the decision making process for a newbuilding is concerned fully captures their philosophy of constantly operating in the spot market. They try to take advantage of their strong ties with the shipyards, in order to build when the prices are down and to take advantage of the very well known cyclical nature of the shipping industry as a whole.

As far as the logistical part of the process, the author feels that the companies should consider being a bit more pro-active and that the shipping companies should rely a bit less on intuition and a bit more on market research and statistical studies that are performed by various companies. One more factor that needs to be considered is the fact that the companies themselves have a huge amount of data that can be used to help them for the future.

The shipowners should more often get together with some of their senior managers and discuss the viability of the potential projects at hand.

2.3 SHIPYARD BIDS/ CHOICE OF SHIPYARD

Once the shipping company has decided that it needs to build vessels, it needs to decide in which shipyard they are going to be built. The process of shipyard bidding and

the actual decision for the shipyard occurs almost simultaneously and is dependent on the following factors:

- Number of Vessels that the shipping company wants to build.
- Type of Vessels that have to be built.
- Available Delivery Dates of the Vessels
- Reputation of the Shipyard in terms of performance and reliability.
- Actual Cost of the vessels.
- Flexibility of the shipyard in terms of what the owner will want as extras on top of the basic shipyard design.
- The Classification Society the owner has chosen for the vessel at hand.
- Actual relationship between the shipping company and the various shipyards.

2.3.1 PRIMARY ANALYSIS USING FORMER PUBLICATIONS

Before analyzing the results of the interviews, a primary analysis of the actual present conditions of the newbuilding market have to be analyzed. What is going to be analyzed using formerly published statistics¹, are which countries dominate the shipbuilding market in terms of country of build and country of domicile for newbuilding vessels.

From the formerly published statistics, the next two tables indicate the current trends in the newbuildings market. Note: In both tables the nations listed were rated in terms of total dwt.

¹ Fairplay Solutions, March 2003 Issue pages 4, 6 of the Newbuilding Section.

	Number of Vessels Built	Total dwt
1)South Korea	491	43,438,740
2)Japan	577	39,863,779
3)China	330	14,452,118
4)Croatia	42	2,336,275
5)Poland	53	1,949,016
6)Taiwan	21	1,667,960
7)United States	20	1,390,739
8)Germany	62	1,215,692
9)Philippines	16	836,434
10)Denmark	6	634,500

Table 1: Newbuildings Order Table (Country of Build).

	Number of Vessels Built	Total dwt
1)Japan	282	19,878,067
2)Greece	178	15,815,119
3)Germany	210	5,611,877
4)United Kingdom	78	5,587,040
5)China	76	5,012,569
6)Norway	69	4,706,926
7)United States	69	4,077,944
8)Denmark	66	3,664,941
9)Taiwan	45	3,578,416
10)Hong Kong	46	3,564,110

Table 2: Newbuildings Order Table (Country of Domicile).

As it can be seen from Table 1 the top three shipbuilding nations are: South Korea, Japan and China. On the other hand from Table 2 it can be seen that the second nation in the world in terms of vessel country of domicile is Greece which is only surpassed by Japan at the specific time when the statistical analysis was performed.

The previous data were posted in order to be able to state how important the feedback from the interviews truly is, since the directors that were interviewed represent a large part of the largest Greek Shipping Companies and also to be able to see whether their answers in the following section correlate with the current published trends in the shipbuilding market.

2.3.2 INTERVIEW RESULTS

Every factor that was formerly mentioned will be analyzed separately as it reflects independent questions that were posed to the various technical directors and independent consultants that were interviewed.

2.3.2.1 NUMBER OF VESSELS

All of the technical directors and the independent consultants were asked to suggest which number of vessels they considered to be the most efficient in terms of results achieved and consequently which number their company usually ordered.

All of the interviewees, before answering the fore mentioned question, they made an observation, which, was that no company should build just one vessel. The reasons for the fore-mentioned statement are the following:

- The shipping company must take advantage of economies of scale.
- The large shipyards in Japan and in South Korea will not accept small orders.

One more immediate response was the fact that the more vessels a company orders the better, since if a shipping company places a large order then there is higher possibility of negotiating a slightly lower price than what the shipyards usually demand, but of course since all companies are realistic, the numbers have to be limited since the risks are too big and at the same time they need to take into consideration that the Japanese and South Korean Shipyards do not like shipping companies undertaking very large projects. For example, instead of one project with fifteen vessels, the shipyards would prefer three projects of five vessels, since what is the general perception is that the

shipping companies will get too familiar with the shipbuilding process and thus the owners will tend to complain more than they usually do.

The responses can be seen in the following table:

Company 1	2+2
Company 2	2+2
Company 3	Minimum of 3- Maximum of 14
Company 4	2+2
Company 5	2+2
Company 6	2+2
Company 7	2+1
Company 8	1+1
Company 9	2+2
Company 10	2+1
Company 11	2+2
Company 12	2+2
Company 13	1+1 or 2+2 for the bigger companies
Company 14	2+2

Table 3

As it can be seen from the previous table the most common answer is to order two vessels with an option for two more vessels. The option of building more vessels has to be activated (usually) within two to six months from signing the contract for the vessels. At the same time of course the shipyard safeguards itself as well and has a period of one

month after the signing of the contract if it wants to reduce the number of vessels it is obligated to build.

The reason behind the option function is because both the shipyards and the shipping companies need to hedge themselves in case of drastic changes in the shipping market. It has been seen in the past that because of the cyclical nature of the shipping industry prices of vessels may vary a lot and this is a very logical way for all the parties involved in a newbuilding contract to hedge themselves against the volatility of vessel prices.

What needs to be noted is the fact that the number of vessels ordered varies depending on the actual size of the shipping company; this is why some of the results of the interview involved answers such as 1+1.

2.3.2.2 TYPE OF VESSELS THAT HAVE TO BE BUILT

What seems to be the case is the fact that many of the large shipyards in Korea are beginning to create preferences in terms of what type of vessels they want to be built. This factor needs to be considered when found in the bidding process.

One of the technical directors clearly stated that the big South Korean yards prefer to build tankers and not bulk carrying vessels.

Finally, what also needs to be considered as far as this factor is concerned is that most of the companies that are examined do not have to deal with this factor since depending on the size of the company and the actual personal relationships of the shipowners with the shipyard's officials, most of the companies at hand have a lot leverage.

Another question that was posed to all of the interviewees was: how do you decide between using a new design and a yard design?

All of the interviewees without a single exception answered that the vessels ordered are always a yard design. The owner may want some extra's to be put on the vessel but always based on a yard design.

The extras involve better specifications. The most usual examples are:

- Stronger Hull
- Better Engine
- Better Coatings
- Better Equipments (In terms of which company makes them)

2.3.2.3 AVAILABLE DELIVERY DATES OF THE VESSELS

The questionnaire that was created incorporated a question concerning whether the delivery date can be negotiated.

Surprisingly all of the interviewees replied saying that the delivery date cannot be negotiated and that the shipyard totally controls the process. Some of the interviewees stated that through the nature of the relationship of the shipowner with the shipyard and through 'good customer status' some leverage can be created but not much.

One more factor that was mentioned was the fact that when the market is good for the shipyards then there is no leverage whatsoever, whereas when the market is not good then the shipping company is able to negotiate a bit more but even then the shipyards are very strict on berth dates.

Finally, what needs to be noted is the fact that the last factor that the delivery date of a newbuilding depends on is size and the reputation of the shipyard itself. If it is a relevantly small shipyard and the shipping company wants to place a large order, I was told the shipping company could negotiate an earlier delivery time for up to three months.

2.3.2.4 REPUTATION OF THE SHIPYARD IN TERMS OF PERFORMANCE AND RELIABILITY

When a company is found in the bidding process with the shipyards, one of the most important factors is the reputation and the performance of the shipyard itself. Thus what was needed to occur was to distinguish which are the shipyards that are considered the best at this specific point in time.

Unfortunately many of the interviewees were very reluctant on actually stating a specific company and therefore they were asked whether they can pin-point a country they prefer in terms of performance and reliability.

The results can be seen in the following table:

	Preferred Shipyard or Country
Company 1	South Korea
Company 2	Japan
Company 3	Japan, South Korea (NKK, Hyundai Heavy Industries, Daewoo)
Company 4	South Korea (Hyundai Heavy Industries)
Company 5	South Korea
Company 6	Japan (Hitachi, IHI, NKK)

	South Korea (Samsung, Hyundai Heavy Industries)
Company 7	South Korea
Company 8	Japan, South Korea
Company 9	Hyundai Heavy Industries
Company 10	Japan (IHI, NKK) South Korea (Hyundai Heavy Industries)
Company 11	South Korea
Company 12	South Korea
Company 13	South Korea
Company 14	South Korea (Hyundai Heavy Industries, Daewoo, Samsung)

Table 4

As it can be seen from the previous table almost all the interviewees have approximately the same opinions. It seems as though that South Korea and especially Hyundai Heavy Industries (HHI) has the upper hand in terms of reputation for newbuildings.

Elaborating a bit more on this subject, what needs to be mentioned are the following comments: It seems as though nowadays the number one shipbuilding nation in the world is South Korea, where in terms of reputation the number one shipyard is Hyundai Heavy Industries, number two is Daewoo, and number three is Samsung.

The number two shipbuilding nation in the world nowadays is Japan, where in terms of reputation the number one shipyard is Hitachi, number two is NKK, and number three is Mitsubishi and number four is Mitsui.

The number three shipbuilding nation in the world is China, where the shipyards for the time being they are relatively unknown because of the vast number of Chinese shipyards. The number four shipbuilding nation in the world is Taiwan.

What needs to be noted is that Europe and America are non-competitive anymore both in terms of price of the vessel, quality and time needed for delivery of the vessel. This is exactly why the American and most European shipyards have become specialized in building specific kinds of vessels. To indicate the former statement, the following examples shall be indicated: In the United States of America the majority of vessels that are being built are U.S flagged vessels in order for them to be able to operate within the Jones Act. Italy and France mainly build passenger vessels and cruise ships, whereas Germany now mainly only builds containerships.

What also needs to be noted are the following comments: It seems as though Japan provides very good and efficient designs but at the same time the Japanese specifications for the vessels are considered as being poor. On the contrary it seems as though the South Korean shipyards provide the best value for money. As far as China is concerned, the Chinese shipyards provide price differences (usually of the order of 0.5 million dollars) but the money difference cannot substantiate a move from a Korean shipyard if the shipping company has been able to secure a berth date in a good South Korean shipyard.

Finally, as it can be seen from Tables 1 and 4, the formerly published statistics and the answers of all the interviewees are in total agreement.

2.3.2.5 ACTUAL COST OF THE VESSELS

When a shipping company is found in the situation where it needs to decide in which shipyard it's going to build a vessel or a series of vessels it needs to consider the actual cost of the vessels. It needs to be mentioned that even if the shipping company manages to find a berth date for a series of vessels at one of the best shipyards of the world and the price is not competitive enough, then it is almost certain that they will not go forward and sign the contract, because at the end of the day the shipowner needs to make a profit. Once again as previously stated the best value for money for a vessel is being provided by the South Korean shipyards, and this is exactly why it is so difficult to secure a berth date in one of the large South Korean shipyards.

It needs to be noted that the reason for this 'value for money' is being provided by the South Korean shipyards due to the fact that the labor costs for these shipyards are very low.

2.3.2.6 FLEXIBILITY OF THE SHIPYARD IN TERMS OF WHAT THE OWNER WILL WANT AS EXTRAS ON TOP OF THE BASIC SHIPYARD DESIGN.

As previously stated the extras involve better specifications. The most usual examples are:

- Stronger Hull
- Better Engine

- Better Coatings
- Better Equipments (In terms of which company makes them)

Unfortunately for the shipping companies, what seems to be the case (especially for the Japanese shipyards) the prestigious shipyards do not easily accept major changes on the yard design and the main reason is that they do not want to make any changes in the production line they have created for every design. The shipyards, are now found in the position where they have been able to either automate or to significantly standardize the production lines for every vessel they design and thus they are able to maximize profits especially through economies of scale, since they do not accept small (in terms of number of vessels) orders.

This is the point where the personal relationships of the owner and the shipyard and the ‘good customer status’ play a major part in the negotiations process.

2.3.2.7 THE CLASSIFICATION SOCIETY THE OWNER HAS CHOSEN FOR THE VESSEL AT HAND

The questionnaire that was created incorporated a question concerning on whether the choice of the classification society plays a major role in the decision of where the newbuilding is going to be built. The answers of the interviewees can be seen in the following table:

Company 1	No difference
Company 2	Very important
Company 3	Not that much
Company 4	Matter of Politics- No comment

Company 5	Very Important
Company 6	Fairly Important
Company 7	Fairly Important
Company 8	Fairly Important
Company 9	Extremely Important
Company 10	Fairly Important
Company 11	Fairly Important
Company 12	Very Important
Company 13	Fairly Important
Company 14	Fairly Important

Table 5

Surprisingly the answers differed quite a lot. Indeed the most common answer was that the choice of the Classification Society plays a fairly important role in the choice of where to actually build the potential vessel, but still there were also answers that were the two extremes (No Difference and Extremely Important).

What now had to be done was to see why there was such a difference in the responses for this question. This is exactly why the following paragraphs will describe the background of the relationships between the shipyards and the Classification Societies and the relationship between the shipping companies and the Classification Societies.

The Classification Societies have always found themselves in the most awkward situation there is in the shipping industry. During the shipbuilding process their employers are the shipyards, whereas during the vessel's operational years the various

shipping companies are the Classification Societies employers. Thus they are found in the situation that during the shipbuilding process they need to please the shipyard and as a result ‘displease’ the shipping companies whereas during the years when the same vessel is operational they have to preserve the standards of the vessel and yet they are paid from the same persons who will want at some point for the Classification Societies to maybe ‘look the other way’.

What now needs to be analyzed is how this relationship between the shipyards and the Classification Societies has evolved through time. It seems as though the Classification Societies have played a major role in the development of the shipyards themselves. It was the Classification Societies that have helped some of the biggest shipyards to develop their design techniques and their level of sophistication in terms of quality in design, and specifications. The most well-known examples of very strong ties between Classification Societies and shipyards are the following:

- Lloyds Register of Shipping- Hyundai Heavy Industries
- Det Norske Veritas- Daewoo
- Nipon Kaiji Kyokai-Most of the Japanese Shipyards

Thus during some years ago the shipyards would actually come to the shipping company and suggest designs and with the design they would suggest which Classification Society was the most appropriate; and the shipping company could either accept the whole package or deny it.

What needs to be understood is the fact that some years ago the different Classification Societies even within the International Association of Classification Societies (IACS) had completely different minimum standards. Nowadays the differences

still appear, if someone takes a look at the rules of every different Classification Society, but they tend not to have huge differences; especially the three major Classification Societies, which are Lloyds Register of Shipping (Lloyds), Det Norske Veritas (DNV) and American Bureau of Shipping (ABS).

What also needs to be noted is that after the Prestige Incident the three major classification societies have formed a sub-group within the IACS group, which everyone calls LAN (it comes from the initials of Lloyds, American and Norske).

As a result some of the shipping companies especially the smaller ones still have to face significant difficulties when having to deal with the Classification Societies and the shipyards. The reason is that the Classification Societies control the initial design and the thicknesses and monitor parts of the construction. Thus some of the interviewees were very conscious on how important the choice of the Classification truly is. On the other hand there are other companies that tend to equally divide their vessels in terms of, in which Classification Society they will be registered for and therefore they go to the responding shipyard.

This is the primary reason for this lack of correlation in the answers of the different interviewees.

There was a specific example of one company that the author was specifically told that they only build in Hyundai Heavy Industries and that they only register their ships with Lloyds Register of Shipping.

What also needs to be noted is that once again, in all these delicate relationships, the most important factor is the inter-personal relationships of the owners/technical directors and the shipyards/classification societies. These relationships tend to vary a lot

and at least as far as the shipping companies are concerned the leverage they need comes from the actual size of the order they are going to place, the size of the existing fleet of the shipping company, the capital and the financial situation of the owner himself, the connections of the owner and finally as stated previously on several occasions whether the company is considered as having a 'good customer status' for both the shipyard and the Classification Society.

Finally, it needs to be mentioned that there are occasions where indeed the choice of the Classification Society plays a major role no matter the circumstances and the proposed shipyard, and these cases are the specialized ships. It is usually the case where specialized ships such as containerships or LNG's need to be registered under specific Classification Societies, simply because those specific classification societies are simply the ones that have helped develop the vessel and they are simply the most qualified. Up until a few years ago, the classification society that an owner needed to register a new containership was the German Classification Society Germanischer Lloyd (GL) simply because they were the most experienced classification society in newbuildings of containerships. One more example that still stands is the fact that the most experienced Classification Society as far as prismatic LNG's are concerned is the French Classification Society, Bureau Veritas (BV).

2.3.2.8 ACTUAL RELATIONSHIP BETWEEN THE SHIPPING COMPANY AND THE VARIOUS SHIPYARDS.

It has been stated many times before but one can not stress enough the fact that the relationships that have been evolved between the shipping company and the shipyards

are extremely important and can sometimes make the difference between getting a berth date and not getting a berth date or they can give the shipping company some leverage for better construction or even a relatively better price.

2.3.3 FURTHER COMMENTS AND SUGGESTIONS

In order to distinguish how important the reputation of the shipyard really is, in the questionnaire at hand there was a question on whether someone would take the risk and build at a relevantly unknown shipyard.

The answers of the interviewees are shown in the following table:

Company 1	Yes
Company 2	Yes
Company 3	Yes
Company 4	No
Company 5	Yes
Company 6	No
Company 7	No
Company 8	No
Company 9	No
Company 10	No
Company 11	No
Company 12	No
Company 13	No

Company 14	No
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Table 6

As the former table indicates only 4 out 14 stated that they would consider building new vessels in relatively unknown shipyards.

The conditions of the interviewees that stated that they might consider going to a relatively unknown shipyard would be if the price would be significantly lower than that of the well known shipyard, if they were given concrete assurances that everything would go according to schedule, if the shipyard accepted a delegation of the company to go and inspect the shipyard's premises, if the contract was well prepared and finally if the berth date was very convenient.

As it can be seen, it is very surprising that 10 out 14 technical directors and independent consultants would not even discuss about going to relatively unknown shipyard. All of those ten interviewees clearly stated that the risk is far too great and that for them to go and build at a relevantly unknown shipyard the advantages would have to be guaranteed; such conditions are completely un-realistic for any unknown shipyard to accept and therefore this is why they did not even suggest that maybe they would go.

Finally, what needs to be stated is the fact that the former set of answers that are indicated in Table 6, clearly shows how truly important the reputation of the shipyard is.

A few more comments that need to be made, since they were mentioned during some of the interviews concern the following subjects:

- The historical trend of the success and downfall of shipbuilding nations.

- Why do many of the technical directors that were interviewed still believe that Japan is better even though South Korea is now generally perceived to be the best?
- Derivation of unified minimum standards that are going to be generally accepted by all members of either LAN or IACS.
- Can changes occur in the short term in terms of which are the greatest shipbuilding nations in the world?
- Can changes occur in the long term in terms of which are the greatest shipbuilding nations in the world?

Historically, the most advanced shipbuilding nations at the beginning of the 20th century were the European nations and then it was Japan, but what happened to both Japan and Europe was, the fact that their labor costs increased too much and they were not competitive anymore. The former statement represents the European and the Japanese economies as a whole. Their economies went away from labor oriented economies to being service providers, and this is exactly why South Korea finds itself in the position that it is the best shipbuilding nation in the world. What of course needs to be understood is that what Europe and Japan experienced in the 20th century shall be experienced at some point by South Korea as well. It is only natural that the South Korean workers at some point will demand a higher fee to work under hazardous conditions as the shipbuilding ones.

This fact is exactly why, there were two questions that were incorporated in the questionnaire, concerning the short term and the long term trend of shipbuilding in

general. All of the interviewees, immediately specified that they do not see any nation being able to compete South Korea in the short term future. As far as the long term future is concerned, every interviewee without any exception stated that South Korea will experience what Japan has experienced, but this time around it will be China that will make the difference. The reasons behind the former statement, is that China has showed a great deal of involvement in shipbuilding, it has a great number of shipyards which already compete amongst themselves for better prices and finally the labor costs in China are very low.

Finally, what needs to be stated as far as the future state of the shipbuilding industry is concerned is the fact no interviewee anticipates India making any difference not even in the long term. It was the case that a few years ago many people were considering India and China as being the next Japan and South Korea, but it is now the case that India has not showed any interest in investing in shipyards, except for scrapping vessels and slightly for repairs.

The next subject at hand is why many directors still tend to believe that Japan is better than South Korea, even though the general perception indicates the opposite. The Japanese shipyards, as it has been stated before still provide the best and the most efficient designs but they lag in terms of quality of the specifications provided and in terms of their willingness to alter their production lines to facilitate the needs of the owner. The root of this contradiction is the fact that the only directors or consultants that suggested that Japan is the best, have seen the Japanese shipyards perform to their full potential and as the author was told, if someone were to compare the Japanese shipyards

operating as they once did with the South Korean ones, then everyone would be able to see that the Japanese shipyards were far better.

Finally, the last issue that needs to be addressed is the derivation of unified minimum standards for newbuildings. All of the interviewees clearly indicated that the major 'thorn' in the relationships between the shipyards/classification societies against the shipping companies is the fact that the minimum requirements for various classification societies vary and even though the members of the LAN group are trying to unify the requirements, it is clearly not enough.

Many of the interviewees feel that during the construction process and the pre-construction process of a vessel the Classification Societies act completely as if they are only the clients of the shipyards and they tend to forget who employs them after the delivery of the vessel.

What was suggested that needs to be done is that the unification of minimum standards by all Classification Societies, but at the same time the unified standards need to be certified by the IMO.

The most debatable standards are the following:

- What is the design life of a vessel?
- Fatigue Limits
- Acceptable Stresses Shearing forces and Bending moments
- Local Strength Requirements (thicknesses)
- Weights of the vessels
- Safety
- Piping

- Firefighting
- Navigation Requirements
- Means of operation

Many of the interviewees feel that if the unification of the minimum standards occurs then the ‘exploitation’ that occurs this moment from the shipyard’s point of view will be limited in a very good way.

The way the unification of the minimum requirements will help the shipping companies is through the fact that the shipyards will not be able to interpret the rules in many different ways, they will need to ‘raise their game’ and finally they will lose some of the power they have at this moment.

As one of the interviewees stated: “Shipyards have become too powerful. There is a lot of competition between shipyards, and thus it does not interest them any more to make a good design, they just want to provide a cheaper design than the one of the shipyard that is next door.”

2.4 NEGOTIATIONS WITH THE SHIPYARD/ SPECIFICATIONS REVIEW

Once a shipyard has been chosen as the one that is the most appropriate in order for the newbuilding to take place, the negotiation process with the shipyard itself has to begin. It needs to be noted, that in order for the shipyard to be chosen in the first place some sort of negotiations have already occurred.

This part of the pre-construction phase shall be discussed, considering the following two completely different points of views:

- The shipyard’s point of view.

- The shipping company’s point of view.

2.4.1 SHIPYARD’S POINT OF VIEW

As far as the shipyard is concerned, they usually send a delegation of people to discuss with the shipping company. The issues that are usually are discussed are the key terms of the Letter of Intent and the Contract as well as any potential extras that need to be added to the vessel.

What seemed as very interesting to find out was whether the interviewees considered that shipyards from various countries operate differently during the negotiation process, and if it was the case, whether there was any kind of rule of thumb.

In order to distinguish how differently various shipyards operate during the negotiation process, in the questionnaire at hand, there was a question on whether the numbers and duties of the personnel involved vary with different shipyards and if so then did the interviewees considered that a rule of thumb exists

The answers of the interviewees are shown in the following table:

Company 1	Yes and Yes
Company 2	Yes and Yes
Company 3	Yes and Yes
Company 4	Yes and Yes
Company 5	Yes and Yes
Company 6	Yes and Yes
Company 7	Yes and Yes

Company 8	Yes and Yes
Company 9	Yes and Yes
Company 10	Yes and Yes
Company 11	Yes and Yes
Company 12	Yes and Yes
Company 13	Yes and Yes
Company 14	Yes and Yes

Table 7

What seems to be completely obvious is the fact that all of the interviewees considered that the number of people do indeed vary (as far as the shipyard is concerned) and that indeed there is a rule of thumb.

All of the interviewees stated clearly that the Japanese shipyards send the smaller number of people for the negotiation delegation, South Korean shipyards tend to send a bit more people and finally the Chinese shipyards send the largest number of people.

As far as the rule of thumb is concerned, all of the interviewees agreed to the following numbers:

	Number of People Part of the Negotiation Team
Japanese Shipyards	3-5 people
South Korean Shipyards	5-7 people
Chinese Shipyards	10-12 people

Table 8

2.4.2 SHIPPING COMPANY'S POINT OF VIEW

As far as the shipping company is concerned, the interviewees were asked to give their opinions on whether the number of people varies with different shipyards, whether there is a rule of thumb and finally what are, as far as the people that are involved, their duties and their required skills.

The answers of the interviewees as far as whether the number of people varies with different shipyards, and whether there is a rule of thumb can be seen in the following table:

Company 1	No and Yes
Company 2	No and Yes
Company 3	No and Yes
Company 4	No and Yes
Company 5	No and Yes
Company 6	No and Yes
Company 7	Yes and Yes
Company 8	No and Yes
Company 9	No and Yes
Company 10	No and Yes
Company 11	No and Yes
Company 12	No and Yes
Company 13	No and Yes
Company 14	No and Yes

Table 9

As it can be seen there is a correlation in the answers of the interviewees. They all answered that the numbers of the people, as far as the shipping company is concerned do not vary with different shipyards, and that there is a rule of thumb that is usually used by most Greek shipping companies.

The actual team is consisted of the following people:

- The owner of the shipping company.
- One person from the Commercial Department of the shipping company.
- One person from the Legal Department of the shipping company.
- Five persons from the Technical Department.
- One person from the Operations Department.

As far as the Technical Department is concerned, all of the interviewees stated that the rule of thumb of the composition of the team is the following:

- One Person who is in charge (The Technical Director)
- One Certified Naval Architect
- One Certified Marine Engineer
- One Certified Electrical/ Electronics Engineer
- One Painting/ Coatings Expert.

As far as their duties and skills are concerned they need to be the following:

The person from the Commercial Department he/she needs to know the market and the banking industry and needs to have experience in newbuildings.

The person from the Legal Department needs to know how to avoid 'loop holes' being created in both the Letter of Intent and the actual contract itself. He/ She needs to make sure that the shipping company is covered from all that can potentially go wrong in

the case of a potential dispute with the shipyard over the key terms of both the Letter of Intent and the Contact itself.

The person from the Operations Department needs to have figured most of the potential routes of the new vessel and especially all the potential cargoes. The importance of the latter shall be indicated by the following example: if the bulk carriers need to carry steel coils then the vessel needs to be fitted with a double bottom.

As far as the Technical Department is concerned all the people involved need to have specific knowledge of their field and most importantly they need to have experience and education and negotiation skills.

It needs to be noted that all of the interviewees specifically stated that the Technical Director needs to have strong leadership skills and needs to appear to the eyes of the staff as the only person to whom everyone needs to report to. He/She needs to be in charge of everything, because at the end of the day he/she is the one that is responsible for the end result.

Finally, the technical director needs to have strong negotiating skills in order for the best result possible to be achieved. It seems as though that he/she needs to be prepared to back off from some the demands he/she has but at the same time through experience, he/she needs to know in which aspects of the vessel he/she can back off the demands and for which aspects he/she cannot and under no circumstances should not.

2.4.3 FURTHER COMMENTS AND SUGGESTIONS

It seems as though that all of the interviewees consider that the number as far as the shipyard is concerned depends on the shipyard's sophistication and experience.

What needs to be noted was the fact that all of the interviewees consider the hardest delegations to be the ones from South Korea.

Finally, it has to be stated that before the interviewees answered the questions, they all stated that what needs to be considered is the actual size of the shipping company, the size of the order that is going to be placed with the shipyard and finally whether the shipping company has done business with the shipyard at hand and with the type of vessel at hand. If the shipping company has never dealt before with the shipyard at hand or has never built the type of vessel at hand, then the technical team needs to be reinforced during negotiations.

2.5 SIGNING OF LETTER OF INTENT

The Letter of Intent (LOI) (an example of the format of the Letter of Intent can be seen in Appendix 3) is the document that is signed once the primary specifications review/ negotiations with the shipyard have been completed. It indicates the intent of the corresponding shipping company and shipyard to formalize their business relationship as far as potential newbuildings are concerned. It is usually a document that is of length of 7-12 pages.

The Letter of Intent clearly states the date on which it is signed and identifies the corresponding shipping company as the 'Buyer' and the shipyard as the 'Builder'.

The builder agrees to build, launch, equip and deliver a specified number of vessels and an extra number of optional vessels. The buyer agrees to purchase and take delivery of the vessels from the builder. Therefore, both parties hereby agree to enter into

shipbuilding contracts for the Vessels (which after the signing the Letter of Intent are called the ‘Contracts’) on specified terms and conditions.

The terms and conditions include the following:

- Type and number of vessels
- Price of the vessels (Ex-Yard and Net-receivable basis)
- Payment Terms
- Delivery Dates of the vessels
- The quotation basis.
- The validity
- The optional vessels
- Others
- The Governing Law of the Agreement
- Builder’s Reply to Buyer’s Comments

2.5.1 TYPE AND NUMBER OF VESSELS

The term that is identified as ‘Type and Number of Vessels’ in the Letter of Intent, states the type of the vessels that are going to be built (example VLCC Tanker, Capesize Bulk Carrier etc.), the actual DWT of the corresponding vessels and the finally the initial number of vessels that are going to be built as well as the optional number of vessels that the shipping company has the right to agree to if it chose to do so within the stated time limit.

2.5.2 PRICE (EX-YARD AND NET-RECEIVABLE BASIS)

The term that is identified as 'Price' in the Letter of Intent, states the price of the vessels that are going to be ordered for both the ones that are going to be built and for the optional ones if the option for building them is activated by the buyer.

2.5.3 PAYMENT TERMS

The term that is identified as 'Payment Terms' in the Letter of Intent, states the dates upon which the buyer has to pay the builder the required amount of money that has been agreed and signed in the Letter of Intent.

The actual times when payments, from the buyer to the builder, need to be made do not differ, from one Letter of Intent to another. They are set dates that are applied to any newbuilding and are the following:

- First payment upon signing of the contract.
- Second payment upon steel cutting.
- Third payment upon keel laying.
- Fourth payment upon launching.
- Fifth payment upon delivery.

The actual payments though, that the buyer needs to pay the builder differ from one Letter of Intent to another, depending on the following factors:

- The financial status of the company
- Whether the shipyard considers the shipping company at hand a 'good customer'

- The state of the shipbuilding market at the time of the signing of the Letter of Intent
- The way the shipyard usually operates

It needs to be noted that the common practice is that the buyer either pays equal proportions of the cost of the vessel during the previously mentioned dates, or the buyer uses a 'balloon payment'.

The interviewees were kind enough to indicate three of the most common payment terms. The three examples are indicated below:

EXAMPLE 1

- Twenty percent (20%) of the price: Upon signing the contract
- Twenty percent (20%) of the price: Upon steel cutting
- Twenty percent (20%) of the price: Upon keel laying
- Twenty percent (20%) of the price: Upon launching
- Twenty percent (20%) of the price: Upon delivery

EXAMPLE 2

- Twenty percent (20%) of the price: Upon signing the contract
- Twenty percent (10%) of the price: Upon steel cutting
- Twenty percent (10%) of the price: Upon keel laying
- Twenty percent (10%) of the price: Upon launching
- Twenty percent (50%) of the price: Upon delivery

EXAMPLE 3

- Twenty percent (10%) of the price: Upon signing the contract
- Twenty percent (10%) of the price: Upon steel cutting
- Twenty percent (10%) of the price: Upon keel laying
- Twenty percent (10%) of the price: Upon launching
- Twenty percent (60%) of the price: Upon delivery

The term ‘balloon payment’ means that the payer will pay a large proportion of the agreed price upon delivery and is indicated in both examples 2 and 3.

2.5.4 DELIVERY DATES OF THE VESSELS

The term that is identified as ‘Delivery (Ex-yard)’ in the Letter of Intent, states the dates and the location upon which the builder is going to deliver the vessels to the buyer.

The location that vessels are delivered is almost always the location of the shipyard, whereas the dates of delivery are never very precise but the Letter of Intent does limit the volatility of the delivery dates to within a month of a specified year.

For example, a common statement of a delivery date within a Letter of Intent would be: Within January (The agreed month) 2005 (The agreed year).

Finally, it is very common for the builder to have a clause within the Letter of Intent which states that the builder shall have an option to adjust the agreed delivery dates of the vessels, within the range of 1 or 2 months, prior to signing of the Contracts.

2.5.5 QUOTATION BASIS

The term that is identified as 'Quotation Basis' in the Letter of Intent, states the conditions upon which the prices of the vessels, that have been signed in the Letter of Intent, are going to hold.

EXAMPLE:

The prices in the Letter of Intent that can be found above, are based on the Builder's outline specifications for the XXXX DWT class XXXX type of vessel (Ref. No. XXXXX, dated agreed month and date, agreed year).

*Optional Items as per the [Builder's Reply to Buyer's Comments (Ref. No. XXXXX, dated agreed month and date, agreed year)] are not incorporated in the Price that can be found above and those shall be discussed through technical meetings on extra basis.

2.5.6 VALIDITY

The term that is identified as 'Quotation Basis' in the Letter of Intent, states the conditions upon which the Letter of Intent remains valid.

EXAMPLE:

This Letter of Intent shall be valid until the execution of the Contracts but not later than (the agreed date), unless mutually agreed. If the Contracts shall not be signed within this validity, then this Letter of Intent shall become null and void without either party thereby incurring any liability to the other.

2.5.7 OPTIONAL VESSELS

The term that is identified as 'Optional Vessels' in the Letter of Intent, states the period of time upon which the buyer is able to declare the validation of his options for the construction of more vessels.

EXAMPLE:

Buyer's option for the XX vessel shall be declared within XX months after signing of the firm vessels and the contract for the XX vessel shall be executed within XX days after the declaration of the option.

It needs to be noted that the period of time for which the options remain valid usually varies from 1-3 months.

2.5.8 OTHERS

The term that is identified as 'Others' in the Letter of Intent, states further conditions, for which the Letter of Intent remains subject of. The most common other conditions are the following:

- The Letter of Intent is subject to mutual agreement on detailed terms and conditions of the Contacts and the full specifications.
- The Builder usually shall have to provide the Buyer with the Refund Guarantee.
- The Buyer usually shall have to provide the Builder with a Corporate Guarantee acceptable to the Builder.

2.5.9 GOVERNING LAW AND ENTIRE AGREEMENT

The term that is identified as ‘Governing Law and Entire Agreement’ in the Letter of Intent, states the country under which laws the Letter of Intent stands.

It needs to be noted that the common practice is that the Letters of Intent are governed by the English Law. At the same time it needs to be said that the Japanese Shipyards usually want Japan as the Governing Body.

2.5.10 BUILDER’S REPLY TO BUYER’S COMMENTS

The term that is identified as ‘Builder’s Reply to Buyer’s Comments’ in the Letter of Intent, states further comments which are made by the Buyer and their corresponding replies that are made by the Builder.

The ‘Builder’s Reply to Buyer’s Comments’ are always found at the end of Letter of Intent and are in the form of a spreadsheet (An example of the format of Builder’s Reply to Buyer’s Comments can be seen in Appendix 3).

2.5.11 INTERVIEW RESULTS

The questionnaire that was created incorporated a question concerning how long it takes for the Letter of Intent to be signed.

The responses of the interviewees can be seen in the following table:

Company 1	Up to 3 months
Company 2	Up to 6 months
Company 3	4-6 weeks
Company 4	1-8 months

Company 5	4 days- 4 months
Company 6	30-40 days
Company 7	2-4 weeks
Company 8	3-4 months
Company 9	2-3 months
Company 10	1 week- 1 month
Company 11	3-4 weeks
Company 12	1-2 months
Company 13	1-1.5 months
Company 14	1-2 months

Table 10

As it can be seen from the previous table, the answers of the interviewees are quite different, and it is the case where the majority of the interviewees did not give a precise answer as to what the most probable period truly is, simply because there is no rule of thumb.

The reason for the previous statement is the fact that the time period that it takes for the Letter of Intent to be signed depends on many factors. The main factors are the following:

- Experience of the shipping company
- Experience of the shipyard
- Size of the shipping company
- Size of the shipyard
- Occasional Free Berth Dates that appear at the various shipyards

Many of the interviewees clearly stated that they have been in situations where the Letter of Intent was signed in as little ten (10) days. The reason for the former statement is that there are occasions when the shipyard will approach, through a broker, a shipping company and suggest that they have a free berth date for a specific type of vessel and that they think that the corresponding shipping company would be interested in buying the vessel. The fore mentioned case, is of the form, that the shipyard needs an immediate response to its inquiry. Therefore, there can be the case that the shipping company will sign a Letter of Intent in a matter of days.

What needs to be noted was the fact that many of the interviewees stated that as far as the experienced South Korean and Japanese shipyards are concerned it is usually the case where the Letter of Intent shall be signed in approximately three (3) to four (4) weeks if the shipping company has experience as well.

2.5.12 FURTHER COMMENTS AND SUGGESTIONS

What was stated during some of the interviews was the fact that if it is a completely new project (type of vessel), or if the shipping company decides to enter into negotiations with a relatively unknown shipyard such as shipyards in Ukraine, China, Poland or Croatia then the time needed for signing the Letter of Intent might increase by 50 to 100%.

Finally, what was stated was the fact that one more factor that plays a major role in terms of the time needed to sign the Letter of Intent is the shipping market's conditions at the time of the negotiations. It basically depends on who controls the market: whether it is the shipowners or if it is the shipyards. It is the case that when the shipyards control

the newbuilding market, then it will take longer for the shipping company to commit to newbuilding and therefore sign a Letter of Intent.

2.6 CONTRACT AND SPECIFICATIONS NEGOTIATIONS

The Shipbuilding Contract (an example of the format of a Contract can be seen in Appendix 4) is the document that is signed once all of the detailed specifications/ negotiations with the shipyard have been completed. It indicates the final stage of the corresponding shipping company and shipyard to formalize their business relationship as far as potential newbuildings are concerned.

The Contract clearly states the date on which it is signed and identifies the corresponding shipping company as the 'Buyer' and the shipyard as the 'Builder'.

The builder agrees to build, launch, equip and complete a specified number of vessels and an extra number of optional vessels. The buyer agrees to purchase and take delivery of the vessels from the builder according to the terms and conditions that are set in the Contract.

A Contract is divided in Articles and Schedules. The Articles within a Contract are shown below:

- Description and Class
- Contract Price
- Adjustment of the Contract Price
- Inspection and Approval
- Modifications, Changes and Extras
- Trails and Completion

- Delivery
- Delays and Extensions of Time (Force Majeure)
- Warranty of Quality
- Payment
- Buyer's Default
- Buyer's Supplies
- Arbitration
- Successors and Assigns
- Taxes and Duties
- Patents, Trademarks and Copyrights
- Interpretation and Governing Law
- Notice
- Effectiveness of this Contract

As far as the Schedules are concerned, a Contract usually has two Schedules, which are identified below:

- Refund Guarantee
- Performance Guarantee

The next step that needs to take place is to analyze every Article and every Schedule by itself.

2.6.1 ARTICLE I: DESCRIPTION AND CLASS

The 'Description and Class' Article is divided in the following five sections:

- Description
- Basic Dimensions and Principal Particulars of the Vessel
- Classification, Rules and Regulations
- Registration of the Vessel
- Subcontracting

2.6.1.1 DESCRIPTION

The 'Description' part of Article I of the Contract, states the Hull number of the vessel, that the vessel shall be constructed, equipped and completed in accordance with the provision of the Contract at hand, the Specifications and the amendments to the Builder's Specifications and the arrangement plan that have been signed by both parties, which constitutes an integral part of the Contract.

The 'Description' part of Article I also states several 'rules' that shall prevail in the case of misunderstandings. Thus, it states that the specifications and the plan are intended to explain each other and anything that is shown on the plan and not stipulated in the specifications or anything that is stipulated in the specifications and not shown in the plan shall be deemed and considered as if included in both. Should any inconsistencies or contradictions occur between the specifications and the plan, the specifications prevail. Finally, it is always stated that if any inconsistencies occur between the specifications and the Contract occur, then the Contract shall prevail.

2.6.1.2 BASIC DIMENSIONS AND PRINCIPAL PARTICULARS OF THE VESSEL

It is always the case where the ‘Basic Dimensions and Principal Particulars of the Vessel’ part of Article I of the Contract just states that the basic dimensions and principal particulars of the vessel are described in the specifications.

2.6.1.3 CLASSIFICATION, RULES AND REGULATIONS

The ‘Classification, Rules and Regulations’ part of Article I of the Contract, states under which Classification Society’s Rules the vessel shall be built.

It is always the case that the vessel shall be built under the Classification Society’s Rules that hold at the date of signing the Contract. The Builder is the one that needs to make sure that the Classification Society is present during the construction phase and finally what is always stated in this part of Article I is the fact that the choice of the Classification Society is final and binding both upon the Buyer and the Builder.

2.6.1.4 REGISTRATION OF THE VESSEL

The ‘Registration of the Vessel’ part of Article I of the Contract states the Country under which the vessel shall be registered and which is the home port of the vessel.

What needs to be noted is that within the ‘Registration of the Vessel’ part of Article I of the Contract the Buyer is given an option for changing the flag of the vessel, which can always be declared effective no later than the initiation of the steel cutting process of the vessel.

It is usually the case that the Flags that the vessel can be changed into are Liberia, Malta, Bahamas and Panama.

2.6.1.5 SUBCONTRACTING

The ‘Subcontracting’ part of Article I of the Contract states the occasions under which the Builder may subcontract some components of the construction of the vessel.

It is usually the case that with the exception of the main hull blocks of cargo tanks, the Builder has the right to use subcontractors that operate in the same country as the corresponding shipyard and provided that the final erection of the sub-contracted items of the vessel shall be moved to the shipyard’s premises in accordance with the shipyard’s building practice.

Finally, even if sub-contractors are used the shipyard remains fully responsible for any part of the vessel that is subcontracted.

2.6.2 ARTICLE II: CONTRACT PRICE

Article II of the Contract which comes under the name of ‘Contract Price’, states the actual price of the vessel and the currency under which the Buyer needs to pay the Builder. The Contract Price usually involves the payment for services provided in the inspections, tests, surveys and classification of the vessel which shall be completed by the Classification Society.

Finally, it should be stated that the Contract Price is always subject to the penalties and credits in the case of under or over performance of the vessel that are set in the Contract itself in other Articles.

2.6.3 ARTICLE III: ADJUSTMENT OF THE CONTRACT PRICE

The ‘Adjustment of the Contract Price’ Article is divided in the following five sections:

- Delayed Delivery
- Insufficient Speed
- Excessive Fuel Consumption
- Deadweight Below Contract Requirements
- Effect of Rescission

It needs to be noted that all of the actual deadlines that are defined within a Contract may differ from shipyard to shipyard and at the same time, even if two companies are in the process of Contract negotiations with the same shipyard they can obtain completely different clauses in their Contracts. The reason for the fore-mentioned statement is the fact that at this stage of the Contract negotiations the status of the company plays a very important role.

What also needs to be stated is the fact that even though the clauses might differ a lot from one Contract to another, there are ‘general rules’ that can be applied for the large and experienced shipyards of South Korea and Japan. These ‘general rules’ shall be expressed in the following sub-sections of the Article III section.

2.6.3.1 DELAYED DELIVERY

The ‘Delayed Delivery’ part of Article III of the Contract states the conditions under which the Contract Price can be modified in the case of a delayed delivery.

Usually, no adjustment is made and the Contract Price remains unchanged for the first thirty (30) days of the delay in the delivery of the vessel.

If the delivery of the vessel is delayed more than thirty (30) days beyond the agreed delivery date then there is a penalty that the Builder needs to deduct from the Contract Price of the vessel. The penalty is usually approximately 0.05% of the Contract Price per each full day of delay.

Finally, the last important clause is the fact that usually if the Delivery Date is delayed for more than 6-8 months (Grace Period) of daily penalties then the Buyer has the option to cancel the Contract.

2.6.3.2 INSUFFICIENT SPEED

The 'Insufficient Speed' part of Article III of the Contract states the conditions under which the Contract Price can be modified in the case of the vessel achieving a different speed in the Sea Trials than the one agreed and signed upon in the Contract.

It is usually the case where no penalties arise if the achieved speed of the vessel is within a three tenths (3/10) of a knot margin.

Now, if the speed is below the three tenths (3/10) of a knot margin, there are penalties the shipyard needs to deduct from the Contract Price for every one tenth (1/10) of a knot, until the limit of seven tenths (7/10) of knot below the agreed Contract speed. Finally if the achieved speed is below seven tenths (7/10) of knot margin then the Buyer can negotiate a reduced price for the vessel or cancel the Contract for the vessel.

Usually the penalties are stated as such:

1.0 % of the Contract Price for more than 3/10ths to 4/10ths of a knot

2.0 % of the Contract Price for more than 4/10ths to 5/10ths of a knot

3.0 % of the Contract Price for more than 5/10ths to 6/10ths of a knot

6.5 % of the Contract Price for more than 6/10ths to 7/10ths of a knot

2.6.3.3 EXCESSIVE FUEL CONSUMPTION

The 'Excessive Fuel Consumption' part of Article III of the Contract states the conditions under which the Contract Price can be modified in the case of the vessel achieving an Excessive Fuel Consumption.

The usual practice is that the Contract Price shall not be affected or changed because of the fuel consumption of the main engine at the manufacturer's shop trial, if such excess is not more than five per cent (5%) over the agreed fuel consumption.

However, if the excess in fuel consumption is more than five per cent (5%) in the actual fuel consumption over the agreed fuel consumption, then the Contract Price is reduced by 1% for every 1% of excessive fuel consumption above the 5% mark. However, if the excess in fuel consumption exceeds the 9% mark above the agreed consumption, then the Buyer has the right to negotiate a reduced price for the vessel or cancel the Contract for the vessel.

2.6.3.4 DEADWEIGHT BELOW CONTRACT REQUIREMENTS

The 'Deadweight Below Contract Requirements' part of Article III of the Contract states the conditions under which the Contract Price can be modified in the case of the vessel achieving a Deadweight Below Contract Requirements.

The usual practice is that the Contract Price shall not be affected or changed if a specified limit has not been reached. After that pre-specified limit then the Contract Price is reduced 0.001% for every metric ton below the limit.

Finally, if a certain pre-specified limit is not reached then the Buyer has the right to negotiate a reduced price for the vessel or cancel the Contract for the vessel.

2.6.3.5 EFFECT OF RESCISSION

Finally the last clause of Article III, states that if the Buyer cancels the Contract then the Buyer shall not be entitled to any liquidated damages.

2.6.4 ARTICLE IV: INSPECTION AND APPROVAL

The 'Inspection and Approval' Article is divided in the following six sections:

- Appointment of Buyer's Representative
- Authority of the Buyer's Representative
- Approval of Drawings
- Salaries and Expenses
- Responsibility of the Builder
- Class Correspondence

2.6.4.1 APPOINTMENT OF BUYER'S REPRESENTATIVE

The 'Appointment of Buyer's Representative' part of Article IV of the Contract states the conditions under which the Buyer should timely dispatch to and maintain at the shipyard at its own cost, expense and risk one or more representatives, who will supervise the construction.

2.6.4.2 AUTHORITY OF THE BUYER'S REPRESENTATIVE

The 'Authority of the Buyer's Representative' part of Article IV of the Contract states the conditions that the Buyer's Representative shall be under until the delivery of the vessel. The issues mentioned involve:

- Arrangement of Inspections
- Working Hours
- Decision Making Limitations

2.6.4.3 APPROVAL OF DRAWINGS

The 'Approval of Drawings' part of Article IV of the Contract states the conditions and the procedures under which Buyer's Representative shall have to comply in order for the Buyer's Representative to be able to approve drawings for the vessel at hand.

2.6.4.4 SALARIES AND EXPENSES

The ‘Salaries and Expenses’ part of Article IV of the Contract almost always states the fact that all salaries and expenses of the Buyer’s Representative or any other person employed by the Buyer shall be paid by the Buyer.

2.6.4.5 RESPONSIBILITY OF THE BUILDER

The ‘Responsibility of the Builder’ part of Article IV of the Contract outlines the responsibilities that the Builder has to comply with until the Delivery of the vessel. The issues mentioned at this part of Article IV are purely of a logistical nature.

2.6.4.6 CLASS CORRESPONDENCE

The ‘Class Correspondence’ part of Article IV of the Contract is one of the most important parts of the Contract, as identified by most of the interviewees. All of the interviewees without any exception specifically stated that a shipping company should specifically state in the Contract that they should be able to see the correspondence of the Classification Society and the shipyard, at any time during the plan approval and the construction phase.

It was indicated that the clause should be of the following nature:

The Builder undertakes to notify the Classification Society that the Builder agrees to the Classification Society releasing to the Buyer, upon the Buyer’s request, such information as the Buyer may reasonably request from the Classification Society any correspondence related to plan approval exchanged between the Builder and the Classification Society.

This is the way that all of the interviewees indicated that they can hedge themselves against, the proven in the past, unpredictable nature of the shipyard's and Classification Society's business relationship.

2.6.5 ARTICLE V: MODIFICATIONS CHANGES AND EXTRAS

The 'Modifications Changes and Extras' Article is divided in the following three sections:

- How Effected
- Substitution of Material
- Changes in Rules and Regulations

2.6.5.1 HOW EFFECTED

The 'How Effected' part of Article V of the Contract states how modifications and/or changes to the specifications and the plan under which the vessel is to be constructed may be implemented.

It is usually stated that any modification or change that is requested by the Buyer which does not affect the frame-work of the specifications shall be agreed by the Builder if the Buyer agrees to an adjustment to the Contract Price. Deadweight and/or cubic capacity, speed requirements, the Delivery Date changes imply greatest changes in the Contract Price.

This part of Article V also states that the Builder has the right to continue construction of the vessel on the basis of the specifications and the plan until the Buyer agrees to changes in the Contract Price.

Finally, this part of Article V states the logistical issues of how changes should be implemented.

2.6.5.2 SUBSTITUTION OF MATERIAL

The ‘Substitution of Material’ part of Article V of the Contract states how modifications of any materials, machinery or equipment required for the vessel are under very strict conditions.

2.6.5.3 CHANGES IN RULES AND REGULATIONS

Finally, the last and the most important part of Article V is the ‘Changes in Rules and Regulations’. This part of Article V states what will happen in the event that, after the date of signing the Contract, any requirements as to the Classification Society or as to the rules and regulations to which the construction of the vessel needs to conform are changed by the Classification Society.

If the changes or alterations are compulsory for the vessel, then the Classification Society should forward the changes to the Builder and the Builder will have to incorporate the changes if the Buyer agrees to adjustments to the following parameters of the Contract:

- Contract Price
- Delivery Date

If the changes or alterations are not compulsory for the vessel, but the Buyer desires to fit them onto the vessel, then the Builder should be immediately notified and

the Builder reserves the right not to accept them if the Builder considers they will create a large disruption in the programming of the construction and the Builder's production line.

The importance of this part of Article V becomes very obvious, especially after the Prestige event, since the shipping industry as a whole is now found in the position where requirements are either changed completely or seriously amended.

What needs to be noted that the rest of the Articles that are incorporated in the Contract are indeed very important but they incorporate mostly logistical aspects and this is the reason why the rest of the Articles will be simply described only by mentioning the names of the parts they incorporate.

2.6.6 ARTICLE VI: TRIALS AND COMPLETION

The 'Trials and Completion' Article is divided in the following six sections:

- Notice
- Weather Condition
- How Conducted
- Consumable Stores
- Acceptance and Rejection
- Effect of Acceptance

2.6.7 ARTICLE VII: DELIVERY

The 'Delivery' Article is divided in the following six sections:

- Time and Place

- When and How Affected
- Documents to be Delivered to the Buyer
- Tender of the Vessel
- Title and Risk
- Removal of the Vessel

2.6.8 ARTICLE VIII: DELAYS AND EXTENSIONS OF TIME (FORCE MAJEURE)

The ‘Delays and Extensions of Time (Force Majeure)’ Article is divided in the following four sections:

- Causes of Delay
- Notice of Delays
- Right to Rescind for Excessive Delay
- Definition of Permissible Delays

2.6.9 ARTICLE IX: WARRANTY OF QUALITY

The ‘Warranty of Quality’ Article is divided in the following four sections:

- Guarantee of Material and Workmanship (Almost Always 1 Year after the Delivery of the Vessel)
- Notice of Defects
- Remedy of Defects
- Extent of the Builder’s Liability

2.6.10 ARTICLE X: PAYMENT

The 'Payment' Article is divided in the following ten sections:

- Currency (Almost Always In United States Dollars)
- Terms of Payments
- Demand for Payment
- Method of Payment
- Refund by the Builder
- Total Loss
- Discharge of Obligations
- Refund Guarantee
- Performance Guarantee
- Insurance

2.6.11 ARTICLE XI: BUYER'S DEFAULT

The 'Buyer's Default' Article is divided in the following two sections:

- Definition of Default
- Effect of the Buyer's Default On Or Before the Delivery of the Vessel

2.6.12 ARTICLE XII: BUYER'S SUPPLIES

The 'Buyer's Supplies' Article is divided in the following two sections:

- Responsibility of the Buyer
- Responsibility of the Builder

2.6.13 ARTICLE XIII: ARBITRATION

The 'Arbitration' Article is divided in the following four sections:

- Appointment of the Arbitrator
- Laws Applicable
- Proceedings
- Alteration of Delivery of the Vessel

2.6.14 ARTICLE XIV: SUCCESSORS AND ASSIGNS

The 'Successors and Assigns' Article is not usually divided into any sections and describes the fact that the Contract at hand may be transferred and undertaken by another shipping company.

2.6.15 ARTICLE XV: TAXES AND DUTIES

The 'Taxes and Duties' Article is divided into the following two sections:

- Taxes (All taxes are borne by the Buyer)
- Duties (The Builder usually holds the Buyer harmless of any duties imposed upon materials and supplies which are supplied to the Buyer from abroad)

2.6.16 ARTICLE XVI: PATENTS, TRADEMARKS AND COPYRIGHTS

The 'Patents, Trademarks and Copyrights' Article is divided into the following two sections:

- Patents, Trademarks and Copyrights

- Rights to the Specifications, Plans, etc.

2.6.17 ARTICLE XVII: INTERPRETATION AND GOVERNING LAW

The ‘Interpretation and Governing Law’ Article is not divided into any sections; it just states the language of the Contract and the country that it is governed by. As for the Letter of Intent, it is usually the case where the Governing Law for most shipbuilding Contracts is the English Law.

2.6.18 ARTICLE XVIII: NOTICE

The ‘Notice’ Article is not divided into any sections; it just states the two companies that are involved in the Contract itself and gives contact details of the two parties involved.

2.6.19 ARTICLE XIX: EFFECTIVENESS OF THIS CONTRACT

The ‘Effectiveness of this Contract’ Article is not divided into any sections; it just states that the Contract shall become effective upon signing by both parties involved.

2.6.20 INTERVIEW RESULTS

In an attempt to try and tie everything together, the questionnaire that was created incorporated a question concerning what is the item with the greatest probability of going wrong during the Contract negotiations.

The responses of the interviewees can be seen in the following table:

Company 1	Lack of Flexibility of the Shipyard Concerning Specification Details and Cost of the Vessel
Company 2	Agreeing on the Applicable Rules for when the vessel is going to be delivered
Company 3	Lack of Flexibility of the Shipyard Concerning Specification Details and Cost of the Vessel
Company 4	Lack of Flexibility of the Shipyard Concerning Specification Details
Company 5	Agreeing on the Price of the Vessel
Company 6	Market the vessel is going to operate in going down and the currency that the Letter of Intent was signed on makes the Vessel Price too high
Company 7	Lack of Flexibility of the Shipyard Concerning Specification Details, the Vessel's Price and Lack of Flexibility of the Shipyard Concerning Contract Terms.
Company 8	Lack of Flexibility of the Shipyard Concerning Specification Details
Company 9	Lack of Flexibility of the Shipyard Concerning Specification Details

Company 10	Contract Price
Company 11	Contract Price
Company 12	Lack of Flexibility of the Shipyard Concerning Specification Details
Company 13	Lack of Flexibility of the Shipyard Concerning Specification Details
Company 14	Poor Specification Details

Table 11

As it can be seen from the table above, the answers of the interviewees are relatively the same. The most frequent answer was that during Contract negotiations, the most probable points of friction between the shipyard and the shipping companies are the following:

- Actual Price of the Vessel
- Poor Specifications or Lack of Flexibility of the Shipyard to accept what the shipping company needs on the vessel.

The reason for the Lack of Flexibility of the Shipyard Concerning Specification Details is the fact that most of the South Korean and Japanese shipyards do not want to disrupt their production lines and therefore they sometimes do not accept the demands of the shipping companies for extra specifications that the shipping company might need to be fitted on board the vessel.

Another question that was incorporated in the questionnaire created, was the one that the interviewees had to answer which are usually the key terms of the Contract.

All of the interviewees answered that the key terms of a Contract were the following:

- Price of the Vessel
- Terms of Payment
- Delivery Date
- Penalties
- Governing Law of the Vessel

2.6.21 FURTHER COMMENTS AND SUGGESTIONS

What was hinted by some of the interviewees is the fact that sometimes, the Contract Negotiations might fail due to failed personal relationships between the shipyard's delegation and the technical team of the shipping company. Therefore, what was suggested was the fact that every party involved in the Contract Negotiations should always remain calm and to try to keep the misunderstandings of the past outside the 'new' Contract Negotiations.

Furthermore, what needed to be analyzed was the notion of the Specifications. What needs to be noted is that the Specifications are divided into three sections which are the following:

- Hull
- Machinery
- Electric

Finally, the questionnaire that was created incorporated a question concerning, which are the Specification Parameters that are the most important in a Contract with a shipyard.

Once again, all the interviewees indicated the exact same answers, which were the following:

- Deadweight of the Vessel
- Lightship of the Vessel
- Cargohold Capacity of the Vessel
- Speed of the Vessel
- Consumption of the Vessel

2.7 CONTRACT AND SPECIFICATIONS SIGNING

2.7.1 INTERVIEW RESULTS

In an attempt to try to tie everything together, the questionnaire that was created incorporated a question concerning how long it takes for the Contract to be signed, once the Letter of Intent has been signed.

The responses of the interviewees can be seen in the following table:

Company 1	3-5 weeks
Company 2	2-6 weeks
Company 3	3-6 weeks
Company 4	3-6 weeks
Company 5	2-6 weeks
Company 6	3-6 weeks

Company 7	2-5 weeks
Company 8	1-6 weeks
Company 9	4-6 weeks
Company 10	3-6 weeks
Company 11	3-7 weeks
Company 12	2-8 weeks
Company 13	3-8 weeks
Company 14	3-6 weeks

Table 12

As it can be seen from the previous table, the answers of the interviewees are approximately the same. Unfortunately though it is the case where the majority of the interviewees did not give a precise answer as to what the most probable period truly is, simply because there is no rule of thumb.

The reason for the previous statement is the fact that the time period that it takes for the Contract to be signed once the Letter of Intent has been signed depends on many factors. The main factors are the following:

- Experience/ Size of the shipping company
- Experience/Size of the shipyard

What needs to be noted was the fact that many of the interviewees stated that as far as the experienced South Korean and Japanese shipyards are concerned it is usually the case where the Contract shall be signed in approximately three (3) to six (6) weeks once the Letter of Intent has been signed.

2.7.2 FURTHER COMMENTS AND SUGGESTIONS

Finally, what needs to be noted is the fact that some of the interviewees specifically indicated that the reason that the Contract Signing Period is not stable and it varies so much, is the fact that it is simply a matter of convenience of both parties involved. Thus, it is the case many times that all aspects of the Contract have been agreed upon but in order for the Contract to be complete representatives for both parties need to be present and since South Korea, Japan and China are quite far away, it takes some time for everything to be organized.

2.8 PLAN APPROVAL

The plan approval is a very important stage (usually lasts approximately up to 5 months) of the newbuilding project. It is the stage whereby the entire design of the vessel is checked for compliance with the Specifications, the Classification Society's and other Regulatory body's Rules, and good marine practice.

In the near past the importance of this stage was minimal, since the Classification Society was assumed to be (and was) verifying the entire design not only in accordance with its Rules, but also to ensure good marine practice.

In light of the current practice whereby the Class Society has to complete the entire plan review exercise within the time limit set by the yard, and in view of the complexity of the calculations required by current design philosophies, Class Societies, in most instances limit their reviews to the validation of the calculations submitted by the yards, and as a result examine only those aspects which are addressed by specific Class requirements. For this reason and as a result of the fierce competition between the

Classification Societies for securing class, the yard's option/calculations almost always prevail.

It is to be understood at this time that there are very important items of the vessel's structure and equipment for which no specific Class requirements exist and/ or have been withdrawn. Some examples are the following:

- Coatings and Surface Preparation of Steel
- Loading Conditions on which the design is based on
- Electrical Load Analysis and Sizing of Main Generators
- Steam Balance
- Extent and evaluation of shop trials
- Extent and evaluation of sea trials
- Engine room ventilation
- Ballasting- Deballasting rates
- Redundancy of main equipment
- Materials of various fitting equipment

In addition to the above, the fact that the yard's guarantee is valid for only one year after the delivery of the vessel, has led the yards to approach all the above from the short life point of view, and the entire burden for securing equipment that will ensure a trouble free life for the vessel, rests now on the Owner's shoulders.

Similarly due to the short time availed by the Class Society for the entire plan approval process, errors and omissions (most of which are in favor of the yard's production) are detected at an alarming rate.

For this reason, the plan approval process should be carried out as comprehensively as possible and should include selected verifications of the Class Plan Approval.

Normally a total number of about 300 drawings and booklets have to be reviewed/ approved and this requires about an equal number in revisions and/or additional correspondence. A good part of the project leader's time will thus have to be spent just following the above voluminous correspondence and keeping track of all gains achieved and concessions granted for the on site team's use.

Concluding the following list represents the most important sets of drawings that are incorporated in the Plan Approval process.

- Project Planning Plans
- Hull Initial Design Plans
- Hull Design Plans
- Ship Outfitting

It needs to be noted that all these sets of plans incorporate a large number of sub-plans within them and this is why the total number of plans for the plan approval process is so high.

2.8.1 FURTHER COMMENTS AND SUGGESTIONS

It needs to be noted that one of the interviewees, elaborated on a proposed Plan Approval strategy that has been proven to provide results, and this is to use for the Plan

Approval process a different Classification Society then the one that has strong affiliations with the shipyard that the newbuildings are going to be built in.

3. CONSTRUCTION PHASE

3.1 INTRODUCTION

The on site supervision is the last but definitely not the least step in the newbuilding production. At this stage the efforts must be made to ensure that all the gains from the specification and the plan review are indeed passed on to the final product and that this product is up to what is termed as “Good Marine Practice”, and fit for prosperous and trouble free operating life.

Again the main obstacle for a smooth supervision is the speed of construction and the fact that the Class Surveyors cannot be relied upon to cover all inspection presented since they are relying on the yard’s Quality Control Department, which is definitely controlled by their production department. Furthermore, and due to the fierce competition between the Classification Societies, the chosen Classification Society will not be prepared to come to an open confrontation with the shipyard. What needs to be remembered is the fact that at this point of the vessel’s life the Classification Society is the shipyard’s client and not the shipowner’s.

As such the owner’s on site team should be capable of attending all inspections on a personal basis, and be prepared to hold its stand on the pressure that will be imposed to them by both the shipyard and the Classification Society, whenever deficiencies that will slow down the production process of the shipyard are discovered.

3.2 THE MAJOR EVENTS OF THE CONSTRUCTION PHASE

The construction phase is characterized by the seven (7) major events, which can also be seen in the second flow chart in the introduction section of the report.

The seven major events are the following:

- Commencement of the Construction of the Vessel
- Commencement of Steel Cutting
- The Keel Laying
- Launching of the Vessel
- Sea Trials of the Vessel
- Delivery of the Vessel
- End of Guarantee Period

The next step would be to identify approximately how long these processes take at this point in time in all the large and experienced shipyards of South Korea and Japan. The ideal way to do this would be to identify the actual time for these events for three Suez Max Crude Oil Carriers that are currently being built in South Korea.

The approximate dates for some of these events are shown in the Table below:

	Steel Cutting	Keel Laying	Launching	Delivery
Vessel 1	May (05) of 2003	August (08) of 2003	November (11) of 2003	January (01) of 2004
Vessel 2	June (06) of 2003	September (09) of 2003	November (11) of 2003	January (01) of 2004
Vessel 3	August (08) of 2003	November (11) of 2003	February (02) of 2004	April (04) of 2004

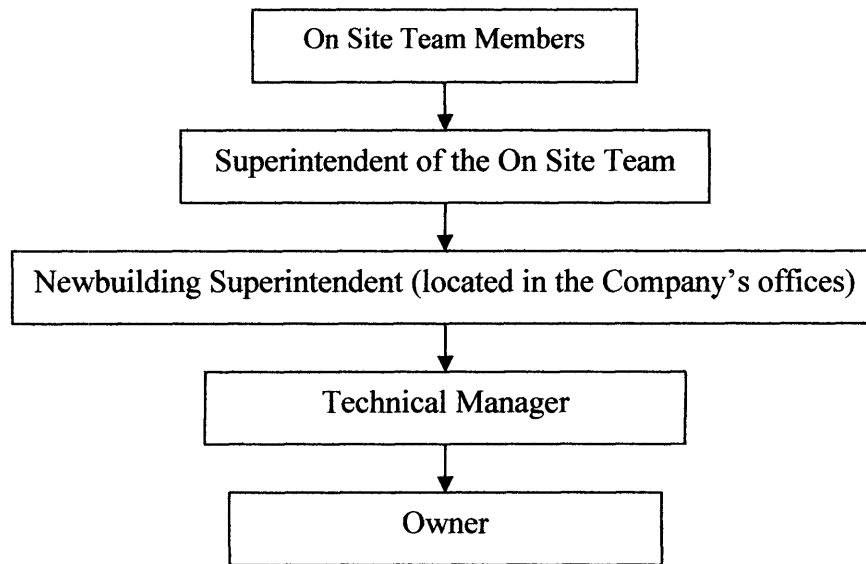
Table 13

Summing up, it takes approximately three (3) months from the commencement of the Steel Cutting to the Keel Laying Ceremony of the vessel, a further three (3) months from the Keel Laying Ceremony of the vessel until the Launching of the Vessel and finally it takes approximately two (2) months from the Launching of the Vessel until the Delivery of the vessel.

Finally, as stated before in this report, the end of the guarantee period is always one (1) year after the delivery of the vessel.

3.3 PROPOSED SHIPPING COMPANY'S TEAM CHAIN OF COMMAND DURING THE CONSTRUCTION PHASE

During the construction phase, the chain of command that should always be kept in mind is represented in the following flow chart:



3.4 PROPOSED COMPOSITION OF THE ON SITE TEAM- LOGISTICAL ASPECTS OF THE CONSTRUCTION PHASE

During the Construction Phase of the vessel(s) the following composition of the On Site Team is proposed: One project manager who will have to attend a large number of inspections of the construction. The team furthermore needs two marine-mechanical engineers for the inspections of all the engine related inspections. Three hull inspectors have to be assigned to the project since the hull inspections are the most numerous. Three Paint and Coating Inspectors are going to be needed and finally one qualified electronics engineer has to be recruited for the inspections of all the electronics and control systems

of the vessels. One Captain and one Chief Engineer (both have to be certified) per vessel from the owner's company have to be present for the construction of all four vessels in order to assist during the whole construction period. These two members of the team have to be present for the following very important reason: The Captain and the Chief Engineer are the ones who are going to brief the crew for the technical details of the vessels and will be the senior officers responsible for the operation of the ship.

During construction and usually when the sea trials of the ship have been concluded, an owner's supplied items list should be prepared including stores and provisions and it is the responsibility of the owner to keep the schedule without any delays, up to the delivery date. Another matter, which is at hand, is the dispatch of the officers and crew at the correct time. A schedule of the construction of the vessel(s) is provided by the shipyard but it is the owner's responsibility to avoid any delays.

What also needs to be noted is that junior officers have to be available at least one month before the sea trials of the vessel for familiarization purposes, and the rest of the crew to be at the shipyard two weeks before the actual delivery date of the vessel.

Finally, after the delivery the vessel will have a twelve month guarantee period for which, a special list is going to be devised with the cooperation of the shipyard for the various guarantee items.

All supervision of the construction is going to be done locally, at the location of the shipyard. Once a week, a detailed progress report with bar charts and pictures should be sent to the newbuilding's superintendent at owner's main offices advising them about the progress of the project for each vessel. Consequently, newbuilding's superintendent at owner's main offices, will have to advise the technical directors of all progress and in

turn the technical director will advise the owner of the shipping company of all issues and recorded progress.

One last issue that needs to be discussed is the In-Service Support Arrangement. It is the owner that has to decide the crucial items/areas of the vessels which should be checked regularly during the guarantee period, in order to prepare the guarantee claims for any damages found which have to be repaired or replaced by the shipyard.

3.5 INTERVIEW RESULTS

3.5.1 GREATEST POTENTIAL THREATS OF THE NEWBUILDING PROCESS

The questionnaire that was created incorporated a question concerning the greatest potential threats that are involved in the creation of newbuildings. The answers of the interviewees were almost identical, in terms of pinpointing specific areas of great threat. The areas that were identified as the greatest threats were the following:

- Exceeding the margins that are stated in the Contract.
- Coating Problems, especially ballast tank coatings
- Block alignments
- Vibrations of the Vessel

What needs to be noted was the fact if the last three formerly mentioned issues, go terribly wrong then either a large settlement will be reached or the shipyard and the shipping company will go to court. It has to be said though that usually these cases never reach courts.

3.5.2 SAFEGUARDING AGAINST THESE THREATS

The questionnaire that was created incorporated a question concerning how do shipping companies safeguard against these potential threats of the construction phase. Once again all of the interviewees answered in the same manner, identifying the following ways of safeguarding against the previously mentioned threats:

- The Contract needs to be very carefully structured and the penalties need to be as severe as possible
- Include inspections guarantees in the contract
- The Site Team needs to be composed of experienced and qualified personnel that attend all inspections and that are very enthusiastic about what they do, in order for mistakes to be discovered quickly to correct them with the cooperation of the shipyard and therefore be able to improve the quality of the newbuilding.
- Close contact between site office and head office needs to be established from the first day of the construction phase.
- Establishing a very good relationship with the Classification Society, since sometimes the Classification Societies will favor the shipyard.

3.6 FURTHER COMMENTS AND SUGGESTIONS

It needs to be noted that another very important aspect of the construction phase for a newbuilding is the monitoring of the Critical Path provided by the shipyard. The Critical Path should always be followed and needs to be monitored at all times since

another area of risk is delays in completion of the newbuilding requiring more than the available time that has been agreed with the shipyard.

Finally, the last area of risk is if major damage occurs to the vessels a short period after the contractual guarantee period has expired. As it has been already stated the guarantee period for each vessel stands for twelve months. When the twelve month period is over the shipyard has no legal obligation to pay for damages caused to the ship, which may be due to the shipyard's responsibility. Unfortunately for this area of risk there is no sure way for it to be avoided. According to previous cases, if a ship suffers a serious damage after a short period of time after the guarantee period has elapsed, then the owner should pursue legal action against the shipyard demanding compensation. This action is suggested because in similar cases in the past the owner has been proven to win the compensation claims, either through a trial or through negotiations with the shipyard. This is because the shipyards fear the effect a serious lawsuit might have on their reputation.

Concluding, what was stated from one interviewee was the fact that the Technical Director of a shipping company needs to make sure that the Site Team is not arrogant against the lower management of the shipyard. The reason behind this statement is the fact that it has been proven that the lower management of the shipyard can be very influential as far as the quality of the construction is concerned. The lower management employees of the shipyard need to be reassured of what they are doing. They need to be treated fairly and properly.

4. OPERATIONAL ASPECTS DURING A VESSEL'S LIFETIME

4.1 INTRODUCTION

During the making of the questionnaire, it seemed very interesting to incorporate some questions concerning operational aspects of a vessel. All of the interviewees were asked to answer questions concerning the scrapping of vessels, surveys and repairs, second hand vessel prices and finally some effort was put into finding some approximate values of how the running costs of a vessel are broken down during a voyage.

4.2 SURVEYS AND REPAIRS

Surveys and Repairs are an integral part of the vessel's lifetime. The vessel undergoes repairs whenever it needs to, in order to fix any damage that has occurred. As far as surveys are concerned the vessel undergoes three types of surveys:

- Annual Surveys
- Intermediate Surveys
- Special Surveys: Every Five Years

Therefore, it is very reasonable to incorporate in the questionnaire a question on which shipyard did the interviewees consider the best for surveys and repairs.

Unfortunately many of the interviewees were very reluctant on actually stating a specific shipyard and therefore they were asked whether they can pinpoint a country they prefer in terms of performance and reliability as far as surveys and repairs are concerned.

The results can be seen in the following table:

Company 1	China/ Singapore/ Persian Gulf
Company 2	Greece
Company 3	Middle East/ Singapore
Company 4	China
Company 5	China
Company 6	China/ Vietnam/ Black Sea
Company 7	China
Company 8	China
Company 9	Greece
Company 10	China/ Singapore/ Persian Gulf
Company 11	China (Kingtao)
Company 12	China/ Black Sea/ Vietnam
Company 13	China
Company 14	China/ Dubai/ Bahrain/ Singapore

Table 14

As it can be seen the answers of the interviewees vary, and they are not specific enough. It can be said that the majority of the interviewees included China in their options since as it was stated it is the cheapest shipyards as far as repairs and surveys are concerned.

What now needs to be explained are the reasons for these variations in the answers of the interviewees. The answer is that as far as the choice for where to take a vessel for it to be repaired or surveyed depends on many factors. Some of the factors are stated below:

- Route of the vessel
- Company Policy
- Size of the vessel
- Type and Complexity of the repair
- Cost of the repair
- Time taken for the repair to be completed
- Quality of the of the Repair/Survey

4.2.1 ROUTE OF THE VESSEL

On many occasions a vessel might be traveling and some kind of malfunction might occur. Therefore, even if a shipyard might offer a lower price to make a repair, it might not be acceptable for the shipping company to agree to go to that shipyard since the amount of money that is going to be lost in terms of time lost to take the vessel to the specific shipyard might not make up for the difference in the actual cost of the repair. This is exactly why some interviewees stated that on specific occasions one of their vessels have undergone surveys and repairs in shipyards that are not cheap in terms of the results they produce, such as Croatia, Bulgaria and Ukraine.

Finally, to indicate how important the actual route of the vessel is, it should be stated that the reason why the Persian Gulf, Dubai and Singapore have become very

competitive in repairs and surveys is simply because they are located in the main area of operation of most of the Crude Carriers.

4.2.2 COMPANY POLICY

As it has been previously stated the policy a shipping company follows is very important in every decision it takes. In order to try to explain the significance of the fore mentioned statement in terms of the shipyards chosen for the vessel to undergo surveys and repairs, an example shall be provided: Two of the interviewees immediately answered the fore mentioned question by stating that their vessels only go for surveys and repairs in Greece. In trying to understand their answer, the author asked whether they could elaborate on their answer. Their reply was that it was company policy even though the Greek shipyards are more expensive than the Chinese. The reason behind their policy is the fact that they know the Greek shipyards very well and also because by using this policy they can attract very good Greek crew members, since this way their companies can guarantee to their crew that at least once a year (for the Annual Survey) they shall be in Greece and thus they represent crew incentives and they get the job done in a much better way throughout the year.

4.2.3 SIZE OF THE VESSEL

The size of the vessel is a major factor for where the vessel shall be taken for either repairs or any kind of survey. For example large Tankers and Bulk Carriers do not go to China even though the cost in China is much less than everywhere in the world simply because they cannot go there.

It needs to be noted that the very large vessels usually go to either the Persian Gulf or Singapore or Dubai.

4.2.4 TYPE AND COMPLEXITY OF THE REPAIR

Many of the interviewees stated that the reason behind the variation of their answers was the fact that depending on the repair that needs to occur, there is a corresponding country where the vessel will go.

Therefore for Steel Repairs, Sand Blasting and Paint Repairs they would recommend China as the ideal place to go (if the vessel can go) because of the very low cost of the repairs.

Now for more complicated repairs such as Machinery and major modifications almost all the interviewees stated that the best shipyards are located in the Persian Gulf and Singapore.

4.2.5 COST OF THE REPAIR

It is very reasonable to say that one of the most important factors and maybe the most important factor in the decision making process to decide where to take a vessel for a repair is the actual cost of the repair.

This is the reason why China is such a popular choice within all the interviewees. Chinese shipyards are found in the privileged position, where their labor costs are very low and therefore to indicate the difference in terms of price that the Chinese shipyards have to offer, someone needs to consider the following:

Chinese shipyards charge for Steel Repairs \$0.75 per kilogram of steel that is going to be put on the vessel during the repair. European shipyards on the other hand charge approximately \$4-5 per kilogram of steel that is going to be put on the vessel.

Taking into consideration that the minimum quantities the shipping companies consider is about 100 tonnes of steel, it is clear to see why Chinese shipyards are so attractive.

To indicate the price difference, an example shall be used: If a shipping company was to agree to undergo Steel Repairs for even the minimum amount considered (100,000 kilograms of steel), then the difference in price between a 'cheap' European shipyard (charging \$4 per kilogram of steel) and a Chinese shipyard (charging \$0.75 per kilogram of steel) would account to \$325,000. Cost efficiency occurs in China.

4.2.6 TIME TAKEN FOR THE REPAIR TO BE COMPLETED

It needs to be noted that the actual taken for the repair to be completed is also a very important factor. It was clearly stated by most interviewees that as far as time to complete a repair or a survey is concerned then the best choices would be Singapore and the Persian Gulf. They are considered to be the fastest: 30-40% faster than China.

4.2.7 QUALITY OF THE OF THE REPAIR/SURVEY

Finally, most of the interviewees stated that if a shipping company was purely interested in the actual quality of the repairs/ surveys then the best options would be: the Persian Gulf and Singapore.

4.2.8 FURTHER COMMENTS AND SUGGESTIONS

As it can be seen in the analysis above, the question of where to take a vessel for Surveys and Repairs is not easy to answer, but the most important factors are clearly time needed to complete the task at hand, cost of the task at hand, loss of earnings and quality provided by the shipyard.

Finally what needs to be noted are three comments that were made by three interviewees that were very surprising:

- Japanese shipyards are not competitive anymore for repairs and surveys, even though they are considered a major force in shipbuilding.
- South Korean shipyards have never actively gotten involved in repairs and surveys.
- China may be popular because of low cost, but that does not mean that they do a good job in terms of quality. It should be stated that the vessel Prestige, before sinking had undergone a survey in a Chinese Shipyard.

4.3 SCRAPPING OF VESSELS

Scrapping a vessel is a part of the life cycle of the vessel. It may not be very important but it still is a decision that the shipping company needs to make when the vessel has reached its last year of operational capability.

Thus, the questionnaire that was created incorporated a question concerning which shipyard according to the opinion of the interviewees was the best for scrapping vessels and whether the decision was based on the price and cost.

The answers of the interviewees were almost identical, since they all stated that the countries that are always considered for scrapping vessels are:

- India
- Pakistan
- Bangladesh
- China

Once again, this is a decision that varies time to time depending on the circumstances. It needs to be noted of course that the main factors that affect this decision are the following:

- Offered price
- Distance of the shipyard from the route of the vessel
- Type of vessel: Tanker versus Bulk Carrier
- Company Policy
- Terms of receiving the vessel

4.3.1 OFFERED PRICE

All of the interviewees clearly stated that the offered price for the vessel that is going to be scrapped is the most important factor of all when the shipping company is considering where to scrap the vessel.

It needs to be noted that it was stated that usually the best prices offered are usually originating from the Indian shipyards.

4.3.2 DISTANCE OF THE SHIPYARD FROM THE ROUTE OF THE VESSEL

Another important factor that is always considered is the distance of the shipyard where the vessel is going to be scrapped, from where the vessel is operating. This is exactly why vessels that operate in Europe are usually scrapped in Turkey, even though the Turkish Shipyards do not offer the best prices in the market.

4.3.3 TYPE OF VESSEL

All of the interviewees specifically stated that Tankers are much harder to scrap than Bulk Carriers. The reason is that many of the shipyards only accept vessels that are gas free and ready for hot work. Tankers are harder to prepare and cost a lot more as far as the shipping companies are concerned.

4.3.4 COMPANY POLICY

The factor of Company Policy does not usually affect as much the decision of where to scrap the vessel the companies that the author visited. What needs to be noted though is the fact that the Oil Majors only scrap vessels in Chinese shipyards even though they are offered lower prices, since it is considered more environmentally friendly to scrap in Chinese shipyards.

One interviewee specifically stated that: “The Oil Majors are very afraid of potential bad publicity and therefore they scrap in China”.

4.3.5 TERMS OF RECEIVING THE VESSEL

Finally, the last major factor that needs to be taken into consideration is the terms under which the scrapping shipyard will accept the vessel. What the former statement basically means is whether the shipyard will demand the vessel to be ready for hot work or not.

It needs to be noted that the usual price offering is approximately \$175 per tonne (Lightship), but if the shipyard that is going to receive the vessel accepts to receive it without the vessel having to be ready for hot work, then the price can go down from \$10-15 per tonne.

4.3.6 FURTHER COMMENTS AND SUGGESTIONS

Finally what needs to be noted are two comments that were made by two interviewees that are also important in the scrapping decision making process:

- The poorest shipyards in terms of environmental regulations are the Indian shipyards.
- Nowadays, Turkish shipyards accept very few vessels for scrapping.

4.4 SECOND HAND VESSEL PRICES

Another factor that might affect the decision making process of where to construct a vessel, almost certainly is how the perceived quality of the vessel (which is incorporated in the second hand vessel price) is going to be affected considering where the vessel was built.

4.4.1 INTERVIEW RESULTS

Thus, the questionnaire that was created incorporated a question concerning how important is the shipyard where the vessel has been built for second hand vessel prices.

The results can be seen in the following table:

Company 1	Very Important
Company 2	Very Important
Company 3	Very Important
Company 4	Not Very Important
Company 5	Very Important
Company 6	Not Very Important
Company 7	Not Very Important
Company 8	Very Important
Company 9	Not Very Important
Company 10	Very Important
Company 11	Very Important
Company 12	Very Important
Company 13	Very Important
Company 14	Very Important

Table 15

As it can be seen, some of the responses vary but at the same time the majority of the interviewees answered that the originating shipyard of the vessel is very important in pricing it in the second hand market.

What now needed to occur was to see all the other factors that affect the second hand price of vessels. All of the interviewees stated that the other factors that affect the second hand price of the vessels are the following:

- Specifications of the vessel
- The Owner's Reputation as far as maintenance is concerned
- The State of the Engine

4.4.2 FURTHER COMMENTS AND SUGGESTIONS

Finally what needs to be noted are further comments that were made by the interviewees that affect the second hand vessel prices:

- Vessels made in Russia should always be avoided no matter the reputation of the owner or the specifications.
- Another important factor that needs to be considered and always plays a very important factor in pricing used vessels is the state of the Regulations at the time when a shipping company is considering selling a vessel. The most obvious examples that are currently being observed in the shipping industry are the plummeting of the second hand prices of single hull tankers and bulk carriers no matter the reputation of the shipyard the vessel was built in, the state of the engine, the specifications nor the level of maintenance of the vessels.

4.5 RUNNING COSTS

The final aspect that is going to be examined as far as operational issues are concerned are the Total Running costs of a vessel.

The Total Running Costs of any vessel are divided into two sections:

- Daily Running Costs
- Voyage Costs

What now needs to be done is to breakdown these two segments of the Total Running Costs.

4.5.1 BREAKDOWN OF DAILY RUNNING COSTS

The Daily Running Costs account for a significant portion of the Total Running Costs and they are broken down in the following ten categories:

Type of Daily Running Cost	Percentage (%) of the Total Running Costs
Crew Wages	8-11
Insurance of Hull and Machinery	1-2
Repairs and Classification Society's Fees	1-2
Engine and Deck Spares	2-3
Protection and Indemnity Insurance	1-2
Provisions (Food etc.)	1-2
Engine Deck and Cabin Stores and Consumables	1-2
Lubricating Oils and Chemicals	3-4

Communications	0.3
Management Fees	4-5

Table 16

4.5.2 BREAKDOWN OF VOYAGE COSTS

The Voyage Costs account for the most significant portion of the Total Running Costs and they are broken down in the following two categories.

Type of Voyage Costs	Percentage (%) of the Total Running Costs
Fuel Oil	40-60
Disbursements (Port Use, Pilots etc.)	10-30

Table 17

4.5.3 FURTHER COMMENTS AND SUGGESTIONS

As it can be seen from the above breakdown of the Total Running Costs the largest portion of the Total Running Costs are the fuel oil (bunker) costs. This is one of the main reasons why the shipping industry as a whole is very vulnerable to fluctuations of oil prices.

5. FINANCIAL ISSUES

5.1 INTRODUCTION

There are three main groups of sources of shipping finance: Equity Finance, which includes retained earnings and equity offerings, which can be either public or private; Mezzanine Finance, which deals with hybrids (warrants and convertibles), preference shares and subordinated debt; and finally Debt Finance, which contains bank loans, export finance, subsidies, shipyard financing, private placements and public debt issues².

This chapter concentrates on bank finance, which is by far the most significant source of raising capital in the shipping industry, and the actual income sources of a shipping company. Thus two very specific issues concerning financing aspects of shipping company shall be analyzed. The first issue at hand is the Credit Facility which is basically the loan that a shipping company might want to obtain in order to commence the construction of a newbuilding, and the second issue that will be analyzed is the Charter Party of a vessel which is the main source of income generated from a vessel of a shipping company. The reason for analyzing how a Charter Party is created except the fact that it is the main source of revenue of a vessel is because it is one of the most important tools used by a shipping company in order to obtain a loan from a bank.

5.2 FINANCIAL INSTITUTIONS

Bank Shipping loans are granted to borrowers by a number of different financial institutions, such as: export-import banks, development banks, banks that are specialized

² The Handbook of Maritime Economics and Business, Costas Th. Grammenos, page 731.

in shipping, and commercial banks. These institutions deal with primarily one major risk- the credit risk or default risk- which is the uncertainty over the repayment of the granted loan and payment of its interest, in full, on the pre-specified date.

Shipping departments of a sizeable number of commercial banks, or banks specialized in shipping, have seen their profitability fluctuating substantially over the years. Some of the most usually well known financial institutions dealing with shipping companies are the following:

- Chase Investment Bank Limited
- The Royal Bank of Scotland
- Hamburgische Landesbank
- Citibank
- Hong Kong and Shanghai Banking Corporation Limited (HSBC Holdings plc)
- Deutsche Schiffsbank
- DVB Bank AG
- Deutsche Bank
- NORDEA
- BNP Paribas Bank
- ABN AMRO
- ING
- LB Kiel
- EFG Bank Group
- FBB

- National Bank of Greece
- Furman Selz Inc.
- Pictet
- Chase Manhattan Bank N.A

5.3 CREDIT RISK

A financial institution that lends funds to shipping companies for acquisitions of second hand vessels or placements of newbuilding orders may face a number of risks- such as interest rate risk, that is to say the probability of a change in the interest rates that may adversely affect the bank's profit margin; or liquidity risk which is the probability of the bank not having sufficient cash and proper borrowing capacity to match deposit withdrawals, resulting in its paying higher interest rates on borrowing funds. However the main risk in bank shipping is the credit risk-or default risk. This is primarily due to the volatility of the vessel('s) income, which is the main source of loan repayment; and the consequent fluctuations in the vessel's market value which is, in most cases the main security of the loan.³

The financial institutions provide loans of varying forms to shipping companies, the core of them being the term loan under which the bank lends a certain amount to the shipping company for vessel acquisition over a specific period (above one year), to be repaid normally from the income generated by the vessel(s) to be financed, by its/their residual value. The loan is tailor made to suit the needs of the borrower and the lender, in the specified circumstances. Thus, equal or unequal installments can be arranged; and a

³ The Handbook of Maritime Economics and Business, Costas Th. Grammenos, page 732.

moratorium for one or two years can be granted, whereby capital installments are temporarily not paid (the interest though is paid), to allow for poor shipping market conditions. Furthermore, a balloon can be approved for a loan. In reality, the payment of the balloon is usually extended for one year or longer- provided the borrower has met his commitment and depending upon the amount of the balloon and the freight income of the vessel- and in this way, the loan repayment period can be stretched further without the bank committing itself to doing so from the beginning, because the repayment period of the loan would be longer and this would increase further the uncertainty.⁴

The interest rate is normally fluctuating and based on LIBOR (London Interbank Offered Rate), plus a margin (spread), which represents a significant part of the gross income of the bank from the loan. While the margin is fixed in advance, the LIBOR is renewed, such as every three or six months, in the Eurodollar Interbank market, should the currency denomination be in U.S dollars (which almost always is).

Finally, what needs to be noted is that, at the time when this report was written, as far as the large and respectable shipping companies are concerned they would borrow at a rate of approximately 1.4-1.7% above the LIBOR.

⁴ The Handbook of Maritime Economics and Business, Costas Th. Grammenos, page 732.

5.4 CREDIT FACILITY (STAND-BY INVESTMENT FACILITY)

5.4.1 INTRODUCTION

The Credit Facility (an example of the format of a Credit Facility can be seen in Appendix 5) is the document that is signed in order for a shipping company to receive a loan from a financial institution for various reasons, but as previously mentioned, a shipping company usually does so for an acquisition of a second hand vessel or for the commencement of the construction of a newbuilding.

The Credit Facility always clearly states the date on which it is signed and identifies the following:

- The Borrowers
- The Lender
- The Facility Amount
- The Currency (usually in U.S dollars)
- The Stand- By Period
- The Purpose of the Credit Facility
- The Arrangement Fee
- The Stand- By Fee
- The Expenses
- The Prepayment/ Cancellation Conditions

5.4.2 TERMS AND CONDITIONS OF THE CREDIT FACILITY

Usually the key terms of a Credit Facility are the following:

- Final Maturity-Tenor/ Repayment Profile
- Interest Rate
- Securities
- Covenants (Contractual Obligations of the Borrowers to the Lender)
- Interest Period
- Prepayments
- Arrangement Fee

5.5 CHARTER PARTY

5.5.1 INTRODUCTION

A Charter Party is a contract of affreightment. It represents the main source of income of a vessel(s).

5.5.2 DIFFERENT WAYS OF CHARTERING A VESSEL

A vessel can be chartered in the following three ways:

- As a Bareboat or Demise Charter
- As a Time Charter
- As a Voyage Charter

5.5.2.1 THE BAREBOAT OR DEMISE CHARTER

A Bareboat or a Demise Charter occurs when a vessel is chartered just as a hull.

As with all these types of charter, the conditions and responsibilities can vary to suit the parties involved.

Basically, as far as the Bareboat charter is concerned the only costs the shipowner bears are the depreciation of the vessel, the survey and repair costs to get, if needed, the vessel in the condition, in order to get the charter and finally the fees for the broker.

The charterer is responsible for all the daily running costs, the bunker and finally the port costs. The charterers also need to pay for the surveys and repairs before handing back the vessel to the owner.

Finally, it is usually the case that Bareboat charters are made to last a long time, usually from five years up to the whole operational life of the vessel.

5.5.2.2 THE TIME CHARTER

A Time Charter occurs when a vessel is chartered as a functioning operating unit for a set period of time.

Time Charters can occur for a period of time that is as small as a couple of weeks up to fifteen years.

As far as the Time Charter is concerned the owner bears the following costs:

- Insurance Costs
- Depreciation of the Vessel
- Overhead Costs
- Crew's Wages
- Running Costs
- Brokerage

As far as the Charterers bear the following costs:

- Bunker Costs
- Port Charges
- Ballast Costs
- Canal Dues
- Hire Costs

5.5.2.3 THE VOYAGE CHARTER

A Voyage Charter occurs when a vessel is chartered to carry a specific cargo from one port to another.

As far as the Voyage Charter is concerned the owner bears all the costs except (in some occasions) the loading and discharging costs.

Finally, the Charterers just pay the freight rate, which is subject to any delays in loading and discharging. This is known as Demurrage. On the other hand if the vessel makes the voyage in a quicker time than it was planned then the owner usually shares the financial gain he/she receives with the Charterers. This is known as Dispatch.

5.6 CHARTER PARTY CLAUSES

Usually the key clauses of a Charter Party are the following:

- Title of the contracting parties
- Name of the vessel
- Warranty of seaworthiness of the vessel
- Description of the vessel
- Loading and Discharging Ports (for a Time Charter the time of delivery and re-delivery of the vessel)
- Type of Cargo Carried
- Days of Demurrage and Dispatch.
- Brokerage Clause
- Exemptions of Liability Clause
- Arbitration Clause

- Sub-Letting Clause
- Penalty for non-fulfillment Clause
- Deviation and Salvage Clause

Finally, the following Clauses can only be found in Time Charter Parties:

- Drydocking Clause
- Bill of lading Clause
- Bunkers on board Clause
- Provision that the Time Charter will cease immediately in the case of the vessel breaking down
- Charterer's obligation to provide the owner with full sailing directions

5.7 FURTHER COMMENTS AND SUGGESTIONS

It needs to be noted that if a shipping company can manage to have a guaranteed Long Time Charter, then it is relatively easy to ensure a loan from any financial institution for either the acquisition of a secondhand vessel or for constructing a newbuilding, since the shipping company at hand will have ensured an inwards cash flow, which in turn gives further guarantees to the financial institution that the loan and the interest on it will be repaid.

Finally, it should be stated that in the past the Oil Majors used to get involved in Long Time Charters but unfortunately they now do fewer Long Term Charters than in the past.

6. CONCLUDING REMARKS

Concluding:

- The owner's requirements for a newbuilding should only depend on the state of the segment of the shipping market in which the potential new vessel shall operate and the actual state of the owner's fleet (in terms of size and age) at the specific moment when the vessel shall be delivered.

- The process of shipyard bidding and the actual decision for the shipyard occurs almost simultaneously and is dependent on the following factors:
 - Number of Vessels that the shipping company wants to build.
 - Type of Vessels that have to be built.
 - Available Delivery Dates of the Vessels
 - Reputation of the Shipyard in terms of performance and reliability.
 - Actual Cost of the vessels.
 - Flexibility of the shipyard in terms of what the owner will want as extras on top of the basic shipyard design.
 - The Classification Society the owner has chosen for the vessel at hand.
 - Actual relationship between the shipping company and the various shipyards.

- The top three shipbuilding nations are: South Korea, Japan and China.

- No company should build just one vessel. The reasons for the fore-mentioned statement are the following:
 - The shipping company must take advantage of economies of scale.
 - The large shipyards in Japan and in South Korea will not accept small orders.

- The most efficient number of vessels ordered is: two vessels with an option for two more vessels 2+2.

- The vessels ordered are always a yard design. The owner may want some extra's to be put on the vessel but always based on a yard design.

- The delivery date cannot be negotiated, the shipyard totally controls the process of deducing a delivery date for a newbuilding

- South Korea and especially Hyundai Heavy Industries (HHI) has the upper hand in terms of reputation for newbuildings.

- The number one shipbuilding nation in the world is South Korea, where in terms of reputation the number one shipyard is Hyundai Heavy Industries, number two is Daewoo, and number three is Samsung.

- The number two shipbuilding nation in the world nowadays is Japan, where in terms of reputation the number one shipyard is Hitachi, number two is NKK, and number three is Mitsubishi and number four is Mitsui.
- In the United States of America the majority of vessels that are being built are U.S flagged vessels in order for them to be able to operate within the Jones Act. Italy and France mainly build passenger vessels and cruise ships, whereas Germany now mainly only builds containerships.
- It seems as though Japan provides very good and efficient designs but at the same time the Japanese specifications for the vessels are considered as being poor. On the contrary it seems as though the South Korean shipyards provide the best value for money.
- The prestigious shipyards do not easily accept major changes on the yard design and the main reason is that they do not want to make any changes in the production line they have created for every design.
- The Classification Society plays a fairly important role in the choice of where to actually build the potential vessel.
- No nation is going to be able to compete with South Korea in the short term future

- In the Long Term, South Korea will probably experience what Japan and Europe have experienced, but this time around it will be China that will make the differences. Since China has showed a great deal of involvement in shipbuilding, it has a great number of shipyards which already compete amongst themselves for better prices and finally the labor costs in China are very low.
- The major ‘thorn’ in the relationships between the shipyards/classification societies against the shipping companies is the fact that the minimum requirements for various classification societies vary and even though the members of the LAN group are trying to unify the requirements it is clearly not enough.
- The Japanese shipyards send the smallest number of people for the negotiation delegation, South Korean shipyards tend to send a bit more people and finally the Chinese shipyards send the largest number of people
- The actual team as far as the shipping company for the shipyard negotiations are consisted of the following people:
 - The owner of the shipping company.
 - One person from the Commercial Department of the shipping company.
 - One person from the Legal Department of the shipping company.
 - Five persons from the Technical Department.
 - One person from the Operations Department.

As far as the Technical Department is concerned, all of the interviewees stated that the rule of thumb of the composition of the team is the following:

- One Person who is in charge (The Technical Director)
 - One Certified Naval Architect
 - One Certified Marine Engineer
 - One Certified Electrical/ Electronics Engineer
 - One Painting/ Coatings Expert.
-
- The hardest delegations in terms of room to negotiate are the ones from South Korea.
 - If the shipping company has never dealt before with the shipyard at hand or has never built the type of vessel at hand, then the technical team needs to be reinforced during negotiations.
 - The Letter of Intent (LOI) is the document that is signed once the primary specifications review/ negotiations with the shipyard have been completed. It indicates the intent of the corresponding shipping company and shipyard to formalize their business relationship as far as potential newbuildings are concerned. It is usually a document that is of length of 7-12 pages. The terms and conditions include the following:
 - Type and Number of Vessels
 - Price of the vessels (Ex-Yard and Net-receivable basis)

- Payment Terms
 - Delivery Dates of the vessels
 - The quotation basis.
 - The validity
 - The optional vessels
 - Others
 - The Governing Law of the Agreement
 - Builder's Reply to Buyer's Comments
- The actual times when payments, from the buyer to the builder, need to be made do not differ, from one Letter of Intent to another. They are set dates that are applied to any newbuilding and are the following:
 - First payment upon signing of the contract.
 - Second payment upon steel cutting.
 - Third payment upon keel laying.
 - Fourth payment upon launching.
 - Fifth payment upon delivery.
- The actual payments, that the buyer needs to pay the builder differ from one Letter of Intent to another, depending on the following factors:
 - The financial status of the company
 - Whether the shipyard considers the shipping company at hand a 'good customer'

- The state of the shipbuilding market at the time of the signing of the Letter of Intent
 - The way the shipyard usually operates
- The common practice is that the Letters of Intent are governed by the English Law. At the same time it needs to be said that the Japanese Shipyards usually want Japan as the Governing Body.
- The time period that it takes for the Letter of Intent to be signed depends on many factors. The main factors are the following:
 - Experience of the shipping company
 - Experience of the shipyard
 - Size of the shipping company
 - Size of the shipyard
 - Occasional Free Berth Dates that appear at the various shipyards
- As far as the experienced South Korean and Japanese shipyards are concerned, it is usually the case where the Letter of Intent shall be signed in approximately three (3) to four (4) weeks
- A major role in terms of the time needed to sign the Letter of Intent is the shipping market's conditions at the time of the negotiations. It basically depends on who controls the market: whether it is the shipowners or if it is the shipyards.

It is the case that when the shipyards control the newbuilding market, then it will take longer for the shipping company to commit to newbuilding and therefore sign a Letter of Intent.

- The Shipbuilding Contract is the document that is signed once all of the detailed specifications/ negotiations with the shipyard have been completed. It indicates the final stage of the corresponding shipping company and shipyard to formalize their business relationship as far as potential newbuildings are concerned.

- A Contract is divided in Articles and Schedules. The Articles within a Contract are shown below:
 - Description and Class
 - Contract Price
 - Adjustment of the Contract Price
 - Inspection and Approval
 - Modifications, Changes and Extras
 - Trails and Completion
 - Delivery
 - Delays and Extensions of Time (Force Majeure)
 - Warranty of Quality
 - Payment
 - Buyer's Default
 - Buyer's Supplies

- Arbitration
 - Successors and Assigns
 - Taxes and Duties
 - Patents, Trademarks and Copyrights
 - Interpretation and Governing Law
 - Notice
 - Effectiveness of this Contract
-
- As far as the Schedules are concerned, a Contract usually has two Schedules, which are identified below:
 - Refund Guarantee
 - Performance Guarantee
-
- The Contract Price usually involves the payment for services provided in the inspections, tests, surveys and classification of the vessel which shall be completed by the Classification Society. Finally, it should be stated that the Contract Price is always subject to the penalties and credits in the case of under or over performance of the vessel that are set in the Contract itself in other Articles.
-
- An Adjustment of the Contract Price is usually subject to the following prearranged clauses:
 - Delayed Delivery
 - Insufficient Speed

- Excessive Fuel Consumption
 - Deadweight Below Contract Requirements
 - Effect of Rescission
-
- During Contract negotiations, the most probable points of friction between the shipyard and the shipping companies are the following:
 - Actual Price of the Vessel
 - Poor Specifications or Lack of Flexibility of the Shipyard to accept what the shipping company needs on the vessel.
-
- The key terms of a Contract were the following:
 - Price of the Vessel
 - Terms of Payment
 - Delivery Date
 - Penalties
 - Governing Law of the Vessel
-
- The Specifications are divided into three sections which are the following:
 - Hull
 - Machinery
 - Electric

- The Specification Parameters that are the most important in a Contract with a shipyard are the following:
 - Deadweight of the Vessel
 - Lightship of the Vessel
 - Cargohold Capacity of the Vessel
 - Speed of the Vessel
 - Consumption of the Vessel

- The time period that it takes for the Contract to be signed once the Letter of Intent has been signed depends on many factors. The main factors are the following:
 - Experience/ Size of the shipping company
 - Experience/Size of the shipyard

- It is usually the case where the Contract shall be signed in approximately three (3) to six (6) weeks once the Letter of Intent has been signed.

- The plan approval is a very important stage (usually lasts approximately up to 5 months) of the newbuilding project. It is the stage whereby the entire design of the vessel is checked for compliance with the Specifications, the Classification Society's and other Regulatory bodies Rules, and good marine practice

- The most important sets of drawings that are incorporated in the Plan Approval process.

- Project Planning Plans
 - Hull Initial Design Plans
 - Hull Design Plans
 - Ship Outfitting
-
- The construction phase is characterized by the seven (7) major events, which can also be seen in the second flow chart in the introduction section of the report. The seven major events are the following:
 - Commencement of the Construction of the Vessel
 - Commencement of Steel Cutting
 - The Keel Laying
 - Launching of the Vessel
 - Sea Trials of the Vessel
 - Delivery of the Vessel
 - End of Guarantee Period
-
- It takes approximately three (3) months from the commencement of the Steel Cutting to the Keel Laying Ceremony of the vessel, a further three (3) months from the Keel Laying Ceremony of the vessel until the Launching of the Vessel and finally it takes approximately two (2) months from the Launching of the Vessel until the Delivery of the vessel. Finally, the end of the guarantee period is always one (1) year after the delivery of the vessel.

- During the Construction Phase of the vessel(s) the following composition of the On Site Team is proposed: One project manager who will have to attend a large number of inspections of the construction. The team furthermore needs two marine-mechanical engineers for the inspections of all the engine related inspections. Three hull inspectors have to be assigned to the project since the hull inspections are the most numerous. Three Paint and Coating Inspectors are going to be needed and finally one qualified electronics engineer has to be recruited for the inspections of all the electronics and control systems of the vessels. One Captain and one Chief Engineer (both have to be certified) per vessel from the owners company have to be present for the construction of all four vessels in order to assist during the whole of the construction period. These two members of the team have to be present for the following very important reason: The Captain and the Chief Engineer are the ones who are going to brief the crew for the technical details of the vessels and will be the senior officers responsible for the operation of the ship.

- The greatest potential threats that are involved in the creation of newbuildings are the following:
 - Exceeding the margins that are stated in the Contract.
 - Coating Problems, especially ballast tank coatings
 - Block alignments
 - Vibrations of the Vessel

- China is the cheapest shipyards as far as repairs and surveys are concerned.
- The choice for where to take a vessel for it to be repaired or surveyed depends on the following factors:
 - Route of the vessel
 - Company Policy
 - Size of the vessel
 - Type and Complexity of the repair
 - Cost of the repair
 - Time taken for the repair to be completed
 - Quality of the of the Repair/Survey
- Singapore and the Persian Gulf are considered to be the fastest shipyards for repairs and surveys: 30-40% faster than China.
- In terms of the actual quality of the repairs/ surveys then the best options would be: the Persian Gulf and Singapore.
- The countries that are considered the best for scrapping vessels are:
 - India
 - Pakistan
 - Bangladesh
 - China

- The main factors that affect the decision of where to scrap a vessel are the following:
 - Offered price
 - Distance of the shipyard from the route of the vessel
 - Type of vessel: Tanker versus Bulk Carrier
 - Company Policy
 - Terms of receiving the vessel

- Factors that affect the second hand price of the vessels are the following:
 - The Shipyard the vessel was built in.
 - Specifications of the vessel
 - The Owner's Reputation as far as maintenance is concerned
 - The State of the Engine
 - The market conditions.

- At the time when this report was written the large and respectable shipping companies borrow at a rate of approximately 1.4-1.7% above the LIBOR.

- The Credit Facility is the document that is signed in order for a shipping company to receive a loan from a financial institution for various reasons, such as an acquisition of a second hand vessel or for the commencement of the construction of a newbuilding. The key terms of a Credit Facility are the following:

- Final Maturity-Tenor/ Repayment Profile
 - Interest Rate
 - Securities
 - Covenants (Contractual Obligations of the Borrowers to the Lender)
 - Interest Period
 - Prepayments
 - Arrangement Fee
-
- A Charter Party is a contract of affreightment. A vessel can be chartered in the following three ways:
 - As a Bareboat or Demise Charter
 - As a Time Charter
 - As a Voyage Charter

BIBLIOGRAPHY

[1] Fairplay Solutions With Newbuildings, March 2003 Issue Number. 78, ABC Business Press

[2] The Handbook of Maritime Economics and Business, Costas Th. Grammenos, LLP

[3] Ship Management, John Spruyt, Second Edition, Lloyd's Of London Press Ltd

[4] Sea Transport Operation and Economics, P. M. Alderton, Thomas Reed Publications Limited, London and Sunderland

[5] Shipping Practice With Consideration of the Law Relating Thereto, Edward F. Stevens, Eight Edition, Sir Isaac Pitman & Sons Ltd., London

APPENDIX 1
QUESTIONNAIRE

QUESTIONNAIRE

Approximately how long does the decision-making process last, for a new building order to take place?

Approximately how long does it take for the Letter of Intent to be signed?

How many persons are involved in the proceedings for a new-building- how many divisions are usually used?

What are the required skills for the personnel involved?

What are their duties?

Do the numbers and duties of the personnel involved vary with different shipyards and if so is there a rule of thumb?

How long does the negotiation process with the shipyard last?

What are the usual key terms of the contract?

How many vessels are usually ordered (on which factors does this number depend on)?

According to your opinion, from past experience what is the most efficient (if there is one) number of ships to be built for a new- buildings project?

How do you decide between using a new design or a yard design?

What are the specification parameters that are the most important in a contract with the shipyard?

Performance Criteria? Penalties (In terms of amounts of money how are they deduced?)

How is the delivery date usually negotiated?

How is the shipping firm hedged against lack of performance of the vessel except for penalties against the shipyard?

Which shipyard, according to your opinion is the best in terms of performance and reliability?

Which shipyard, according to your opinion is the best for scrapping vessels (Is this decision purely based on price and cost)?

Which shipyard, according to your opinion is the best for surveys and repairs?

Do you see the former three answers changing in the short-term future?

Do you see the former three answers changing in the Long-term future?

According to your opinion what is the greatest potential threat that is involved in the creation of new-buildings?

Can anything be done to make sure it does not occur?

Could you describe if and how the new-building process can be altered for the achievement of better results?

Does the choice of the Classification Society play a major role in new-buildings (except in design requirements)?

According to your opinion, which are the most important stages of the new-building process?

Which are the milestone dates in the new-building process?

Would you take the risk to go and build in a relatively unknown shipyard?

Would it be purely because of less projected costs?

How important is where the vessel has been built for second- hand vessels?

Could you pin-point the biggest problems you have are familiar in the process- What are some suggested solutions?

Further Comments and suggestions.

APPENDIX 2

LIST OF INTERVIEWEES

INTERVIEWEES

- 1) Dimitris Korkodilos
Company: Andriaki, Owner: N.J. Goulandris
- 2) Kostas Libritis
Company: Laskaridis
- 3) Dinos Tseretopoulos
Company: Thenamaris, Owner: Martinos
- 4) Stavros Daniolos
Company: Minerva, Owner: Martinos
- 5) Stefanos Tsonakis
Company: Eastern Mediterranean, Owner: Martinos
- 6) Nikos Makris
Company: Eletson, Owner: Hatzieleftheriathes
- 7) Stavros Hatzigrigoris
Company: Kristen, Owner: Angelikoussis
- 8) Leonidas Zissimatos
Company: Anangel, Owner: Angelikoussis
- 9) Spyros Fokas
Independent Consultant
- 10) Athos Malliris
Independent Consultant
- 11) Spyrandis
Company: G.P. Livanos, Owner: Livanos
- 12) Nicholas Maroulis
Company: Alpha Tankers, Owner: Kanellakis
- 13) Elias Galanopoulos
Company: Bery Maritime Inc.
- 14) Costas Manouthakis
Company: Stelmar

APPENDIX 3

LETTER OF INTENT FORMAT

LETTER OF INTENT

This Letter of Intent is made on the 25th day of June 2003 by and between XXXX Company and the YYYY Company or its nominee (hereinafter called the “Buyer”), the party of the first part and ZZZZ Shipyard (hereinafter the “Builder”) the party of the second part.

WHEREAS

A. The Builder agrees to build, launch, equip, complete and deliver XXXX vessels plus optional YYY vessels (collectively called the “the Vessels”) as more fully specified hereinbelow to the Buyer, and

B. The Buyer agrees to purchase and take delivery of the Vessels from the Builder.

NOW, THEREFORE, both parties hereby agree to enter into shipbuilding contracts for the Vessels (hereinafter called “Contracts”) on the following terms and conditions:

1. Type and Number of Vessel:

XXX Tanker

Firm X (X) plus optional Z

2. Price (Ex-yard and Net-receivable basis):

[Firm X vessels]

U.S Dollars XXXX amount per vessel

[Optional X+Y vessels]

U.S Dollars XXXX amount per vessel

3. Payment terms:

Twenty percent (20%) of the price: Upon signing the contract

Twenty percent (20%) of the price: Upon steel cutting

Twenty percent (20%) of the price: Upon keel laying

Twenty percent (20%) of the price: Upon launching

Twenty percent (20%) of the price: Upon delivery

4. Delivery (Ex-Yard):

The Vessels shall be delivered to the Buyer at the Builder's shipyard at YYY location as per following schedule:

XXX Tanker

-1st vessel (firm): Within Y date

-2nd vessel (optional): Within Z date

5. Quotation basis:

6. Validity:

7. Optional Vessels:

8 Others

9. Governing Law and Entire Agreement:

10. Confidentiality:

IN WITNESS WHEREOF, both parties have caused this Letter of Intent to be duly executed on the day and year first above written.

For and behalf of
the Buyer

For and behalf of
the Builder

Ref. No: YYYY

Date: ZZ. YY, 200X

BUILDER'S REPLY

TO

BUYER'S COMMENTS

(YYYY DWT CLASS XXXX TYPE OF VESSEL)

No.	Buyer's Comment	Builder's Reply	Remark
1	Flag Greek	Agreed and Incorporated in the base offer	
2			
3			
3			
4			
5			
6			
7			
8			

APPENDIX 4

SHIPBUILDING CONTRACT FORMAT

SHIPBUILDING CONTRACT

FOR

THE CONSTRUCTION OF

Z NUMBER OF VESSELS (Z) XXXX DWT CLASS TYPE OF VESSEL

HULL NO. YYYY

BETWEEN

X COMPANY

(AS BUYER)

AND

Y SHIPYARD

(AS BUILDER)

INDEX

PAGE

PREAMBLE

<u>ARTICLE</u>	I	: DESCRIPTION AND CLASS
	II	: CONTRACT PRICE
	III	: ADJUSTMENT OF THE CONTRACT PRICE
	IV	: INSPECTION AND APPROVAL
	V	: MODIFICATIONS, CHANGES AND EXTRAS
	VI	: TRIALS AND COMPLETION
	VII	: DELIVERY
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	XV	: TAXES AND DUTIES
	XVI	: PATENTS, TRADEMARKS AND COPYRIGHTS
	XVII	: INTERPRETATION AND GOVERNING LAW
	XVIII	: NOTICE
	XIX	: EFFECTIVENESS OF THIS CONTRACT
	XX	: EXCLUSIVENESS

SCHEDULES

EXHIBIT "A" REFUND GUARANTEE

EXHIBIT "B" PERFORMANCE GUARANTEE

SHIPBUILDING CONTRACT

THIS CONTRACT,

WITNESSETH

(End of Preamble)

ARTICLE I: DESCRIPTION AND CLASS

1. DESCRIPTION

2. BASIC DIMENSIONS AND PRINCIPAL PARTICULARS OF THE VESSEL

3. CLASSIFICATION, RULES AND REGULATIONS

4. REGISTRATION OF THE VESSEL

5. SUBCONTRACTING

(End of Article)

Note: This pattern is followed until the end of the Contract. Every new Article must begin at a new page and must end with the phrase (End of Article).

APPENDIX 5
CREDIT FACILITY FORMAT

CREDIT FACILITY

Borrowers:

Lender:

Facility Amount: Up to USD

Currency: US-Dollar (“USD”)

Stand-By Period: Starting on the date of acceptance of this firm offer and expiring XXX months thereafter (the “Stand-By Termination Date”) unless extended by the Lender.

Purpose of the

Stand-By

Investment Facility: At any time within the Stand-By Period the Borrower(s) may draw amounts under the Stand-By Investment Facility (each drawing hereinafter a “Loan”) for the purpose of financing the purchase price of the Vessel(s)

Arrangement Fee:

Stand-By Fee:

Expenses:

Prepayment/

Cancellation:

Terms and Conditions of the Loans

Final Maturity- Tenor (“Tenor”)/ Repayment Profile (“Profile”):

Interest Rate:

Securities:

Covenants:

Value Maintenance Clause:

Interest Periods: 1,3,6 or 12 months or any other period
(subject to availability) as agreed between
the Borrowers and the Lender.

Drawdown:

Prepayments:

Arrangement Fee:

Syndication:

Loan Documentation:

Disclaimer for

Uncoded e-mails: