

• **THE ESTONIA ACCIDENT**

Bilaga 3

**A short summary on the basis of the Final Report by the
Joint Accident Investigation Commission**

Tuomo Karppinen, member of former JAIC

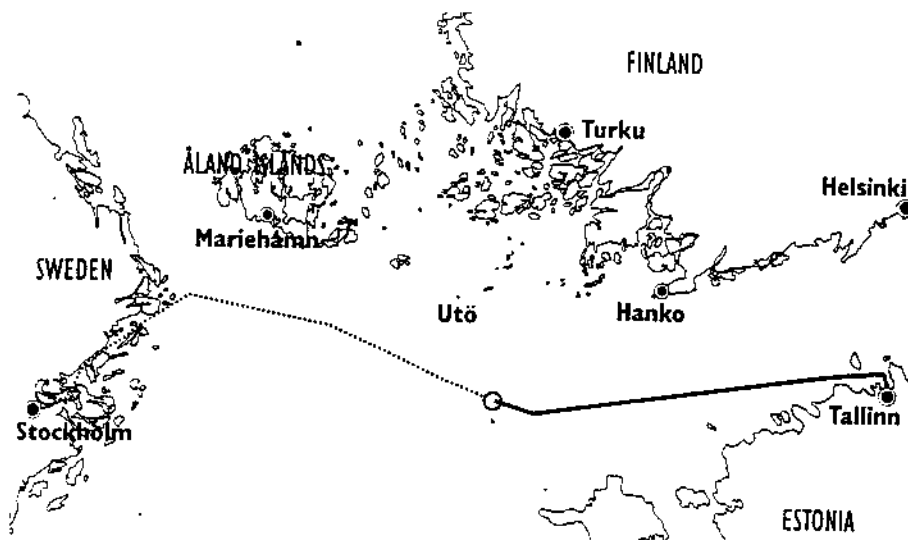
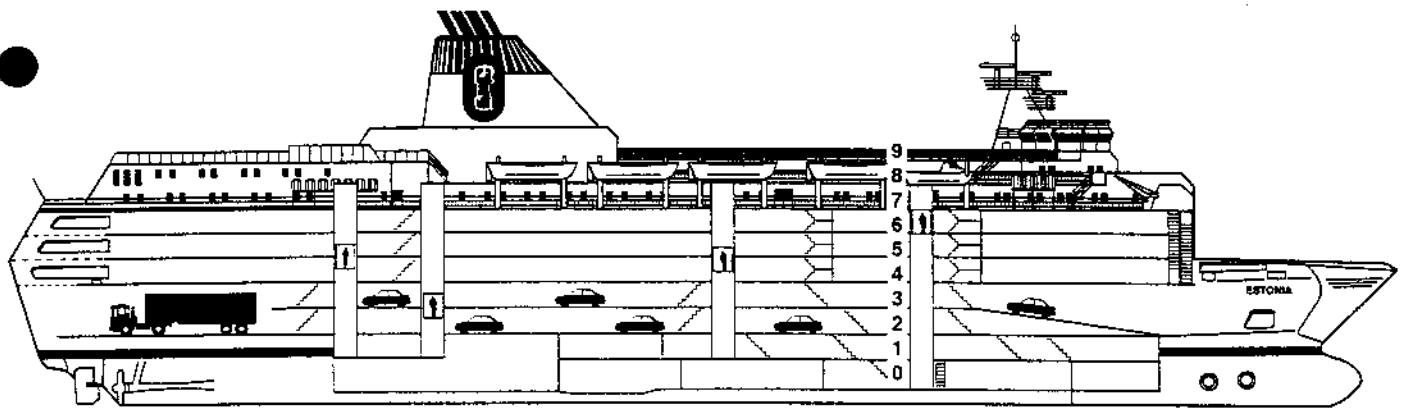
- **Accident**
- **Sequence of events**
- **Sinking and flooded stability**
- **Example of criticism**
- **Video showing facts**



MANUFACTURING TECHNOLOGY

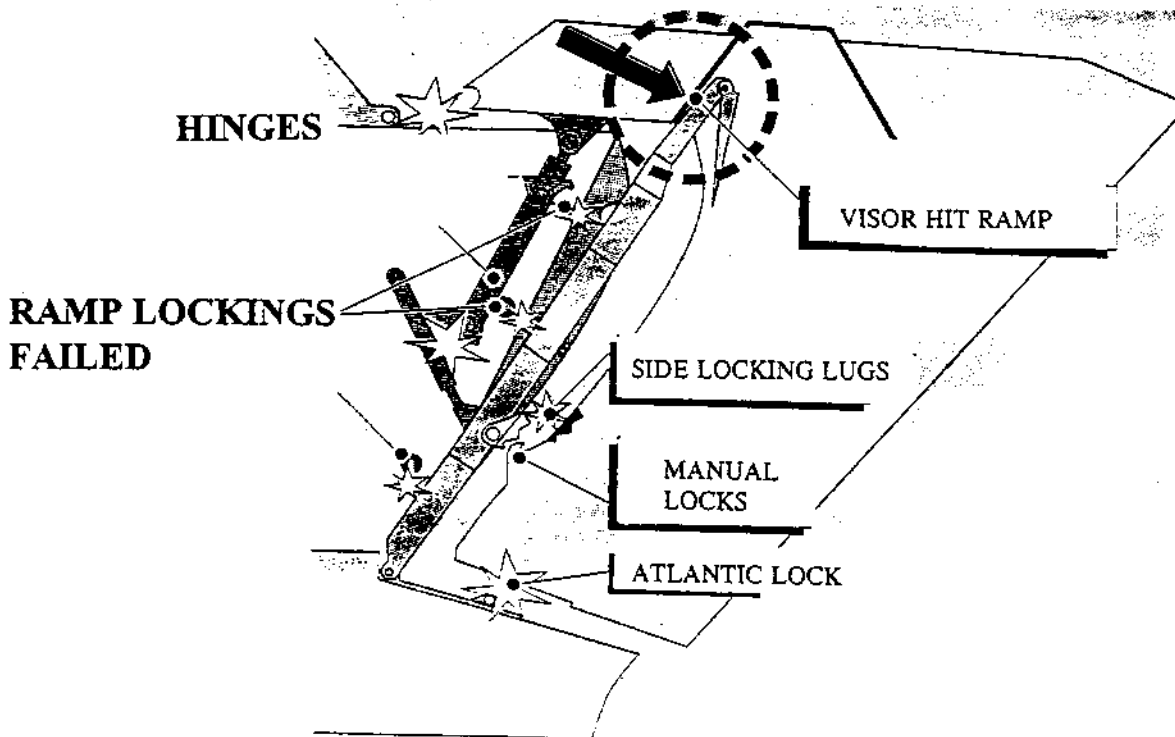
THE ACCIDENT

- **THE ESTONIA CAPSIZED AND SANK SEPTEMBER 28, 1994, 0115 - 0150 HRS IN THE NORTHERN BALTIC. SIGNIFICANT WAVE HEIGHT ABOUT 4 m, LATER DURING THE NIGHT ABOUT 5.5 m. PORT BOW SEAS. MAXIMUM SERVICE SPEED, ABOUT 14 kn.**
- **989 PEOPLE ON BOARD, 137 SURVIVED, 757 STILL MISSING**

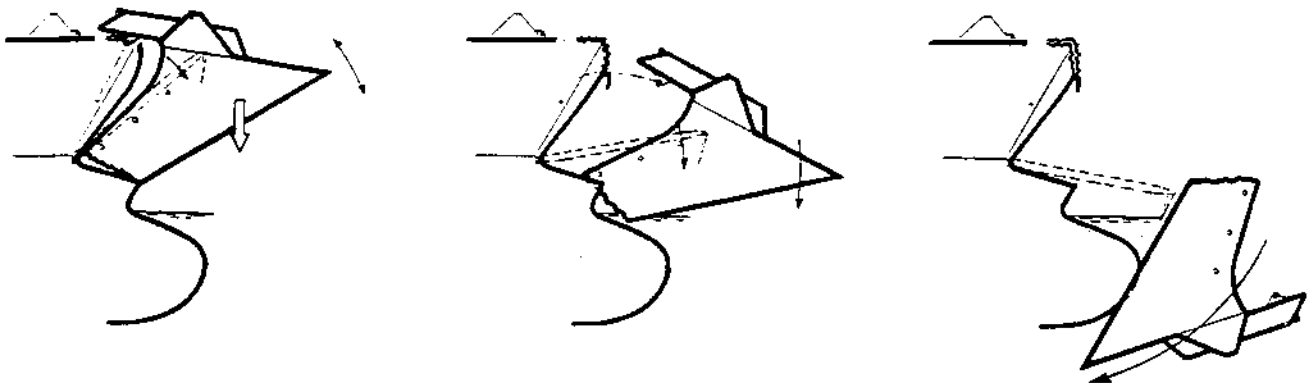


MANUFACTURING TECHNOLOGY

THE ACCIDENT



- WAVE IMPACT BROKE VISOR LOCKING DEVICES AT A LOAD LEVEL OF MAXIMUM 1.2 TO 1.5 TIMES THE DESIGN LOAD. OTHER VISOR ATTACHMENTS FAILED.
- VISOR HOUSING HIT RAMP UPPER END AND OPENED RAMP.
- VISOR FELL TO THE SEA AND LEFT RAMP FULLY OPEN.
- WATER ENTERED THE CAR DECK.

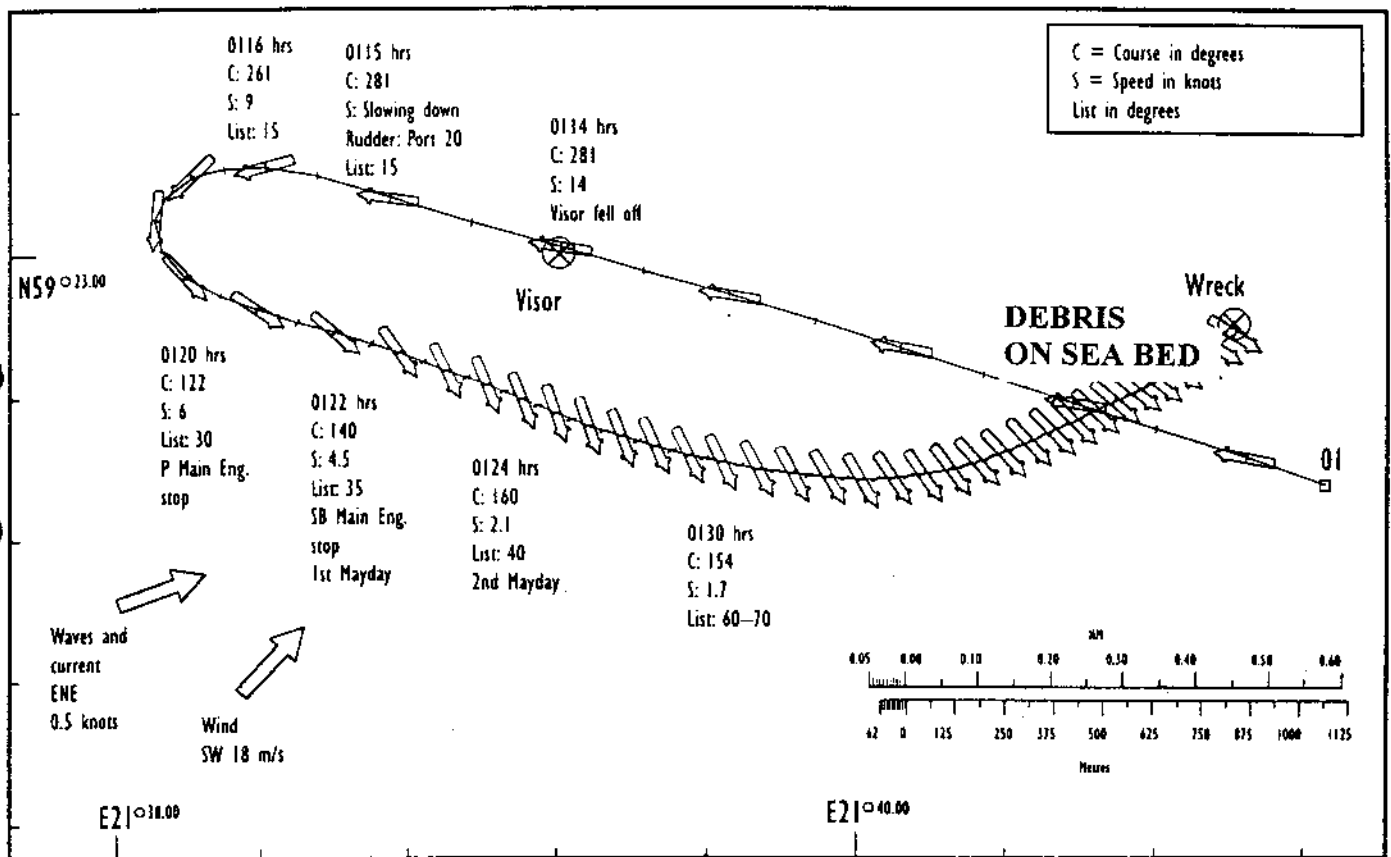


MANUFACTURING TECHNOLOGY

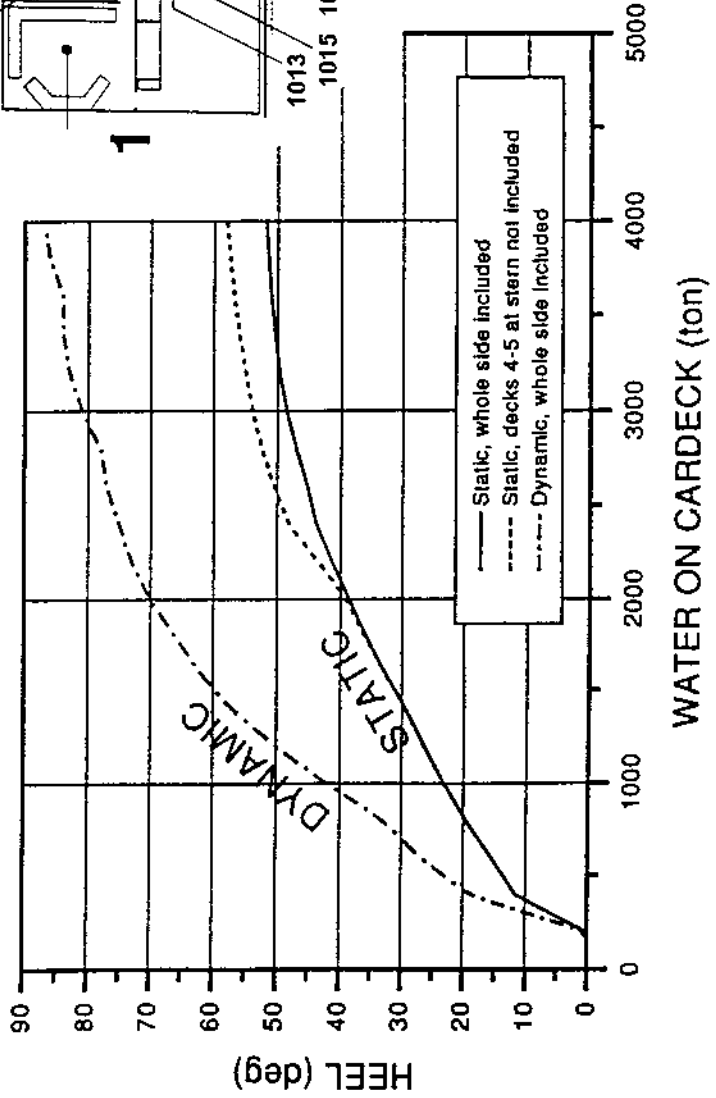
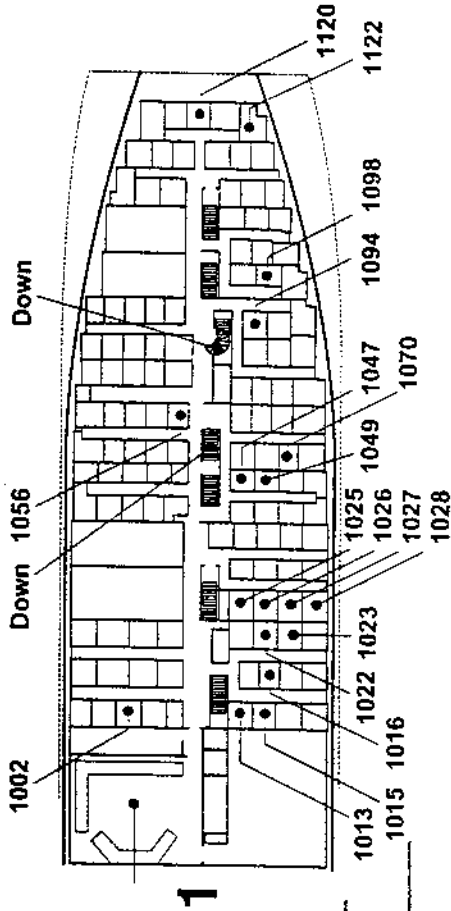
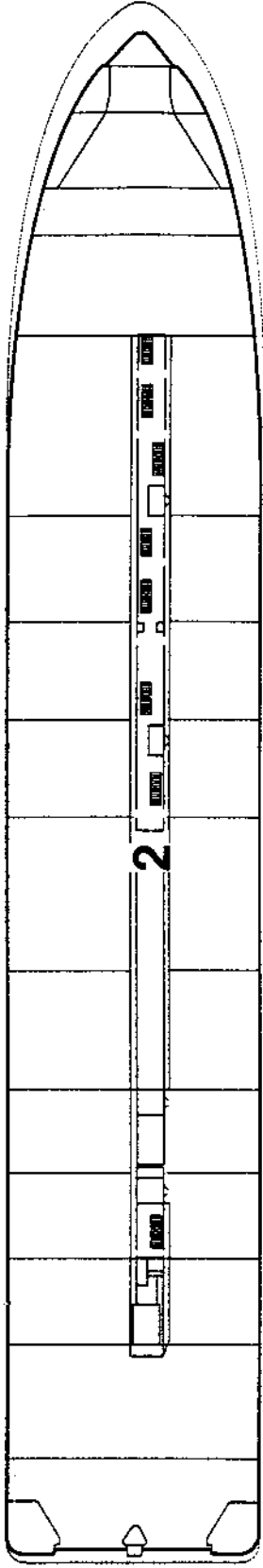
SURVIVOR M. H. FROM AFT OUTER DECK 6 TO SWEDISH POLICE 13.10.1994:

"H. saw how tables slid to starboard in the restaurant. ... When he had come around the aft deck ... H. looked over to the port side ... he felt that ship's speed slowed down and that the ship was steered over to port. ... When he was looking to foreship along the side he saw a big plate which was pointing directly out. ... Later he understood that he had seen one of the fin stabilisators."

Figure 13.2 Course of events as composed by the Navigation Simulator at the Maritime Academy in Kalmar, Sweden.

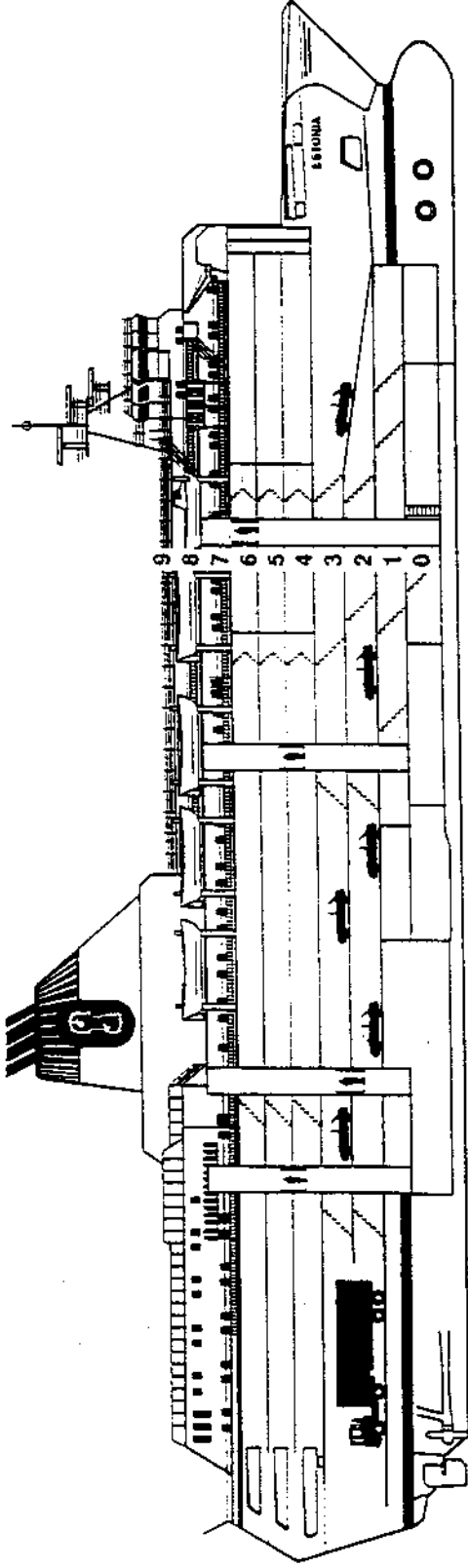


FIRST LIST ABOUT 15° INCREASING QUICKLY TO ABOUT 30°



water flowing on the corridor floor
a little water on the corridor
a thin trickle of water
water trickling onto the deck

**LIST DUE TO WATER ON THE SAUNA COMPARTMENTS
AND IN THE DECK 1 CABIN COMPARTMENTS**



3 COMPARTMENTS ON TANK DECK FULL OF WATER

6 COMPARTMENTS ON DECK 1 PARTIALLY FILLED

WATER IN TOTAL ON DECK 1	LIST	TRIM TO BOW
435 tonnes	5.1 degrees	2.3 metres
1640 tonnes	12.4 degrees	3.6 metres
3280 tonnes	3.0 degrees	4.3 metres

S=BENGT BJORKMAN;ou, 09:06 16.12.1998 , (6957)

Date: Wed, 16 Dec 1998 9:06 +0000

From: "s=BENGT BJORKMAN;ou1=vshpmo;o=ccMail;p=marinet400;a=attmail;c:<benbjo@vships.kvmarinet.co.uk>

To: TUOMO.KARPPINEN@vt.t.fi

Subject: (6957)

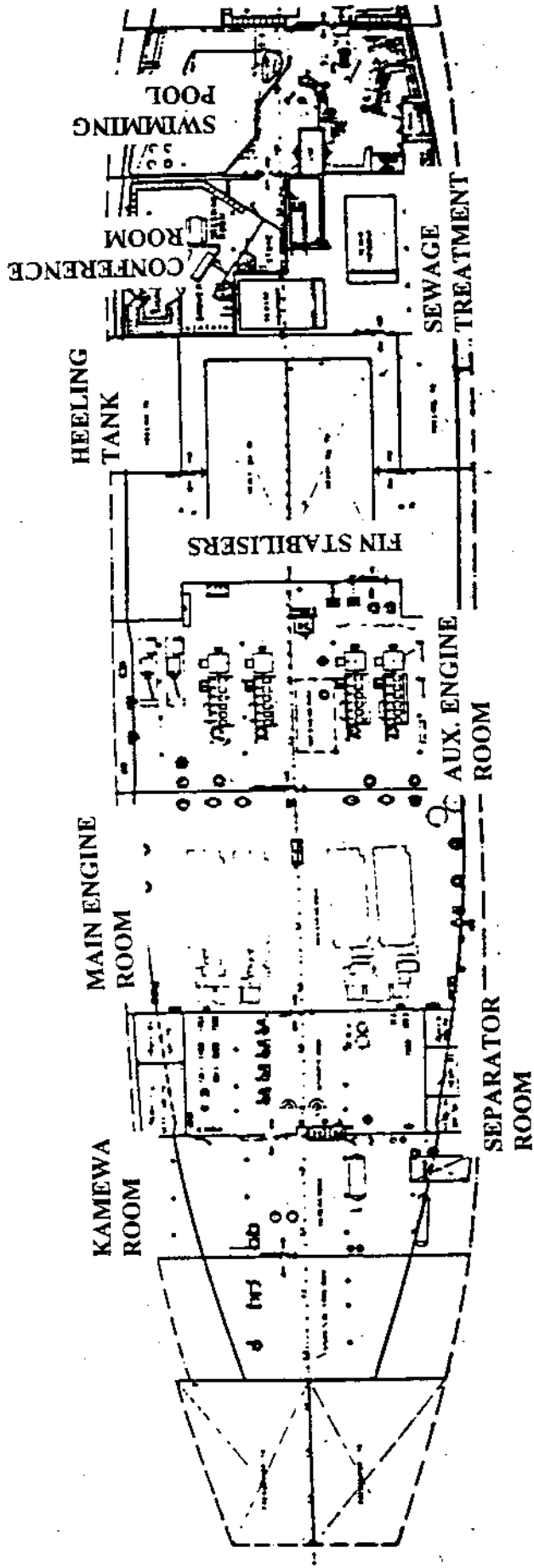
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several watertight compartments. Thus there are two critical events - leakage and flooding.

Leakage.

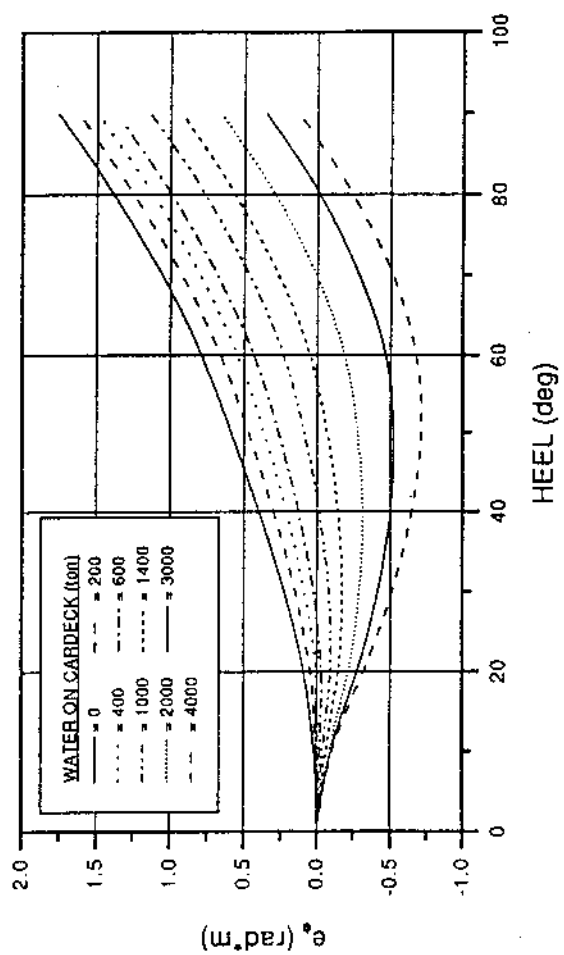
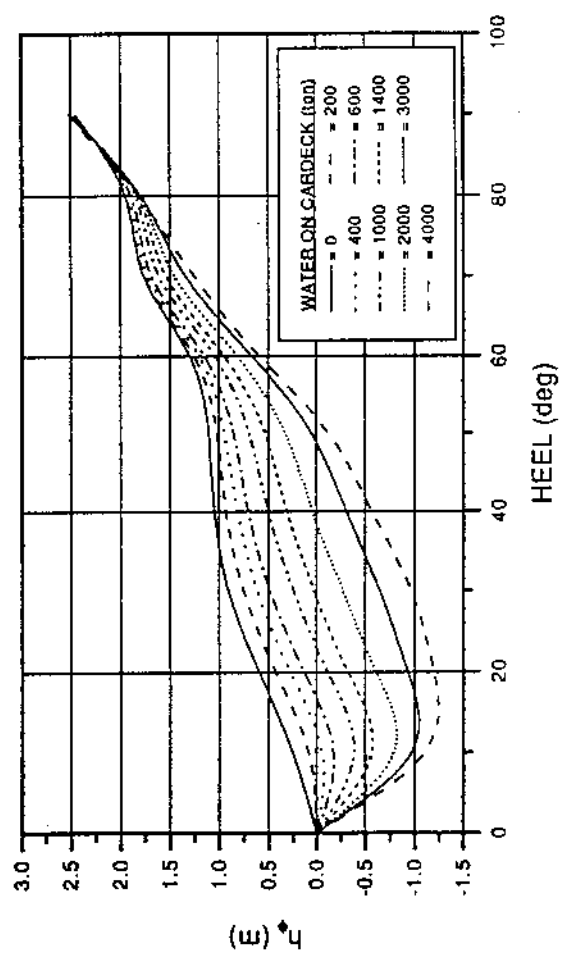
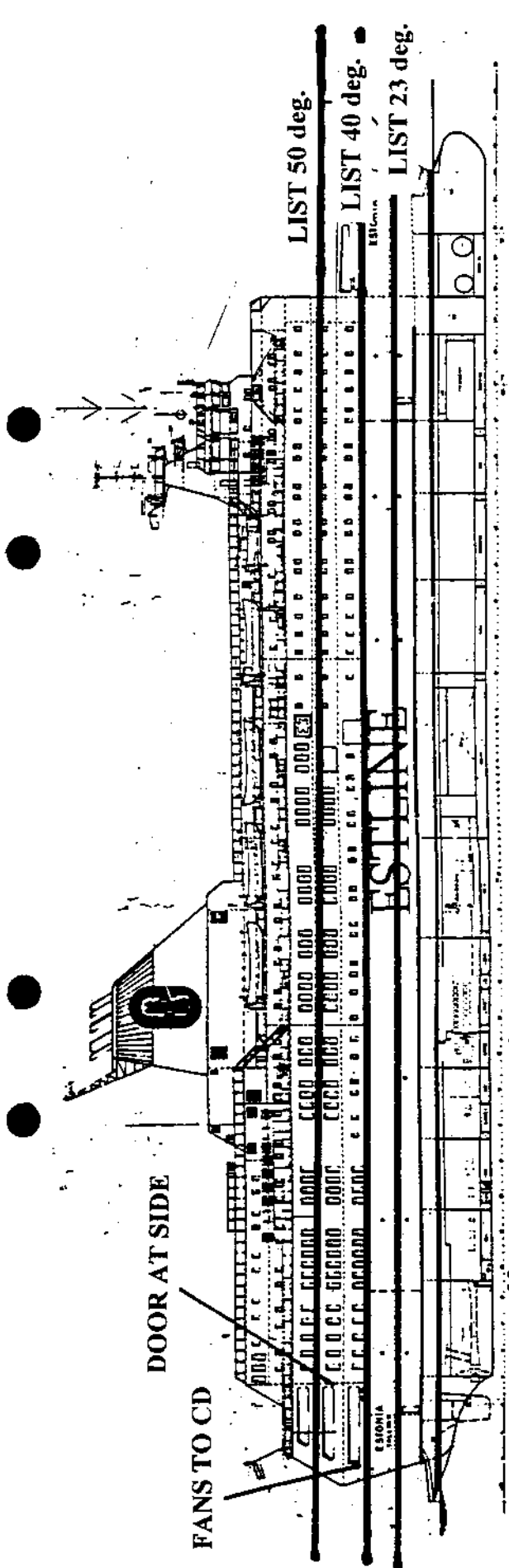
The hypothesis here is that the starboard stabiliser fin broke off at about 00.40 hrs. It had been activated at about 00.30 hrs. When it broke off, the shell plating opened up and about 100 m³/min water entered. During one hour 6000 m³ entered below the car deck and that made the Estonia losing stability and heeling at 01.02 hrs and sinking at 01.55 hrs. Crewmember Sillaste told Finnish police at Turku after the accident that the Estonia was leaking. The visor fell off at about 01.12 hrs when the Estonia had a substantial list. The forward ramp never opened up (as seen on all the underwater videos you have)

LIST DUE TO WATER IN THE ENGINE ROOM

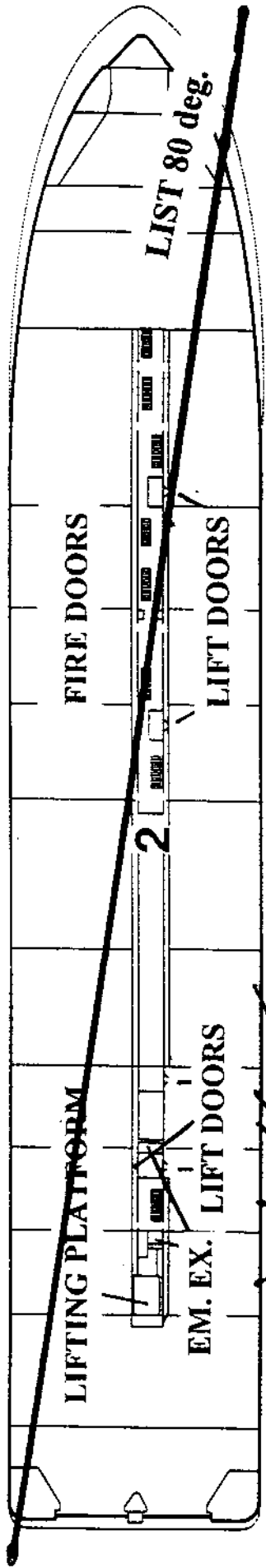


WATER IN 7 COMPARTMENTS

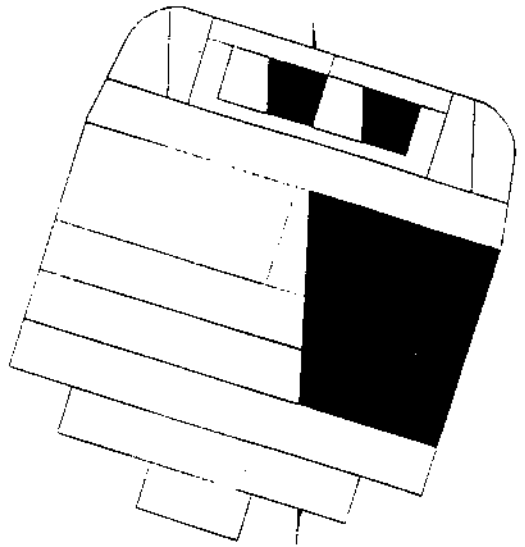
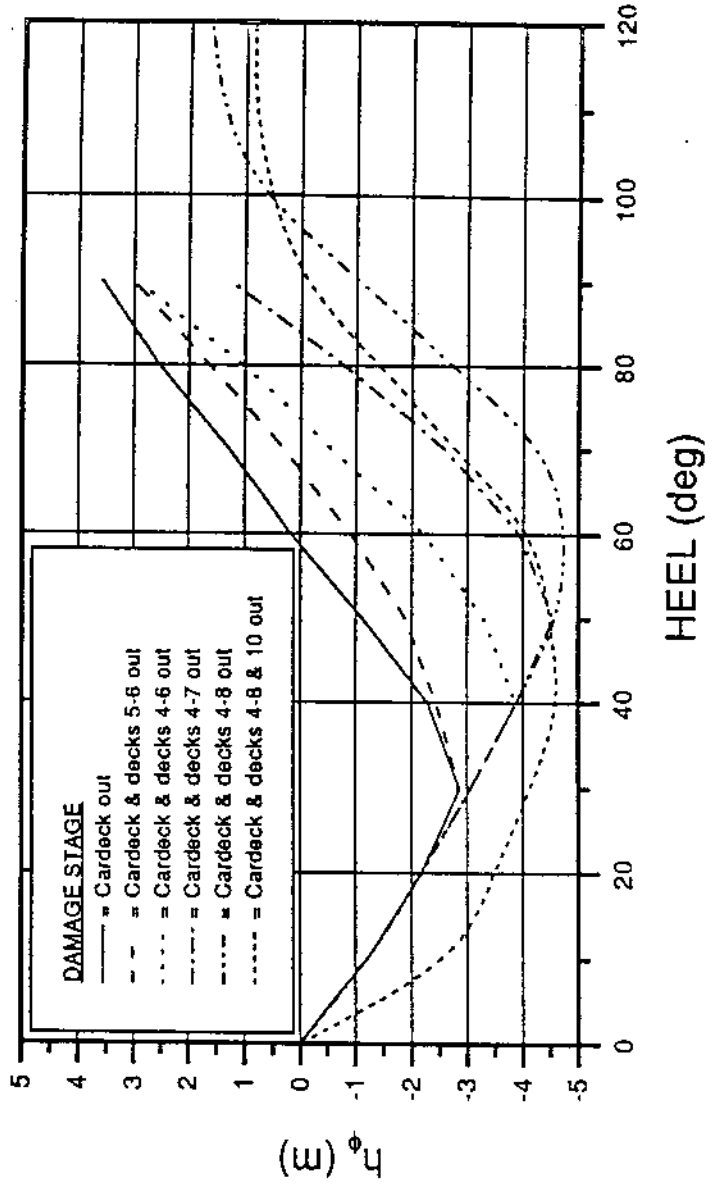
WATER IN TOTAL	LIST
1505 tonnes	15.0 degrees
2320 tonnes	11.3 degrees
3010 tonnes	3.7 degrees



SITUATION AT ABOUT 0135 hrs WHEN THE CLOCK ON THE BRIDGE 3 m TO SB FROM CL STOPPED AND SURVIVORS WERE WASHED AND JUMPING TO SEA



VENTILATION DUCTS



Estonias bogramp var aldrig öppen

Slutrapporten om Estonia-
28 september
sida 22 att

ÅSIKTEN

Allt tyder på att Estoni-
ramp aldrig var

var öppen, eller att den drogs
öppen vare sig före eller efter
olyckan. Slutrapportens påstå-
ende i § 1 strider mot
det är obevisat. Det finns ingen
mätning eller foto...

ESTONIA'S BOW RAMP WAS NEVER OPEN

The public has been mislead, ...

tigade låskrokarna under
vatten med dykare. Man var al-
drig inne i garaget och tittade
på bogrampen.

Den inre bogrampen är i
stängt läge nere på vraket
och besiktigades bara utifrån
av en dykare.

Trots detta påstår slutrap-
porten att rampen rycktes upp,
släppte in tusentals ton vatten
och sedan stängdes igen. Allt

The inner bow ramp is
closed in the wreck and was
surveyed only from outside by a diver.

THE VIDEO SHOWS:

- **BOW RAMP GAP AT TOP END**
- **DIVER INSIDE RAMP**
- **SNAPPED RAMP ACTUATOR**
- **SIGNIFICANT DAMAGE ON UNDERSIDE OF RAMP
WOODEN PALLET**
- **ATLANTIC LOCK AND A MANHOLE VERY NEAR AFT**
- **A MATTRESS COMING OUT THROUGH A CABIN
WINDOW**



MANUFACTURING TECHNOLOGY

CONCLUDING REMARKS

- **CONCLUSIONS OF THE FINAL REPORT VALID.**
- **MUCH MORE LIKELY THAT WATER ENTERED BELOW THE CAR DECK FROM ABOVE THAN THROUGH A LEAKAGE IN THE UNDERWATER HULL.**
- **MOST OF THE CRITICISM NOT BASED ON FACTS.**
- **EXCLUDING THE FINAL REPORT THERE ARE NO PRESENTATIONS FORMING A LOGICAL CHAIN OF REASONING TO EXPLAIN THE CAUSE OF THE ACCIDENT.**

