

FINAL REPORT ON THE SAFETY INVESTIGATION OF A SERIOUS MARINE CASUALTY ON BOARD CMA CGM ADONIS

Occupational Accident of a port worker during the unlashing
of containers securing equipment at berth 7D, Port of Koper
on 04 April 2026



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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA INFRASTRUKTURO

SLUŽBA ZA PREISKOVANJE LETALSKIH,
POMORSKIH IN ŽELEZNIŠKIH NESREČ IN
INCIDENTOV

REPUBLIC OF SLOVENIA
MINISTRY OF INFRASTRUCTURE

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FINAL REPORT ON THE SAFETY INVESTIGATION OF A SERIOUS MARINE CASUALTY ON BOARD CMA CGM ADONIS

**Occupational Accident of a port worker during the unlashing of
containers securing equipment at berth 7D, Port of Koper
on 04 April 2026**

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Marine Accidents Investigator

MINISTRSTVO ZA INFRASTRUKTURO

Air, Marine and Railway Accident and Incident
Investigation Unit

Izola, May, 25th 2026

Unofficial English translation

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LEGAL AND METHODOLOGICAL BASIS OF THE REPORT

This report was prepared by the maritime casualty investigator of the Air, Maritime and Railway Accident and Incident Investigation Unit (SPLPŽNI; hereinafter: MAIIS) and issued by the Unit in accordance with the provisions of the Maritime Code of the Republic of Slovenia (Official Gazette of the Republic of Slovenia No. 62/16 – consolidated text, 41/17, 21/18 – ZNOrg, 31/18 – ZPVZRZECEP, 18/21, 21/21 – corr., and 76/23) and the Regulation on the Investigation of Maritime Casualties (Official Gazette of the Republic of Slovenia No. 67/11), which further regulates the procedures and conditions for conducting safety investigations into maritime casualties and incidents.

In preparing this report, consideration was also given to the provisions of Directive 2009/18/EC of the European Parliament and of the Council of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector, as well as IMO Resolution MSC.255(84), by which the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) was adopted. Other relevant instruments of the International Maritime Organization (IMO), including applicable circulars, guidelines and recommendations relating to marine safety investigations, as well as relevant guidance issued by the European Maritime Safety Agency (EMSA), were also taken into account.

This report has been prepared solely for the purpose of determining the circumstances, safety issues, causes and contributing factors of the occurrence under investigation, with the objective of preventing similar maritime casualties and incidents in the future. The report is not intended to determine blame, liability, or any form of legal or disciplinary responsibility.

Pursuant to Article 2, paragraph 1, item 2 of the Regulation on the Investigation of Maritime Casualties, a maritime casualty means any occurrence associated with the operation of a ship in which:

- the person dies or is seriously injured in connection with the operation of the ship;
- a person falls off a ship as a result of the operation of a ship;
- the ship is lost, allegedly lost or abandoned;
- the ship is damaged;
- the ship is stranded unless it is stranded intentionally for a short period of time and is not damaged as a result;
- the ship is unseaworthy;
- the ship collides;
- material damage is caused as a result of the operation of the ship; or
- environmental pollution is caused by damage to the ship or by the operation of the ship.

In accordance with paragraph 2.18 of the IMO Casualty Investigation Code, a serious injury means an injury which renders a person incapable of performing normal routine functions for more than 72 hours, where such incapacity occurs within seven days from the date of the injury. As it was confirmed in the present case that the injured person was incapacitated for work for a period exceeding 72 hours, the occurrence is, for the purposes of the safety investigation, treated as a case of serious injury to a person.

Unless expressly stated otherwise, all times referred to in this report are local times (UTC +2).



When interpreting the provisions of international conventions and other international instruments referred to in this report, their full text, including all annexes, should be taken into consideration.

This report is published in both Slovenian and English. In the event of any inconsistency or discrepancy between the language versions, the Slovenian version shall prevail.

A safety investigation is an independent preventive process and is not intended to determine civil, criminal, disciplinary or any other form of liability, nor to apportion blame to any natural or legal person. Its findings are intended solely to improve safety and prevent similar occurrences in the future; therefore, any use of such findings for other purposes would be contrary to internationally recognized principles of safety investigation.

Information:

Reports on the investigation of maritime casualties and incidents are published on the website of the Ministry of Infrastructure at the following address:

<https://www.gov.si/drzavni-organi/ministrstva/ministrstvo-za-infrastrukturo/o-ministrstvu/sluzbe-za-preiskovanje-letalskih-pomorskih-in-zelezniskih-nesrec-in-incidentov/preiskovanje-pomorskih-nesrec-in-incidentov/>

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GLOSSARY OF TERMS

Term /expression	Priporočeni slovenski izraz	Opomba za uporabo v poročilu
bay	bay (transverse container section)	On first reference: Bay No. 58 (transverse container section).
row	row (container row)	Position reference across the vessel's breadth.
tier	tier (vertical stacking level)	Operational term; explanatory note on first reference.
lashing bridge	lashing bridge / container securing platform	Also referred to in the report as: lashing bridge platform.
lashing bar	lashing bar / securing bar	Part of the container securing system.
turnbuckle	turnbuckle	The technological procedure TP uses the term "turnbuckle".
corner fitting / corner casting	container corner fitting	Securing point for lashing equipment.
unlashing	unlashing / removal of securing equipment	Used for the release of container securing arrangements.
PPE	personal protective equipment (PPE)	Helmet, chin strap, safety footwear, gloves, high-visibility clothing, etc.
KV LTD	qualified port transport worker	Operational role within the cargo-handling process.
VNC	Security and Surveillance Control Centre	Safety and operational control/notification centre at the Port of Koper.
PGE	Professional Fire Brigade Unit	Provides first aid and initial emergency response to injured persons.



Figure 1: M/V "CMA CGM ADONIS, vir: MarineTraffic"



SUMMARY

On 04 April 2026, during cargo operations on board the CMA CGM ADONIS berthed at Berth 7D of the Port of Koper Container Terminal, a serious occupational injury occurred involving port worker V.S. This occurrence took place during the unlashing and removal of container securing equipment on the lashing bridge platform On Bay No. 58 on the seaside of the vessel.

At the time of the occurrence, the injured worker V.S. was working on a lower level of the lashing bridge platform, while co-worker E.R. was performing work one level above. During the operation, a previously released or insufficiently controlled turnbuckle from the upper working level fell or rotated downward and struck V.S. in the head. At the time of the occurrence, V.S. was not wearing a safety helmet, although the use of a helmet and chin strap was mandatory within the working area.

The investigation identified a significant discrepancy between the prescribed working method under TP 330010 and the actual operational practice at the worksite. The technological procedure required controlled paired work, prevention of simultaneous work above and below other workers, control of released securing equipment, and mandatory use of personal protective equipment. In the present case, these safety barriers were not effectively implemented or enforced in practice.

The analysis conducted using the SHELL methodology, Diamond-process human factors analysis and barrier analysis demonstrated that the occurrence was not the result of a single individual error, but rather a combination of organizational, supervisory, procedural and behavioral factors. Among the more significant contributing factors were ineffective implementation of paired work, vertically overlapping work activities, insufficient control of released securing equipment and ineffective field supervision of compliance with the technological procedure.

Following the occurrence, the Container Terminal implemented several corrective measures, including the issuance of a written safety notice, additional emphasis on the use of personal protective equipment, and renewed emphasis on mandatory paired work and the immediate stowage of released securing equipment.

The safety actions taken are assessed as relevant and timely; however, their long-term effectiveness requires verification of actual implementation in operational practice. For this reason, the investigating authority issued Safety Recommendation SI-MAIS-SR001-2026.



CHAPTER 1 – FACTUAL INFORMATION

1.1. Ship's Particulars

SHIP'S PARTICULARS	
Name of ship	CMA CGM ADONIS
Type of ship	Container Carrier Class 15536 TEU
Owner	Sea 123 Leasing Co. Limited, Hong Kong
Operator	CMA CGM International Shipping Company Pte. Ltd
Year of construction	2022
Classification Society	Bureau Veritas
Flag	Malta
Port of Registry	Valetta
IMO number	9882528
Length	366,0 m
Width	51,0 m
Maximum draft	16,0 m
Maximum height	154,839
Gross tonnage (GT)	71,733
Net tonnage (NT)	203,509.8
Displacement (D)	CSSC MES---WinGD 10X92-B TIII
Engine	MCR 51680KW x 80 rpm
Engine power	Kawasaki 2500 KW x 2 sets
Thrusters	1 x RIGHT HANDED 6 bladed 9.6m Dia
VOYAGE INFORMATION	
Previous port	Alexandria, Egypt
Port of destination	Koper
Cargo	Containers
Casualty or incident information	
Date and Time	04.04.2026 12:15
Type of accident or incident	Occupational injury (port worker)
Location of the event	Koper, Bazen III, berth 7D
Part of the ship	Open deck, Bay 58
Human injuries / casualties	Head injury - laceration
Vessel operation	Container cargo operations
Weather and environmental conditions	Clear weather, calm conditions / no wind



1.2. Voyage particulars

The vessel arrived from Alexandria at the anchorage area of the Port of Koper on 03 April 2026. On the following day, 04 April 2026 at 10:44 LT, the vessel berthed port side alongside Berth 7D in Basin I of the port. Following berthing, unlashng operations and container cargo handling operations commenced at 11:48 LT.

On 06 April 2026 at 13:45 LT, the vessel unberthed and departed for the next port of call, Rijeka, Republic of Croatia.

1.3. External and Internal Environment

Weather conditions were clear, with a north-westerly wind, calm sea state and good visibility. External weather conditions were not identified as a direct contributing factor to the occurrence

1.4. Involvement of Shore-Based and Port Services

Cargo handling operations were carried out at Container Terminal Berths 7C/7D of the Port of Koper cargo terminal. The operations were performed by employees of the PC Container Terminal, Luka Koper d. d.

Initial medical assistance to the injured worker was provided in the dispatchers' office by two members of the Port of Koper Professional Fire Brigade Unit (PGE), which had been notified of the occurrence by the Security and Surveillance Control Centre (VNC).

Following the arrival of the emergency medical response team, the injured person was transported to the emergency department of Izola General Hospital.

1.5. Consequences and Implications

V.S. sustained a head injury, described as an approximately 5 cm laceration to the forehead and upper head area. The injured worker received first aid treatment and was subsequently transported to Izola General Hospital for further examination and medical treatment.

In the present case, incapacity for work exceeding 72 hours was confirmed. For the purposes of the safety investigation, the occurrence is therefore classified as a serious injury to a person.

1.6. Human Factors

Assignment, Training, Working hours, Interview/statement

The injured person, V.S., was employed in the position of Qualified Port Transport Worker (KV LTD). At the time of the occurrence, he held a valid certificate confirming completed theoretical and practical training for safe and healthy work practices. Prior to the occurrence on 04 April 2026, he had worked approximately 6.5 hours during the shift. Following the occurrence, an alcohol test was carried out, the result of which was negative.

Table 1: Review of working hours prior to the occurrence

date	day	recorded hours	date	day	recorded hours
29.03.2026	Sunday	0,0	02.04.2026	Thursday	0,0
30.03.2026	Monday	0,0	03.04.2026	Friday	0,0
31.03.2026	Tuesday	12,3	04.04.2026	Saturday	7,5
01.04.2026	Wednesday	12,3	Od 05.04 naprej > sick leave		



During an interview with MAIS, V.S. stated that he was not wearing a safety helmet at the time of the occurrence. He further clarified that the initial information indicating that a helmet had fallen into the sea was incorrect. V.S. stated that he had been struck by an object which had fallen from the working position of the co-worker above him and identified the object as a turnbuckle. He further explained that he could not confirm whether the turnbuckle had slipped from the co-worker's hand, had been improperly stowed, or had been unintentionally displaced by the co-worker.

1.7. Organizational Factors and Technological Procedure

At the Port of Koper Container Terminal, cargo-handling operations on board vessels are carried out in accordance with the documentation of basic technological procedures, including "TP 330010 – Service: Unlashing and Lashing of Containers on Board Ship".

Before the commencement of work, TP 330010 requires inspection and testing of work equipment and tools, as well as the continuous provision of conditions for safe work. Participants in the operational process are required to inform the supervisor of the working process about hazards or failures to implement safety measures. The supervisor of the working process is required to supervise and direct the work in such a manner that it is carried out in accordance with the technological procedure, occupational safety and health regulations, and working instructions. (Annex 1). For work on the lashing bridge platform, TP 330010 specifies that worker (X) shall release the turnbuckle using a special wrench and thereafter hold the turnbuckle, while worker (Y) shall hold the lashing bar, remove it from the turnbuckle and prevent it from falling. The procedure further specifies that worker (X) shall place the turnbuckle in an appropriate horizontal position, while workers (X) and (Y) shall remove the lashing bar and place it horizontally.

TP 330010 additionally stipulates that at least two people must participate in the release of an individual lashing bar. Worker (3) is required to monitor the operation in such a manner that workers at lower working levels do not work simultaneously beneath workers operating at higher levels.

The procedure identifies, among the relevant hazards, the risk of objects falling from height, the risk of impact by heavy objects, and hazards associated with work on the lashing bridge platform. Among the prescribed safety measures is the mandatory use of personal protective equipment, including a safety helmet.

1.8. Previous and Subsequent Similar Occurrences

The documentation also records a similar subsequent occurrence on two vessels indicating the possibility of recurring deviations in the implementation of lashing and unlashing procedures, particularly regarding paired work, the use of personal protective equipment (PPE), and the control of released securing equipment.

This information does not constitute evidence of a systemic culture of non-compliance; however, it supports the need to verify the actual implementation of the technological procedure in operational practice.



CHAPTER 2 – NARRATIVE OF EVENTS

During cargo operations on board the CMA CGM ADONIS, an occupational accident occurred on 04 April 2026 at approximately 12:15 LT during the unlashings and removal of container securing equipment. The occurrence took place in Bay No. 58, on the lashing bridge platform at the fourth vertical level above the hatch cover, on the starboard (sea side) of the vessel, in the area of Row 19. (Figure 2 and Annex 2). At the time of the occurrence, the injured worker V.S. was working on a lower level of the lashing bridge platform, carrying out tasks related to the release and removal of container securing equipment. Co-worker E.R. was working on a smaller platform one level above.

According to the statement provided by E.R., during the operation he heard a noise, turned around and observed that one of the turnbuckles, which had already been previously released, was hanging downward. He stated that he had not released the turnbuckle concerned and that he did not know why the turnbuckle had fallen or rotated downward. Based on the available evidence, the occurrence is reconstructed as follows: a previously released or insufficiently controlled turnbuckle located on the upper working level fell or rotated downward and struck V.S. in the head while he was working below and rising from a crouched position. At the time of the impact, V.S. was not wearing a safety helmet.

Following the occurrence, V.S. left the vessel and was taken to in the dispatchers' office. The Security and Surveillance Control Centre (VNC) was notified of the occurrence, members of the Professional Fire Brigade Unit (PGE) provided first aid, and upon arrival of the emergency medical response team, V.S. was transported to the emergency department of Izola General Hospital.

Initial information indicating that V.S. had been struck by a lashing bar and that his helmet had fallen into the sea was subsequently clarified during the interview with MAIIS. For the purpose of further analysis, it is considered established that the object involved in the occurrence was a turnbuckle falling from above, and that V.S. was not wearing a safety helmet at the time of the occurrence.

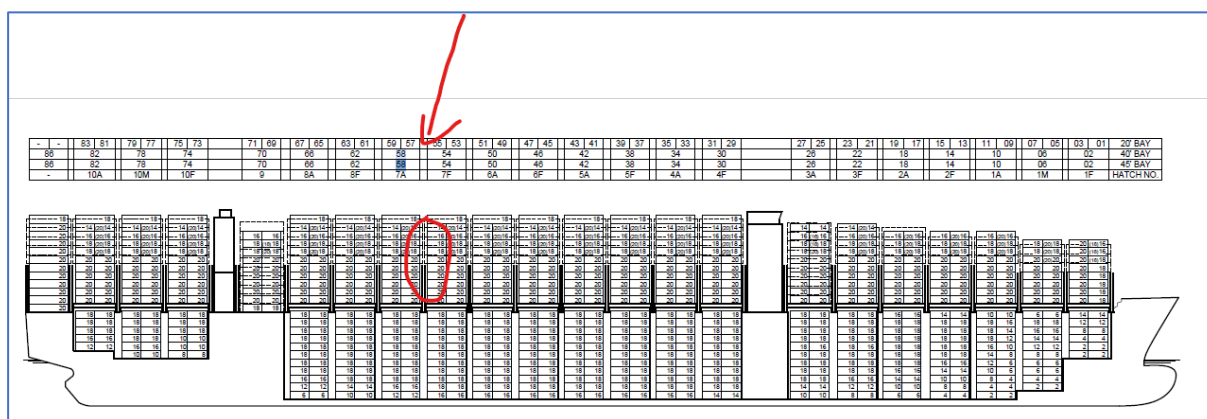


Figure 2: Bay plan indicating the area of Bay No. 58 and the location of the work activity.

CHAPTER 3 - ANALYSIS

3.1. Methodological Framework

The analysis was conducted in accordance with the principles of safety investigation, using a comparison between the prescribed working method and the actual work practice, the SHEL/SHELL model, the Diamond-process approach for the assessment of human factors, and barrier analysis.

The primary purpose of the analysis is not to determine blame, but rather to identify the safety-related factors due to which safety barriers were absent, ineffective, or not implemented.

3.2. Prescribed Working Method and Actual Work Practice

The prescribed working method under TP 330010 required controlled paired work, whereby one worker controlled the turnbuckle while the other controlled the lashing bar and prevented it from falling. The procedure also required that workers at lower working levels must not work simultaneously beneath workers operating at higher levels.

The actual work practice deviated from these requirements. V.S. was working alone on the securing arrangement concerned, while the co-worker was positioned on the upper level. The released or previously released turnbuckle was not effectively placed, controlled or secured, and according to the co-worker's statement after the occurrence, it remained hanging downward. Consequently, the safety barrier relating to the control of released securing equipment was ineffective.

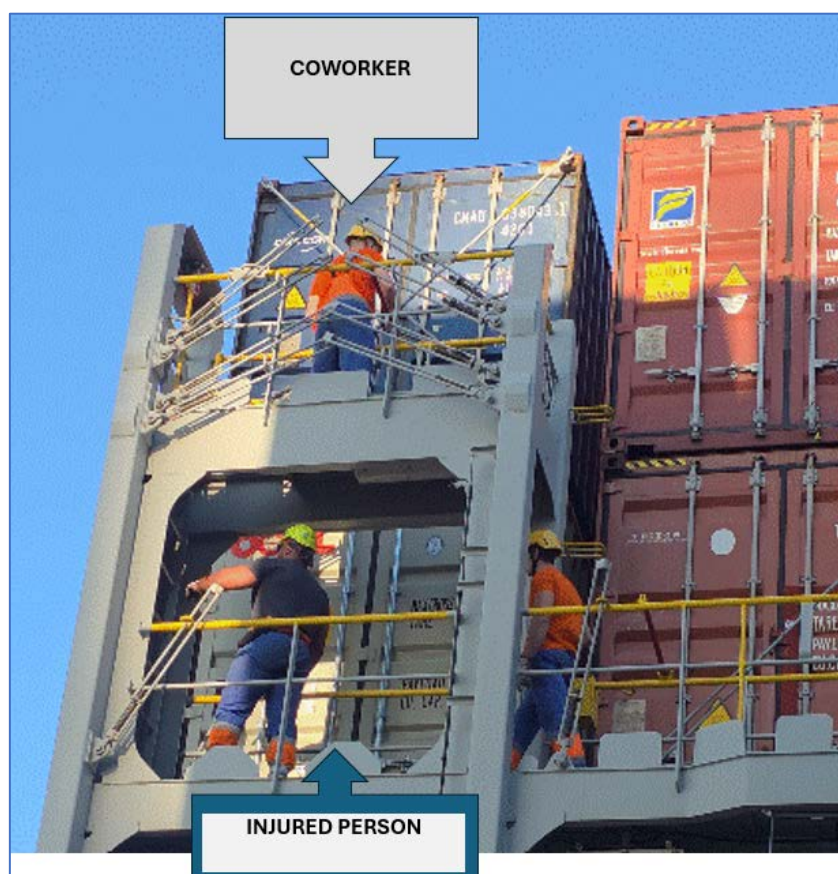


Figure 3: Reconstruction showing vertical relationship between the co-worker on the upper level and the injured worker on the lower level.

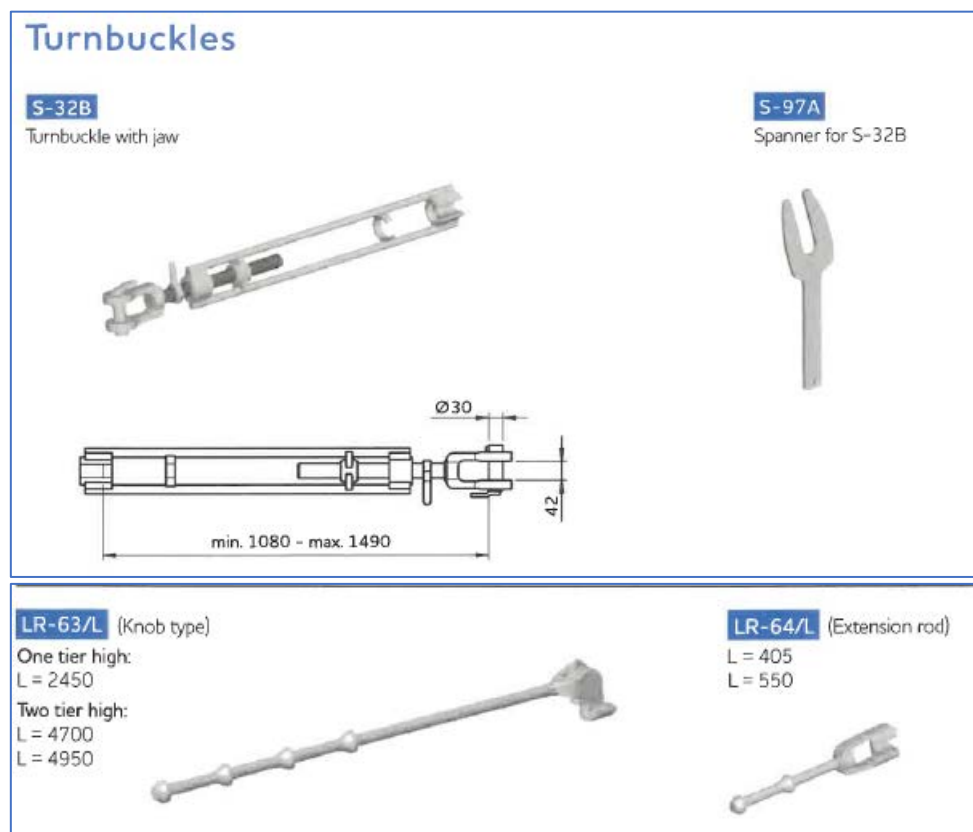


Figure 4: Type of equipment used: S-32B turnbuckle and LR-65B/L lashing rod. The specific turnbuckle involved in the occurrence was not preserved.

3.3. SHEL/SHELL Analysis

S - Software: The written technological procedure defined the relevant safety requirements, including paired work, control of released securing equipment, vertical separation of workers, and the use of personal protective equipment (PPE). The identified deficiency was therefore not primarily the absence of a procedure, but rather the ineffective implementation of the procedure at the worksite.

H - Hardware: The specific turnbuckle involved in the occurrence was not preserved; therefore, a technical examination of its condition could not be carried out. The type of equipment involved was identified as an S-32B turnbuckle and an LR-65B/L lashing bar. The conclusion best supported by the available evidence is the loss of control over the released turnbuckle, rather than a proven mechanical failure of the equipment.

E - Environment: Weather and visibility conditions were favorable. The key environmental factor was the geometry of the worksite, namely the narrow lashing bridge platform on the seaside of the vessel and the simultaneous work carried out on different vertical levels. Such an arrangement created a direct falling path from the upper working level to the worker positioned below.

L - Liveware: V.S. was an experienced and trained worker; however, he was not wearing the mandatory safety helmet at the time of the occurrence. The non-use of the helmet contributed to the severity of the injury, but the occurrence cannot be adequately explained solely by the non-use of PPE, as organizational and procedural safety barriers were also ineffective at the same time.

L-L - Liveware interaction: Co-worker E.R. was working above V.S., while the dispatcher and the supervisory arrangement in place did not prevent the work from being carried out in a vertically



overlapping manner. As, in the absence of the dispatcher, supervisory responsibilities could be transferred to a Qualified Port Transport Worker (KV LTD), and in this case the KV LTD was the injured person himself, the independence of field supervision was reduced

3.4. Diamond-Process Human Factors Analysis ¹

Table 2: Human factors analysis

Observed behaviour / condition	Classification	Possible performance-shaping factors	Result of analysis
V.S. was not wearing a safety helmet.	Personal/procedural violation in a systemic context.	PPE enforcement, supervision, routine, risk perception.	The absence of the helmet removed the final head-protection barrier.
The work was not carried out as paired work.	Organizational/situational deviation.	Narrow platform, task allocation, local practice, supervision.	The prescribed paired-work barrier was not active.
Simultaneous work above and below.	Organizational/situational deviation.	Work sequencing, communication, supervision, worker positioning.	Exposure to a falling object was created.
The released turnbuckle remained uncontrolled.	Failure of task control.	Stowage practice, available space, equipment placement, communication.	The most likely immediate condition for the fall or overturning of the object.
Supervision did not prevent the deviation.	Organizational barrier failure.	Clarity of roles, dispatcher presence, role of KV LTD, field checks.	Systemic contributing factor.

3.5. Safety Barriers Aanalysis

Table 3: Safety Barriers Aanalysis

Barrier	Intended function	Status	Assessment
Safety helmet / chin strap	Reduction of head injury from falling objects	Absent	V.S. was not wearing a helmet, although its use was mandatory.
Paired work	Control of the turnbuckle and lashing bar	Ineffective	The task concerned was carried out individually or without an effectively controlled work pair.

¹ “Diamond Process” – Approach of Divergent and Convergent Structuring of Evidence

As a supporting analytical framework, the investigation applied the so-called Diamond Process approach, which enables the initial broad collection and verification of evidence, followed by the gradual narrowing of the analysis towards evidence-based safety issues, contributing factors and systemic deficiencies. The approach was used as a complementary method alongside the SHELL/SHEL methodology, ECFA analysis, barrier analysis, and the comparison between prescribed work practice and actual work practice (work-as-prescribed vs work-as-done)..



Barrier	Intended function	Status	Assessment
Vertical separation	Prevent work below workers operating at higher levels	Ineffective	V.S. was working beneath a co-worker positioned on a higher level.
Immediate stowage/removal of equipment	Prevent falling of released securing equipment	Ineffective	The previously released turnbuckle remained hanging downward after the occurrence.
Field supervision	Detect and stop deviations	Ineffective	The deviation from TP 330010 was not prevented prior to the occurrence.
Preservation of evidence	Enable technical examination of equipment	Limited	The actual turnbuckle involved was not preserved.

3.6. Analysis of a Similar Occurrence

A similar occurrence on board the M/V MSC HANNAH (10 April 2026) indicates that the risks associated with unlash operations were not isolated to a single occurrence. Recurring issues were identified regarding proper paired work, the use of safety helmets and chin straps, the immediate stowage of released securing equipment, and effective field supervision.

This occurrence supports the conclusion that the safety issue should be addressed as a matter of the actual implementation and enforcement of TP 330010, rather than solely as an issue of individual conduct on the part of the injured worker.

3.7. Limitations of the Analysis

The actual turnbuckle that struck V.S. was not preserved; therefore, its technical condition and any possible damage could not be examined. Co-worker E.R. was unable to explain why the previously released turnbuckle had fallen or rotated downward. Consequently, the precise physical mechanism of the fall remains partially undetermined.

This limitation does not affect the fundamental finding that the object involved was a turnbuckle falling from above and that the relevant safety barriers were ineffective.



CHAPTER 4 – FINDINGS

4.1. Accident Event

A previously released or insufficiently controlled turnbuckle on the upper working level fell or rotated downward and struck V.S. in the head while he was working below on the lashing bridge platform in the area of Bay No. 58.

4.2. Direct (Immediate) Cause

The direct cause of the injury was the impact of a falling turnbuckle from above to the head of the injured worker.

4.3. Contributing Factors

- V.S. was positioned below the area where work was being carried out and where released securing equipment was located.
- At the time of the occurrence, V.S. was not wearing the mandatory safety helmet.
- The task concerned was not carried out as controlled paired work, as required by TP 330010.
- Vertical separation between workers operating at higher and lower levels was not maintained.
- Released securing equipment was not immediately and effectively controlled, stowed or secured.
- Due to the nature of the duties of the work process supervisor, field supervision in this specific case did not enable the timely detection and correction of the deviation from the prescribed technological procedure.

4.4. Contributing Systemic Factors

- A gap existed between the prescribed working method and the actual operational practice at the worksite.
- The supervisory arrangement was weak, particularly in situations where, in the absence of the dispatcher, the supervisory role was assumed by a KV LTD who was simultaneously engaged as an active worker.
- A similar occurrence indicates the possibility of recurring deviations relating to paired work, the use of PPE and the control of released securing equipment.
- The narrow lashing bridge platform and the specific vessel configuration may encourage practical adaptations that are not consistent with TP 330010.

4.5. Safety Issue

The safety issue identified is the insufficient practical implementation and enforcement of TP 330010 during the unlash of container securing equipment on lashing bridge platforms, particularly with regard to paired work, vertical separation of workers, immediate control of released securing equipment, and the use of safety helmets and chin straps.

4.6. Safety Deficiencies

- Ineffective implementation of the prescribed paired-work arrangement.
- Ineffective vertical separation between working levels.
- Insufficient control and stowage of released securing equipment.
- Non-use of mandatory personal protective equipment (PPE).
- Insufficiently independent field supervision.
- Inadequate preservation of material evidence, namely the actual turnbuckle involved in the occurrence.



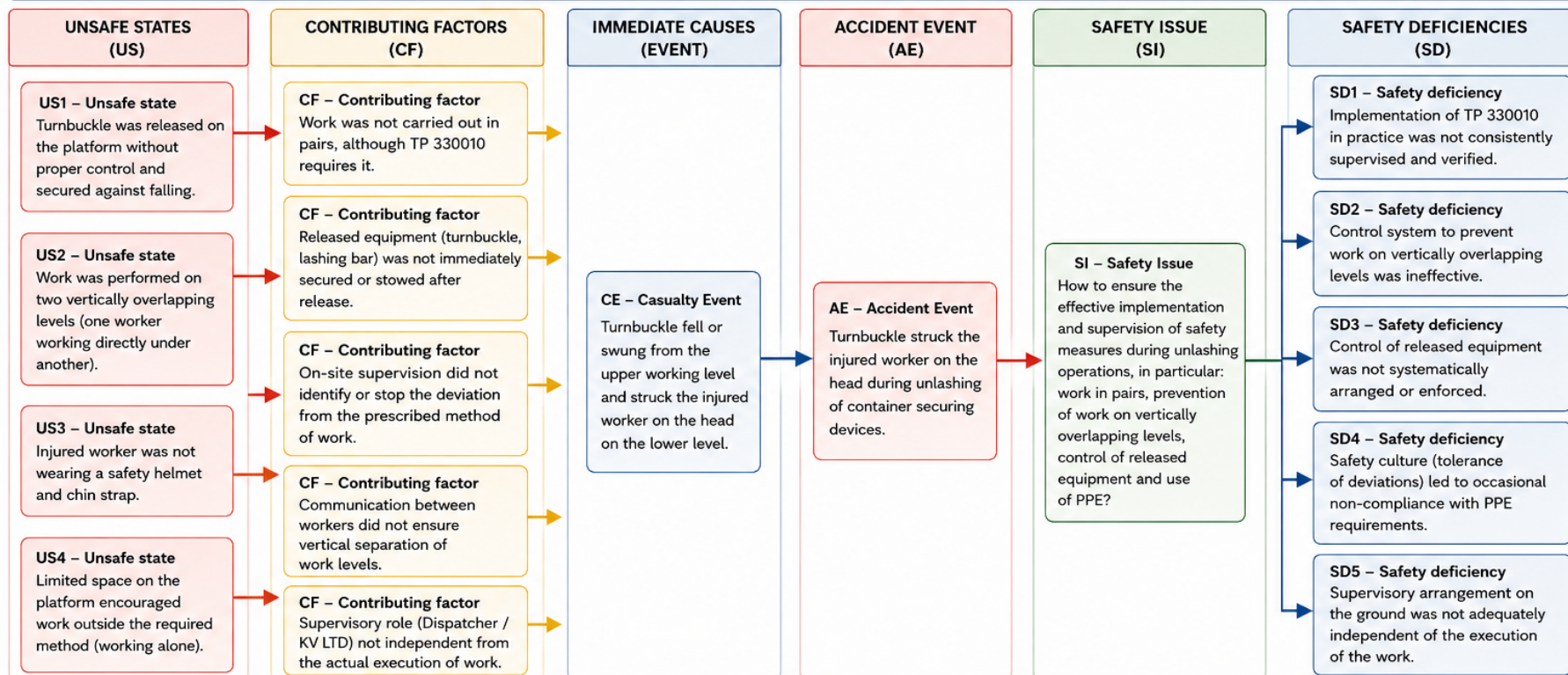
EMSA ECFA – EVENT AND CAUSAL FACTORS ANALYSIS

Occurrence: Serious injury of a port worker during
unlashing of container securing devices

Vessel: M/V CMA CGM ADONIS
IMO 9882528

Location: Port of Koper Container Terminal,
Berth 7D, Basin I

Date of occurrence:
04 April 2026



ACRONYM LEGEND (in accordance with IMO Res. A.1075(28))

E	Event (Occurrence)	US	Unsafe State (Nevarno stanje)
AE	Accident Event (Nesrečni dogodek)	UA	Unsafe Act (Nevarno dejanje)
CE	Casualty Event (Dogodek s posledicami)	TP	Technological Procedure
CF	Contributing Factor (Prispevajoči dejavnik)	PPE	Personal Protective Equipment
SD	Safety Deficiency (Varnostna pomanjkljivost)	KV LTD	Qualified Port Transport Worker (Lučki transportni delavec)
SI	Safety Issue (Varnostno vprašanje)		

KEY FINDING

The occurrence happened due to failure of safety barriers in the operational phase: prescribed safety measures were not effectively implemented or supervised, in spite of existing requirements in TP 330010.

DIRECT CAUSE (SUMMARY)

The turnbuckle, which fell or swung from the upper working level, struck the injured worker on the head.

CONTRIBUTING SYSTEMIC FACTORS (SUMMARY)

- Deviations from work in pairs.
- Work on vertically overlapping levels.
- Insufficient control of released equipment.
- Non-use of safety helmet.
- Ineffective on-site supervision.
- Organizational gap between prescribed and actual work practice.

Note: ECFA shows the most probable causal links based on the information available at the time of the investigation. The purpose of the investigation is to improve safety and prevent similar occurrences.

CAPTER 5 – SAFETY ACTION TAKEN

SI-MAIIS-AT001-2026

Safety Action Taken and Evidence of Implementation

Following the occurrence, the Container Terminal issued a written safety notice and distributed it by electronic mail to relevant operational personnel, including port workers and dispatchers. During the investigation, the original distribution list of electronic communication was reviewed. In the copy retained within the investigation file, the list of recipients was redacted and anonymized for personal data protection purposes; however, the investigator verified the original recipient list. Attached to electronic communication was a safety notice emphasizing the strict implementation of technological procedures and the mandatory use of personal protective equipment. (Annexes X and Y).

The investigation also received photographic evidence confirming that the safety poster had been displayed at relevant operational locations used by workers, including changing rooms, rest and briefing areas, notice boards, and locations used for the storage of lashing equipment and securing tools.

The displayed poster stated that lashing and unlashings operations must be carried out in pairs, that individual work was not permitted, that released turnbuckles and lashing bars must be immediately removed and properly stowed, and that safety helmets must be correctly worn with the chin strap fastened. The notice further stated that failure to comply with PPE requirements and prescribed procedures could result in removal from the workplace and/or suspension of the work process.

Investigating Authority Comment

The above-mentioned safety action is assessed as relevant and timely. It addresses the immediate safety barriers identified in the occurrence under investigation, namely the proper implementation of paired work, control of released securing equipment, correct use of head protection, and supervision of compliance with prescribed requirements.

As the measure is primarily administrative and communication-based in nature, its long-term effectiveness cannot be considered self-evident. It should therefore be verified through subsequent field supervision, records of pre-job safety briefings/toolbox talks, and documented checks of the actual implementation of lashing and unlashings operations in practice. For this purpose, Safety Recommendation SI-MAIIS-SR001-2026 was issued.

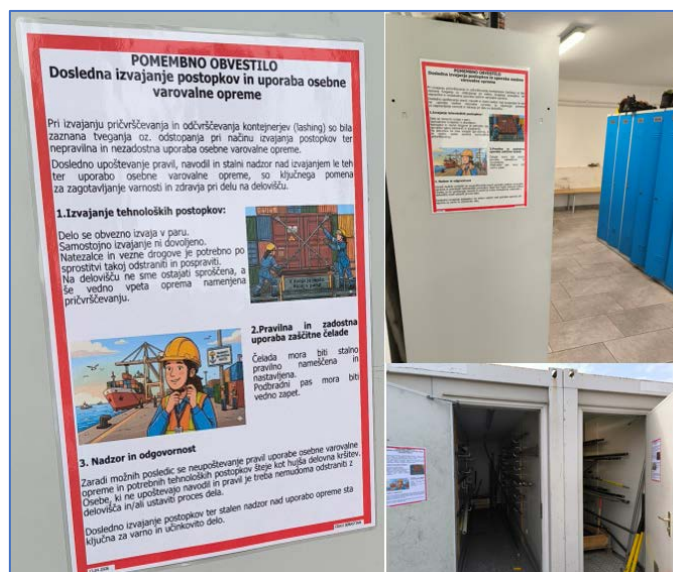


Figure 5: Example of the safety notice displayed following the occurrence



CHAPTER 5 – SAFETY RECOMMENDATIONS

Note:

In exceptional cases where an immediate safety risk exists, an interim preliminary safety recommendation may be issued even if the formal safety investigation has not yet been completed.

Based on the analysis of the occurrence, the investigating authority proposes a safety recommendation aimed at preventing the recurrence of similar occurrences. As the Container Terminal has already implemented certain safety measures following the occurrence, the recommendation is primarily focused on the verified implementation and documented effectiveness of the measures adopted.

Safety Recommendation SI-MAIS-SR001-2026

The Container Terminal should systematically verify and document effective implementation of TP 330010 during lashing and unlashings operations, especially paired work, vertical separation, control of released securing equipment, PPE use, and field supervision.

The supervisory barrier should be sufficiently independent to identify and stop deviations from TP 330010.



ANNEXES

- Annex 1 – Extract from TP 330010
- Annex 2 – Marking of the Working Area at Bay No. 58
- Annex 3 – Safety Action / Post-Occurrence Safety Notice / Poster
- Annex 4 – Safety Action – Notice / Communication to Workers

4.7. Annex 1 – Extract from TP 330010

	OE: PC Kontejnerski terminal	List: 1/8
	Storitev: Sproščanje in pričvrščevanje kontejnerjev na ladji	Šifra TP: 3 3 001 0
		Blago: Kontejner

Tehnološki postopek opisuje sproščanje in pričvrščevanje kontejnerjev na ladji.

Ta tehnološki postopek je sestavni del osnovnih tehnoloških postopkov prekladanja kontejnerjev na ladji (TP 311000, 311001, 315000, 315001).

1. Pred pričetkom delovnega procesa:

Pred pričetkom delovnega procesa morajo vsi udeleženci delovnega procesa pregledati in preizkusiti zadolžena delovna sredstva in opremo ter se prepričati, da je stroj/oprema varna za delo. V primeru ugotovitve pomanjkljivosti morajo o tem obvestiti vodjo delovnega procesa.

Delovni proces na delovišču se prične izvajati, pri tem je potrebno kontinuirano zagotavljati pogoje za varno delo. Vsi udeleženci v procesu so dolžni obveščati vodjo delovnega procesa o nevarnostih oziroma neizvajanju varnostnih ukrepov ter ravnati skladno z določili predpisov varstva in zdravja pri delu in navodili. Vodja delovnega procesa nadzira in vodi, da delo na deloviščih poteka skladno s tehnološkim postopkom, predpisi varstva in zdravja pri delu ter delovnimi navodili in aktivnostmi za odpravo pomanjkljivosti.

2. Pregled in priprava opreme za delo na kontejnerski ladji

- Delavca (X) in (Y) se povzpeta po ladijskem mostičku na krov ladje.
- Voznik manipulatorja (16) pripelje pod dvigalo košaro za prevoz delavcev, jo odloži in se varno odpelje na varno mesto.
- Upravljalec dvigala (5) vpne košaro za prevoz delavcev, preklopi način dela dvigala namenjen prenosu oseb in počaka z vpeto košaro na nadaljnja navodila delavca (3).
- Delavca (Z) in (W) vstopita v košaro za prevoz delavcev, zapreta vrata, košaro vpneta na prijemalo s sekundarnim načinom varovanja in se v košari zavarujeta s predvideno OVO (proti morebitnemu padcu iz košare).
- Ko so vzpostavljeni pogoji za varno delo, delavca (Z) in (W) sporočita upravljavcu dvigala pričetek premika košare na ladjo.

3. Sproščanje kontejnerjev

S košaro za prevoz oseb:

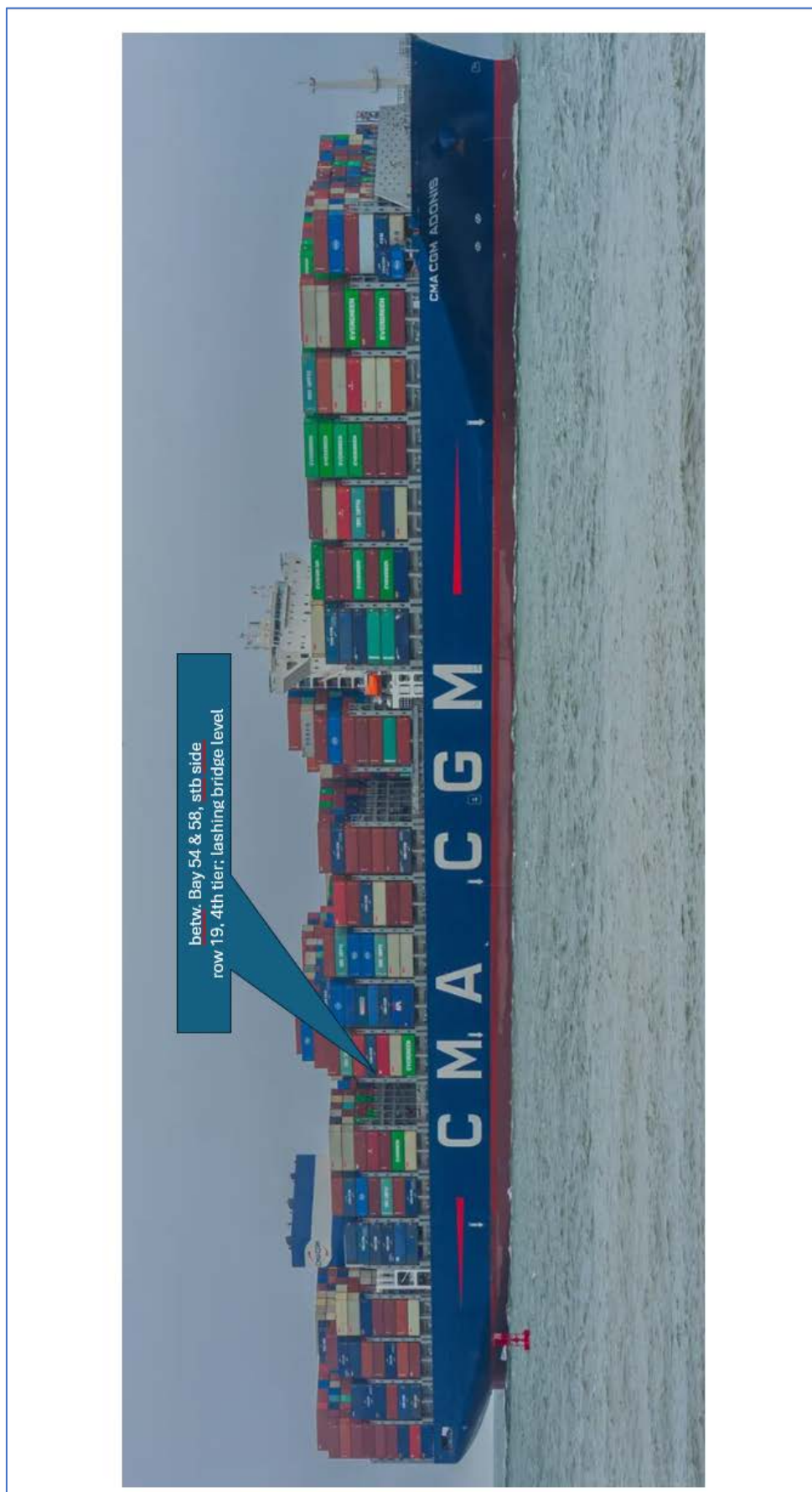
- Upravljalec dvigala (5) dvigne delavca (Z) in (W) v košari ter jo prenese in odloži dovolj oddaljeno od roba skladovalnice kontejnerjev.
- Pravilnost odložitve košare sporočita delavca upravljavcu dvigala (5).
- Delavca (Z) in (W) se zavarujeta z varovalno opremo proti morebitnemu padcu z višine ter nato izstopita.
- Delavca (Z) in (W) pričneta sproščati vezne čepe v vogalnikih najvišje skladiščenih kontejnerjev.
- Po zaključenem sproščanju veznih čepov vstopita v košaro za prevoz delavcev in sporočita, da je delo zaključeno.
- Upravljalec dvigala (5) dvigne delavca (Z) in (W) v košari ter ju prenese in odloži na obalo.
- Delavca (Z) in (W) se pridružita delavcema (X) in (Y).

(Slika 1)

Na krovu/ladijskem podestu:

- Delavca (X) in (Y) pričneta s sproščanjem napenjalcev in veznih drogov preko katerih so pritrjeni kontejnerji na ladijskem skladišču.
- Delavec (X) s pomočjo posebnega ključa sprosti napenjalec.

4.8. Annex 2 – Marking of the Working Area at Bay No. 58



4.9. Annex 3 – Safety Action / Post-Occurrence Safety Notice / Poster

POMEMBNO OBVESTILO

Dosledna izvajanje postopkov in uporaba osebne varovalne opreme

Pri izvajanju pričvrščevanja in odčvrščevanja kontejnerjev (lashing) so bila zaznana tveganja oz. odstopanja pri načinu izvajanja postopkov ter nepravilna in nezadostna uporaba osebne varovalne opreme.

Dosledno upoštevanje pravil, navodil in stalni nadzor nad izvajanjem le teh ter uporabo osebne varovalne opreme, so ključnega pomena za zagotavljanje varnosti in zdravja pri delu na delovišču.

1. Izvajanje tehnoloških postopkov:

Delo se obvezno izvaja v paru.
Samostojno izvajanje ni dovoljeno.
Natezalce in vezne drogeve je potrebno po sprostitvi takoj odstraniti in pospraviti.
Na delovišču ne sme ostajati sproščena, a še vedno vpeta oprema namenjena pričvrščevanju.



2. Pravilna in zadostna uporaba zaščitne čelade

Čelada mora biti stalno pravilno nameščena in nastavljena.
Podbradni pas mora biti vedno zapet.

3. Nadzor in odgovornost

Zaradi možnih posledic se neupoštevanje pravil uporabe osebne varovalne opreme in potrebnih tehnoloških postopkov šteje kot hujša delovna kršitev. Osebe, ki ne upoštevajo navodil in pravil je treba nemudoma odstraniti z delovišča in/ali ustaviti proces dela.

Dosledno izvajanje postopkov ter stalen nadzor nad uporabo opreme sta ključna za varno in učinkovito delo.

4.10. Annex 4 – Safety Action – Notice / Communication to Workers

From: Cigoj Sebastian
Sent: 15. april 2026 10:03
To:

[REDACTED]

Cc:

POMEMBNO OBVESTILO - Dosledna izvajanje postopkov in uporaba osebne Pomembno obvestilo ricanje 13.04.2026.pdf

Pozdravljeni.

Pri izvajanju pričvrščevanja in odčvrščevanja kontejnerjev (lashing) so bila zaznana tveganja oz. odstopanja pri načini izvajanja postopkov ter nepravilna in nezadostna uporaba osebne varovalne opreme. Dosledno upoštevanje pravil, navodil in stalni nadzor nad izvajanjem le teh ter uporabo osebne varovalne opreme, so ključnega pomena za zagotavljanje varnosti in zdravja pri delu na delovišču.

1. Izvajanje tehnoloških postopkov:

- Delo se obvezno izvaja v paru.

1

- Samostojno izvajanje ni dovoljeno.
- Natezalce in vezne drogove je potrebno po sprostitvi takoj odstraniti in pospraviti.
- Na delovišču ne sme ostajati sproščena, a še vedno vpeta oprema namenjena pričvrščevanju.

2. Pravilna in zadostna uporaba zaščitne čelade

- Čelada mora biti stalno pravilno nameščena in nastavljena.
- Podbradni pas mora biti vedno zapet.

3. Nadzor in odgovornost

Osebe, ki ne upoštevajo navodil in pravil je treba nemudoma odstraniti z delovišča in/ali ustaviti proces dela.

Dosledno izvajanje postopkov ter stalen nadzor nad uporabo opreme sta ključna za varno in učinkovito delo.

Lep pozdrav.



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