



**THE MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE REPUBLIC OF
LITHUANIA
THE GUIDE FOR THE INVESTIGATIONS OF THE ACCIDENTS AND INCIDENTS OF
MARITIME SHIPS**

This investigation has been conducted with the cooperation and assistance of the Swedish accident investigation board

**FINAL REPORT FOR
THE INVESTIGATION OF THE ACCIDENT OR MARITIME SHIP
02.09.2014 No. TA-6**

This report is prepared in order to prevent the accidents and incidents. The investigation was not intended for the determination of the fault or responsibility of any persons and therefore it can be wrongly interpreted when using it for other purposes. It was performed in accordance to the recommendations of the Resolution MSC 255(84) dated in 16 May 2008 of International Maritime Organization (IMO) and the regulation of the Commission (EU) No. 1286/2011.

The ship	PATRIA SEAWAYS
The company	AB DFDS Seaways
The type of the ship	Ro-ro / passenger ship
Registration No. TJO (IMO)	8917390
The place and the dated of the event	The Baltic Sea, Kapellskär (Sweden) port, 25 November 2013

Registration numbers of the event:
TAITS register No. of the accidents of maritime ships – 6-TAITS-2013
EMSA (EMCIP) database No. 433/2014
TJO (IMO) GISIS database No. C0009149



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1. SHORT DESCRIPTION

The person died in the shaft of passenger lift of ro-ro / passenger ship “Patria Seaways” navigating from Swedish port Kapellskär and Estonian port Paldiski. This had happened in 25-11-2013. The ship was moored away from the quay in Kapellskär port at 11:00 a.m. and traveled towards the place of the berth in the same port. The ship had hailed to the place of the berth at 11:55 a.m. and started dropping an anchor. At 11:55 a.m. within an internal wireless communication of the ship the information had appeared that the second engineer is inviting the electro-mechanic for the conversation. But he just did not say the purpose of this invitation. At that time the electro- engineer along with the chief engineer and duty engineer was at engine-room and possible did not hear this invitation because the communication of portable radio station was quite weak regarding of metal structures of the ship. The crewmen located on the operational bridge of the ship at that time did not pay attention to this invitation because they thought that the second engineer had found the electro-engineer through internal telephone or by other means. This is a normal practice of the ship. The ship had further continued the operation of dropping an anchor. After several minutes, to approximately 11:58 a.m., the manager of passenger’s service had called to the captain’s bridge by the phone and informed that somebody had stuck in the lift of the ship because she heard the bell and call for help. Immediately after this message the head assistance of the captain was send to the room of the engine of the lift in order to see what had happened. The head assistance of the captain had informed through portable radio station that he sees somebody stuck between the lift the wall of the shaft. At that time the second assistance of the captain had quickly run to that place and saw that the body of the human is stuck within the shaft of the lift. However, he cannot determine the exact member of the crew straight away. The revise of the crewmen was started to perform through the radio station and by telephone in order to determine the lacking member. At the same time the communication with the dispatcher office of Kapellskär port was performed and after short description of the situation within the ship emergency medical service was asked to come to the ship. After several minutes the message was received that the man stuck within the shaft of the lift is the second engineer and he is strongly disabled and demonstrating no signs of life. At that time in accordance to the decision of the captain the crew had started to pull the anchor up and moved towards the quay of Kapellskär port. At 12:50 p.m. the ship “Patria Seaways” was at the quay of Kapellskär port. The crew of firefighters-rescuers, emergency medical service and police officers had come to the ship.



Figure 1. Operating line of the ship "Patria Seaways".

2. FACTUAL INFORMATION

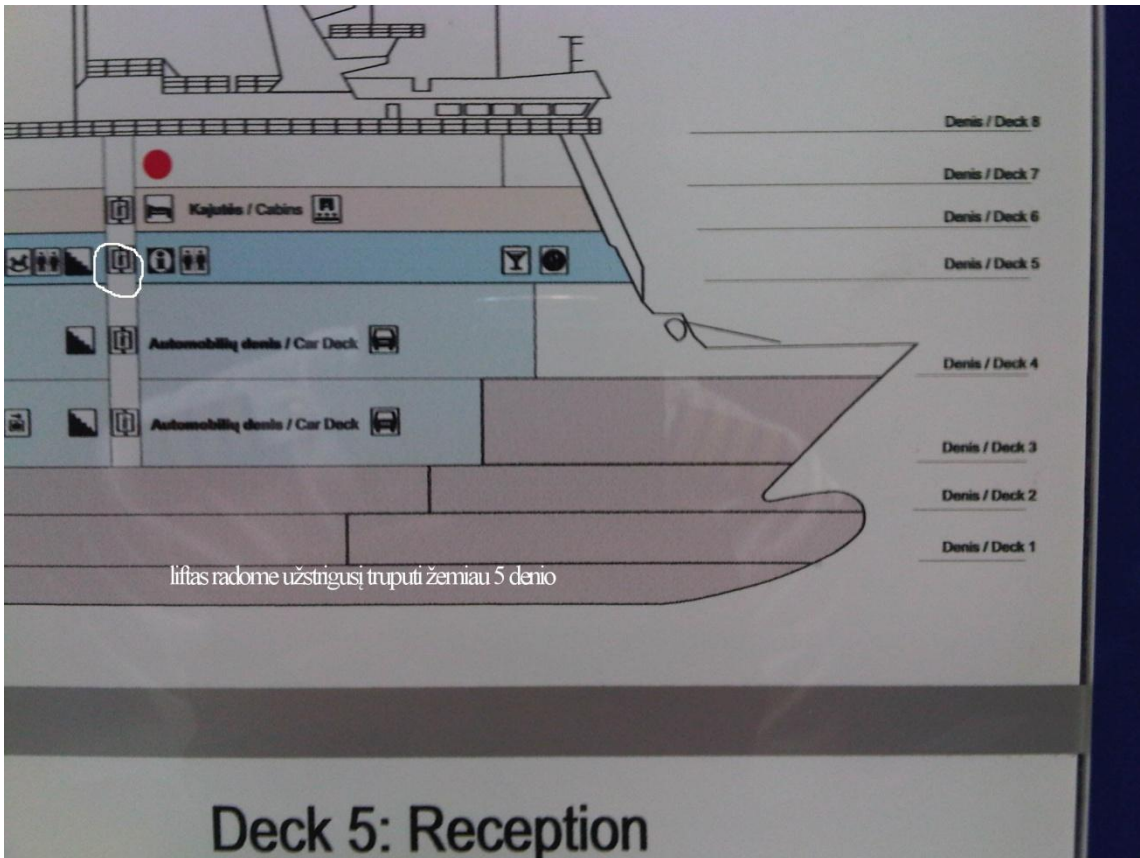


Figure 2. Stuck place of the lift in the ship.



Figure 3. General view of the lift after opening of the door. The ladder of emergency landing from the cabin of the lift can be seen at the right side.

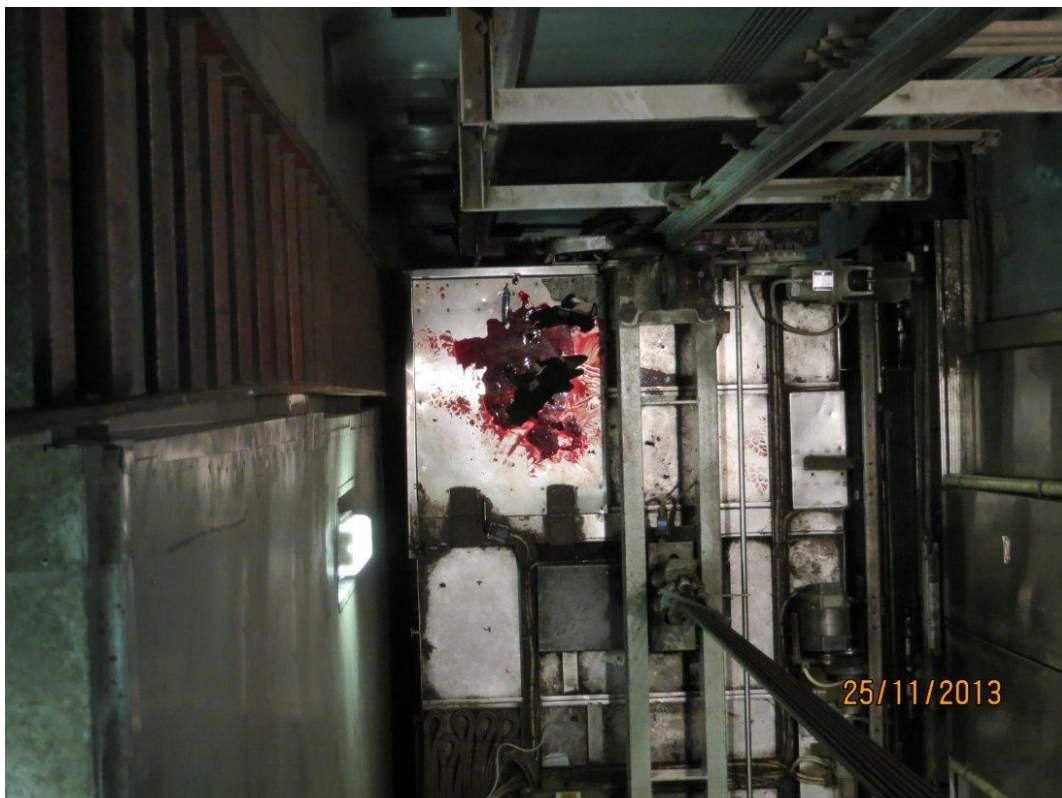


Figure 4. The view of the shaft of the lift from the top. The ladder of emergency landing can be seen at the left upper side.

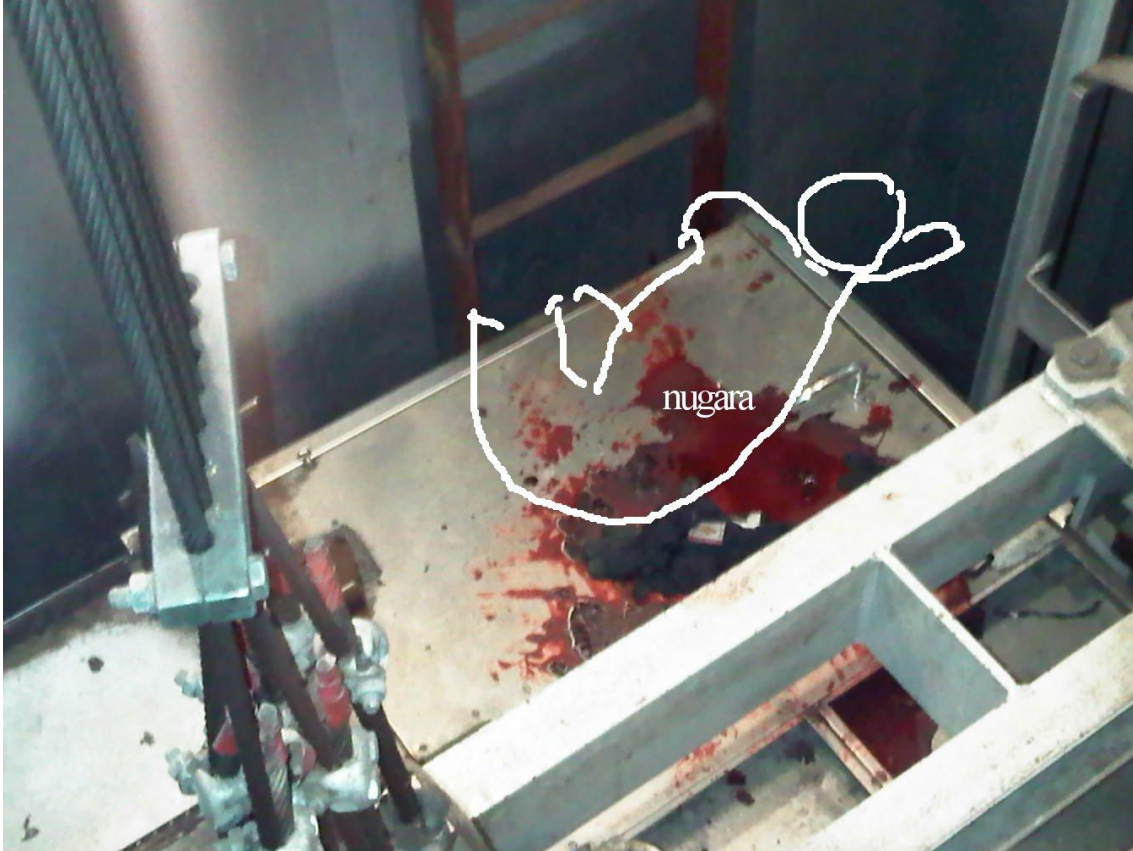


Figure 4. The position of human body.

2.1. INFORMATION ABOUT THE SHIP

The title of the ship: "Patria Seaways".

TJO (IMO) No. 8917390.

The flag of the ship: Lithuanian.

Call-signs of the ship: LYRC.

The type of the ship: ro-ro / passenger ship.

Gross tonnage of the ship: 18,332.00 tons.

Length overall of the ship: 154 m.

Maximum breadth of the ship: 24 m.

Hull height: 18 m.

Hull material: steel.

The number of the crewmen in the ship: 35.

The number of the crewmen in accordance to the minimum certificate of the crewmen of the ship: 18.

Classificatory company: AMERICAN BUREAU OF SHIPPING.

The manager of the ship: AB DFDS Seaways.

Built year of the ship: 1991 m.

The main engine:

The type and the power: model 8ZA40S *Sulzer*, 2 x 10560 kW.

The propellers of variable lead.

2.2. INFORMATION ABOUT THE TRIP

The ship “Patria Seaways” was constantly navigating via international trip between Paldiski port (Estonia) and Kapellskär port (Sweden). The types of hauling freight: the trucks including the freight of various purposes, the tourists and business representatives. By the time of the event the ship did not include any freight or passengers because the ship should be loaded in the evening in accordance to the schedule. The crew of the ship was consisted of 35 peoples.

2.3. INFORMATION ABOUT THE ACCIDENT OF MARITIME SHIP

This event is classified as a very severe accident following the regulation of safety investigations of the accidents and incidents of maritime ships (hereinafter – the Regulation) that was certified by the minister of the Ministry of Transport and Communications of the Republic of Lithuania on 29 July 2011 by 7.3 sub-article of the order No. 3-461.

The message on this event was registered by **433/2014** number within EMCIP database of European Maritime Safety Agency.

The message on this event was registered by **C0009149** number within GISIS database of International Maritime Organization (IMO).

Date and time: 25-11-2013 11:55 a.m.

The position and place of maritime ship: the ship “Patria Seaways” was maneuvering at the place of the berth after swimming from the quay of Kapellskär port and unloading of the freight. Very severe accident had happened in the region of the Baltic Sea, in Kapellskär port (Sweden), map references 59-43.8 N. 019-08.6 E. chart No. 26135.

External and internal environment: northern wind – 11 m/s, sea-surface state – 2 scores, atmospheric pressure – 761 mm, weather – sunshine, visibility – more than 6 nautical miles, air temperature – +3 degrees, sea water temperature – +7 degrees. The ship had included usual operational environment, major part of the members of the crew had a rest after loading works and night and the time of the change between the members of watch services had come to an end.

The segment of ship exploitation and the trip: the ship was being exploited since 1992 and corresponds to all requirements raise for it. It was usual working day of passenger ship within international line.

The place in the ship: passenger lift had stuck when coming down a little bit lower than the 5th deck of the ship.

Information on human factors: the impatience of the gone man, the rush to perform the actions without the persuasion and contemplation on the after-effects of these actions, over-diligence to do his duty in time (he was hurrying to the engine-room because his watch should be started at 12:00 p.m.).

After-effects (for the people, ship, freight, environment): tragic death of the human.

2.4. THE ACTIVITY AND REACTION OF COASTAL ADMINISTRATION AFTER THE OCCURRENCE OF THE DISASTER

Participated subjects: the captain of the ship “Patria Seaways” had invited these subjects to participate – the dispatcher of Kapellskär port administration, the services of emergency medical service, firefighters-rescuers and police officers. The inspector of Swedish transport agency, the investigator of Swedish accident investigation office, the representatives of the owner of the ship – AB DFDS Seaways, Lithuanian safe navigation administration, the investigator of the department of the investigation of transport accidents and incidents of the Ministry of Transport and Communications of the Republic of Lithuania also took place in the participation.

Used measures: the helicopter and motor launch, but later it was refused to use them.

Reaction speed: urgently after the message of the disaster was received from the captain.

Undertaken actions: forasmuch the injured person had died straight after the experienced injury emergency medical service was not needed already, firefighters-rescuers had released human body and it was brought away to the medical institution for the investigation and send to Klaipėda later on; the investigator of the police and other services had started the survey of the witnesses straight after coming to the ship.

Achieved results: the most important result was not achieved because the person had died. Other secondary results include the things that AB DFDS Seaways had temporarily suspended the use of passenger lift, arranged uncommon introduction for the members of the crew regarding the structure and the equipment of the ship, operational principles of it and started the procedure of event investigation.

3. CIRCUMSTANCE

Very severe accident had happened in ro-ro / passenger ship “Patria Seaways” navigating from Swedish port Kapellskär and Estonian port Paldiski. This had happened in 25-11-2013. The person died in the shaft of passenger lift. The ship was moored away from the quay in Kapellskär port at 11:00 a.m. and traveled towards the place of the berth in the same port. The ship had hailed to the place of the berth at 11:55 a.m. and started dropping an anchor. At 11:55 a.m. within an internal wireless communication of the ship the information had appeared that the second mechanic is inviting the electro-mechanic for the conversation. But he just did not say the purpose of this invitation. At that time the electro-mechanic along with the head mechanic and duty mechanic was at engine-room and possible did not hear this invitation because the communication of portable radio station was quite weak regarding of metal structures of the ship. The crewmen located on the operational bridge of the ship at that time did not pay attention to this invitation because they thought that the second mechanic had found the electro-mechanic through internal telephone or by other means. This is a normal practice of the ship.

At that time, at 11:54:55 a.m., the alarm of the lift was greeted within the informative monitor of engine-room of the ship. It had represented that the person is blocked in the lift. The signal was confirmed at 11:56:39 a.m. and immediately after this the head mechanic had send the electro-mechanic to the passenger lift. The ship had further continued the operation of dropping an anchor. After several minutes, to approximately 11:58 a.m., the manager of passenger’s service had called to the captain’s bridge by the phone and informed that somebody had stuck in the lift of the ship because she heard the bell and call for help. Immediately after this message the head assistance of the captain was send to the room of the engine of the lift in order to see what had happened. The head assistance of the captain had informed through portable radio station that he sees somebody stuck between the lift the wall of the shaft. At that time the second assistance of the captain had quickly run to that place and saw that the body of the human is stuck within the shaft of the lift.

However, he cannot determine the exact member of the crew straight away. The electro-mechanic had disconnected electric power of the lift and started to lower down the lift with the help of manual mechanism. The revise of the crewmen was started to perform through the radio station and by telephone in order to determine the lacking member. At the same time the communication with the dispatcher office of Kapellskär port was performed and after short description of the situation within the ship emergency medical service was asked to come to the ship. After several minutes the message was received that the man stuck within the shaft of the lift is the second mechanic and he is strongly disabled and demonstrating no signs of life. At that time in accordance to the decision of the captain the crew had started to pull the anchor up and moved towards the quay of Kapellskär port. At 12:50 p.m. the ship “Patria Seaways” was at the quay of Kapellskär port. The crew of firefighters-rescuers, emergency medical service and police officers had come to the ship, human body was released and the investigation was started to be performed.



Emergency hatchway is overhead.
It can be opened with the key.

The note “Emergency exit”.

The key for opening of emergency hatchway.

Figure 6. The equipment of emergency landing from the lift.



Figure 7. The equipment of emergency landing from the lift shaft.

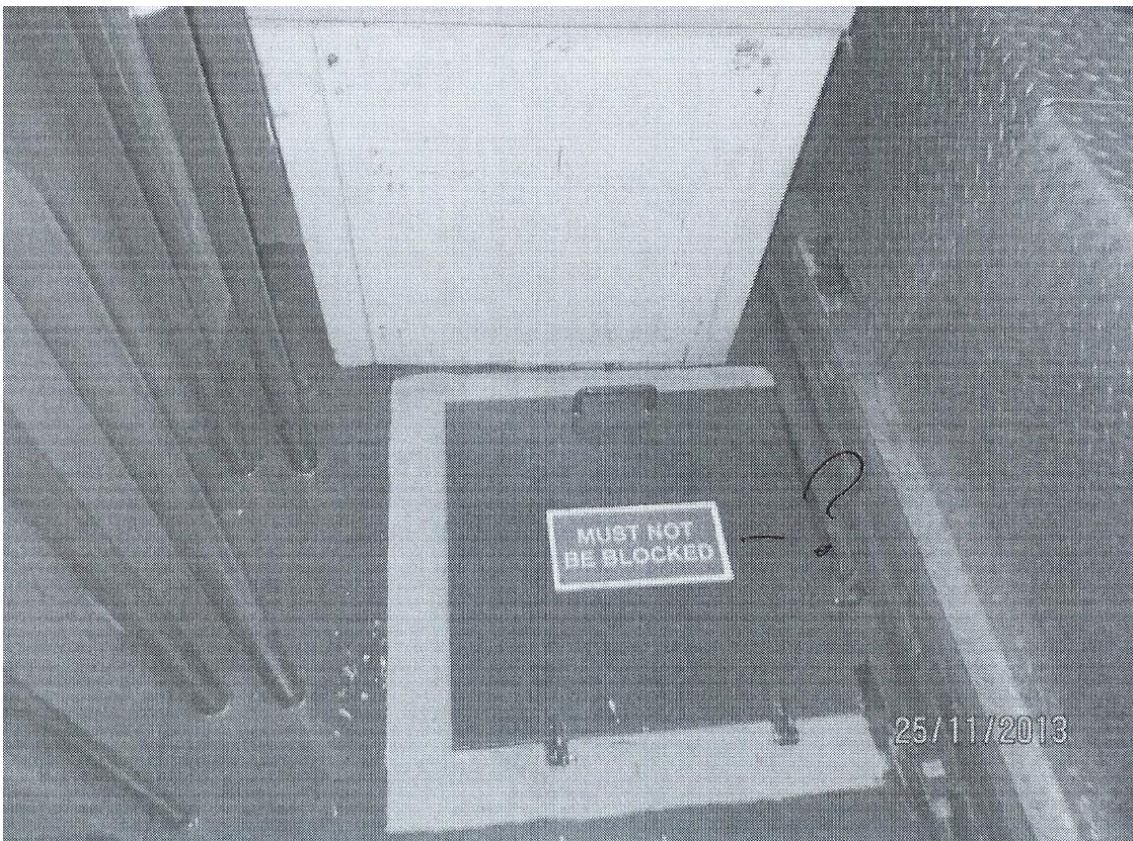


Figure 8. The hatchway of the landing from the lift shaft.

The body of the gone man was pulled up from the shaft and brought to the inspection at 13:30 p.m. under the guidance of Swedish rescue service. Police officers had sealed up all doors of the lift and the hatchway of lift shaft. Also they had started the survey of the members of the crew. The criminalists and the investigator of Swedish transport inspection had joined them later. After the collection of all cases and filling all required documents the officers had left the ship at 22:40 p.m. The loading of the ship had started to be performed. At 23:30 p.m. the ship "Patria Seaways" had departed from Kapellskär port to Paldiski port.

Available material lets us know that the second mechanic (the person who had gone) was lending down by the lift because his watch in the engine-room was approaching. At that time the lift had stuck due to unknown reasons and stopped at 5th deck. He (the gone man) had pushed the alarm several times and it was seen within the screen of the alarms of engine-room of the ship. This alarm is stated by the printing equipment. A little bit later the gone man had invited the electro-mechanic through the radio station but he was at the engine-room and did not hear the call-sign. This was because of the thing that radio waves filter into the engine-room poorly but he did not know this supposedly. The gone man also did not know that the head mechanic of the engine-room had send the electro-mechanic to the lift in order to release the person stuck within the lift immediately after the alarm was received and confirmed.

Due to unknown reasons why it was a need to hurry in such way the gone man had taken the key of emergency hatchway that was hanging fixed in the lift, opened the hatchway of emergency exit and landed by the emergency ladder into the lift shaft on the roof of the lift.



Figure 9. Emergency opening of the hatchway of the lift with the help of special key.

After coming up the top of the lift (the roof) the gone man had closed the cover of emergency exit of the lift due to unknown reasons, although it must be left open in accordance to safety requirements. Special equipment is intended for this purpose.

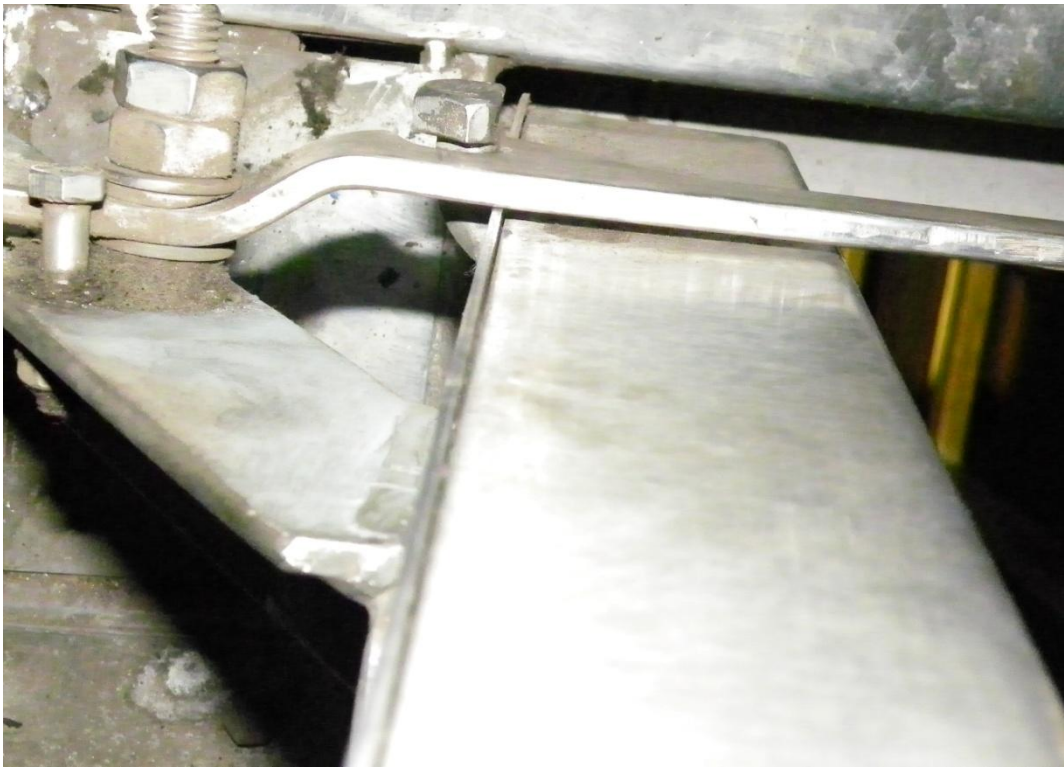


Figure 10. The fixer of emergency hatchway of the lift when the hatchway is open.



Figure 11. The switch of electric current of emergency hatchway of the lift when the cover is open.

After closing of emergency hatchway of the lift and the gone man starting to climb up by the ladder of the shaft to the opening of the shaft of the lift the cabin of the lift had started to move upwards and pressed the body of the second mechanic starting from the legs. It has pressed the body between the cabin of the lift, the wall of lift shaft and the ladder. Everything had happened very quickly because the headway of the cabin of the lift is not slow.

4. ANALYSIS

The main mistake made by the gone man was that he did not wait for the help from other members of the crew although he had already informed about the emergency situation and the person was sent to release him. There ungrounded rush of the second mechanic had evidenced in order to pull away from the stuck lift as soon as possible.

It is very cryptic that the specialist of such high level, having great experience in the ships working with various equipment and mechanisms of the ships, being of excellent orientation, sensible and always thinking soberly, had chosen dangerous and unreasonable manner of the solution within elementary situation. Perhaps unfavorable situation had developed due to technical problems of the lift and human factor – groundless rush, insufficient attention, without evaluation of possible after-effects of risky step.

Several moments of the rush and tragic after-effects mean purposeless and severe death of the human.

5. FINDING

Very severe accident had happened due to the mistake of gone second engineer himself – there was no need to close the cover of emergency hatchway. This mistake possibly had happened because of overlarge rush or the ignorance of the main operation principles of power protection of emergency hatchway of the lift. The cabin of the lift and all mechanism of lift control started to operate again after closing of emergency hatchway. This is equivalent to the suicide and it is **strictly forbidden** to perform such things without the persuasion that power supply of the lift is disconnected.

6. SAFETY RECOMMENDATIONS

1. All companies exploiting similar ro-ro / passenger ships are being offered to introduce all members of the crew of the ships with this final report of safety investigation, to perform uncommon control of technical equipment and to arrange uncommon instruction of safe use of the lifts for the members of the crew taking the notice of emergency situation of the actions of the members of the crew.
2. The company AB DFDS Seaways is being offered to supplement the electric scheme of lift control with “zero protection”.
3. The company AB DFDS Seaways must inform the manager of the investigation of the accidents and incidents of maritime ships of the Department of the investigation of transport accidents and incidents of the Ministry of Transport and Communications regarding the implementation of above mentioned recommendations during one year after the day of the reception of final report.

7. APPENDAGES

Appendage A. Control instruction by emergency manner of passenger lift.

Appendage B. Revise schedule of passenger lift.

Appendage C. Revise act of passenger lift dated 19-11-2013.

Appendage D. The scheme of safety electric circuits of passenger lift.

Chief specialist of
the Department of the investigation of transport accidents and incidents
(the manager of the investigations of the accidents and incidents of maritime ships)

Capt. Leonardas Vilimas

Appendage A. Control instruction by emergency manner of passenger lift

Keleivinio lifto valdymo avariniu būdu INSTRUKCIJA

1. BENDROJI DALIS

Avariniu būdu liftą valdyti leidžiama tikrai gerai šią instrukciją žinantiems įgulos nariams. Laivo eksploatacijos metu turi būti užtikrintas pastovus laisvas priėjimas prie keleivinio lifto valdymo pulto, avarinio išėjimo liuko. (gal dar kokių protingų minčių turit?)

2. AVARINIS LIFTO VALDYMAS

2.1. Pradedant bet kokius remonto darbus su liftu arba jo pagalbine įranga būtina įsitikinti, kad pagrindinis jungiklis randasi pozicijoje - išjungta (OFF).

2.2. Jeigu lifte esantys žmonės negali palikti lifto kabinos per avarinį liuką, reikia atlikti sekančias operacijas: Išjungti pagrindinį jungiklį.

2.2.1. Pakelti rankeną A (pieš. 2) į vertikalią poziciją ir atlaisvinti stabdį. Toliau sukti mechanizmą rankiniu būdu smagračio B (pieš. 1) pagalba.

2.2.2. Smagratį sukti tol, kol geltona žymė ant trosų sutaps su žyme ant reduktorinio mechanizmo.

2.2.3. Jeigu sukant trosas praslysta būgno atžvilgiu - vadinasi sudirbo apsauginis blokuojantis mechanizmas virš lifto kabinos arba atsvaro. Būtina pakeisti sukimo kryptį ir sukti maždaug 30 cm. Kada apsauginis blokuojantis mechanizmas atsileis, vėl sukti į priešingą pusę iki geltonų žymių sutapimo

2.3. Lifto šachtos durys atsidaromos specialiu trikampių raktu (pieš. 3)

2.4. Lifto kabinos durys atsidaromos pakeliant svirtą ant durų mechanizmo viršaus.

2.5. Visus lifto gedimus šalinti, lifto reguliavimą atlikti gali tikrai sertifikuotų firmų specialistai.

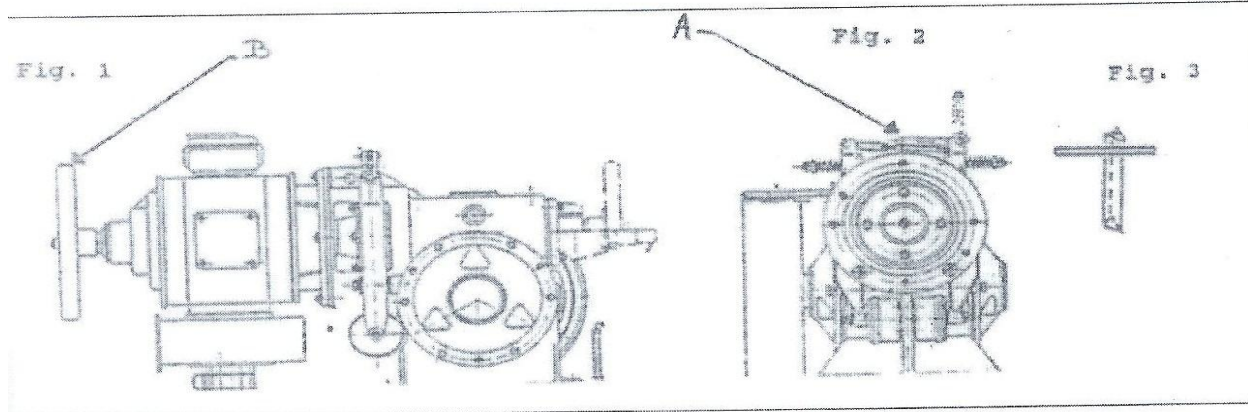
3. ATSARGUMO PRIEMONĖS :

Niekada nesukite pakeliamojo mechanizmo po pirmojo geltonų žymių sutapimo ant trosų ir reduktorinio mechanizmo.

Patikrinkite, kad prieš keliant liftą avariniu būdu jo durys būtų uždarytos ir užblokuotos.

4. ATSAKINGI ASMENYS:

El. mechanikas, vyr. mechanikas (kaip manot aš teising?)



Niekas šioje instrukcijoje negali apriboti kapitono teisės neatidėliotinai daryti pakeitimus esamose procedūrose ir imtis būtinų veiksmų norint išvengti pavojaus, atsižvelgiant į konkrečias sąlygas ir atveju aplinkybes.

Appendage B. Revise schedule of passenger lift

"Patria Seaways" elevator service annual schedule according to KONE Corporation Elevator Maintenance rules

M/V "Patria Seaways" L1

Factory nr: 2723
 Equipment number: 3203
 Number of visits: 12
 Usage: 150001-300000
 Environment: Very tough

VISITING MONTH

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Control Module	X	X	X		X	X	X	X	X		X	X
Main Service				X						X		
Shaft equipment	X						X					
Shaft doors			X						X			
Door operator					X						X	
El. Panel					X						X	
Drive			X						X			
Signalisation	X						X					

Appendage C. Revise act of passenger lift dated 19-11-2013



AS KONE

Elevator Control
Protocol nr. 42-13

Date 19.11.2013

Owner	Name	AB DFDS Seaways
	Adress	Sauliu str. 19, LT-92233, Klaipeda, Lietuva
	Agent	
	Elevator placed	M/V PATRIA SEAWAYS

Elevator Nr 1	Maintenance preformer	AS KONE	Lifting Capacity	1350	kg
	Manuf. Factory	Stabl Heiser, Norway	Nr. of landings	5	
	Manuf. year	1992.	Traveling height		m
	Type	passanger	Nom. Speed		m/s
	Manuf. nr.	2723.			

Control	<p>Elevator parts condition</p> <p><i>Интеллектуальный модуль общего состояния лифта Не обнаружили отклонений.</i></p> <p><i>Контрольный модуль привода дверей кабины регулирование похлых контактов дверей. (левая сторона застревает иногда.)</i></p> <p><i>Регулирование расположения дверных створок III палуба.</i></p> <p><i>Закрепления синхронного троса той же двери.</i></p>
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Appendage D. The scheme of safety electric circuits of passenger lift

