Preliminary report

D8/2011M

M/S ALWIS (ATG), fall of able seaman in a hoisting cage into the cargo hold in the Port of Pori, Finland on 10 December 2011

Preliminary report. Translation of the original Finnish report.

Onnettomuustutkintakeskus
Olycksutredningscentralen
Safety Investigation Authority

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SUMMARY

M/S ALWIS (ATG), FALL OF ABLE SEAMAN IN A HOISTING CAGE INTO THE CARGO HOLD IN PORT OF PORI, FINLAND ON 10 DECEMBER 2011

Onboard M/S ALWIS the crew was shifting a movable atwartships bulkhead to another position in the cargo hold in order to separate different cargo grades that were to be loaded onboard. In order to seal the wall, foam was sprayed in to the side joints. The work was done from a hoisting cage which was attached into a hatch cover gantry crane. The hoisting chain broke off and the cage fell with AB in it some 6,5 meters into the bottom of the hold. The AB got serious injuries.

In the investigation the hoisting device was inspected by authorized specialist. It was found out that the hoisting device was inappropriate for person's lifting. According the Finnish legislation, it should have been under prohibition of operation.

Conclusion of the investigation

This report has been compiled on the basis of the results from the preliminary investigation. The sequence of events leading to the fall of the hoisting cage into the cargo hold of M/S ALWIS has been studied and the probable causes have been assessed in the preliminary investigation. This accident has been classified as a less serious casualty according to the IMO's accident classification.

The Safety Investigation Authority has decided that this preliminary investigation has been completed and a further investigation will not be carried out.

SISÄLLYSLUETTELO

FOREWORD

After re-positioning, the movable bulkhead gaps between the movable bulkhead and side bulkheads of the hold were to be sealed with plastic foam in order to secure the cargoes from each other. The work was done from a hoisting cage which was attached into a hatch cover gantry crane. The hoisting chain broke off and the cage fell with AB in it some 6,5 meters into the bottom of the hold. The AB got serious injuries.

Captain Risto **Repo** was nominated as the Investigator in Charge.

The on-site investigation was conducted by the local Police. Their investigation material was handed to the Safety Investigation Authority of Finland (hereafter referred to as SIA). The importer of GIS –hoisting machinery[1] was called to make a thorough examination on the hoisting machinery's condition and it's applicability for the work. The Health & Safety Inspectorate's (Southwestern Finland) inspector made his own inspection. The protocol of this inspection was sent to the SIA.

It was found out that the hoisting device was inappropriate for person's lifting. The device was in bad condition and it should have been banned from operation.

The investigation report has been translated into English by the SIA.

[1] Tuotetekno OY

1 THE OCCURENCE AND INVESTIGATION

1.1 The vessel

Picture 1. M/S ALWIS. *(© Pori police, 12.12.2011)*

General information

Name	ALWIS
Call sign	V2DN2
IMO nro	9454814
Brutto	4255
DWT	6050
Built	2009
Length	114,40 m
Breadth	14,40 m
Company	Kapitän Manfred Draxl Schiffahrts GmbH & Co. KG
Flag State	Antigua & Barbuda

The vessel had 9 men's crew; Rumanian Master, two Russian mates, Russian engineer, and three Philippine AB's, a motorman and the cook.

ALWIS has been under detention as the result of Port State Controls.

In Bayonne, France, the PSC on 26.10.2010 resulted 17 deficiencies. The inspection led in to 21 days detention.

After two months, 26.12.2010 the vessel was inspected in Szczecin, Poland. The result was 14 deficiencies and the detention lasted 6 days.

Picture 2. Hatch cover gantry crane in which the quay-side hoisting apparatus can be seen above the hatch-covers. The accident hoisting apparatus is on the SB-side.

1.2 The accident event

The Accident took place in the Port of Pori, in Mäntyluoto, in the cargo hold of M/S ALWIS.

The temperature was 0 °C, it was cloudy and during the day there were some light snowfalls.

As the inbound cargo had been discharged, the preparation of loading new cargo was commenced. The aft hold was divided in two with a transverse bulkhead. Three seamen were on place. The bulkhead sides are sealed by spraying foamed plastic in to the sides of the bulkhead. In both sides of the hatch cover gantry crane there are chain hoisting apparatuses.

The sealing operation was done from a hoisting cage. The person in the cage both hoists and lowers the cage by him/herself. The AB was in the starboard side cage approximately in 6,5 metres height as the hoisting chain broke and the cage fell down to the bottom of the hold. The AB got severe injuries. After the accident the co-workers alarmed the officers onboard.

As the officers were informed of the accident they alarmed the emergency exchange. The ambulance came on site in approximately 20 minutes. The AB was taken to hospital.

Picture 3. The cargo hold, where the AB fell in the hoisting cage.

Picture 4. The hoisting cage in the cargo hold.

Picture 5. The hoisting cage on the deck.

1.3 Organisation and management

The Company Office is in Haren Ems, Germany. The Company has a fleet of some 20 vessels.

The Flag State Administration, Antigua & Barbuda, is managed by "Department of Marine Services and Merchant Shipping – Antigua and Barbuda W.I." The Flag State Office is situated in Bremerhafen, Germany. For the investigation, the Flag State representative has supplied some information from the Company.

The crew was multinational. The sailors worked according to the Master's orders.

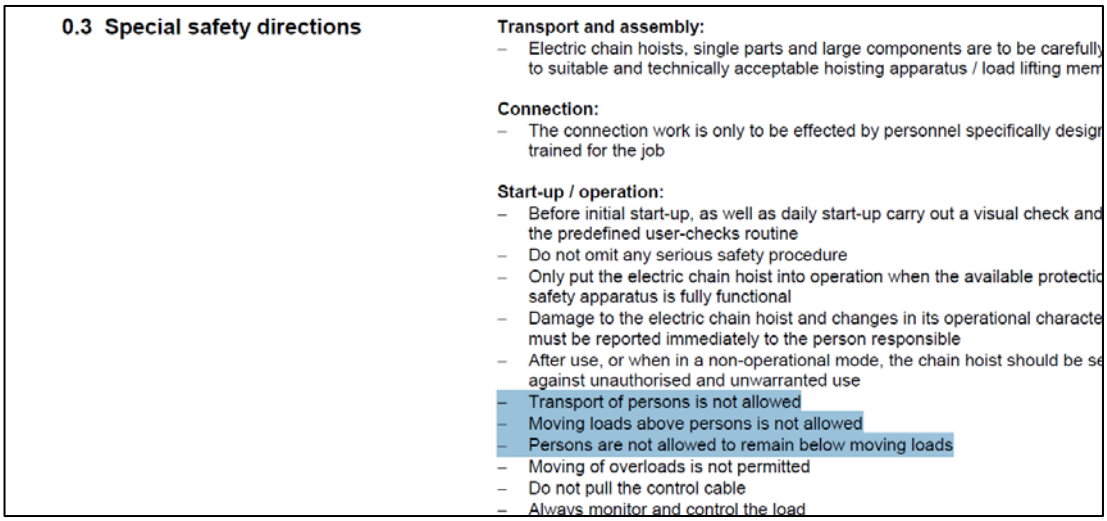
There is no information on the operator's instructions or quality systems, because the Company has not answered to queries. The Flag State Administration informed that the Company has not changed their procedures onboard vessels. The Company has the opinion that all is in order.[2]

Antigua and Barbuda has ratifiied the ILO`s Maritime Labour Convention, 2006 on August 11. 2011.

[2] In connection to the ALWIS investigation please be informed that according to our knowledge the vessels managers have not taken any corrective action or made changes in their on board procedures up to now. As far as they see things all is in order and the setup basket and gantry is in line with requirements.
(email 15.10.2012)

1.4 The hoisting cage

The Hoist was Swiss made GCH500/NF chain hoist, serial number 27408(3). 10/2009. The hoist capacity is 1000 kg. The manufacturer's directions *do prohibit lifting persons with the device* (picture 6).



0.3 Special safety directions

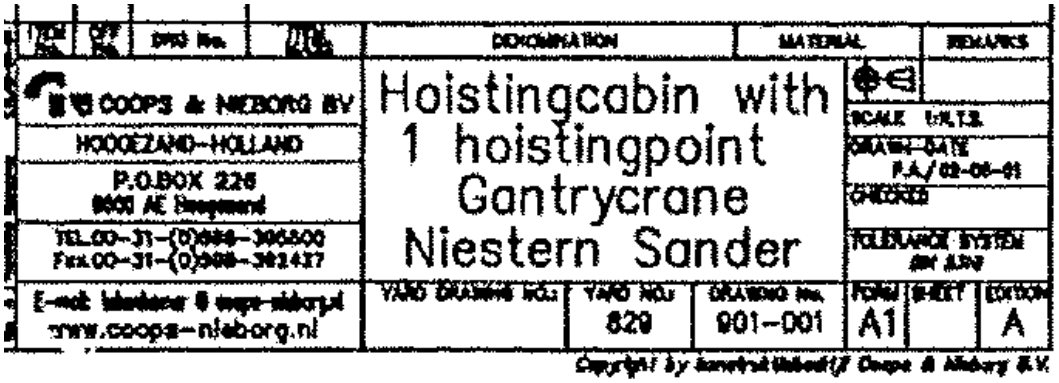
Transport and assembly:
- Electric chain hoists, single parts and large components are to be carefully
  to suitable and technically acceptable hoisting apparatus / load lifting mem

Connection:
- The connection work is only to be effected by personnel specifically desig
  trained for the job

Start-up / operation:
- Before initial start-up, as well as daily start-up carry out a visual check and
  the predefined user-checks routine
- Do not omit any serious safety procedure
- Only put the electric chain hoist into operation when the available protectic
  safety apparatus is fully functional
- Damage to the electric chain hoist and changes in its operational characte
  must be reported immediately to the person responsible
- After use, or when in a non-operational mode, the chain hoist should be se
  against unauthorised and unwarranted use
- Transport of persons is not allowed
- Moving loads above persons is not allowed
- Persons are not allowed to remain below moving loads
- Moving of overloads is not permitted
- Do not pull the control cable
- Always monitor and control the load

Picture 6. Manufacturer´s manual unambiguously forbids transporting persons. Source: http://www.gisspares.com/pdf/gis_electric_chain_instruction_manual.pdf

The hoist had been installed by Dutch Company, Coops & Nieborg Hijstechniek Bv. The same company which had manufactured the vessel's hatch covers and the Gantry crane which is needed to operate the hatch covers.



DENOMINATION: Hoistingcabin with 1 hoistingpoint Gantrycrane Niestern Sander

COOPS & NIEBORG BV
HOOGEZAND-HOLLAND
P.O.BOX 226
TEL.00-31-(0)598-396500
FAX.00-31-(0)598-392417
www.coops-nieborg.nl

YARD NO.: 829
DRAWING No.: 001-001
FORM: A1
EDITION: A

Picture 7. Product plate of the Hoisting cabin.

The SIA ordered a thorough inspection for the hoist from the company Tuotetekno Oy, which is the distributor of the GIS Chain hoists in Finland. In the inspection protocol are listed items which did not meet the requirements; *Power supply Loader, Hoisting apparatus, Chains and rollers ,Push Button Drive, Greasing; nipples, The Hoist is not in functional condition. The Hoist has not been served according the instructions.*

Picture 8. The bottom of the failed hoist.

2 ANALYSIS

The Company operates some 20 vessels of which six are same type as the ALWIS. The vessels AJA, BLUE LION and BLUE LOTUS do have a similar hoisting cage system onboard[3].

The directions of the hoist manufacturer do prohibit lifting persons with the device. However the Coops & Nieborg Bv delivered cranes and hoisting cabin for person lifting to the vessel even though it was known in the Company that the Hatch cover gantry crane and the cabin were not suitable for lifting persons.

When the accident took place, the sealing of the transversal bulkhead in the cargo hold was currently ongoing. The sealing operation was done from a hoisting cage. During the work in different heights there will arise transversal forces to the hoisting chain and to the cranes boom. The hoisting chain could not take these forces and broke off.

According to the inspection by the chain hoist distributor in Finland multiple places in the hoisting device did not meet the requirements. The Hoist had not been served according the instructions and was not in functional condition.

Even if the seamen onboard knew that lifting device and the cage are suitable for lifting persons, in reality they have to follow orders from their superiors. The seriously injured AB had helmet and safety harness on him. This shows his good safety attitude.

[3] Information from Flag State Administration 20.9.2012

Health and Safety authorities supervision does not often include seafarers work whilst the vessel is in port. There will be a change as Finland is ratificating the ILO Maritime Labour Convention[4]. The supervisory authorities will be Health and Safety Authority and Finnish Transport Safety Agency.

The Flag State of ALWIS, Antigua & Barbuda has ratified the Convention 11.8.2011.

3 CONCLUSIONS

The manufacturer's guidance clearly says that transporting persons is not allowed. Regardless of this, the Company has four vessels in which person lifting is common practice. This shows either lack of judgment or disinterest in Company's decision making.

4 ACTIONS TAKEN

Investigator asked the Flag State to find out the action which the Company has taken after the accident. The answer was received via email on October 15, 2012:

"In connection to the ALWIS investigation please be informed that according to our knowledge the vessels managers have not taken any corrective action or made changes in their on board procedures up to now. As far as they see things all is in order and the setup basket and gantry is in line with requirements".

Later on, dated on November 6th, 2012, a circular letter (Fleet Standing Order No.53 with Subject: Movable bulkhead installation) was sent to the Masters and Chief Engineers of 21 vessels in the Company fleet.[5] According to this letter it is not longer allowed to use working basket in combination with the electrical chain hoist.

On December 21st, 2012, the Flag State informed about multiple changes which will be performed to the Company's entire fleet in order to improve safety. The main improvement to the hoisting cage is an installation of an extra steel wire and a fall arrest block. If the main chain of the hoisting cage breaks, the fall arrest block will grab and hold the extra steel wire and prevent the fall of the hoisting cage and the personnel in it. The main parts of this device can be seen from the picture 9. In addition to the fall arrest block, the Company has taken following actions to prevent such incidents in future:

- Inspection sheets will be implemented to maintenance system (as per ILO regulations) where all inspections and maintenance to any lifting equipment will be recorded.

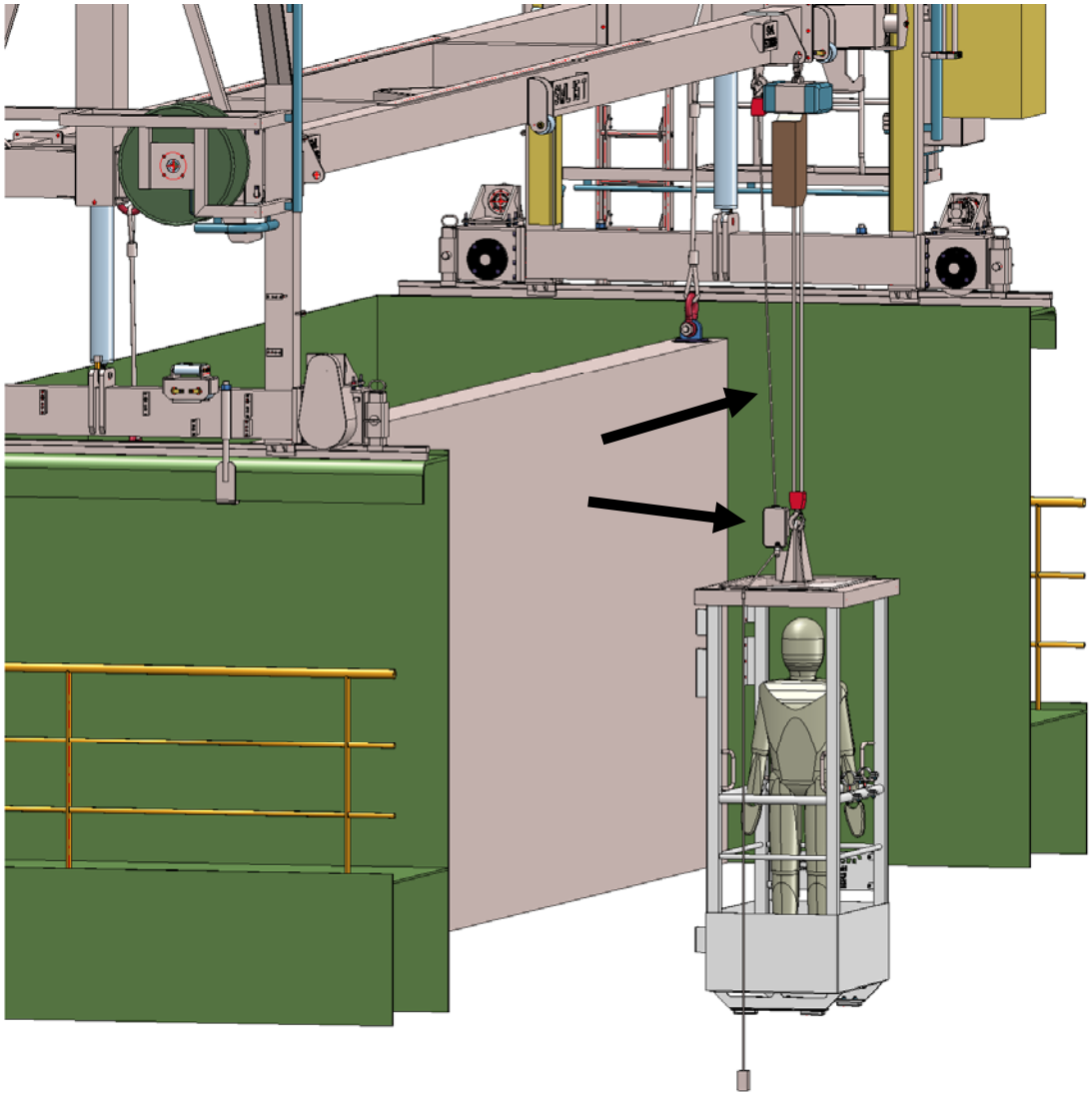
[4] International Labour Organisation

[5] Dear Masters and crew,
Recently an incident happened on board of one our bulk vessels. The chain of the electrical chain hoist who holds the working basket broke, this resulted into an injured able seaman.
As from today it is not longer allowed to use this working basket in combination with the electrical chain hoist. A ladder with sufficient length must be used together with all PPE as per ILO regulations (safety helmet, safety shoes, safety harness etc). The ladder as well as the PPE must be checked each time before use for damages etc as per flag state circular 02-2012 and this inspection must be recorded. If there is no ladder on board then it must be purchased via normal way

- The Company's vessels will be supplied only with lifting equipment which has a certificate or a test statement. These will be filed on board and the numbers will be recorded into the maintenance manual.

- The Company's superintendents have instructions to check visually lifting appliances during a visit on board and to check that the maintenance manual is up to date.

- The Company and vessels will be certified to ISO14001 in due course.



Picture 9. The structure of the new safety device. The upper arrow indicates the added extra steel wire and the lower arrow indicates the fall arrest block. (© DPA/CSO)

5 SAFETY OBSERVATIONS

The Company had purchased on some vessels for lifting persons that kind of hoisting systems which are not constructed for person's lifting. A little less than a year after the accident the ship owner prohibited the lifting of persons with the hoisting system. Even though this decision enhanced the safety at work, *the SIA is of the opinion that removal of the working baskets from the vessels eliminates the possibility of this kind of accident from reoccurring.*

International Labour Organisation's Maritime Labour Convention has been ratified in Finland in year 2012. The SIA's understanding is, that the supervisory authorities can take a hand on unsafe actions onboard whilst a foreign flag vessel is in Finnish Port. The SIA makes a safety observation that *Health and Safety Authorities and Finnish Transport Safety Agency should actively target person's lifting onboard vessels in Finnish Ports.*

6 DECISION TO CLOSE THE PRELIMINARY INVESTIGATION

The sequence of events leading to the fall of the hoisting cage into the cargo hold of M/S ALWIS has been studied and the probable causes have been assessed in the preliminary investigation. This accident has been classified as a less serious casualty according to the IMO's accident classification.

The Safety Investigation Authority has decided that this preliminary investigation has been completed and a further investigation will not be carried out.