

SUPPLEMENT No. 102

Suomen Valtioneuvoston päätös Suomen edustajien nimeämisestä MV  
ESTONIAN onnettomuuden kansainväliseen tutkintakomissioon.

Helsinki 29.9.1997

Decision of the Council of State of Finland on the appointment of the  
members to the Joint Accident Investigation Commission of MV  
ESTONIA.

Helsinki 29.9.1994.

OIKEUSMINISTERIÖ

Helsinki 29.9.1994

No 3498/062/94 OM

Viite

Jakelussa mainituille

Asia Suomen edustajien nimittäminen  
Viron hallituksen asettamaan tutkintakomissioon

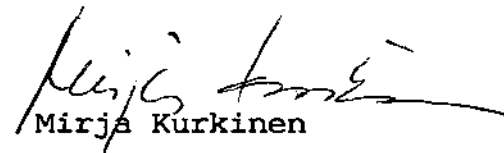
Valtioneuvosto on tänään oikeusministeriöstä tapahtuneessa esittelyssä, asian oltua ensin valtioneuvoston raha-asiainvaliokunnan käsittelyssä, nimennyt Viron hallituksen asettamaan, MS Estonian 28.9.1994 tapahtunutta uppoamista selvittävään tutkimuskomissioon Suomen edustajiksi varatuomari Kari Lehtolan, merikapteeni Heimo Iivosen ja tekniikan tohtori Tuomo Karppisen.

Tehtävän hoitamisesta aiheutuneet palkkiot ja korvaukset maksetaan momentilta 28.81.96 (muut ennalta arvaamattomat tarpeet).

Oikeusministeri

  
Anneli Jäätteenmäki

Vanhempi hallitussihteeri

  
Mirja Kurkinen

JAKELU varatuomari Kari Lehtola  
merikapteeni Heimo Iivonen  
tekniikan tohtori Tuomo Karppinen  
suuronnettomuustutkinnan suunnittelukunta  
oikeusministeriö/Helsingin maksukeskus

SUPPLEMENT No. 103

Regeringsbeslut K94/2393/2. Kommunikationsdepartementet.  
Uppdrag till Statens haverikommission att biträda i utredningsarbetet  
med anledning av passagerarfärjan Estonias förlisning.

Stockholm 1994 - 09 - 28

Government decision K 94/2393/2. Ministry of Transport and  
Communications. Direction to the Board of Accident Investigation to  
assist in the investigation of the capsizing of the passenger ferry MV  
ESTONIA.

Stockholm 1994 - 09 - 28.



Statens haverikommission  
Box 12538  
102 29 STOCKHOLM

5 09/94

**Uppdrag till statens haverikommission att biträda i  
utredningsarbetet med anledning av passagerarfärjan  
Estonias förlisning**

Den 28 september 1994 förliste passagerarfärjan  
Estonia sydväst om finska Utö.

Fartyget förde estnisk flagg.

-----  
Regeringen uppdrar - efter samråd med företrädare  
för Estlands regering - åt Statens haverikommission  
att biträda i utredningsarbetet med anledning av  
passagerarfärjans förlisning.

Det ankommer på Statens haverikommission att besluta  
om experter som skall delta i utredningsarbetet.

Regeringen kommer senare att föreskriva hur kostna-  
derna skall betalas.

På regeringens vägnar

  
Mats Odell

  
Jan-Olof Selén

Kopia till

Justitiedepartementet  
Försvarsdepartementet  
Finansdepartementet

SUPPLEMENT No. 201

Contract between Rederiaktiebolaget Sally, Mariehamn, Finland and  
Shipyard Jos. L. Meyer, Papenburg, Germany.

Mariehamn 11.09.1974.

# CONTRACT

*Pursuant to form adopted by the Swedish Shipbuilders' Association on the 30th January 1947  
with amendments adopted on the 28th January 1964*

This Contract is made between Rederiaktiebolaget Sally, Strandgatan 7,  
22100 Mariehamn, Finland

as Purchaser, on the one part and Shipyard Jos. L. Meyer, W-Germany,  
2990 Papenburg (EMS), Hauptkanal Rechts 2

as Builders, on the other part.

Whereby it is agreed as follows:

## § 1.

Subject to the conditions set out below the Builders will build for the Purchaser and will ~~deliver~~ <sup>The vessel</sup> ~~at the Builders' yard at~~ <sup>ordered</sup> Papenburg (EMS)-Germany and will deliver

a two compartment car- and passenger ferry at Emden/Germany

(hereinafter called "the Vessel") having the Yard No. 57590, substantially in accordance with the specifications and drawings numbered

5675/79

dated 5th September, 1979

relating to this Contract, and intended to be taken as part hereof.

The Yard number shall be considered solely as the means of identifying the Vessel and the parts intended for her and does not imply any priority in regard to other vessels accepted for earlier delivery by the Builders.

In the event of any discrepancy between this Agreement and the said specifications <sup>or</sup> drawings the provisions of this Agreement shall prevail and be adopted. In the event of any discrepancy between the specifications and the drawings the specifications shall prevail.

§ 2.

The dimensions of the Vessel shall be the following:

*Leading dimensions and particulars*

Length overall: .....	approx.	155,40 m
Length between perpendiculars .....		137,40 m
max		24,60 m
Breadth, moulded .....		23,60 m
moulded in waterline		23,60 m
Depth, moulded, to upper deck .....		13,40 m
Depth, moulded, to second deck .....		7,65 m
Number of passengers		2.000
Number of crew		188

The deadweight capacity of the Vessel including fuel, stores, provisions, fresh water, passengers (if any), crew and spare parts beyond the requirements of the Classification Society, etc., shall be about 2.800 tons (of 1.000 kilos) on the international summer freeboard, corresponding to a mean draft in salt water (specific gravity 1.025) of about 5.55 m

The propelling machinery of the Vessel shall consist of four main engines of M.A.N., type 8L 40/45, each 4400 kw (5.984 HP) at 600 rpm

developing approx. I.H.P./B.H.P. (metric) at approx. r.p.m.

The mean speed of the Vessel on trials with clean bottom when loaded to the said mean draft with a draft corresponding to 1.460 tons deadweight and with her propelling machinery developing ~~the said power~~ is estimated to be 21,2 knots in calm weather and smooth sea on opposite runs over a measured mile.

The warranties of deadweight and speed shall be deemed to have been complied with if the Purchaser shall dispense with the trials, or shall not for the purpose of the trials provide and ship on-board the deadweight required to submerge the Vessel down to the said mean draft.

The fuel consumption of the propelling machinery, including all auxiliaries required for the propulsion of the Vessel, when developing approx. 17.600 kw I.H.P./B.H.P. (metric) and when running on 1.500 sec redwood I, 100°F

with an effective thermal value of at least 10.000 kcal per kilo, is estimated not to exceed 209<sup>+</sup> 3 % kw grams per I.H.P./B.H.P. (metric) per hour.

The Vessel with her accomodation, equipment and machinery shall be built in accordance with the rules and requirements for class

Bureau Veritas

Finnish/

I 3/3 E + car- and passenger ferry deep sea, /ice class 1A

+ (Aut) and rules/regulations corresponding to specification

The Builders shall supply at their cost Builders' certificate, certificate of the Classification society, and certificates of tonnage for international measurement and for other certificates provided for in the specification

Unless otherwise agreed between the parties ~~Svensk Varvsstandard (Swedish Shipbuilding Standard)~~ Scandinavian standard for car/passenger ferries shall apply to all equipment, materials etc., for which such standard is published. If, during the period of building, alterations or additions are made to any rules, regulations or

enactments in force before 11th September 1979 as far as the classification society is concerned and 1st April 1979 in all other respects. and applicable to the Vessel the Builders shall inform the Purchaser thereof as soon as possible. The Purchaser must then decide whether and to what extent the alterations or additions which are not mandatory shall be incorporated in the Vessel. The amount of the additional expense or saving in cost arising from any alterations or additions shall be borne by or credited to the Purchaser, as the case may be.

§ 3.

If the estimated deadweight capacity mentioned in Clause 2 be not attained and if the deficiency exceeds ~~3%~~ <sup>2,35%</sup> of the said deadweight capacity, the liability of the Builders shall be limited to the payment to the Purchaser, as liquidated damages, of DEM 15.000,- for every tons of deficiency beyond the said margin of ~~2%~~ <sup>2,35%</sup>.

*Deficiency in dead-weight and speed; excessive fuel consumption*

On the other hand, the Purchaser shall pay the same amount to the Builders for every tons, by which the actual deadweight exceeds the said estimated deadweight increased by ~~4%~~ <sup>4%</sup>.

Should the speed estimated in Clause 2 not be attained, the liability of the Builders shall be limited to the payment to the Purchaser, as liquidated damages, of the following percentages of the contract price stated in Clause 10:

- For the first two tenth (2/10) of a knot deficiency ..... Nil
- For each successive complete tenth (1/10) of a knot deficiency up to one half (1/2) of a knot ..... 0,2 %
- For each complete tenth (1/10) of a knot deficiency exceeding one half (1/2) of a knot ..... 0.4 %

~~Should the fuel consumption exceed the consumption estimated in Clause 2 by more than 5%, the liability of the Builders shall be limited to the payment to the Purchaser, as liquidated damages, for each full five (5) grams per I.H.P./B.H.P. (metric) per hour by which the fuel consumption is increased beyond the said margin of 5%.~~

The Builders guarantee that the deadweight capacity of the vessel determined in clause 2 shall not be less than 2500 tons, whereof no less than 1500 t. for cargo (lorries) on car deck and that the speed determined as stated in clause 2 shall not be less than 20,1 knots.



If the Builders cannot fulfill one or both of these two guarantees the Purchaser only has the right and option to refuse to take delivery of the vessel and to cancel the contract with an obligation for the Builders to refund immediately to the Purchaser the instalments paid on account of the contract price plus interest.

§ 4.

When the Builders have notified the Purchaser that the Vessel is ready for delivery, a trial *Trial trip*

trip shall take place off EMDEN to ascertain whether the Vessel conforms with the terms of the contract. The trial trip, which shall be undertaken in the presence of representatives of the Purchaser *and representatives of the c* according to the specification ~~and other particulars~~ *shall be of approximate working speed.* The Builders at their discretion may extend the trial trip or hold further trial trips.

If, during the trial trip *or within 6 hours after its completion* the Purchaser makes no substantial complaint to the effect that the Vessel does not comply with the terms of the Contract, the Vessel shall be accepted by the Purchaser, who, if so required by the Builders, shall declare such acceptance in writing.

If, however, faults or defects arise during the trial trip, the Builders shall be entitled to remedy these and to ascertain by further trials whether the Vessel complies with the terms of this Contract.

If, in order to ascertain whether the Vessel complies with the terms of the contract, the Purchaser requires the Vessel to be loaded, the loading and discharge of the cargo shall be carried out by the Purchaser at his own risk and expense and the Builders shall not be held in any way responsible for delay or damage arising as a result of the loading and discharge.

§ 5.

The Purchaser shall be entitled, subject to the approval of the Classification Society and to government regulation, to require alterations or additions to be made to the Vessel, provided such alterations or additions do not materially affect the general intention of the parties as embodied in the specifications and drawings relating to this Agreement and are notified in writing to the Builders at an appropriate time and a fair price adjustment shall have been agreed before the work thereon be put in hand.

*Additional works*

If such alterations or additions cause delay the time of delivery of the Vessel shall be extended by the period of delay.

x) and the Builders notify the Purchaser that such delay will occur

§ 6.

Should any alterations or additions mentioned in Clauses 2 or 5 cause an increase in the weight of the Vessel and the Builders notify the Purchaser that such increase will result *Increase in weight* by the actual increase in the weight, ~~accordingly.~~

§ 7.

The Purchaser or his representatives shall be entitled to supervise the construction of the Vessel according to the specification *Purchaser's supervision* and for that purpose shall have free access at their own risk during working hours to the berth and works of the Builders where the Vessel or the parts intended for her are being manufactured, and the Builders shall have due regard to any proper complaint or observations made by the Purchaser or his representatives concerning materials and workmanship. If the Builders so desire, the Purchaser or his representatives shall make such complaints or observations in writing. The Builders will in reasonable time notify the Purchaser or his representatives of dock trials and other such trials and tests.

§ 8.

The delivery date for the Vessel shall be

*Completion and delivery*

30th June 1980

Should delivery be delayed beyond the above mentioned date, the Builders shall only be liable to pay to the Purchaser, as liquidated damages interest during the period of delay, a compensation at the rate of DEM 20,000,- per day as from 1st July 1980. On the other hand, the Purchaser shall pay the Builders a compensation of DEM 5,000,- for every day the vessel is delivered earlier than 30th June 1980.

Should the Vessel not be delivered before 1st November 1980 the Purchaser has the option of cancelling this contract against being paid back the instalments paid on account of the contract price plus interest and also compensation due for payment as mentioned above.

the instalments already paid by the Purchaser in cash or by bills, at the highest rate charged from time to time by the Swedish private commercial banks on loans secured by mortgages on ships.

The Builders shall not be liable for damages or otherwise howsoever if the delay is due to force majeure such as war or warlike operations, strike, lockout or other labour conflicts, whether approved or supported by trade unions or not, shorter working hours imposed on the Builders, shortage of man-power or materials, late delivery of materials or goods, defects in major forgings or castings, materials or goods supplied by sub-contractors, fire, accident, <sup>exceptionally bad weather</sup> act of God, unfavourable weather or any other circumstances outside the control of the Builders and whether affecting the Vessel or any other commitments of the Builders. And the time for delivery shall be extended by the number of working days lost to the Builders by reason of any of the above mentioned occurrences, even if the cause of the delay arises after the date of delivery stated in this Contract.

The same shall apply to late delivery caused by late delivery of substantial parts or services by sub-contractors providing the reason for delivery will constitute force majeure for the Builders.

If, during the period of building, the Vessel sustains damage which has been repaired to the satisfaction of the Classification Society and/or the government authorities concerned, the Purchaser is not thereby entitled to refuse delivery of the Vessel or to claim compensation.

If the Vessel is put into service by the Purchaser before it is entirely ready for delivery, the Purchaser's right to claim compensation for any delay in the delivery shall cease from the day the Vessel is put into such service.

If the Vessel is ready for delivery before the date mentioned in the first paragraph of this Clause and the Builders give to the Purchaser at least two weeks notice thereof the Purchaser gladly shall take delivery as soon as it has been ascertained that the Vessel has been built in accordance with the terms of the Contract. If such events occur, which in the Builders' judgement, may cause a delay, the Builders shall within two weeks notify the Purchaser of such event and, if possible, the estimated duration of the delay. If such written notice is not given within the stipulated two weeks, force majeure cannot be claimed for the period preceding such notice.

(a) When the Vessel has been delivered to the Purchaser or the Purchaser has, at his request, taken over the Vessel, the liability of the Builders shall cease, except that the Builders shall remedy at their own yard, free of charge and as speedily as possible any defect detailed in writing by the Purchaser to the Builders which may have developed in the propelling or auxiliary machinery during the six months from the date the Vessel was delivered to or taken over by the Purchaser, provided such defect is due to inferior workmanship or latent defects in material and is not due to overloading, incorrect fuel or lubrication, wear and tear, neglect, careless handling, external causes, accident or the like, or is due to putting the Vessel into service before it was entirely ready for delivery.

If the defect cannot be conveniently remedied at the Builders' yard, and if no other agreement can be arrived at between the parties, the Builders shall only be bound to pay in full and final settlement of their liability under this Clause to the Purchaser, such a sum as it would have cost the Builders had they done the work at their yard.

During the guarantee period ~~of six months~~ the Builders shall have the right to appoint a marine engineer, or mechanic fully conversant with the construction and running of the machinery as guarantee engineer, and the person so appointed shall receive from the Purchaser the customary salary and other remuneration due to a chief engineer on board a <sup>Finnish</sup> Swedish vessel of the same size, together, if so required, with a free passage and maintenance home as well as salary for the journey home. <sup>the Builders may accept the Purchaser's engineer as guarantee engineer.</sup>

The Builders' responsibility for the propelling and auxiliary machinery during the guarantee period shall cease if the guarantee engineer is dismissed without the Builders' approval. The Builders shall not be liable for any faults or omissions on the part of the guarantee engineer or on the part of any other member of the engineroom staff during the guarantee period.

(b) The Builders shall not in any circumstance be liable for loss of earnings or profits or for any other loss, or damage, whether direct or indirect, or for accidents or the consequences thereof which may arise after the delivery of the Vessel nor shall their liability extend further or otherwise than in the first paragraph of this Clause provided.

(c) The Builders shall upon request supply the Purchaser with copies of the relevant guarantee clauses regarding important goods installed in the Vessel.

and hull  
twelve  
or any longer period  
as may be granted by the sub-contractor

twelve  
////////

§ 10.

The Purchaser undertakes to pay to the Builders as follows:

*Payment*

	In Cash	By bills of exchange
On signing of this Contract .....	10 %	-
the 15th October 1979	-	15 %
On receipt of the bulk of rolled-steel material .		
the 15th December 1979	-	15 %
On laying of the keel or when construction		
the 2nd January 1980	10 %	-
on the berth commences .....		
On launching .. (March 1980) .....	10 %	10 %
On delivery .. (June 1980) .....		
	30 %	40 %
On delivery to be covered by way	30 %	
of the loan	<u>60 %</u>	<u>40 %</u>
Total		

The Builders shall inform the Purchaser at least fourteen days in advance of the date on which each of the foregoing instalments is due for payment.

~~The Purchaser undertakes to hand over to the Builders at the signing of the contract the following securities in addition to the first instalment:~~

~~The total fixed price for the Vessel amounts to eightytwomillionsevenhundredandfiftythousand (DEM 82.750.000,-) German marks. The Bills of exchange and additional instalment of 30 %, equalling total of 70 % of the contract price will be covered by a loan.~~

~~The Purchaser shall pay to the Builders in advance, interest on the amount of outstanding bills together with any charges at the rate charged from time to time by the Swedish private commercial banks for bills of the kind delivered (the rate at present being ..... %).~~

~~The cost of additional work done as well as allowances made, in accordance with Clauses 2, 3 and 5 hereof, shall be settled in cash on the delivery of the Vessel.~~

~~If for any reason the Purchaser cannot take delivery of the Vessel on the date the Builders have notified that the Vessel will be ready for delivery, the Purchaser shall nevertheless be liable to make full and final payment on that date.~~

7

The bills shall mature at six-monthly intervals and shall be redeemed by half-yearly instalments of

beginning six months after the date of delivery. The Purchaser shall, however, have the right to redeem the amount of the bills wholly or in part at any time prior to their maturity dates.

As security for the bills the Purchaser shall on the delivery of the Vessel hand over to the Builders a first priority mortgage in a form to be approved by the Builders registered on the Vessel for the full amount of the bills and interest thereon.

If the Builders so desire, the Purchaser shall apply to a credit institution approved by the Builders for the largest sum obtainable by way of loan on the security of a mortgage on the Vessel and in her charterparty (if any). The amount of such loan shall be paid to the Builders as soon as received and the Builders shall then hand to the Purchaser bills of the same amount as the loan as well as the mortgage required for the loan. If and when such loan is redeemed the mortgage thereby released shall be transferred to the Builders in exchange for any mortgage of lesser priority which the Purchaser may have created on the Vessel in favour of the Builders.

As long as any part of the bills remains unpaid the Purchaser shall keep the Vessel after delivery fully insured with such underwriters, insurance companies or institutions and on such terms as approved by the Builders, for all marine and other risks and protection and indemnity risks and war risks, with (if possible) mortgagee's protection insurance in addition. The policies shall provide (unless otherwise agreed) that all losses and claims shall be paid direct to the Builders who shall be entitled, out of the proceeds of the insurances, to retain an amount sufficient to meet what is owing by the Purchaser to the Builders.

If, at the time of delivery, there exists an abnormal international situation affecting currency and/or insurance conditions which may, in the Builders' opinion, prejudice the ready transfer of money to the Builders, the Purchaser shall at the request of the Builders redeem on delivery of the Vessel all outstanding bills or make available a guarantee acceptable to the Builders.

In addition to the foregoing the "General Loan conditions" annexed to this Contract shall apply.

#### § 11.

If payments in accordance with Clause 10 hereof are not made on due dates, the Builders shall be entitled to interest on the amount due, until payment made, at the highest rate charged by the <sup>German</sup> Swedish private commercial banks for short term loans on securities other than bonds or real estate mortgages, with a minimum of 6%. *Delay in payment*

If, during the period of building, any payment is more than thirty days in arrear, the Builders shall have the right to cancel this Contract and to claim damages according to law. If any delay in payment occurs after the delivery of the Vessel, the Builders shall be entitled to call for the immediate payment of all sums due from the Purchaser for the Vessel, with interest thereon.

#### § 12.

If, by reason of circumstances of an exceptional nature, such as, for example, war, or the risk of war, or occurrences or incidents which have a like effect or consequence as war or the risk of war, the rate of wages, and/or costs and/or prices for materials increase to such an extent that it would be unreasonable for the Builders to bear the increase occasioned as aforesaid, then the Builders shall be entitled to request an additional payment from the Purchaser of an amount which the parties hereto may agree on a basis reasonable to them both. If the parties are unable to reach an agreement, the amount of the payment shall be decided by arbitration in the manner laid down in Clause 14 hereof. *Crisis Clause*

Such payment shall be made in cash on the delivery of the Vessel.

Until delivery has been effected, the Builders shall keep the Vessel and Insurance all parts intended for use in her construction insured against the usual builder's risks, including war risk and sabotage as from the launching until the delivery of the vessel, for an amount not less than the instalments paid on account by the Purchaser. If considered necessary by the Purchaser the Vessel shall also be insured for an amount equaling the difference between the contract price and the present repurchase price and the additional cost of such insurance shall be borne by the Purchaser.

Should the Vessel be a total loss the parties may agree to cancel this contract and the Builders shall thereupon refund to the Purchaser the instalments paid on account of the contract price, plus interest and, in the event an additional insurance has been taken for the repurchase price, the difference between the contract price and the repurchase price.

## § 14

This contract shall be construed and the relations between the parties determined in accordance with German law. Disputes shall be settled by arbitration at the venue of the place of building according to the German law relating to arbitrations. Disputes

If the Builders so require the Purchaser shall lodge such security as is approved by the arbitrator(s) for costs and damages likely to arise from the arbitration proceedings. If the Purchaser does not meet this requirement, he shall be debarred from any further step in the proceeding.

## § 15

This contract cannot be assigned without the written consent of the Builders, which the Builders shall not unreasonably withhold. Assignment of contract

## § 16

The scope of supply for S. 592 is included in the specification for the Vessel. Scope of supply

## § 17

Defects in major forgings or castings can only be considered to constitute Defects in force majeure for the Builders provided the Builders have ordered the res-forgings and respective goods with utmost dispatch, have had the respective goods tested castings by X-ray or other available, effective method either at the sub-contractors works or at the yard at the earliest possible date, and have taken every reasonable step to avoid delay and provided such defects and the resulting delay in the construction affects the delivery date of the Vessel.

## § 18

This contract is subject the approval of Finlands Bank. Subject

This contract with attached specifications and drawings has been drawn up and signed by or on behalf of the parties hereto in duplicate, one copy being retained by each party.

Mariehamn, 11th September, 1979.

REDERIAKTIEBOLAGET SALLY

JOS. L. MEYER

Sven-Erik Johansson

Joseph F. Meyer

Witnesses:

**SUPPLEMENT No. 202**

**Extracts from specification for building.**

**Jos L. Meyer.**

**Papenburg-Ems.**

1. GENERAL

General Regulations

The vessel shall be built in accordance with this specification and the General Arrangement drawings, equipped to comply with the specific regulations.

Inventories shall be delivered according to the included lists. Should any object be mentioned in more than one place, however it is only to be delivered once.

When two or more materials or methods of manufacture are mentioned, the Builders have the right to choose between these.

The design of subcontractors' equipment and recommendations for installation of the same equipment refer to their standard on the date of this specification.

If, as a result of increased experience or general technical development, other designs, materials or methods of manufacture than those stated in this specification are found equivalent but more practical, the Builders reserve the right to adopt these new designs etc. Such alterations, however, are always to be submitted to the Owners' surveyor for approval before being carried out.

The shipyard alone is responsible for the construction and quality of work of the ship. The fact that drawings or other documents, test results, etc. have been shown to the Owners or been approved by the Owners or an authority or that modifications have been carried out according to Owners' requirements does not relieve the shipyard from the above mentioned responsibility.

If drawings are submitted and any discrepancy should exist between this specification and the drawings, the specification shall prevail.

Details and equipment necessary for a ship of this type but not stated in this specification to be done according to yard's praxis approved by the Owners'.

General Description

The ship to be built in every respect as a modern car/passenger ferry, designed for short international voyage.

The ship has four medium speed main diesel engines, two CP propellers, two rudders, bulbous bow and two bow thrusters.

There is one trailer deck, breadth suitable for seven lanes, one hoistable car deck on SB and Port sides.

Two stern ramps and one bow ramp.  
Each one passenger port C-and D-deck, pilot port on car deck, all on SB and Port sides.

All crew cabins are located on G- and F-deck in the deckhouse decks at sides, except of eight stewardess cabins in passenger accommodation at the sides.

All passenger's and crew's cabins to have shower and toilet.  
Total passengers on board: 2000

Service activities will be rationalized by adopting a new land service catering system and effective store handling with provisions, shop stores, linen etc. in containers.

X Remark:

It is pointed out that the yard can take as much as possible from the "DIANA II" concept and that yard can choose the manufacturers for smaller things to assure the time schedule, to owner's approval.



11. MAIN DATA

111. DIMENSIONS, VOLUMES, DEADWEIGHT

1111. Dimensions

Length overall	abt.	155,40 m
Length between pp.		137,40 m
Breadth moulded, car deck		24,20 m
Breadth max.	abt.	24,60 m
Breadth moulded in w.l.		23,60 m
Depth to car deck		7,65 m
Depth to C-deck	abt.	13,40 m
Draft loaded		5,55 m
Max. scantlings draft		5,60 m
Height moulded betw. car and deck platforms		2,70 m
Free height on car deck below hoisted platform decks		4,70 m
Free height on platforms		2,10 m
Free entrance breadth x height fore		5,50 x 5,00
Free entrance breadth x height aft		5,50 x 5,00
Camber in car decks		0,00 m
Free height in saloons and halls (outside vent. ducts)		2,25 m
Free height in cabins		2,10 m
Free height in cabins on tween deck, min.		2,05 m

1112. Capacities

Passenger Accommodation

E-deck 4 cabins with 8 beds alt. 16 beds  
98 cabins " 196 beds

D-deck 4 cabins with 8 beds alt. 16 beds  
98 cabins " 196 beds

C-deck 4 cabins with 8 beds alt. 16 beds.  
187 cabins " 374 beds  
4 cabins with 16 beds  
806 beds alt. 830 beds

On tween deck in the forward part couchettes for totally 350  
Accommodation for Crew persons with common toilet/wash room

G-deck 2 apartments for captain/chief engineer 2 beds  
1 owner cabin 1 bed  
18 twin cabins 36 beds

F-deck 25 cabins for officers 25 beds  
54 twin cabins 108 beds

E-deck 2 twin cabins 4 beds

D-deck 2 twin cabins 4 beds

C-deck 4 twin cabins 8 beds

188 beds

Passenger seats

A la Carte room	abt. 120 seats	abt. 185 m2
Dining saloon	abt. 300 seats	abt. 450 m2
Cafeteria with grillroom	abt. 400 seats	abt. 610 m2
Dancing saloon	abt. 340 seats	abt. 545 m2
Night club + Conference r.	abt. 320 seats	abt. 410 m2
Lobby	abt. 50 seats	abt. 90 m2
Halls + Arcade	abt. 190 seats	
Conference room on tanktop	abt. 60 seats	abt. 90 m2
Milkshake room	abt. 30 seats	abt. 50 m2
Air seats	abt. 150 seats	abt. 300 m2
	<u>1960 seats</u>	

Mess and dayrooms

Officers' mess/dayroom	abt. 200 seats	abt. 300 m2
Crew's mess/dayroom		

Car Capacity

On car deck	abt. 290 cars or 47 lorries à 18 m length of 40 to. weight
On platforms	abt. 170 cars

Tank Capacities

Intermediate fuel oil (1500')	abt. } 850 m3
Diesel oil	
Lubricating oil/hydraulic oil	abt. 130 m3
Fresh water	abt. 650 m3
Ballast water	abt. 900 m3

1113. Tonnage

International and Suez tonnage measuring will be executed on the shipyard by Finnish Authorities. Gross register tonnage will be abt. 15.000 RT.

1114. Deadweight and Draught

The deadweight capacity of the vessel including fuel, stores, provisions, fresh water. Passengers, crew and spare parts beyond the requirements of the Classification Society etc. shall be not less than 2800 tons without fins, 2670 tons with fins corresponding to a mean draught in salt water (specific gravity 1,025) of 5,55m.

The actual deadweight capacity to be determined in the presence of the Owners' representative at the inclining test for the first ship only with the vessel in clean and practically completed condition (see para 14).

Lubricating oil and cooling water in the engine systems, refrigerant in refrigerating systems and water in boilers and piping systems are included in the light weight of the ship.

The contents of full deadweight to be designed as follows:

	without fins	with fins
Passenger with luggages	200 tons	100 tons
Crew	20 tons	20 tons
Provisions	80 tons	50 tons
Lorries	1760 tons	1760 tons
Fresh water	350 tons	350 tons
Thermal oil	15 tons	15 tons
Lubricating oil	50 tons)	50 tons
Diesel oil	80 tons)	80 tons
Heavy fuel oil	205 tons)	205 tons
Water in swimming basin	40 tons	40 tons
total	<u>2800 tons</u>	<u>2670 tons</u>

112. SPEED AND POWER, MODEL TESTS

1121. Speed and hull Form

The mean speed of the vessel in trial condition with clean bottom when loaded to a draught corresponding to 1460 tdw without fins, 1330 tdw with fins with the propelling machinery developing 21600 hp = 90% MCR and with propeller rpm = 188 is to be abt. 21,2 knots in calm weather (wind force not over 4m/s and smooth deep water on opposite runs.)

1124. Model Test

Model test for streamline test will be carried out.

113. TRIM AND STABILITY

The stability shall fulfil the Solas requirements for "Two compartment division" for the following service conditions:

1. Ship fully loaded with full stores cargo and passengers
2. Ship loaded as in 1 but with 10% of stores
3. Ship loaded as in 1 but with 50% of stores
4. Ship loaded with full stores and full number of passengers but without cargo
5. Ship loaded as in 4 but with 10% of stores
6. Ship without cargo and passengers but with 100% of stores.
7. Ship without cargo and passengers but with 10% of stores.

Unsymmetrical flooding shall be avoided as far as possible.

Preliminary stability and trim calculations to be made at an early stage of design work and to be forwarded to the Owners.

14. CLASSIFICATION, REGULATIONS, NOISE PREVENTING

The vessel with her accommodation, equipment and machinery shall be built under special survey to Bureau Veritas class, I 3/3 E + Car and Passenger ferry Deep sea Finnish Ice class I A

+(AUT) =  $\text{E} \text{ } \text{O}$

The vessel with equipment shall comply with the following rules and regulations:

- The Finnish Board of Shipping.
- International Conference on Safety of Life at Sea 1974
- International Load Line Convention 1966 and admendments 1971 + 1975
- Convention for Tonnage Measurement of Ships, Oslo 1947
- Pollution Preventions 1973
- International Regulations for Preventing Collision at Sea 1972
- Finnish Authorities' recommendations for Safety Ship Labour 77 : 33
- US Regulations regarding sanitation (fresh water tank arrangement excluded) (as reasonable applicable)
- Convention on the Protection of the Marine Environment of the Baltic Sea Area 1974/232
- IMCO resolution A 325 (1x) 1975 concerning regulations for machinery and electric installations in passenger vessel and cargo ships
- USCG requirements for passenger vessels' safety to be followed, as reasonable applicable
- The Finnish Board of Shipping and Navigation Rules and Recommendations of Noise Level Criterium

116. MATERIAL AND WORKMANSHIP

All work subject to the supervision of the Classification Society shall be approved by its surveyor. Every piece of work shall with regard to design, material and workmanship, be of the same standard as is customarily found in Scandinavian shipbuilding.

High tensile steel to be used for weight minimising to choice of the yard. (except the flat bottom).

3. HULL AND DECK FITTINGS AND INVENTORY

31. HULL EQUIPMENT

312. .POORTS, RAMPS

Bow visor, bow ramp, stern ramps and side ports, complete with operation equipment, to be arranged to authorities' and Owerens' approval. The whole equipment, including pump aggregates, to be of von Tell's construction.

3121. Side Ports

3122. Pilot and Passenger Doors

Two hydraulically operated watertight pilot and provision doors midships on car deck, one on each side, in line with the ships' side plating. Maximum 300 mm extension outside shell plating when operating. Height of doors about 2,0 m width about 1,2 m. The doors will be hydraulically secured around the frame and operated by means of hydraulic cylinder and separate compact pump aggregates placed nearby. Manual emergency pump to be arranged. One of the pump aggregates also to serve the hydraulic engine room hatch.

Opening time maximum 15-20 seconds.

Two hydraulically operated watertight passenger doors C-and D-deck, one on each side in line with the shell plating.

The doors to be hinged on sides and opened outwards. Height of doors about 2,0 m, width about 2,5 m. The doors will be hydraulically secured around the frame and operated by means of hydraulic cylinder and separate compact pump aggregates placed nearby. Manual emergency pump to be arranged. Pump aggregate and control box to be recessed in bulkhead lockable doors.

Securing cleat for open position to be provided. The cleat to be released from the control box.

Opening time maximum 15-20 seconds.



3123. Bow Visor and Ramp

Outer Bow Visor

One strong bow visor (see also 212), hinged on forecastle deck and operated by two inside placed double-acting hydraulic cylinders.

Maximum time for opening 60 seconds.

Each main cylinder to be provided with an oil flow restriction device to prevent the visor from falling down in case of broken pipes or hoses.

Another restriction valve of adjustable type to be arranged for settling the closing speed.

Each cylinder to be provided with a directly connected overload relief valve.

In the common oil return line to be mounted a relief valve, adjusted to the pressure needed to hold the door in any position in case of broken pipes or hoses. In connection with this relief valve, an emergency by-pass valve to be installed.

In fully opened position the bow door to be mechanically secured by means of two hydraulically operated securing devices, which are automatically released at the normal closing operation.

The bow visor can not be operated if the bow ramp is not properly closed. Hydraulically operated securing device for closed position to be arranged.

The securings to release automatically at normal opening operation.

Two ice-breaking hydraulic cylinders to be installed and to work automatically at normal opening operation.

Electrically or thermal coils for heating purpose to be installed in a cofferdam.

The bow visor to be guided in right position when closing by at least four wedge-formed guides.

All bearings to be greased with spring loaded graese drums. Bearings of securing devices to be of self-lubricating materials.

#### Bow Ramp

One watertight bow ramp with longitudinal stiffeners arranged to give a free opening of 5,5 m width and 5,0 m height. In lowered position, the bow ramp to reach minimum 1,5 m forward of bulbous bow's front. At the end of the ramp hinged flaps to be arranged.

The bow ramp cannot be operated if the bow door is not in open position.

#### Partial Collision Door

For the intended service not required by F.B.N.

#### 3124. Stern Ramps and Doors

For loading through the stern, the vessel is equipped with two hydraulically operated combined stern ramps and doors. Clear opening 5,5 m width and 5,0 m height. Total length of the ramp abt. 6,5 m.

They are watertight and consist of part hinged to the hull and flaps attached to outer end.

The ramps to be constructed for a charge of 10 degrees downwards/upwards from lowered horizontal position. All ramps to be designed for the same load as the main deck. Closing time maximum 60 seconds.

Also at the joints between ramps and deck, flaps to be arranged. The ramps to be opened and closed by means of hydraulic cylinders. Hydraulically operated securing devices for closed position, which shall be automatically released at normal opening operating. Restriction valves and relief valves to be provided as for the bow door.

The ramp sides to be provided with railings and with welded-on antislip profiles to Owners' approval.

Preventer to be provided.

3127. Hydraulic System

The hydraulic equipment for bow visor, bow ramp and stern ramps to consist of two double pump aggregates, one forward and one aft. each with two piston pumps driven by electric motors 380 Volts - 50 Hz. Working pressure of the hydraulic system up to 250 kp/cm<sup>2</sup>.

The system is used also for car platforms.

The oil tanks to be placed above the pumps and oil level to be as high as possible above most of the hydraulic equipment to avoid air pockets in the pipes. The tanks to be provided with low level alarm and with minimum level switch of floating type for cutting out the electric circuit to the pumps.

Pipe system to be arranged in such a way that the piping circuit from one forward pump will operate platform sections Nos. 1 and 2 on port side and the other forward pump piping will operate platform sections Nos. 1 and 2 on starboard side. Both the pipe circuits to be connected thereafter to a common line to supply oil for bow visor and bow ramp. Similar system to be arranged for the aft pump aggregate. For emergency cases pressure and return lines to be arranged between forward pump aggregates and aft pump aggregates.

Pumps to be started and stopped at the following positions:

- At bow visor and bow ramp control box both forward pumps
- At stern ramp control box both aft pumps.
- At each platform sections control boxes pumps connected to pipe line in question.

Indication lamps for pumps running to be provided at each position. Control boxes for operation of doors, ramps and car platforms to be provided with clearly written signs indication the name and number of the actual door, ramp or platform together with valve positions.

Also warning signs at car platform control boxes indicating checking of platform top before hoisting. Signs for maximal shaft load on car deck and car platforms to be provided. All signs to be written in Finnish, English and Swedish language.

Arrange of the total plant as on "DIANA II".