MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

ACCIDENT REPORT

SERIOUS MARINE CASUALTY | REPORT NO 3/2020 | JANUARY 2020

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Cargo shift and damage to vehicles on ferry *European Causeway* North Channel, between Scotland and Northern Ireland 18 December 2018

SUMMARY

At 0633 on Tuesday 18 December 2018, the roll-on/roll-off (ro-ro) passenger ferry *European Causeway* **(Figure 1)** rolled heavily in very rough seas and very high winds during its voyage from Larne, Northern Ireland to Cairnryan, Scotland. The violent motion caused several freight vehicles to shift and nine to topple over. This resulted in damage to 22 vehicles, some damaged severely **(Figure 1 inset)**.

Figure 1: *European Causeway*

At least six freight vehicle drivers had remained in their cabs on the vehicle decks during the crossing and four were found in cabs of vehicles that had toppled over. One driver was trapped and had to be freed by the emergency services when the ship arrived in Cairnryan.

The MAIB investigation found that:

- The route being followed had not been adjusted sufficiently to mitigate the effects of the sea conditions and reduce the likelihood of severe rolling.
- The cargo lashings applied were insufficient for the forecasted weather conditions.
- The ship's approved cargo securing manual provided limited guidance to ship's staff.

- Drivers remaining in their vehicles during the ferry's passage, in contravention of international regulations and company policy, was not uncommon and is an industry-wide issue.

The MAIB issued a safety bulletin on 26 March 2019 entitled '*Safety warning about drivers remaining in vehicle cabs while ferries are at sea*', which has been widely promulgated by the Road Haulage Association.

A recommendation has been made to P&O Ferries Ltd to amend its Safety Management System to provide best practice guidance on the lashing of cargo in heavy weather.

FACTUAL INFORMATION

Background

European Causeway operated a passenger and freight service with its sister ship *European Highlander* between Cairnryan, Scotland and Larne, Northern Ireland. Each ferry operated up to seven sailings per day in accordance with a published timetable, with a crossing time of about 2 hours. Each ship worked in tandem with the other; during normal operations one ship would be in Larne while the other ship was in Cairnryan. The published schedule meant that each ship was due to depart each port simultaneously. The ship's deck crew were split into a day shift, which was led by the day master, and a night shift led by the night master. The day shift crew worked mainly from 0830 to 2030, and the night crew worked from 2030 to 0830.

Narrative

At 1906 on 17 December 2018, *European Causeway*'s day master sent an email to all ship departments warning of forecasted heavy weather between 2100 that evening and 1000 the following day. In his email, the master required that all loose gear be secured prior to the ship's 2020 sailing from Larne. He also advised that additional cargo lashings needed to be determined between the master and the loading officer.

At about 2030, while on passage toward Cairnryan, the day master handed command of the ship over to the night master. After loading, *European Causeway* sailed from Cairnryan bound for Larne, but due to the deteriorating weather conditions the vessel arrived in Larne 55 minutes behind schedule, at 0255.

Shortly after 0300, the masters on board *European Causeway* and *European Highlander* had a telephone conversation about the prevailing weather conditions, which were close to the company's limits for entering and leaving the ports. During the discussion they agreed that their scheduled 0400 departures would be delayed until loading operations had been completed and a suitable gap in the weather became available. *European Highlander*'s master expected to be able to sail sometime between 0600 and 0700. At 0325 he sent an email to the masters of both vessels and the operations supervisors at Cairnryan and Larne advising them of his 'load and go' intentions. *European Causeway*'s master forwarded the email to his bridge team.

During the cargo loading operations on board *European Causeway* the master discussed the lashing requirements with his loading officer. He told the loading officer to lash the freight vehicles parked at the fore and aft ends of each vehicle lane and all unaccompanied semi-trailers[1] with two lashings (one either side).

In Cairnryan, the loading of *European Highlander* was completed faster than its master had anticipated and, having reviewed the wind conditions locally and referred to online weather service *Windfinder*,

[1] Semi-trailer means a trailer designed to be coupled to a semi-trailer towing vehicle. Unaccompanied semi-trailers are towed on and off the ferries by dedicated port vehicles. Once the semi-trailer was in position on board, the towing vehicle disconnected, and the trailer was supported by a trestle.

he decided to sail at 0530. He informed *European Causeway*'s master of his decision. *European Causeway*'s master confirmed that his loading operation would be completed in time and that he would depart Larne at the same time.

At 0515, loading was completed on board *European Causeway*, with 40 accompanied freight vehicles (mainly articulated vehicles[2]), 2 unaccompanied freight vehicles, 36 unaccompanied semi-trailers, 3 cars and 5 minibuses embarked. At 0528 *European Causeway* sailed.

During *European Causeway*'s departure from Larne, the wind was close to the company's limits for departing port and the master experienced some difficulty manoeuvring the ship's bow through the wind. However, the ship was clear of the berth by 0546. Once in open water the ship's stabilisers were deployed and the autopilot set to the ship's standard planned course of 073°. The ship was then brought up to its full sea speed of 21kts. At 0555, the master handed over the con to the officer of the watch (OOW) and left the bridge; a lookout remained with the OOW on the bridge.

Shortly after the master left the bridge *European Causeway* experienced several large rolls, and at 0607 he returned. The wind was blowing between 40 and 50kts gusting to 60kts from the south-south-east, and the waves created by the wind were very large from the same direction. This was causing the ship to roll and yaw[3]. Following a discussion with the master, the OOW altered course to port and brought the ship onto a course of 055° with the aim of easing the motion. At 0608, the master left the bridge.

At 0629 the OOW altered course to starboard and brought the ship onto a course of 060°. About 4 minutes later, *European Causeway* rolled 20° to starboard, then yawed violently to starboard, achieving a rate of turn in excess of 100° per minute. The ship then took a larger roll to port of just over 30°. During the 30° roll several of the freight vehicles and unaccompanied semi-trailers on the vehicle decks moved and some toppled over **(Figure 2)**. At the same time, unsecured objects on the bridge, in the master's cabin and around the ship, were thrown to the deck. In the engine room, a lubricating oil low level trip activated on one of the ship's four main engines, causing it to shut down.

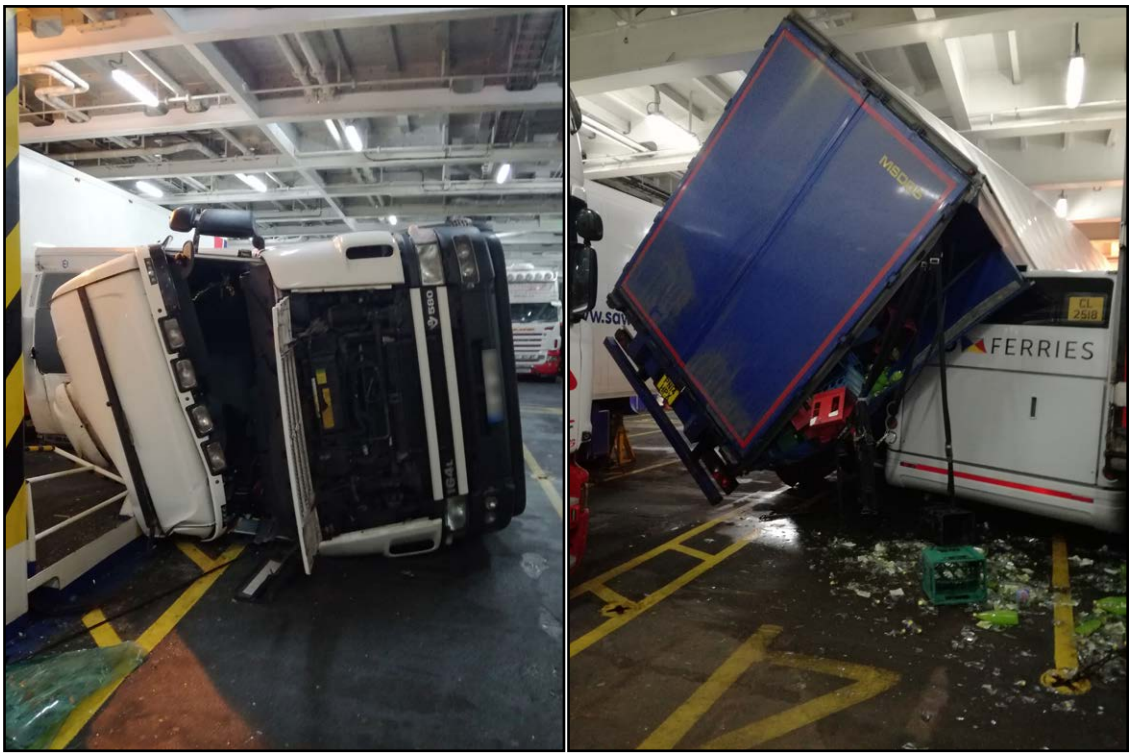

Figure 2: Damaged vehicles

[2] Articulated vehicle means a combination of a semi-trailer towing vehicle with a semi-trailer (referred to within the company as 'runners').

[3] Yaw is the movement to port and starboard of a vessel away from its course being steered, generally caused by the action of the sea.

At 0634 the OOW altered the ship's heading to a course of 057°. Within a minute, the master arrived on the bridge, followed shortly afterwards by the chief officer and the day master. The OOW briefed the master while the chief officer used the ship's CCTV system to assess the condition of the cargo on the vehicle decks. The chief officer saw that several vehicles had toppled over and informed the master. He then made his way to the vehicle deck, meeting up with the duty deck crew and the off-duty second officer on his way down.

On the bridge, the ship was placed into hand-steering and brought round to starboard to a course of 085°. At 0642, the OOW handed the con to the master and went to assist on the vehicle deck. A few minutes later, the ship's day master took command of the ship from the night master.

Post-incident response

The chief officer gave the night master an updated damage assessment from the vehicle deck and reported that freight vehicle drivers had been seen climbing from their cabs.

A passenger muster was performed, and following a headcount it was identified that six of the ship's 52 passengers were missing. The chief officer subsequently reported that more drivers had emerged and that four had been discovered in the cabs of vehicles that had toppled over. One of the drivers was trapped inside his cab; he was unhurt but could not be released by the ship's crew. A re-count of passenger numbers was performed and found to tally with *European Causeway*'s manifest.

Once the freight vehicle drivers were clear of the deck the crew withdrew to a safe position. The trapped driver was assessed to be safe, but was closely monitored by ship's crew.

The night master contacted the port office in Cairnryan and alerted them to the incident. He also contacted the P&O Ferries Ltd shore management team. The port office subsequently reported the incident to the emergency services.

At 0705 *European Causeway*'s day master reported that the ship had passed Milleur Point and had entered sheltered waters at the northern end of Loch Ryan to make its initial approach to Cairnryan. At 0713 the stabiliser fins were brought in, and at 0807 the ship was berthed safely alongside.

The local fire and rescue service, who were waiting on the quayside, boarded the ship and extracted the trapped driver from his cab. Heavy lifting equipment was then brought on board to right the vehicles that had toppled over, and all vehicles and passengers were discharged later that morning.

Weather forecasts

P&O Ferries Ltd subscribed to a weather forecast service provided by the UK Meteorological Office for the Cairnryan to Larne route. *European Causeway* was sent updated 5-day forecasts every 12 hours.

The forecast, issued at 1411 on 17 December, predicted the weather to be at its worst between 0300 and 0900 on 18 December. The forecast for 0600 predicted storm force 10 to violent storm force 11 south-south-easterly winds. The sea state as a result of the wind was forecasted to be very high, with a predicted significant wave height of 4.6m and maximum height of 7.3m. There was very little predicted swell. The wind strength was forecast to drop significantly shortly after 0900.

A wave hindcast obtained for the accident location between 0600 and 0700 on 18 December 2018, showed the wind-driven waves to have been from a direction of 158° with an average height of 4.2m.

At the time of the accident it was dark, and the visibility was good.

European Causeway

European Causeway was built specifically to operate between Cairnryan and Larne, and entered service in 2001. Its sister vessel, *European Highlander*, was built shortly afterwards and incorporated a few small design changes, including being slightly longer than *European Causeway*.

The operational certification for the vessel did not impose any weather restrictions on its passage across the Irish Sea's North Channel. However, P&O Ferries Ltd had defined wind strength and direction limits for arrival and departure at both Cairnryan and Larne.

Crew

European Causeway's crews worked a 2-week on and 2-week off rota system. The day shift deck crew consisted of the more experienced day master, the chief officer, a second officer, the bosun and six deck ratings; the night crew consisted of the night master, two second officers, an assistant bosun and six deck ratings. During the day shift the chief officer undertook the role of loading officer when alongside; at night this role was performed by one of the second officers.

The night master was 39 years old and an Irish national. He joined P&O Ferries Ltd as a second officer in 2016 after spending several years working on various passenger ships up to the rank of first officer. He was quickly promoted to chief officer and in January 2018 he passed his P&O Ferries Ltd command interview. Prior to the accident he had completed 11 weeks as a relief master on board *European Causeway*.

The night shift second officers were UK nationals and had both worked for P&O Ferries Ltd on the Cairnryan - Larne route for over 4 years. One of the second officers was the loading officer, the other was the OOW at the time of the accident. They both had concerns about the night master's decision to sail. They knew that Stena Line had cancelled all its Irish Sea crossings as a result of the weather, and they had doubts about the night master's ship handling ability in bad weather following some recent berthing incidents, the most recent of which occurred 6 days earlier.

All of the deck officers had completed the company's in-house marine resource management (MRM) training course.

Cargo securing manual

The International Convention for the Safety of Life at Sea 1974 (SOLAS), as amended, required cargo units[4] and cargo transport units[5] on board ships to be loaded, stowed and secured throughout a voyage in accordance with the Cargo Securing Manual (CSM) approved by the Administration[6]. *European Causeway*'s CSM was initially approved by Lloyd's Register (LR) on behalf of the Administration on 20 December 2000. It had been amended several times; most recently in May 2016, and had been approved by LR on 4 June 2016.

The ship's CSM was compiled in adherence with the International Maritime Organization's (IMO) *Code of Safe Practice for Cargo Stowage and Securing* (CSS Code) and referred to:

- The *Roll-on Roll-off Ships - Stowage and Securing of Vehicles Code of Practice* published by the Maritime and Coastguard Agency (MCA);
- The Nautical Institute's *Lashing and Securing of Deck Cargoes*; and
- P&O Ferries Ltd's *Code of Safe Working Practice and Training Manual for Port Operations*.

[4] Cargo unit – a vehicle, container, flat, pallet, portable tank, packaged unit or any other entity.

[5] Cargo transport unit – a road freight vehicle, a freight container, a road tank vehicle, a railway tank wagon or a portable tank.

[6] The administration for *European Causeway* was the Bahamas Maritime Authority.

Additional instructions and guidance for securing cargo was provided in *European Causeway*'s safety management system (SMS) and the master's standing orders.

P&O Ferries Ltd required that a heavy weather checklist be used whenever the forecast or actual sea heights exceeded 1.5m, or at any time at the discretion of the master. The heads of departments had to provide clear reports to the master regarding the readiness of their departments before entering the heavy weather area, and arrange periodic inspections during adverse conditions. The time of the inspections had to be recorded on the heavy weather checklist. The heavy weather checklist had not been completed prior to *European Causeway* leaving Larne for the crossing when the accident occurred.

Cargo securing arrangements

The ship's procedure for securing freight vehicles in expected winds below Beaufort force 7 recommended zero lashings for freight vehicles, and two lashings at the trestle supported end (one on each side) for unaccompanied semi-trailers. For expected winds above force 7, the number and disposition of lashings above the standard required was at the master's discretion. The only exceptions to this were for vehicles carrying hazardous cargoes and those carrying certain classes of livestock, which were always lashed.

The lashings used on *European Causeway* were steel chain with a rated Safe Working Load of 10t and were connected to the vehicle by means of a tension lever system **(Figure 3)**.

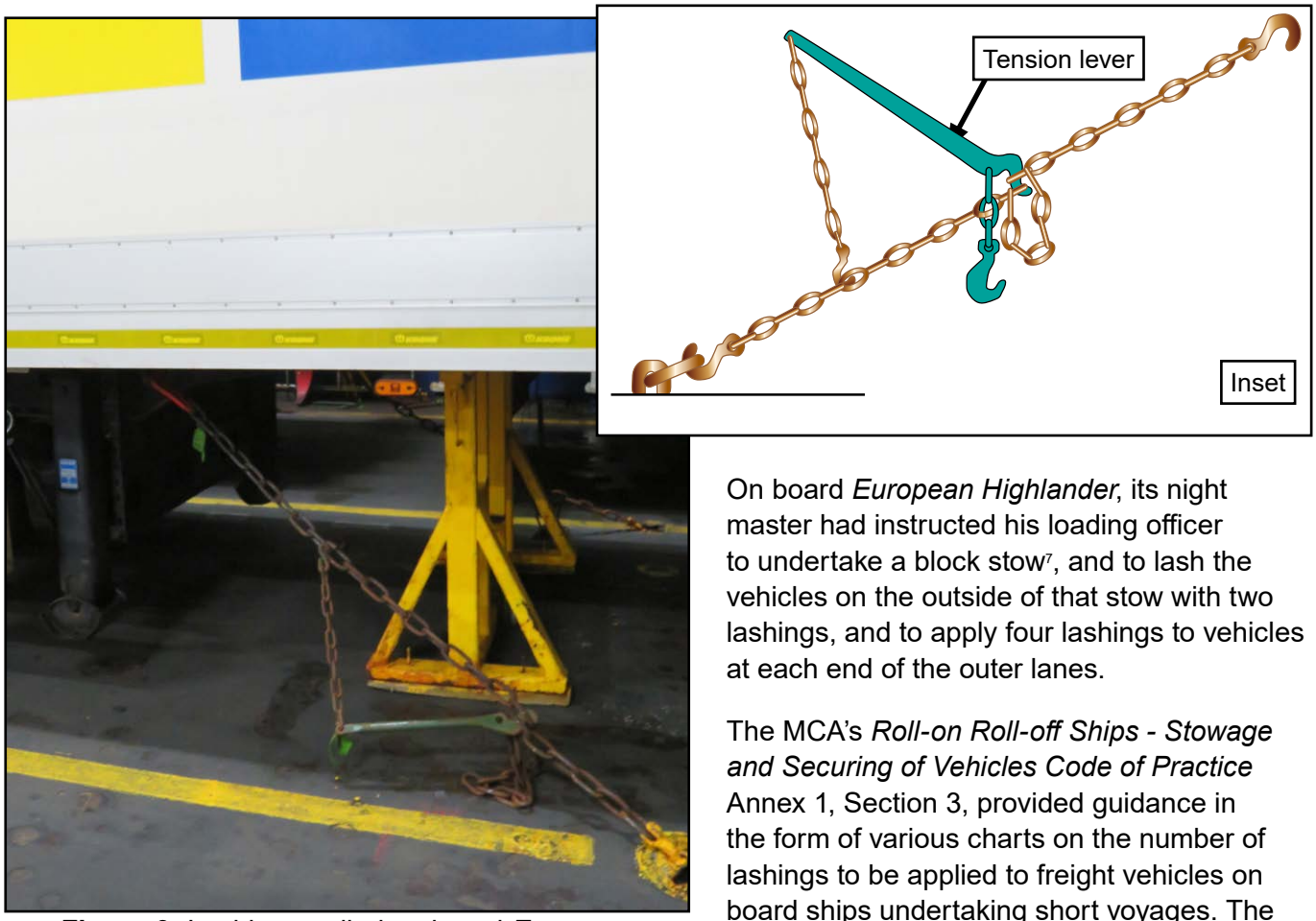

Figure 3: Lashing applied on board *European Causeway*
(**inset:** Tension lever lashing system)

On board *European Highlander*, its night master had instructed his loading officer to undertake a block stow[7], and to lash the vehicles on the outside of that stow with two lashings, and to apply four lashings to vehicles at each end of the outer lanes.

The MCA's *Roll-on Roll-off Ships - Stowage and Securing of Vehicles Code of Practice* Annex 1, Section 3, provided guidance in the form of various charts on the number of lashings to be applied to freight vehicles on board ships undertaking short voyages. The charts were based on a defined case of a ship undergoing a cyclic roll angle of 20º in combination with a pitch of 5º **(Figure 4)**.

[7] A block stow is where vehicles are parked tightly and closely together on the vehicle deck to minimize their movement. Usually only those on the outside of the stow are then lashed.

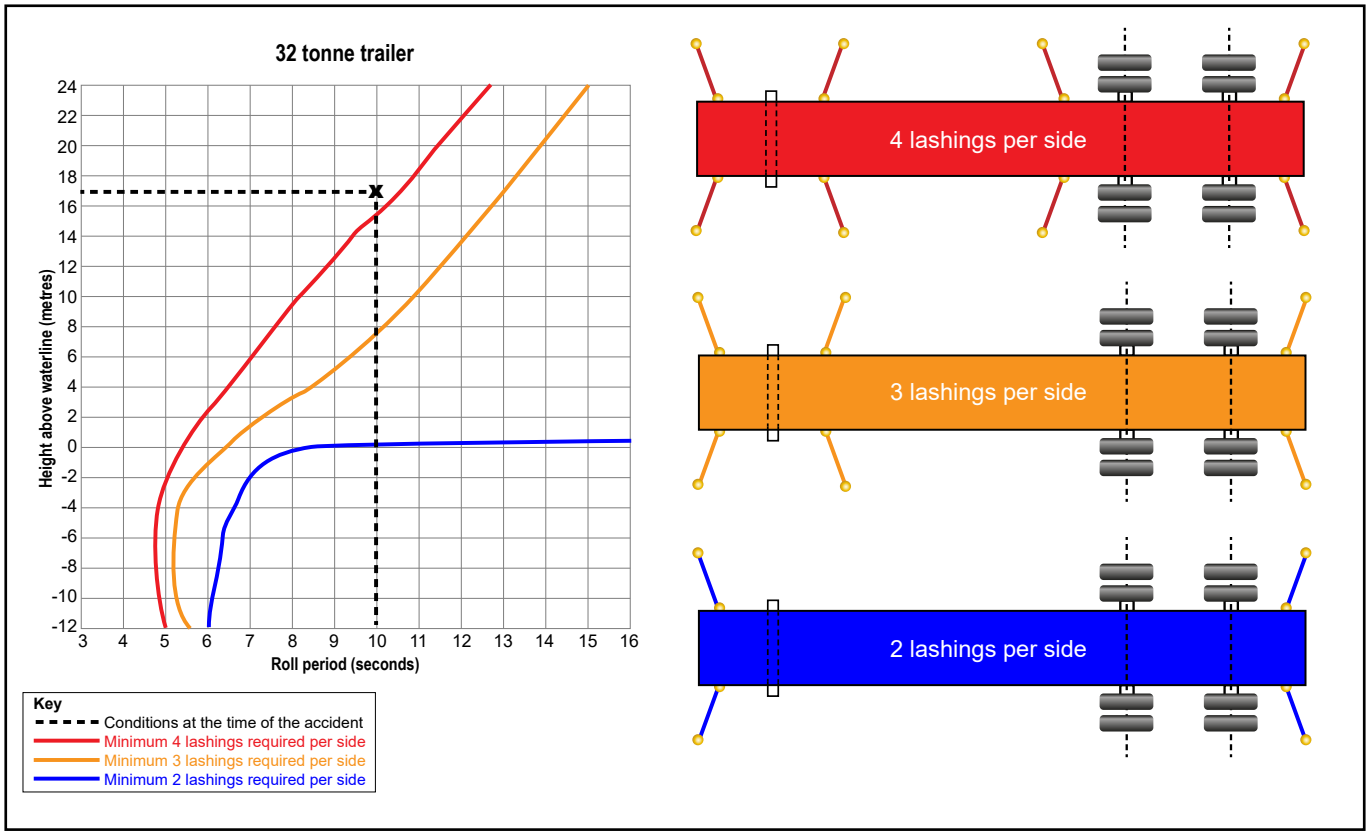

Figure 4: Illustration based on MCA's guide table

The lashing charts were given for various weights of semi-trailers and were determined by a combination of height of the semi-trailer stowed above the waterline (in metres) and the ship's roll period (in seconds).

Most of the articulated freight vehicles had a semi-trailer weight of about 32t and were stowed on the upper deck, which was approximately 17m above the waterline. *European Causeway* was experiencing a roll period of approximately 10 seconds. The MCA guide table indicated that these should have been lashed with four lashings per side, i.e. eight lashings in total.

Vehicle deck access

International regulations[8] prohibit unaccompanied passenger access to enclosed vehicle decks while a vessel is at sea, and this was reflected in P&O Ferries Ltd's SMS.

Passengers on board *European Causeway* were informed when boarding that they were required to leave their vehicles and the vehicle deck as soon as possible after parking. Because of the speed of loading, and work involved lashing vehicles and semi-trailers, the crew were not able to remain with each individual driver to ensure that they climbed out of their cabs and left the vehicle decks.

Once loading was completed, the vehicle deck access doors were closed and secured with a keypad lock to prevent access, but which still allowed exit.

Included with their ferry ticket, freight drivers were entitled to a meal in a separate canteen on board *European Causeway*. On 18 December, most freight drivers made their way off the vehicle deck and into the canteen to eat, and then afterwards into one of the various lounges available for the crossing. Some drivers, however, either did not leave their vehicle cabs, or went to the canteen to eat first and then returned to their vehicles before the access doors had been closed prior to sailing.

[8] The SOLAS Convention Chapter II-1 Reg. 20-3, requires that "In all ro-ro passenger ships, the master or the designated officer shall ensure that, without the expressed consent of the master or the designated officer, no passengers are allowed access to an enclosed ro-ro deck when the ship is under way."

ANALYSIS

The accident

The accident occurred because *European Causeway* rolled over 30° in storm conditions and its cargo had not been adequately secured. This section of the report will analyse the decision to proceed to sea in the forecasted weather conditions, the cause of the heavy rolling and the standard of cargo securing methods carried out on board. The reasons why freight vehicle drivers were allowed to remain in their cabs on the vehicle decks during passage and the potential consequences of such action will also be discussed.

Decision to sail

The weather and sea conditions experienced at 0633, when *European Causeway* rolled heavily and its cargo shifted, had been forecast several hours before the ship sailed from Larne and *European Highlander* departed Cairnryan. Both ships were already running behind their published schedule due to the weather, and were operating to a 'load and go' policy where the decision to sail, once fully loaded, would be made when it was considered safe to do so. Having adopted a 'load and go' policy, the masters discussed potential sailing times, and both agreed to depart as soon as there was a suitable gap in the weather.

The predicted sailing times of between 0600 and 0700 was largely influenced by the estimated time it would take to load *European Highlander*'s cargo and a desire not to put the two vessels' sailing schedules out of synchronisation. *European Highlander*'s master was considerably more experienced than *European Causeway*'s master. As a result, when he decided to sail earlier than previously anticipated, *European Causeway*'s master followed his lead.

European Causeway's master was not unduly concerned about the predicted wind speeds of over 60kts, having experienced the earlier crossing from Cairnryan to Larne. Additionally, the wind speed and direction were within P&O Ferries Ltd's limits for departing Larne and entering Cairnryan, and there were no imposed weather limitations for the passage across the Irish Sea. Nevertheless, the wind was predicted to abate considerably and rapidly at 0900, and for the associated wind-driven seas to consequently reduce in size. Had he delayed his departure until 0900, the ship would not have encountered such adverse conditions, and *European Causeway* could still have been clear of the berth before the arrival of *European Highlander*.

The night shift second officers were very experienced on the route and had some concerns about sailing in the prevailing and forecast weather conditions. Despite this and their MRM training, neither challenged the master's decision to sail or the levels of cargo securing. A timely and well considered challenge in such circumstances might have prompted the master to reconsider the situation and possibly delay the sailing.

Passage planning and ship's motion

European Causeway's bridge team did not develop a voyage specific passage plan prior to leaving Larne. The master's focus was on unberthing the ship safely and clearing the port; once in open waters, the initial course and speed set followed the ship's generic passage plan and did not appear to take account of the prevailing or predicted wind and sea conditions.

The initial course placed the waves squarely on the ferry's beam. Although the ship was fitted with stabilisers, maintaining a course that placed large seas on the beam is not considered to be good seamanship due to the danger of excessive rolling. After departure from Cairnryan at about 0530, *European Highlander*'s course was immediately adjusted because of the weather. The ship was placed on a more northerly route to counter the angle of the seas, and later turned southwards to make its approach toward Larne.

At about 0607, after *European Causeway* experienced several large rolls, its heading was adjusted by 18° to port, bringing the angle of the seas further aft. The intention was to reduce the ship's motion and the risk of large rolls. The master's intention was to maintain the revised course until gaining the lee of the land near the coast of Scotland. However, this was not communicated to the OOW and the generic passage plan was not altered. Before leaving the bridge the master gave no specific instructions regarding the length of time that the new course was to be maintained by the OOW.

As the ship's actual track continued to deviate from the original planned passage track, the OOW took the decision a few minutes before the accident to alter the ship's heading back to starboard by 5°. This action was intended to head the ship more toward Milleur Point at the north end of Loch Ryan. The action of altering the course, even by that small amount, brought the angle of the seas forward toward the beam, which when combined with yawing, increased the likelihood of the ship suffering rolls of the magnitude experienced at 0633.

There was ample sea room to the north of Milleur Point to allow *European Causeway* to continue safely on the revised course set by the master until the land provided some shelter from the wind and seas, before turning south to approach Loch Ryan. Reviewing and amending the ship's standard passage plan for the crossing before departure, to account for the sea conditions, would have reduced the likelihood of heavy rolling. Similarly, had the master's intent been clearly communicated to the OOW, this accident might well have been avoided.

Cargo stowage and securing standards

European Causeway's CSM referred to the MCA's Code of Practice *Roll-on/Roll-off Ships - Stowage and Securing of Vehicles*, which was freely available on the internet and a paper copy was held in the office in Larne. However, the CSM and the documentation within the company's SMS contained no specific requirements for the stowage and securing of vehicles in bad weather. The decision regarding lashing arrangements was left to the master's discretion and therefore relied heavily on each individual's personal judgment and experience.

European Causeway's night master had worked for P&O Ferries Ltd for almost 3 years in total. However, he had only 11 weeks' experience in command as a relief master. During his time with the company he had experienced rough weather, but had little experience of decision making when it came to the practical application of different stowage techniques and the use of additional vehicle lashings for predicted bad weather. Both second officers had worked on the route for several years and, like the night master, were experienced loading officers. Despite this, the additional lashing requirements set for the known storm conditions was minimal and fell well short of the guidance provided by the MCA in its Code of Practice. As a result, several freight vehicles and semi-trailers moved and/or toppled over. It should also be noted that the securing arrangements on board *European Highlander* also fell well short of the standards recommended by the MCA.

It was apparent that the night master underestimated the risks posed by the sea conditions: the heavy weather checklist was not completed; the passage plan was not reviewed; and adequate lashings were not applied. As a result, *European Causeway* and its cargo was not adequately secured for sea. It is evident that the guidance contained in the ship's CSM and provided in the SMS needs to be more prescriptive when it comes to securing vehicles for heavy weather.

Drivers in cabs

In common with all ferry operators in the coastal waters of the UK, P&O Ferries Ltd had processes in place to enact the regulation restricting passenger access to vehicle decks while at sea. However, policing this whilst still loading was problematic due to workload, hazards and staff numbers. On *European Causeway*, the freight drivers found after the accident either on the vehicle deck or in their cabs had deliberately circumvented the requirement to leave the vehicle deck before sailing.

A ro-ro ferry's vehicle deck is a hazardous and potentially life-threatening environment. While a ferry is at sea, the vehicle decks should be occupied by only trained professional seafarers, who are required to undertake safety and security patrols. Drivers who remain on the vehicle deck of ro-ro ferries pose a danger to themselves, and can cause a delay to any emergency response, particularly in the event of a fire. The drivers who remained in their vehicles on board *European Causeway* not only endangered themselves but also compromised the safety of the ship's staff, who had to go looking for them among the unstable vehicles while the ship was rolling.

During the investigation, the MAIB found that this problem had been known about for some time and was not unique to either P&O Ferries Ltd or to this route. It also became apparent that ferry companies were not working collectively to reduce the problem by imposing sanctions on drivers flouting the regulations or the companies that had employed them. All companies operating ferries to the United Kingdom need to work collaboratively to develop a cohesive and cooperative approach to resolve this obvious safety issue.

CONCLUSIONS

- The accident occurred because *European Causeway* rolled heavily in rough seas and its cargo had not been adequately secured.

- The weather conditions had been forecast and the accident would almost certainly have been avoided had *European Causeway*'s sailing been delayed until 0900 when the wind speed, as forecasted, dropped significantly.

- The night master's decision to sail in heavy weather was influenced by the decision of *European Highlander*'s more experienced master.

- The passage plan was not altered to minimise the potential effects of the prevailing and forecast weather conditions and the night master's intent was not clearly communicated to the OOW. Either action could have avoided heavy rolling.

- The freight vehicles were not lashed in accordance with the guidance provided in the MCA's Code of Practice - '*Roll-on/Roll-off Ships - Stowage and Securing of Vehicles'*.

- The ship's approved CSM and the company SMS did not provide sufficient guidance to staff about stowage techniques or the number and disposition of lashings to be applied for adverse weather conditions, and relied upon the master's experience and discretion.

- The passengers who remained in their vehicles during the passage endangered themselves and compromised the safety of other passengers and crew. This problem is not unique to P&O Ferries Ltd and requires industry-wide collaboration to eliminate it.

ACTION TAKEN

MAIB actions

The **MAIB** has:

- Published safety bulletin 1/2019 in March 2019 aimed at the short sea ferry and road haulage industry. The bulletin highlighted the dangers posed to freight vehicle drivers who remain in their vehicle cabs while on board ro-ro ferries at sea.

Actions taken by other organisations

P&O Ferries Ltd has:

- Completed its own investigation report, which made recommendations concerning crew resource management, amending the cargo securing manual, application of cargo lashings in heavy weather, fleet regulations and human factors. The company planned to implement all recommendations made.
- Issued a fleet-wide learning opportunity bulletin.
- Engaged with other short sea ferry operators concerning the problem of freight drivers remaining in vehicle cabs.
- Raised the problem of drivers in cabs to the UK Chamber of Shipping.

The Road Haulage Association has:

- Widely promulgated the MAIB safety bulletin using its own website and social media outlets.

RECOMMENDATIONS

P&O Ferries Ltd is recommended to:

2020/107 Amend its SMS to provide specific guidance on the lashing of cargo in heavy weather to all vessels in its fleet, to ensure that it meets industry best practice and the guidance provided in the MCA's Code of Practice – *Roll-on/Roll-off Ships – Stowage and Securing of Vehicles*.

SHIP PARTICULARS	
Vessel's name	*European Causeway*
Flag	Bahamas
Classification society	Lloyd's Register
IMO number	9208394
Type	Roll-on roll-off passenger ferry
Registered owner	P&O European Ferries Irish Sea Ltd
Manager(s)	P&O Ferries Ltd
Year of build	2000
Construction	Steel
Length overall	159.5m
Registered length	n/a
Gross tonnage	20646
Authorised cargo	Passengers and vehicles

VOYAGE PARTICULARS	
Port of departure	Larne (Northern Ireland)
Port of arrival	Cairnryan (Scotland)
Type of voyage	Coastal
Manning	56
Cargo information	3 cars 40 accompanied freight vehicles 2 unaccompanied freight vehicles 36 semi-trailers 5 minibuses 52 passengers

MARINE CASUALTY INFORMATION	
Date and time	18 December 2018 0633 (UTC)
Type of marine casualty or incident	Serious Marine Casualty
Location of incident	North Channel – on passage
Place on board	Vehicle decks 2 and 3
Injuries/fatalities	None
Damage/environmental impact	Several vehicles damaged
Ship operation	On passage
Voyage segment	Mid-water
External & internal environment	Wind SSE Force 11 (56.7kts) Sea state very high Swell low Visibility good
Persons on board	108 (56 crew, 52 passengers)