



The Bahamas Maritime Authority

THE COMMONWEALTH OF THE BAHAMAS

M.V CELTICA HAV

IMO NUMBER 8422022

OFFICIAL NUMBER 8000984



**Report of the marine safety investigation into a grounding
in the approaches to the River Neath, Wales on 27 March
2018**

M.v Celtica Hav– Marine Safety Investigation Report

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This marine safety investigation was conducted by the Coastal State in accordance with the IMO Casualty Investigation Code MSC.255(84). The Bahamas Maritime Authority participated in the marine safety investigation and duly recognised as a substantially interested State. We would like to thank the Marine Accident Investigation Branch (MAIB) for producing this report and for their continued cooperation.

The investigation report below can also be accessed through the MAIB and is available via the following link:

<https://www.gov.uk/maib-reports/grounding-of-general-cargo-vessel-celtica-hav>

Date of Issue: 24 January 2019
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Extract from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 – Regulation 5:

“The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of an such investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame.”

NOTE

This report is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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Grounding of general cargo vessel *Celtica Hav* in the approaches to the River Neath, Wales 27 March 2018

SUMMARY

At 1438 on 27 March 2018, the Bahamas registered general cargo vessel *Celtica Hav* grounded on a training wall in the approach channel to the River Neath, Wales. The vessel had a harbour pilot on board at the time and he had the con. *Celtica Hav* was quickly refloated and manoeuvred clear of the training wall. It suffered extensive shell plate damage to the bottom of its hull, which resulted in water ingress to several ballast tanks and flooding in the engine room.

Photograph courtesy of www.fotoflite.com



Celtica Hav

The flooding was contained using the vessel's bilge and ballast pumps, and submersible salvage pumps provided by the harbour authority. There were no injuries to personnel and no damage to the environment.

The investigation identified that:

- The pilot did not have full positional awareness when *Celtica Hav* left the dredged channel and did not fully appreciate the risk of grounding on the training wall.
- A detailed pilotage plan had not been made by either the ship or the pilot, and the master/pilot exchange did not cover all hazards, including that posed by the training walls.
- The vessel's electronic navigation equipment was not adequately utilised to monitor the vessel's position and assess its progress.

The vessel's managers, HAV Ship Management NorRus AS, and the Neath Port Authority have carried out their own internal investigations, and the UK Hydrographic Office has provided additional information for mariners about the training walls.

Recommendations have been made to HAV Ship Management NorRus AS and the Neath Port Authority for them to improve the planning of pilotage and the quality of the master/pilot exchange of pilotage information.

FACTUAL INFORMATION

Narrative

On 19 March 2018, *Celtica Hav* sailed from Liepaja in Latvia, carrying 2070t of Anthracite, bound for Briton Ferry wharf on the River Neath, Wales. During the passage the ship's agent advised *Celtica Hav*'s master of the draught restrictions at the discharge berth and instructed him to be ready to take a pilot and enter the River Neath during the afternoon flood tide on 27 March. *Celtica Hav* arrived in Swansea Bay at 1700 on 26 March and anchored 1 mile south of the River Neath approach channel (**Figure 1**).

At about 1345 the following day, *Celtica Hav* weighed anchor and proceeded to the pilot boarding station. At 1415, a Port of Neath pilot boarded the vessel and went to the bridge. The master and pilot exchanged information and completed the vessel's Pilotage Check List. These actions were recorded in the deck logbook by the chief officer (C/O), who was assisting the master on the bridge. Following the master/pilot exchange (MPX), the pilot sat in the starboard bridge chair, took the con and began to steer the vessel. The master sat in the port bridge chair and the C/O stood on the starboard side of the bridge.

The pilot boat coxswain checked *Celtica Hav*'s draughts and reported to the pilot on VHF radio a maximum draught aft of 4.13m. The pilot then instructed the coxswain to proceed inbound and wait by the tide gauge at the shore end of the River Neath approach channel.

The pilot was concerned about *Celtica Hav*'s maximum draught aft and asked the master if it could be reduced. The master ordered a small amount of water to be pumped into the vessel's forward wing ballast tanks. This increased the draught forward to 3.9m and reduced it aft to 4.05m. With the engine on slow ahead the pilot commenced a 360° turn to port. The pilot's intention was to lose time and allow the incoming tide to rise further before entering the River Neath approach channel.

On completion of the 360° turn, the pilot increased the vessel's speed to half ahead and steered *Celtica Hav* toward the entrance of the approach channel, which was marked by red and green lateral¹ buoys. At 1429, he manoeuvred the vessel around the starboard buoy and passed about 10m north of it at a speed of 5kts. He continued to steer the vessel inwards at a speed of 5-6kts, maintaining a course that took *Celtica Hav* close to the starboard edge of the channel.

At 1438, the ship left the dredged channel and grounded on the training wall (**Figure 2**). The vessel scraped along the top of the training wall for about 200m before coming to a stop in a position about 600m from the Monkstone light beacon (**Figure 3**). The master stopped the vessel's engine and ordered the crew to conduct a damage assessment. Due to the rising tide potentially causing the ship to scrape further along the wall resulting in more damage, the decision was made to refloat the vessel immediately.

Refloating and damage assessment

With the pilot boat pushing on *Celtica Hav*'s starboard bow and the vessel's engine running astern, *Celtica Hav* quickly refloated and was moved east of the training wall. The vessel was then manoeuvred into deeper water. About 15 minutes after the grounding, the pilot called the Port of Neath harbourmaster and alerted him to the situation.

¹ Lateral buoys are generally used to mark the sides of well-defined, navigable channels. Lateral buoys indicate the port and starboard hand sides of the route to be followed. They are coloured red (port hand buoys) and green (starboard hand buoys).

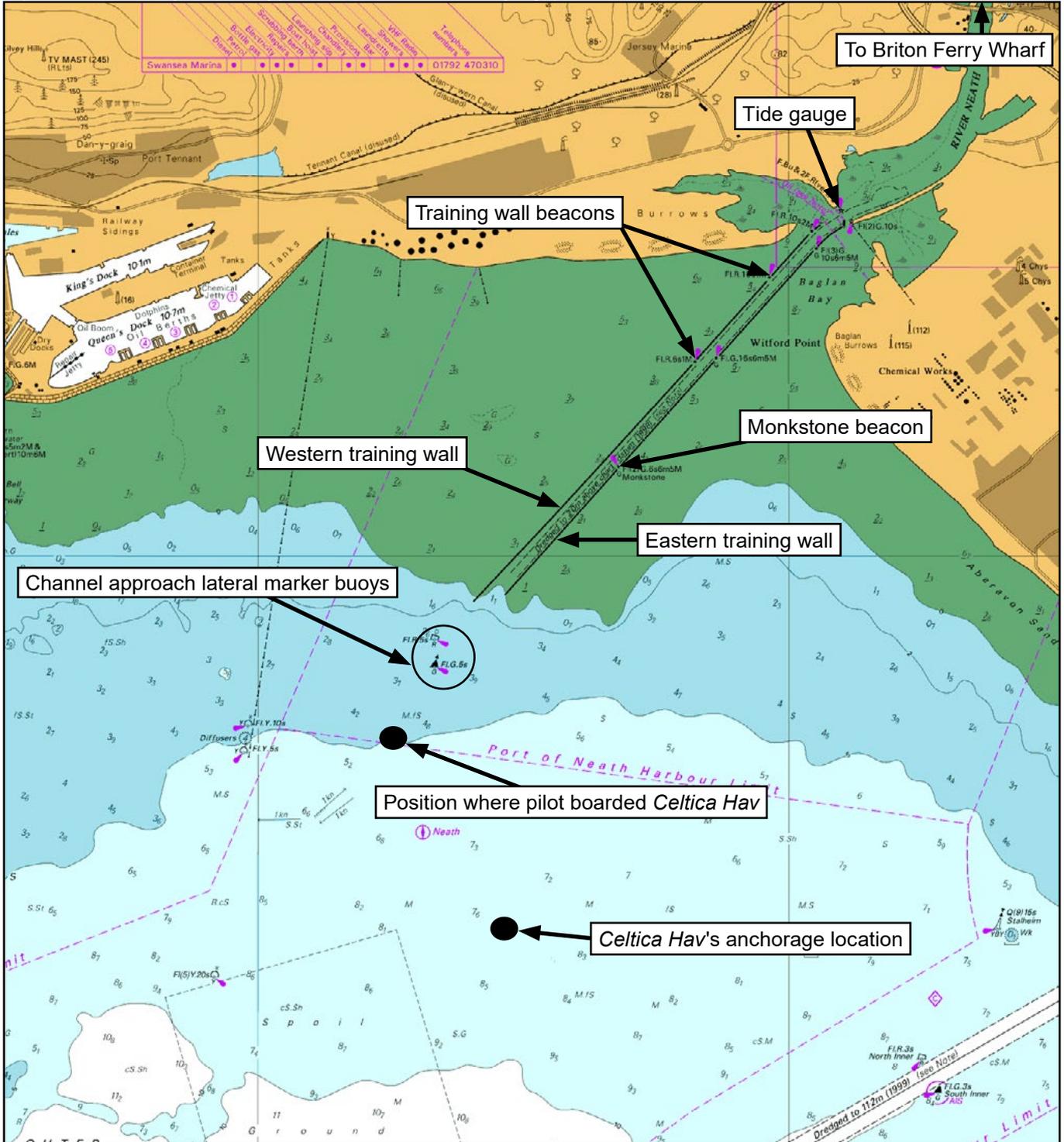


Figure 1: Chart extract showing key locations

The crew's initial damage assessment identified that the hull had been breached in several locations and water was flooding into the vessel's starboard ballast tanks and engine room (Figure 4). As the breached ballast tanks began to fill *Celtica Hav* started to list to starboard. Following discussions with his chief engineer, the master decided to allow the tanks to fill, and to use the vessel's bilge and ballast pumps and two portable salvage pumps to control the level of floodwater in the engine room.

Due to the location and size of the hull breach in the engine room, the master considered it too dangerous for the crew to attempt to stem the inflow of water and decided to monitor the level instead. With the aid of an additional five submersible pumps provided from ashore by the harbourmaster, the level of water to the engine space began to drop and *Celtica Hav's* list steadied at 6°.

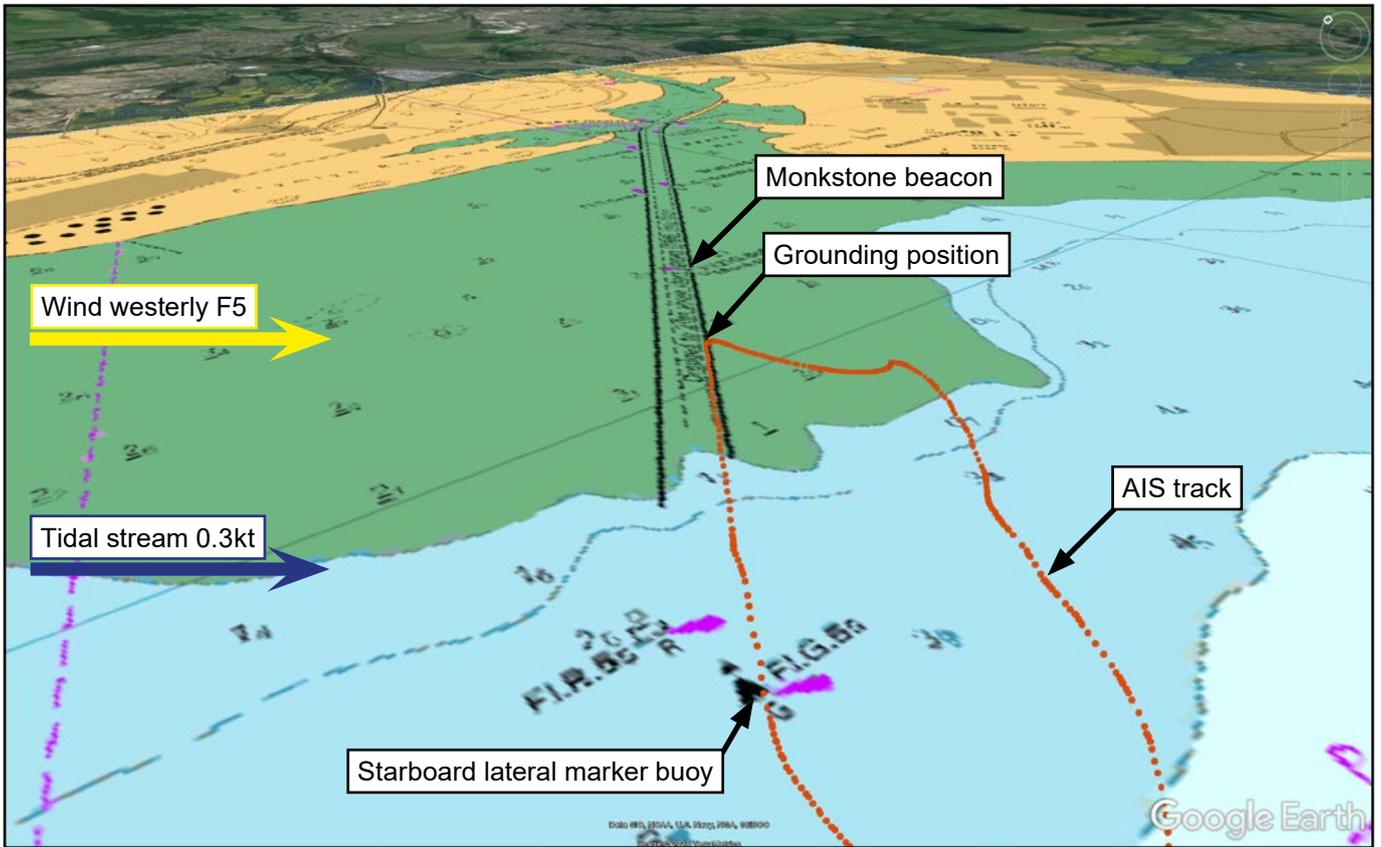


Figure 2: Track of *Celtica Hav*

Photograph courtesy of the Port of Neath

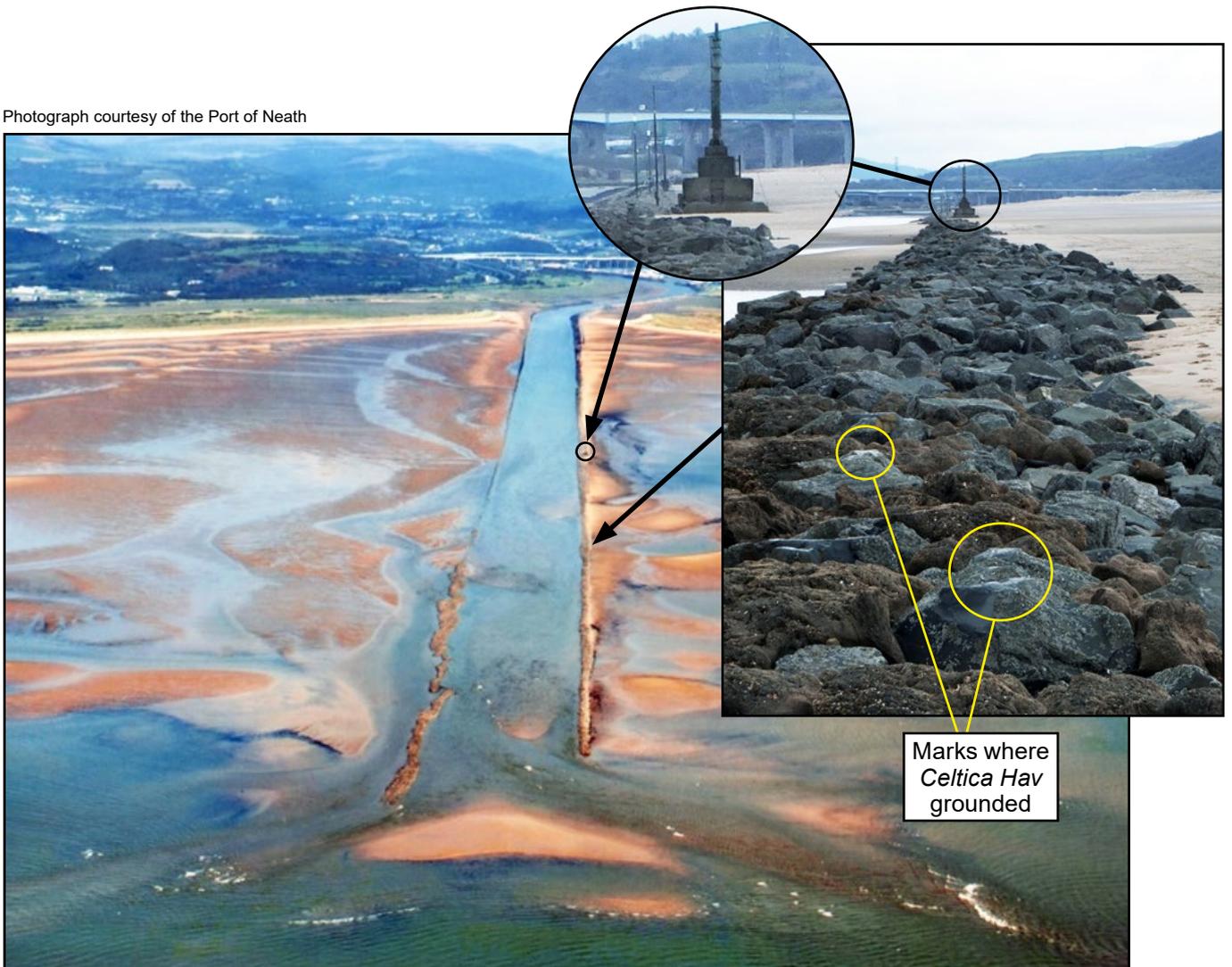


Figure 3: Approach channel to River Neath (insets showing the training wall and Monkstone beacon)



Figure 4: *Celtica Hav* hull damage

The master discussed with the pilot and harbourmaster the options for beaching his vessel and decided that it was not prudent to stop *Celtica Hav*'s engine or to anchor the vessel. The vessel remained underway near potential beaching locations while the master awaited further instructions. At 1757, the pilot contacted the coastguard to alert them of the situation and then at 1820, after agreement with the master, he left the vessel via the pilot boat.

At about 0400 on 28 March, a local tug, engaged by the owners, arrived on scene and stood by to assist *Celtica Hav* if required. A temporary berth was arranged in nearby Swansea and *Celtica Hav* berthed at 0600 that morning.

Environmental conditions

The visibility was good, and the sea state was slight to moderate. The wind was westerly at Beaufort force 5.

High water at Briton Ferry was predicted to be at 1603 on 27 March 2018, with a height of 8.03m. At the time *Celtica Hav* entered the approach channel, the tidal stream was setting to the east at approximately 0.3kt.

The River Neath approach channel and its training walls

The River Neath approach channel training walls were constructed of granite blocks. They were about 1.8 miles long; the distance between them was about 75m; and they gradually increased in height towards the shore end. The training wall on the east side of the channel, where *Celtica Hav* grounded, protruded between 1m and 1.5m above the seabed.

The dredged section of the channel had a width of 50m and was maintained to a charted depth of 2m above chart datum. The purpose of the training walls was to confine or direct the flow of water from the River Neath into Swansea Bay. This enhanced the scouring action on the seabed and thus reduced the amount of dredging needed in the approach channel.

Each training wall was marked by three steel beacons and 14 intermediate posts. The beacons and posts were painted green on the eastern training wall (inbound, starboard) and red on the western training wall. The beacons exhibited flashing green lights on the eastern wall and flashing red lights on the western wall. The intermediate posts were unlit, but each was fitted with a radar reflector. The walls were submerged at high water but exposed at low spring tide along their whole length. They were regularly inspected by the harbourmaster and pilots. The beacons and posts were routinely painted every 5 years, and this was last done in 2014.

The seaward end of the starboard training wall was 0.3 miles from the starboard channel entry buoy and the Monkstone beacon was 1 mile away from the buoy. A sewer outfall at the shore end of the channel exhibited a blue LED light to mark the centre of the channel. On the day of the grounding, this light was unlit.

The training walls were depicted as thick black lines on Admiralty chart BA1161. The Admiralty Sailing Directions publication NP37, *West Coast of England and Wales Pilot, 20th Edition 2017*, contained a photograph showing the exposed training walls at low water (**Figure 3**). The height of the walls above chart datum was not mentioned in NP37 nor included in the pilot training information pack provided by Neath Port Authority.

Celtica Hav

Celtica Hav was managed by HAV Ship Management NorRus AS (HSMN), based in Kaliningrad, Russia. It had a single main engine, a fixed pitch propeller, a bow thruster and a balanced Becker flap rudder.

The navigating bridge had a forward equipment console, behind which were two bridge chairs. Behind the chairs, facing aft, was the chart table, a range of communication equipment, and book cases. Navigation on board *Celtica Hav* was conducted using paper charts.

The bridge navigation equipment included:

- Two electronic chart systems (ECS); one mounted on the centreline forward, visible from each bridge chair, and one mounted on the port side forward.
- Two x-band radars, one in front of each chair.
- Two GPS receivers.
- Engine and rudder controls in the forward console duplicated at each chair.

The visibility forward from the seated position in either bridge chair was unobstructed, and all bridge equipment was in full working order.

Crew

Celtica Hav had seven Russian crew, all of whom were employed by HSMN with most having worked for the company for several years. The crew worked 3 months on board followed by 3 months on leave and all changed at the same time. The master had worked on board *Celtica Hav* for 5 years.

The working language on board was Russian, but all company manuals were written in both Russian and English. Most of the crew, including the master and C/O, spoke English to a high standard.

Vessel management

HSMN operated an integrated safety management system (SMS) across its fleet of 17 managed vessels that incorporated the requirements of the ISM code² and ISO 9001/14001 quality and environmental management standards.

Celtica Hav was last audited on 1 September 2017, while alongside in Kaliningrad, by HMSN's Designated Person Ashore (DPA). No observations or non-conformances were recorded in the DPA's audit report. *Celtica Hav*'s previous audit was carried out by the DPA while the vessel was on passage on 24-26 October 2016. The audit report contained five observations relating to minor maintenance issues. HMSN did not conduct formal navigation audits.

Passage planning on *Celtica Hav*

Passage planning on board *Celtica Hav* was carried out prior to departure from port by the C/O in accordance with the vessel's SMS. The procedures and guidance contained in the SMS followed closely the recommendations made in Chapter 2 of the International Chamber of Shipping's '*Bridge Procedures Guide*'.

The guidance in *Celtica Hav*'s SMS stated that:

On the basis of the fullest possible appraisal, a detailed passage plan should be prepared and it should cover the entire passage from berth to berth, including those areas where the services of a pilot will be used.

To enable this, *Celtica Hav* was provided with UK Admiralty Charts, Sailing Directions (including NP37) and a variety of other nautical publications that covered the whole intended passage.

The C/O used a standard computer-based template provided by HMSN to produce his written passage plans, which included reference to publications to be consulted during the appraisal stage and passage execution.

The written passage plan for the voyage to Briton Ferry was produced prior to *Celtica Hav*'s arrival in Liepaja, and included reference to NP37, but it contained no details about the portion of the passage under pilotage.

While alongside in Liepaja, the company undertook a routine planned crew change, and the new crew sailed the vessel for Briton Ferry using the passage plan created for them by the previous C/O.

NP37 was consulted by *Celtica Hav*'s master and C/O during the passage to Wales, neither of whom had previously visited Neath. Neither officer understood what a training wall was, and neither sought clarification from the pilot during the MPX.

² International Safety Management code for the safe operation of ships and for pollution prevention.

Neath Port Authority

The approaches to and the navigable lower portion of the River Neath, which included Briton Ferry wharf, were within the harbour limits of the Neath Port Authority (NPA). In the 12 months prior to the accident there had been about 130 commercial vessel movements, not including the dredging.

At the time of the grounding the port was self-certified compliant with the Port Marine Safety Code (PMSC), had an SMS in place, and was regularly audited by its Designated Person. The PMSC stated that an SMS should be based upon formal risk assessment. The last two audit reports conducted on 23-24 August 2017 and 14-21 March 2018 did not identify any weaknesses in its SMS or operational activity. The audit in 2017 highlighted five actions to be completed prior to the next audit scheduled for March 2018. One of the actions recommended that a review of the port's risk assessments be carried out.

The SMS contained 12 risk assessments. None of these identified the training walls or weather as hazards. The SMS contained no reference to under keel clearance or the hazards associated with tide and draught restrictions for a vessel in the approach channel.

Pilotage

Pilotage within the Port of Neath was compulsory. At the time of the grounding two self-employed pilots provided a service for the port, with a third pilot under training. The port's harbourmaster was the senior pilot and he undertook most of the acts of pilotage in the port. He was appointed as harbourmaster in July 2017 and had worked as a pilot in Neath since 2002.

Celtica Hav's pilot was a 49-year-old British national. He qualified as pilot in December 2017 and was employed by the Port of Neath on a part-time basis. At the time of the grounding he was working as a full-time master on a fish farm support vessel and was piloting during his leave periods. Prior to boarding *Celtica Hav*, the pilot had undertaken four solo acts of pilotage; one inbound and three outbound.

Pilot training

The NPA pilot training programme followed the guidelines set out in the International Maritime Organization's (IMO) publication, A.960(23), *Recommendations on training and certification and operational procedures for maritime pilots other than deep-sea pilots*. The training also followed the UK's Marine Pilotage National Occupational Standards (NOS). The pilotage training pack provided to each pilot included full copies of the IMO and NOS documents. It also contained a distance, speed and time chart for various berths on the river.

Prior to starting his pilot training programme, *Celtica Hav's* pilot was the master of a local dredger that was employed to dredge the River Neath's approach channel. Given his level of local knowledge, his training programme had been accelerated. During his training, he had completed 30 pilotage acts on various similar sized cargo vessels under the supervision of the senior pilot. One of the vessels was *Celtica Hav's* sister vessel, *Britannica Hav*.

Pilotage planning

Upon boarding, the pilot exchanged basic information with *Celtica Hav's* master, discussed the depths of water to be expected on the berth, and shallow patches in the approaches and river. He also discussed with the master the draught of the vessel, height of tide and the need to swing the vessel off the quay prior to berthing port side alongside.

The NOS Unit MP101 - *Plan an act of Pilotage*, stated in its overview that:

A pilot is required to take a pre-prepared Port Passage Plan on board each vessel for each act of pilotage. On joining the vessel, the pilot must take account of additional information including the ship's Master's own passage plan and the circumstances and characteristics of the vessel itself. The pilot will need to correctly evaluate this information, adjust the Port Passage Plan where necessary and ensure that the plan is readily understood and agreed by all appropriate parties.

The NOS Unit MP104 *Work effectively with the bridge team*, provided clear guidance on standards to be followed when undertaking an exchange of information between pilot and the bridge team.

Section 8.9 of the MCA's *A Guide to Good Practice on Port Marine Operations* stated:

The master/pilot exchange of information needs to be both detailed and structured, if the respective roles of the pilot and the master are to be integrated to best effect, and should include (inter alia):

- *The provision by the pilot of detailed local navigational information, including his recommended pilotage passage plan. Such details will assist the master to update his own plan and charts.*

This should ensure that the vessel has an agreed passage plan, and that the vessel position can be monitored independently on the bridge whilst the pilot has the conduct of the ship.

The guide also stated that a pilotage plan provided from the pilot to the master, should provide a written/chart/schematic containing all information relevant to the passage from pilot station to berth, including any tidal constraints and abort plans.

The NPA's SMS contained a basic pilotage plan form, which included a short checklist to be followed once the pilot had boarded a vessel, but no chartlet or schematic. The use of the pilotage plan form had fallen into abeyance over time and *Celtica Hav*'s pilot did not use one, nor did he have a documented pilotage plan to use as a discussion document with the master.

ANALYSIS

The grounding

Celtica Hav grounded and suffered extensive hull damage on its approach to the River Neath because it left the dredged channel and passed over a granite training wall. It was evident that the pilot did not have full positional awareness when *Celtica Hav* left the dredged channel and did not fully appreciate the risk of grounding on the training wall.

The environmental conditions were setting *Celtica Hav* to the east, and the vessel's ECS and radars clearly showed that *Celtica Hav* was proceeding on a steady course along the starboard side of the approach channel. The visibility was good, and the beacons and posts mounted on the training walls were clearly visible. However, the pilot made no substantial alterations of course or speed to bring the vessel back into the middle of the channel.

Celtica Hav's master and the C/O on the bridge did not recognise the hazard posed by the training wall and therefore did not intervene.

Pilotage planning

Celtica Hav's master and C/O had time during the voyage from Liepaja to Swansea Bay to review the passage plan prepared by the previous crew, and to develop an inbound pilotage plan for the transit to Briton Ferry wharf. However, when the pilot boarded the vessel, its written passage plan contained no information about the inbound pilotage, and basic information such as courses to steer, no-go areas, and clearing lines for the approach channel, were not marked on the paper chart or plotted on the ECS. Similarly, the pilot had ample time to present and discuss a pre-prepared pilotage plan, but he had not done one.

The ship's crew had completed the company checklists for passage planning and vessel arrival. However, the checklists did not contain prompts for MPX or a review of the vessel's and port's pilotage plans. Additionally, the company SMS contained scant reference to MPX and little guidance on its expectation of a comprehensive passage plan.

Celtica Hav's bridge team had consulted NP37 and Admiralty chart BA1161 while at anchor, but still did not appreciate the hazard posed by the training wall. NP37 did not describe the construction of the training walls or their heights above chart datum, and the thick black lines used to depict the training walls on chart BA1161 provided limited information. The depiction of a training wall in Section F5 of Admiralty publication NP5011, *Symbols and Abbreviations Used on Admiralty Charts*, included the words 'Training Wall'³. Additional information about clearing heights and clearer depiction of the training walls on the chart would have increased the bridge team's understanding of the nature, construction and hazard posed by the training walls.

The pilot should have arrived on the bridge with a comprehensive written pilotage plan that referred to identified risks and associated hazards. These ought to have been documented within the port's SMS and risk assessments and should have included the risk posed by the training walls. However, the use of the port's documented pilotage plan had fallen into abeyance. This was probably because of its sparse content and a perception that it provided little assistance to either the pilot or master during the MPX and execution of the pilotage act.

The lack of a pilotage plan reduced the effectiveness of the MPX. When the pilot took the con, the master and C/O did not have a clear understanding of his intentions or the local hazards to navigation. This severely degraded their ability to effectively monitor the actions of the pilot and his execution of the passage.

Pilotage execution

Most inbound vessels enter the River Neath with a flood tide that sets across the approach channel towards the starboard training wall. The predominant wind direction for the area has the same effect. In order to maintain steerage way and to counteract the effects of wind and tide, inbound vessels are required to maintain an optimal speed. For most vessels this speed is about 7kts.

The pilot's distance, speed and time chart showed that the distance from the fairway buoys to Briton Ferry wharf was 3.45nm, and at 7kts it would take 29 minutes to complete the passage. Vessels using the Briton Ferry wharf were usually turned in the swinging basin adjacent to the berth before securing alongside. Due to the depths of water at Briton Ferry, the optimal time to swing a vessel in the river was 20 minutes before high water; using the tide to assist the turn. To achieve this, the pilotage plan for *Celtica Hav* should have documented that the optimal time to pass the fairway buoys was about 1514. However, *Celtica Hav* passed the buoys 45 minutes earlier.

The pilot was concerned about *Celtica Hav*'s draught and realised it was too early to make the entry into the channel, but his attempt to lose time by executing a 360° turn to port at 'slow ahead' took only 9 minutes to complete. With the turn complete, the pilot increased to half ahead and, as a result,

³ See also "Chart Specifications of the IHO" M-4, Part B No.322.2

Celtica Hav passed the fairway buoys and entered the dredged channel at about 5kts. This would have compromised *Celtica Hav*'s manoeuvrability and increased the influence of the easterly tidal stream and moderate westerly crosswind.

It was also evident from *Celtica Hav*'s Automatic Identification System (AIS) track that the pilot made his turn into the approach channel close to the starboard fairway buoy. As a result, a significant course correction was required to turn the vessel onto the centreline of the dredged channel, which was not made. The pilot's previous inbound solo act of pilotage was undertaken on 26 December 2017 on board the general cargo vessel *Eems Spirit*, which was a similar size to *Celtica Hav*. On that occasion the pilot passed close to the starboard fairway buoy and manoeuvred the vessel into the centre of the approach channel before it reached the seaward end of the training walls.

A review of the inbound acts of pilotage conducted by the pilot, under the supervision of the senior pilot, during his accelerated training programme, showed that vessels were frequently piloted close to the starboard fairway buoy (**Figure 5**). On 1 September 2017, the general cargo vessel *Mia Sophie B* was navigated outside the starboard limits of the dredged channel and along the top of the submerged training wall (**Figure 5**). Fortunately, on that occasion the vessel was brought back into the channel just before it reached *Celtica Hav*'s grounding position.

Because the height of the training walls above chart datum was not known, at no time was it safe to allow a ship to pass over them. As there is plenty of sea room to the south-west of the approach channel, it would be prudent to line vessels up further to seaward before making an entry. This would avoid the need to make substantial course alterations around the starboard fairway buoy, and therefore reduce the risk of similar groundings. This approach was demonstrated during the pilot's training on board *Celtica Hav*'s sister vessel *Britannica Hav* (**Figure 5**).

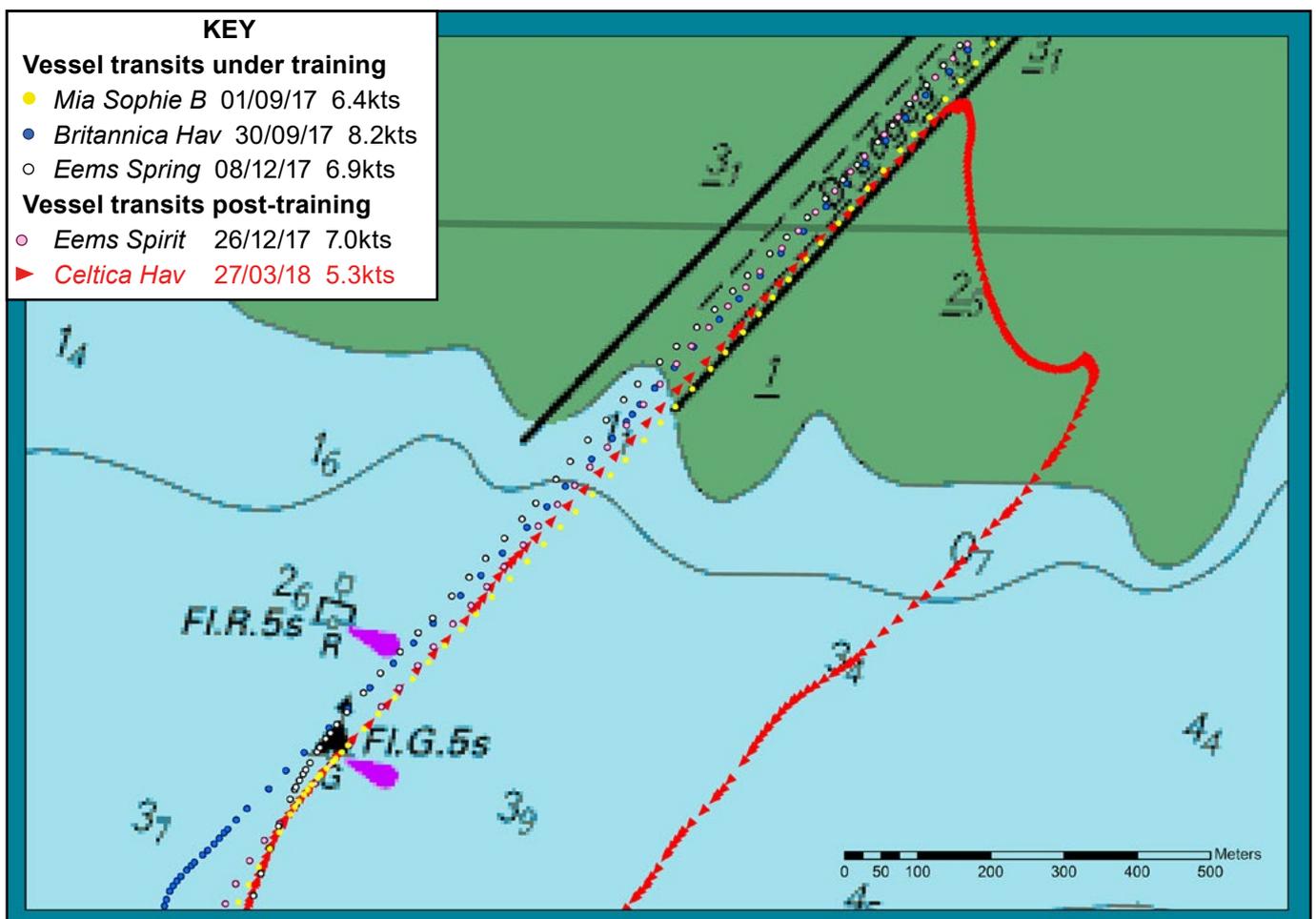


Figure 5: Tracks of inbound vessels

Pilotage monitoring

Celtica Hav's pilot was steering by eye, using visual markers to monitor the vessel's progress. The master and C/O had a clear view of the vessel's ECS and radar screens but did not have a charted track or pilotage plan to monitor.

Celtica Hav was well equipped with aids to navigation that were clearly visible in front of the master and pilot. The functional capability of these units was not used by either of them. Use could have been made of the radar's true motion display, range markers, and of parallel indexing techniques, to monitor the vessel's progress and to provide early visual warning of a deviation from the mid-channel line. Additionally, the ECS units could have provided real-time accurate indication of the vessel tracking outside the confines of the dredged channel.

Given the pilot's level of local knowledge, it should have been obvious from the transit alignment presented by the beacons and posts on the training wall in front of him that the ship was to starboard of the centreline. He should also have been fully aware of the effects of the prevailing wind and tidal stream, the risk of interaction at the edges of the dredged channel, and the danger posed by the training walls. However, he did not seem to be concerned. This was probably because he had experienced similar situations during his training and had been able to return to the centre of the channel without incident.

Celtica Hav's approach to the River Neath was not properly planned, safely executed or adequately monitored. This was the result of a general acceptance of low navigational standards and an over reliance on the pilot's level of local knowledge and visual positional awareness.

Emergency response

The decision to refloat *Celtica Hav*, remain underway with its engine running and allow the ballast tanks to free-flood were based on the crew's damage and stability assessments, and were understandable. Had *Celtica Hav* remained on the training wall it is likely that further damage would have been caused as the vessel scraped further along it due to the rising tide. Furthermore, the master always had the option to beach the vessel on the sand. Using the vessel's ballast pumps and the five submersible pumps to control the level of water in the engine room prevented serious damage to machinery. It also allowed the master the option of remaining underway.

The pilot informed the harbourmaster of the emergency shortly after the grounding, but over 3 hours elapsed before the coastguard was alerted. This was an oversight that could have had significant consequences for the vessel, its crew and the environment. An immediate "Mayday" broadcast should have been made. This would have allowed the coastguard the opportunity to task or allocate search and rescue assets, tugs and pollution control resources.

CONCLUSIONS

- *Celtica Hav* grounded because it was navigated out of the dredged channel and over the charted training wall with insufficient under keel clearance.
- Neither the ship nor the pilot had produced a detailed pilotage plan for *Celtica Hav*'s entry into the River Neath.
- Neath Port Authority did not provide a suitable and sufficiently detailed pilotage plan template for use by the pilot or the ship.
- The master pilot exchange was ineffective: the bridge team were unaware of the hazard posed by the training walls, or that *Celtica Hav* had entered the channel at an earlier time than was prudent.
- The pilot's decision to steer the vessel himself meant that the bridge team were not engaged with the pilotage process, and the functional capability of the available electronic navigation aids was not used.
- The risk assessments within Neath Port Authority's safety management system were not comprehensive and did not include all identified hazards.
- Admiralty Sailing Directions NP37 did not contain any details of the construction of the training wall or its height above chart datum.
- Admiralty chart BA1161 did not show the presence of the training wall as indicated in NP5011.

ACTION TAKEN

Actions taken by other organisations

Neath Port Authority has:

- Conducted its own investigation and identified the need for:
 - A review of its port passage plan, and
 - The installation of a pilot entry light (sector light) .
- Reviewed its risk assessments.
- Undertaken a trial use of a portable electronic chart system carried on board by the pilot.

HAV Ship Management NorRus has:

- Conducted its own investigation and distributed the report around its fleet.

The United Kingdom Hydrographic Office has:

- Issued a Notice to Mariners week 51/2018 to amend NP37 p98 paragraph 3.136 lines 4-5 to read:
“The channel leads NE and lies between two rock training walls 76m apart, that dry from 2 to 5m.”
- Issued a Notice to Mariners 3542/18 week 31/2018 to add the legend *“Training Wall (covers)”* to the outer end of each training wall.

RECOMMENDATIONS

Neath Port Authority is recommended to:

- 2019/101** Amend its pilotage plan to reflect guidance found in Annex G of the Maritime and Coastguard Agency's *Guide to Good Practice on Port Marine Operations*.
- 2019/102** Introduce checks to ensure that an effective exchange of information between the pilot and bridge team is carried out as documented in National Operating Standards MP104.

HAV Ship Management NorRus is recommended to:

- 2019/103** Review its Safety Management System regarding pilotage planning and to include more guidance on the importance of an effective exchange of information with the pilot, and position monitoring using electronic navigation aids.
- 2019/104** Amend its pilotage checklist to include master/pilot exchange and comparison of pilotage plans.

Safety recommendations shall in no case create a presumption of blame or liability

SHIP PARTICULARS

Vessel's name	<i>Celtica Hav</i>
Flag	Bahamas
Classification society	DNV GL
IMO number/fishing numbers	8422022
Type	General cargo
Registered owner	HAV Bulk AS
Manager(s)	HAV Ship Management NorRus AS
Year of build	1984
Construction	Steel
Length overall	82.45m
Gross tonnage	1537t
Minimum safe manning	6
Authorised cargo	General cargo

VOYAGE PARTICULARS

Port of departure	Liepaja
Port of arrival	Briton Ferry
Type of voyage	International
Cargo information	2070t Anthracite
Manning	7

MARINE CASUALTY INFORMATION

Date and time	27/03/18, 1438
Type of marine casualty or incident	Serious Marine Casualty
Location of incident	Approaches to River Neath
Place on board	Not applicable
Injuries/fatalities	None
Damage/environmental impact	Extensive hull damage with multiple breaches along its length
Ship operation	On passage
Voyage segment	Pilotage
External & internal environment	Wind: west force 5; Swell: 1.0m; Visibility: good
Persons on board	7