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REPORT OF INVESTIGATION INTO INCIDENT INVOLVING THE PASSENGER FERRY *"PIRATE QUEEN"* ON ITS APPROACH TO ROONAGH PIER OUTSIDE LOUISBURG, CO MAYO ON 20th DECEMBER 2011

The Marine Casualty Investigation Board was established on the 25th March, 2003 under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.

REPORT No. MCIB/211
(No.2 of 2013)

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1. SUMMARY

1.1 On the evening of 20th December 2011 the inter island passenger ferry *"PIRATE QUEEN"* grounded on rocks at the entrance to Roonagh Pier, Co. Mayo. The vessel was refloated shortly afterwards and although not holed, it had sustained severe structural damage. Two of the passengers were taken off the ferry whilst she was on the rocks and transferred to the pier by a rigid inflatable boat. One passenger sustained injuries during the incident.

(Note all times are UTC)

2. FACTUAL INFORMATION

2.1 Vessel's Particulars

Name of Vessel:	*"PIRATE QUEEN"*
Official No:	402984
Port of Registry:	Westport
Gross Tonnes:	73.12
Call Sign:	EI4590
Length Overall:	18.28 metres
Beam:	6.10 metres
Depth:	3.65 metres
Year of Build:	1996
Builder:	Arklow Marine Services

Ownership

Clare Island Ferry and Clew Bay Cruises Limited,
The Chalet, Clare Island, Westport, Co Mayo.

Vessel Type & Construction

The vessel was a twin screw passenger ferry of carvel steel construction.

Passenger Certificate

Class IIA passenger licence for:

96 Passengers with 4 crew – Summer (April 1 to October 31)

51 Passengers with 3 crew - Winter (October 31 to April 1)

Navigation equipment

VHF – Furuno with DSC and ICOM M58

GPS Chart Plotter – Furuno GP 3500

Radar – Furuno GA8S

GPS Navigator – Furuno

Depth Sounder – Furuno LCD LS6000

Magnetic Compass – In binnacle on wheelhouse top with periscope to wheelhouse + deviation card.

The vessel was exempted from the requirements to have a magnetic compass installation capable of taking bearings over 360º of the horizon.

A searchlight operated from inside the wheelhouse, but the controls are too far from the helm position to be operated by the helmsman.

Manning

The company operates 3 vessels with passenger certificates/licences. At the time of the incident they employed:

- Four Masters with Domestic Certificates of Competency.
- Four full time crewmen with the required qualifications.
- They had also two men under training.

2.2 Voyage Particulars

The vessel was moored at Clare Island and the usual passage was Clare Island – Roonagh Pier – Inishturk Island – Roonagh Pier – Clare Island.

The plan for the particular voyage on 20th December 2011 was:

15:50hrs Depart Clare Island	22 Passengers and 3 crew on board
16:30hrs Depart Roonagh Pier	8 passengers and 3 crew on board
17:35hrs Depart Inishturk Island	2 passengers and 3 crew on board
18:30hrs Depart Roonagh Pier for Clare Island	No passengers 3 crew

2.3 Marine Incident Information

Type of Incident/Casualty

This was a marine casualty resulting in severe damage to the vessel due to grounding.

Date & Time

The incident occurred on 20th December 2011 at 18:25hrs

Location of Incident

The incident occurred on approach to Roonagh Pier, Co Mayo

Lat 53° 45.7' N. Long 009° 54.1'W

Environmental Conditions

The weather conditions before and during the incident were:

Wind: WSW force 4

Sea: Westerly swell 1 – 3 metres

Visibility: Moderate with showers

Lighting

Sunset was at approximately 16:40hrs at the vessels position.

All lighting around Roonagh pier is the responsibility of Mayo County Council (Mayo CC) and they are accountable to The Commissioners to Irish Lights (CIL) for the Navigational Aids acting as the Local Lighthouse Authority (LLA).

Navigation Aids

The pier has white leading lights which give an approach to the pier from the NW on a heading of 144º (T). These are category 2 navigational aids. The pier also has a flashing green light on the seaward end; this is a category 3 navigational aid.

Pier Illumination

The pier was illuminated by working lights on the upper pier wall. These illuminate the surface of the pier but do not throw any light on the vertical wall, steps or water surface. The absence of illumination of the water surface means it is difficult to see the extent of the waves and swell at the pier until a vessel is very close in. The existing high level lights which would have illuminated the water had been destroyed by heavy seas breaking over the pier.

The Navigational & Operational Environment

The company's vessels operate in the entrance to Clew Bay. The vessels are based on Clare Island and work between Roonagh Pier, Clare Island and Inishturk Island. There are a number of serious navigation hazards in the operating area. The area is open to the Atlantic swell and the piers at Clare Island & Inishturk are relatively sheltered and the vessels can lie alongside comfortably. Roonagh Pier is particularly exposed to swell from all directions, with a swell running even in calm weather. Due to the almost continuous swell Roonagh pier is not a pier where a vessel can be left for any length of time. The vessels usually have to secure with lines and then go slowly ahead on their engines in order to make a reasonably stable platform to transfer passengers and cargo. At times it is not safe to approach the pier due to the heavy swell.

Commercial Environment

The company had two contracts with the Department of Arts, Heritage and the Gaeltacht to provide a subsidised passenger ferry service from Roonagh Pier to Inishturk Island and also a subsidised cargo service to both Clare and Inishturk islands. In July 2011 the company gained a further contract to provide the subsidised passenger service to Clare Island. The company is contracted to operate the ferry services at times dictated by the islanders and this has meant that in winter months the last service from Inishturk arrives at Roonagh during darkness and this has been the situation for at least 10 years.

2.4 Shore authority involvement and emergency response

There was no involvement of the Irish Coast Guard during the incident.

The incident was reported to the Marine Survey Office at Ballyshannon the following morning - the 21st December 2011.

3. NARRATIVE

3.1 Vessel operations prior to Incident

3.1.1 On 14th December 2011 the company reported to Mayo CC that the green navigation light on the end of Roonagh pier was extinguished. The light was examined the following day by Mayo CC and it was found that the light had been totally destroyed by waves from a storm; the light was immediately replaced with a new one.

3.1.2 On 20th December 2011 at 16:00hrs The *"PIRATE QUEEN"* departed Clare Island for Roonagh Pier with 22 passengers and a Crew consisting of a Master and two seamen. One seaman was a regular full time employee; due to circumstances no other full time or part time crew members were available so one of the passengers who runs his own ferry service from Inishturk was asked to be the third crewman for the trip to Inishturk.

3.1.3 At 16:30hrs the vessel departed Roonagh for Inishturk with 8 passengers and the two permanent crew, with one passenger acting as crewmember.

3.1.4 At 17:25hrs the vessel arrived at Inishturk Island. Eight passengers disembarked, including the temporary crewmember and 3 passengers boarded. One of these passengers had worked as crew on the Inishboffin ferry and he had been asked in advance to act as the third crewmember for the passage back to Roonagh Pier.

3.1.5 At 17:35hrs the Master on the Clare Island ferry the *"CLEW BAY QUEEN"* informed a crew member of the *"PIRATE QUEEN"* that the leading lights on Roonagh pier were not operating. This was sent by SMS text to his phone.

3.1.6 At 18:15hrs the Master of the *"PIRATE QUEEN"* made the decision to berth at Roonagh pier, in the knowledge that the leading lights were not fully operational.

3.2 The Incident

3.2.1 At 18:20hrs the *"PIRATE QUEEN"* was making the approach to Roonagh Pier. The Master was steering the vessel and the full time crewmember was on the port wing of the bridge keeping lookout. The search light was not manned. The lookout reported that they were too far to the east and at that point a large swell forced the vessel over onto the rocks on the east side of the pier. (Labelled position 1 in chartlet in Appendix 7.1).

3.2.2 At 18:25hrs (approx) the Master instructed the crewmember to go and put lifejackets on the passengers. The Master of the *"CLEW BAY QUEEN"* was returning home in a RIB and was just at the pier when he saw the *"PIRATE QUEEN"* get into trouble. The Master of the *"PIRATE QUEEN"* hailed him and asked him to take the passengers off in his RIB.

3.2.3 At 18:30hrs (approx) the *"PIRATE QUEEN"* had swung to point in a westerly direction into the swell, but was still rolling and grinding on the rocks in heavy swell. She appeared to be held fast at the aft end. About this time the vessel gave a large roll over on to her port side, and during this one of the passengers was thrown against a structure and suffered an injury to their back, fortunately the lifejacket prevented injury to their head.

3.2.4 At 18:35hrs (approx) the RIB was brought alongside to port and the 3 passengers were transferred via the bulwark gate. They were brought to the pier steps and two passengers were transferred ashore. The crewman passenger remained in the RIB, the intention being to go back to take a line from the bow of the ferry to the pier in an attempt to pull the vessel off.

3.2.5 At 18:40hrs (approx) as the RIB approached it was noticed that the *"PIRATE QUEEN"* was afloat in a gully between the rocks and the Master was instructed to go ahead on the engines. (Labelled position 2 on chartlet in Appendix 7.1). The vessel moved into clear water and was brought alongside the pier.

3.3 Events after the Incident

3.3.1 At 18:40hrs (approx) an inspection of the vessel found that there was no ingress of water, that the engines were running satisfactorily and there did not appear to be damage to the propellers. As the swell alongside the pier was severe and likely to get worse it was decided to move the vessel to the safety of Clare Island.

3.3.2 The vessel proceeded to Clare Island with the Master and two crewmembers and berthed there at 19:15hrs.

3.3.3 One of the passengers, on arrival at the top of Roonagh pier observed that the green light on the pier was not working.

3.3.4 The incident was reported to the Marine Survey Office at Ballyshannon the following day (21st December).

3.3.5 The vessel was taken to Westport and dried out on a slipway for inspection. A MSO surveyor was present and the vessel was issued with a Load Line Exemption Certificate to proceed to Killybegs for repair.

3.3.6 The vessel was brought to Mooney Boats, Killybegs for repairs on 17th January 2012 and remained there until 30th March 2012.

3.3.7 The navigation aids on the pier were inspected by Mayo CC on 21st December and it was found that the lower leading light was extinguished, but the upper light was working, and also the flashing green light on the end of the pier was working.

3.4 Findings

3.4.1 There had been a number of communications to the Local Light Authority (LLA), Mayo CC from the ferry operator about the condition of the working lights on the pier at Roonagh, and about the availability of the navigation lights on the piers at Roonagh & Clare Island.

3.4.2 The working lights on the pier are vulnerable to storm damage and the only remaining working lights are on the pier wall and illuminate the top of the pier and the access to it. These lights are not effectively screened and as some of them are at the level of the wheelhouse of the ferry they can cause dazzle in the wheelhouse windows, particularly during rainy conditions. They also cause interference with the green light on the end of the pier on some sectors when approaching from seaward.

The lighting on the pier does not illuminate the surface of the water around the pier, on a dark night it is not possible to observe the extent of the swell at the pier until the vessels lights illuminate the area, at which point the vessel is very close to the pier and surrounding rocks.

3.4.3 The high level lighting on the pier had suffered from storm damage over the years and Mayo CC have submitted plans and documents for the renewal and upgrading of the pier illumination and are currently waiting on funding approval.

3.4.4 The navigation lights. The leading lights are mounted on wooden poles. The pole for the upper light was sloping back at an angle which results in the full power of the light pointing up and not down to the pier. Both lights have an array of 6 lamps, with only one operating at a time. When a lamp fails the array rotates to bring a new lamp into operation. All 6 lamps on the lower light were burnt out and three on the upper light. All lamps were replaced on the 22nd December. These lamps are on photo electric switches and are not in phase, as a result there is a period during the cycle where one light is in dark phase and the other in light phase, this occurs about every 20 minutes.

3.4.5 The green light was replaced on the 16th December with a new unit. This light is a sealed unit powered by a battery charged from solar panels on the top of the unit. It is possible that the batteries were not fully charged as the hours of daylight were short and the days overcast. If this was the case it could have been extinguished on the evening of the 20th but sufficiently charged on the 21st.

3.4.6 The LLA (Mayo CC) are accountable to Commissioners of Irish Lights (CIL) and file annual reports of availability to CIL. On 10th February 2012, Mr. Tim Ryan, Local Aids to Navigation Inspector at CIL, confirmed that all the aids at Roonagh exceed their availability criteria. The achieved availability criteria are as follows; (see Appendix 7.3)

LA0432.0000	Roonagh Lead Front	Cat 2	99.88%
LA0432.0100	Roonagh Lead Rear	Cat 2	100.00%
LA0432.0200	Roonagh Pier	Cat 3	98.70%

3.4.7 The Master of the *"PIRATE QUEEN"* was Mr Chris O'Grady who at the time of the incident was 78 years of age and wore glasses. He had undergone a medical examination and sight test and had been passed fit to act as Master of the vessel.

3.4.8 The company's Safety Management System, SMS, document was examined and was found to be comprehensive except for navigational assessments and in particular pilotage approach plans for approaches to the harbours used by the company. The four Masters were well experienced and familiar with the local waters.

3.4.9 On the evening of the 20th December, when it was known that the leading lights were not operating, no alternative plan was made to approach the pier in darkness, the vessel was headed towards the pier with the intention of picking up the pier light. In the event by the time the end of the pier was identified the vessel was too far to the east (by about 30 metres) and in close proximity to the rocks which extend further to seaward than the end of the pier. It was just about low water and the heavy swell lifted the vessel onto the rocks before corrective action could be made.

3.4.10 Once it was clear that the vessel was out of control and on the rocks the Master's priority was the safety of the passengers. The crew were instructed to prepare the passengers for evacuation and issue the lifejackets. The normal means of evacuating the passengers would be by the vessel's emergency boat or by the emergency services (Lifeboat or Helicopter). It was clear that both these options would take some considerable time and prove to be difficult as the vessel was moving violently on the rocks due to the swell. The presence of a large RIB manned by an experienced helmsman provided a rapid and, in the circumstances, the best means of transferring the passengers to the shore. This operation was carried out quickly and efficiently.

3.4.11 The injury to the passenger occurred whilst the passengers stood up to don the lifejackets. The violent motion of the vessel threw the passenger against the structure of the vessel and she hurt her back; the collar of the lifejacket protected her head.

3.4.12 The companies SMS document outlines the procedures to be followed in event of Collision or Grounding as follows

- Assessment of damage to the vessel
- Assessment of flooding of the vessel (sounding all compartments)
- Ascertain if other vessel requires assistance (collision)
- Inform Coast Guard/Marine superintendent stating:
  - Stability information
  - Any other assistance required
  - Pollution prevention measures
  - If the situation deteriorated 'upgrade' to General Emergency/abandon ship.

3.4.13 The only communication to the Coast Guard was the routine call on departure from Inishturk Island.

3.4.14 There appeared to be no written crew rosters on board the vessels. There were lists of crew phone numbers, some of whom had been company employees in the past and others who had the required crew qualifications but had not been employed by the company.

4. ANALYSIS

4.1 The navigational procedures employed by the Masters of the company

4.1.1 The company's Masters were all appropriately qualified holding the required certificates of competency. They were also very familiar with the waters, to the extent that no navigational parameters had been formalised. There had been occasions when ferry services were cancelled or the ferry diverted due to bad weather and in particular heavy swell at Roonagh Pier. These decisions appeared to be made on a consensus basis and not by any defined criterion. No document was produced by the company of criterion to port entry on the grounds of poor visibility, failure of lighting or other situations.

4.1.2 The message that the leading lights were defective came at 17:35hrs just after departure from Inishturk, the vessel grounded at 18:25hrs. During this time no navigational plan was formed to ensure the vessel approached the pier along the normal track.

4.1.3 The lighting on the pier (navigational and illumination) had been the cause of complaint, with a number of communications between the ferry operator and Mayo CC. Mayo CC are noted to respond swiftly in responding to complaints from the company. Despite their dissatisfaction with the lighting the company had not put any alternative plans into their SMS document to cover the event of lighting failures.

4.1.4 The Masters all held domestic passenger ship Certificates of Competency. The requirements are set out in Marine Notice No 21 of 2005 Certificates of Competency for Domestic Sea-Going Passenger Vessels Carrying Less than 100 Passengers.

4.2 The Lighting on the Pier

4.2.1 Mayo CC has a large number of aids to navigation (including navigational lights) to maintain and they appeared to have reacted promptly to the complaints when reported. As Roonagh pier is used daily by passenger ferry services it may have been prudent, as a matter of routine, to replace the 6 lamps in the leading lights every October at the beginning of the night navigation season.

4.2.2 Mayo CC has generally maintained the availability of the aids to navigation to the specification required by CIL.

4.2.3 High level lighting would illuminate the waters around the pier making assessment of the swell conditions easier from a distance. Such lighting would have to be high enough to evade damage from heavy seas which break over the pier during storms.

4.3 Actions taken after the Grounding

4.3.1 The whole incident took a short space of time, 15 to 20 minutes. On grounding, the Masters first reaction was to the safety of the passengers. The vessel was moving violently on the rocks and the outcome of the situation unknown. The Company's procedures for donning lifejackets were followed and the presence of a RIB with experienced helmsman gave a window of opportunity to evacuate the passengers ashore. The operation was not without hazard but it was relatively safer compared to the alternatives of launching the vessel's own boat onto a rocky, wave swept sea. In the event the evacuation was carried out without incident or injury.

4.3.2 In the event the vessel was washed into a gully between the rocks and got off under her own power and was berthed alongside Roonagh Pier. Assessment of the damage revealed that there was no water ingress into the vessel and that the propellers did not appear to be damaged. The swell at Roonagh Pier made it unsafe to leave the vessel there unattended, so the decision was made to go to the relative safety of the pier at Clare Island. Whilst there may not have been time during the incident to inform the Coast Guard of the situation there was now time to do so, but this was not done despite the procedures in the companies SMS document. Proceeding to sea without informing the Coast Guard in a vessel in which the full extent of damage was not known was very hazardous and unacceptable action.

4.4 The Operational Environment

4.4.1 Clare Island Ferry and Clew Bay Cruises Limited had contracted to run subsidised ferry services for the Department of Arts, Heritage and the Gaeltacht. These contracts were issued following a tendering process and given on the understanding that the company would comply with the requirements of the contract. These requirements included night time operation and that the vessels would be adequately crewed in compliance with the conditions of their passenger licences.

4.4.2 On the evening of the incident the vessel sailed with passengers acting as crew. The company stated that this was a one off incident brought about by unusual circumstances. Analysis of the manning requirements in Appendix 2 shows that the 4 crew men employed would each have to work in the region of 60 hours per week during the winter months, not counting time for training and drills. It is clear that some of these hours were being taken up by either the off duty Masters or by part time crew. Two of the Masters are heavily engaged in the operational running and management of the company, and there were no crew schedules/rosters available for inspection at the company's office on Clare Island or on the vessels. There was an assumption that crew could always be found, however this was not the case on the day in question. The absence of a clear written crew roster on the vessels with back up crew listed can easily lead to situations where there is no crew member available.

4.4.3 The use of passengers and casual persons, no matter how well qualified, as crew members is not good practice. The crew of any vessel and a passenger vessel in particular, need to be thoroughly familiar with the vessel and also have participated in the emergency drills. The schedule of drills operated by the company would mean casual crew would have to attend once a week over 2 months to cover all the drills. In addition all crew should be familiar and have signed off on the company's SMS document.

4.4.4 The location of Roonagh Pier is such that even on the calmest of days there is a swell running. In winter months these swells can cause quite violent movements to the vessel as they approach the pier, and unseated passengers could be thrown against parts of the ships structure, as in the case of the passenger who was injured. The ferries carry school children twice a week and had this incident occurred during one of these times there may have been more injuries.

4.4.5 The company had recently completed a Safety Management appraisal and produced an SMS document. The document was comprehensive, excepting for actual appraisal of the navigational hazards and procedures to overcome them. All employees have an input to safety management and in order for the SMS document to have effect it should be read and signed by all employees on a regular basis. There is a tendency for the document to become a paper exercise to comply with regulations instead of a means to analyse the employee's activities with the aim of making them safer.

5. CONCLUSIONS

5.1 Initial investigations indicated that the failure of the leading lights at Roonagh Pier were the main cause of the vessel grounding. However further investigations revealed serious weaknesses in the navigational procedures and practices on the company vessels. There appeared to be an over reliance on visual aids to navigation and a neglect to practice and use the electronic aids on board. When one is very familiar with the waters and on regular passages it is very easy to become complacent. The Master considers that in hindsight he made an error of judgement in trying to approach the pier without the leading lights. However he made the decision without analysing the situation and he did not use the search light to good effect.

5.2 In spite of a number of communications from the ferry company to Mayo CC it failed in its obligation to have working lights. It is clear that of the 12 lights (on 2 pods), 9 were burnt out. Evidence was also given that the green light was non-operational on the day of the incident. The pole for the upper light was sloping back at such an angle that the main beam of the light was pointing skywards. None of the failings happened at the same time and it is therefore obvious that Mayo CC did not carry out adequate maintenance on all of the lighting.

5.3 Good pier illumination which illuminates the water around the pier is essential to judge the condition of the swell and waves.

5.4 Although not directly contributing to the incident, an irregularity in the crew manning was uncovered. Had the incident required the launching of the vessels boat or damage control such as bilge pumping the presence of a casual crew not familiar with the vessel or the company's emergency procedures could have been a liability.

5.5 There was no direct evidence that this irregularity, the use of passengers as crew, was a regular occurrence. The current arrangements for crew rostering appear too flexible and uncertain and are likely to lead to a situation similar to that on the 20th December where there was no third crewmember available.

6. SAFETY RECOMMENDATIONS

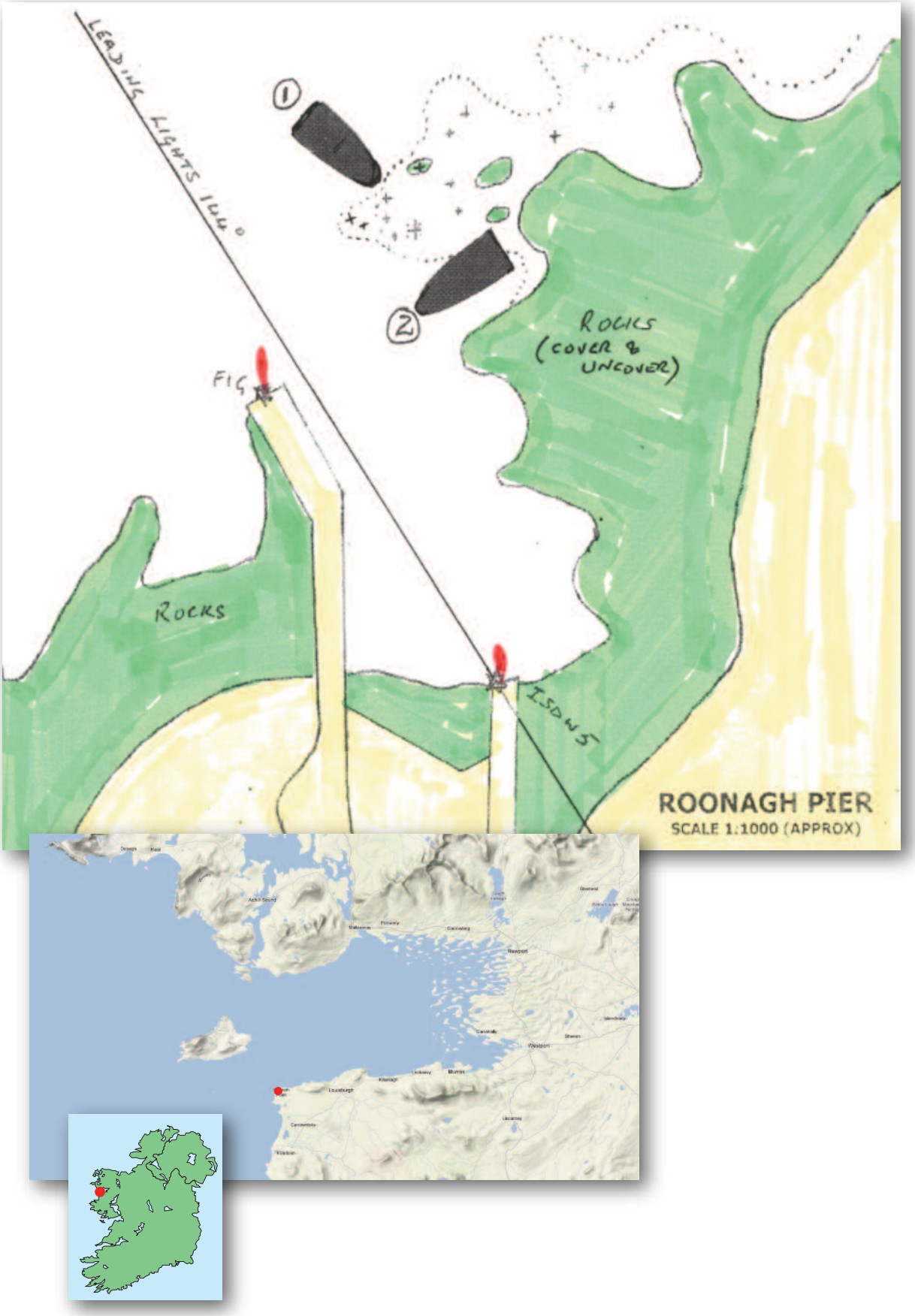
6.1 That Clare Island Ferry and Clew Bay Cruises Limited formulate pilotage approach instructions for all ports used by the company and include them in the company's Safety Management System.

6.2 That Clare Island Ferry and Clew Bay Cruises Limited ensure that all of their employees take part in the full range of emergency procedures and sign up to the company's SMS document.

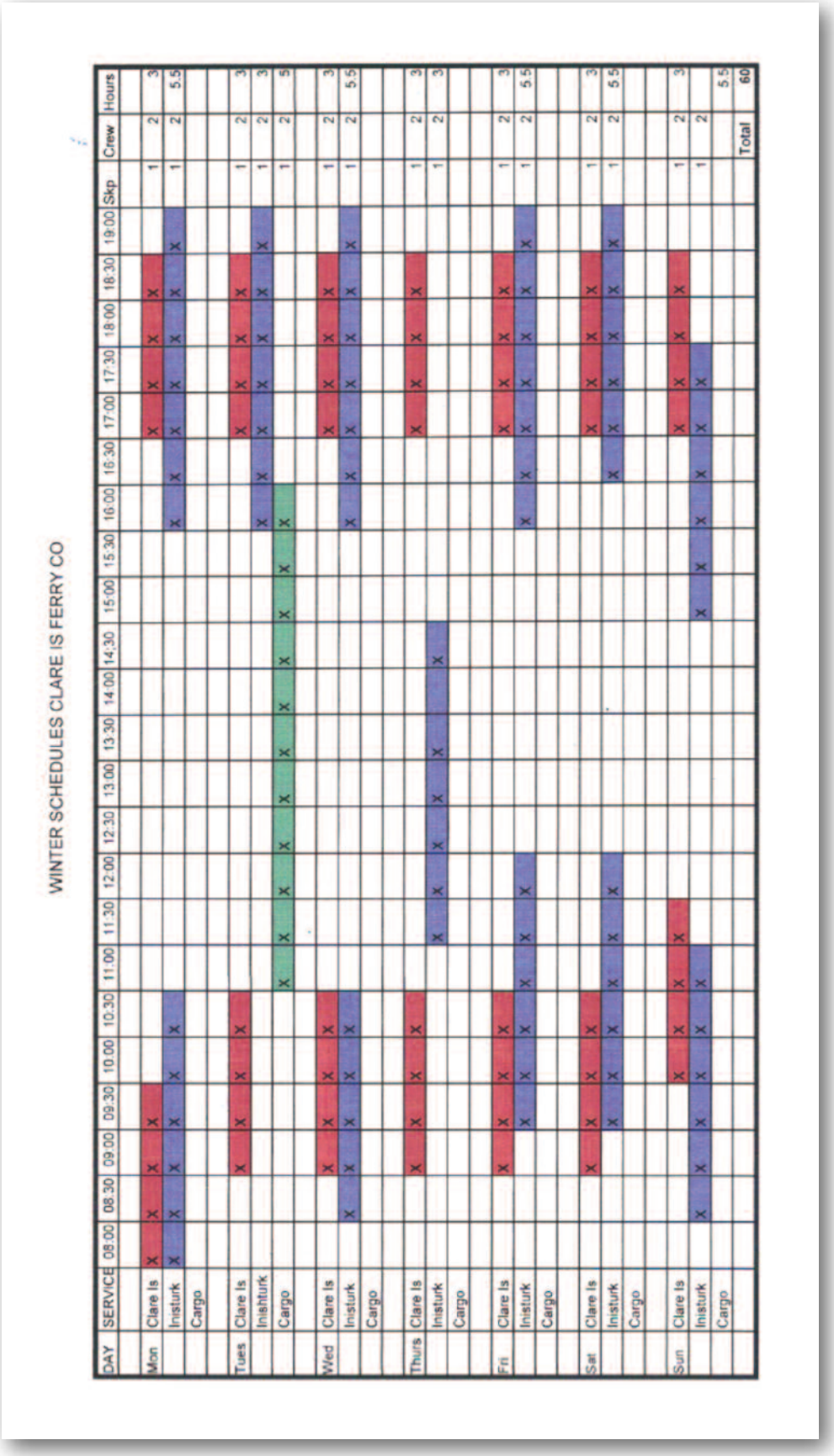
6.3 That Clare Island Ferry and Clew Bay Cruises Limited display a week in advance crew rosters for the vessels, including what back up crew are available.

7. LIST OF APPENDICES

Appendix 7.1 Charlet of Roonagh Pier and Approaches.



Appendix 7.2 Analysis of Working Hours.



WINTER SCHEDULES CLARE IS FERRY CO

DAY	SERVICE	08:00	08:30	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	Skp	Crew	Hours
Mon	Clare Is	X	X	X	X															X	X	X	X		1	2	3
	Inisturk	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1	2	5.5
	Cargo																										
Tues	Clare Is			X	X	X	X													X	X	X	X		1	2	3
	Inishturk																	X	X	X	X	X	X	X	1	2	3
	Cargo							X	X	X	X	X	X	X	X	X	X								1	2	5
Wed	Clare Is			X	X	X	X													X	X	X	X		1	2	3
	Inisturk		X	X	X	X	X											X	X	X	X	X	X	X	1	2	5.5
	Cargo																										
Thurs	Clare Is			X	X	X	X													X	X	X	X		1	2	3
	Inisturk								X	X	X	X	X	X	X										1	2	3
	Cargo																										
Fri	Clare Is			X	X	X	X													X	X	X	X		1	2	3
	Inisturk				X	X	X	X	X	X								X	X	X	X	X	X	X	1	2	5.5
	Cargo																										
Sat	Clare Is			X	X	X	X													X	X	X	X		1	2	3
	Inisturk				X	X	X	X	X	X									X	X	X	X	X	X	1	2	5.5
	Cargo																										
Sun	Clare Is					X	X	X	X											X	X	X	X		1	2	3
	Inisturk		X	X	X	X	X	X								X	X	X	X	X					1	2	
	Cargo																										5.5
																										Total	60

APPENDIX 7.3

Appendix 7.3 IALA Light Availability Classification.

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) category classification defines the importance of the aid and the service availability target for that aid. These are as follows;

Category 1 = 99.8% Availability, considered to be of primary navigational significance
Category 2 = 99.0% Availability, considered to be of navigational significance
Category 3 = 97.0% Availability, considered to be of less significance than Cat 1 or Cat 2

The availability is calculated on a 3 year rolling average. Mr. Tim Ryan, Local Aids to Navigation Inspector CIL, has confirmed that all the aids at Roonagh exceed their availability criteria as per the attached email dated 10th February 2012. The achieved availability criteria are as follows;

LA0432.0000	Roonagh Lead Front	Cat 2	99.88%
LA0432.0100	Roonagh Lead Rear	Cat 2	100.00%
LA0432.0200	Roonagh Pier	Cat 3	98.70%

Appendix 7.4 Photographs.

Photo 1: The Pirate Queen.

Photo 2: General view of Roonagh Pier.

Appendix 7.4 Photographs.

Photo 3: Just right of rails - Rocks where vessel grounded.

Photo 4: Approach to Roonagh pier from seaward.
Approaching Vessel in good position just to west of leading line

Appendix 7.4 Photographs.

Photo 5: RIB used to evacuate the passengers.

8. CORRESPONDENCE RECEIVED

DOWD Assumpta

From:	Robert McCabe
Sent:	04 October 2012 18:21
To:	Marine Casualty Investigation Board
Cc:	MarineFiling
Subject:	MCIB/12/211 Draft report on 'Pirate Queen'

Good evening

Thank you for forwarding the draft report on the grounding of the Pirate Queen on 20th December 2011.

The Commissioners of Irish Lights is the General Lighthouse Authority for Ireland. Our comments and observations are limited to those sections of the report which relate to Aids to Navigation.

CIL Inspections and Audits.
CIL inspect Local AtoN provided by Local Lighthouse Authorities such as Mayo County Council on an annual basis and audit the authority's records. We also receive quarterly availability reports. The CIL inspection of local aids is a visual inspection only and would not involve opening up the aid to determine the number of good lamps in the lamp changer. This more detailed inspection and maintenance is the responsibility of the Local Lighthouse Authority.

Mayo County Council have an excellent record in relation to provision and maintenance of their aids.

Reporting of Extinguished Lights.
It is unclear from the report when or if the green pier light was reported extinguished before the incident.

- 3.1.5 and 3.1.6 seem to relate to the leading lights.
- 3.3.3 reports a passenger noting on arrival at the top of the pier after the incident that the green light was not working.
- 3.3.7 reports that the rear lead and pier light were working on the day after the incident.
- 3.4.5 provides a possible explanation as to why the green pier light would be working one evening and not the next. I can confirm that such a scenario is possible but I would expect that further unreliable operation of the light would have been noted over the following days.

It would be helpful if a clear statement on this was included in the final report.

Isophase Lights
At 3.4.4 the report makes observations in relation to the leading lights being 'not in phase'. Isophase lights provide equal periods of light and dark, in this case 5 seconds on and 5 seconds off. It is important to point out that such lights are not intended to be 'in phase' but to provide a sufficient overlap to provide a good lead.

The nature of an Isophase light is that within the overall 10 seconds there will be periods when there is no light, periods when there is one light and periods when there are two lights to provide the leading line. This is the correct operation of the light. In the artificial example below the rear lead comes on 3 seconds after the front.

Front Lead														
Rear Lead														
Mariner View	One Light			Two Lights		One Light			No lights		One Light			Two Lights

Action Since the Incident.
I can confirm that in September 2012 Mayo County Council applied for and have been granted Statutory Sanction to replace the existing leading lights at Roonagh with two synchronised blue lights which should improve the conspicuity of the leads.

If I can be of further assistance please let me know.

Regards

Robert Mc Cabe

Captain Robert Mc Cabe, FNI
Director of Operations and Navigation
Commissioners of Irish Lights
Harbour Road
Dun Laoghaire
County Dublin
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2

MCIB RESPONSE
The MCIB thanks CIL for its useful response and has made the necessary amendments.

CLARE ISLAND FERRY CO. LTD.

the Pirate Queen

CLARE ISLAND
~~The Clare Island Ferry Desk,~~
The ~~Tourist~~ Office,
~~James Street~~,
Westport,
Co. Mayo.
Tel/Fax: 098 28288. Mobile: 086 8515003
Email: clareislandferry@anu.ie
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Marine Casualty Investigation Board
SEP 2012
Bord Imscrúdú Tasimi Muirí

The Secretary

Marine Casualty Investigation Board

Leeson Lane

Dublin 2

18.09.2012

Re: Incident involving vessel "Pirate Queen" at Roonagh Pier, Louisburgh

A cara

I wish to refer to your letter dated 6th September 2012, ref MCIB/12/211, together with report in connection with above incident and record the following observations.

Page 2. 2.2 Voyage Particulars: 18:30 Departing Roonagh Pier for Clare Island. No Passengers and 2 crew . Incorrect: 3 Crew: Chris O'Grady, Brian O'Grady, Joe O'Malley.

Page 3: Narative: 3.1.5. At 18:10 the Master of the Clare Island ferry Clew Bay Queen informed crew member, Joe O'Malley, on board Pirate Queen by mobile phone text that the navigation lights on Roonagh Pier were not operating. NOT the Master:

3.2.2. The Master of the Clew Bay Queen was returning home:

3.3 Events after the Incident: 3.3.2: Vessel proceeded to Clare Island with Master and two crewmembers. Chris O'Grady, Brian O'Grady and Joe O'Malley: NOT one crewmember:

4.3.2 Proceeding without informing the coastguard: After carrying out a thorough inspection of all water tight compartments and propulsion systems and finding no ingress of water or damage to propellers and steering the master decided the vessel was sea-worthy and headed for the shelter of Clare Island harbour with 2 crew members on board because of the high risk involved in keeping the vessel alongside at Roonagh with an Atlantic swell on the increase . Having successfully carried out abandon ship procedures and the transfer of passengers safely ashore together with the refloating of the vessel, the master fully accepts his oversight and error in not notifying the Coast Guard on his decision to head for Clare Island.

4.4 Operational Environment: Crew having to work 60 hours per week: We do not operate a service where crew members have to work 60 hours per week and set out as follows the daily time schedule for the service we provide between Clare Island, Roonagh and Inishturk.

Monday's and Wednesday's each day: 4 hours morning and 3 hours evening per day.

Marine Casualty Investigation Board
24 SEP 2012
Bord Imscrúdú Tasimi Muirí

Directors: C. O'Grady. B. O'Grady. A. O'Grady
Co. reg. in Irl. no. 170496

Friday/Saturday/Sunday each day: 4 hours morning and 3 hours evening; 21 hours.

Total hours at sea per week: 41 hours.

As the daily schedule of trips between Clare Island, Inishturk and Roonagh are early morning and late evening, crewmembers on the service have 4 hours daily between services for leisure apart from 1 hour on Monday for safety and fire drill and 1 hour on Thursday for general cleaning and maintenance. While we did not have a written roster in this respect it is fully understood amongst crew members that the working hours are as set out

Page 5. Conclusions.

Electronic aids on board a vessel where very restricted channels into harbours such as Roonagh are concerned will not insure safe passage in exposed sea and weather conditions. On the night in question due to darkness the master was unaware that swell had increased until making approach to harbour iterance. Under the conditions prevailing the Master erred in attempting to land with all harbour navigation lights out of order.

I trust that these observations will be corrected and recorded.

Yours sincerely

Chris O'Grady

MCIB RESPONSE

The MCIB notes the contents of this response and has made amendments where necessary. However the Board would stand by its findings in 4.4 and 5.1.

4.4 Passenger services on Tuesday and Thursday as advertised and contracted for and cargo services on Tuesdays have been included in the analysis of work hours in appendix 7.2. Observation during the investigation also shows extra time required for the Inisturk vessel to come from and return to berth on Clare Island.

5.1 Intelligent use of the electronic plotter would have ensured the vessel was well to the west of the rocks as is the case on a visual approach using the leading lights. This would have given the Master the opportunity to use the searchlight to assess the swell conditions and make a decision as to berth or not.

COMHAIRLE CONTAE MHAIGH EO

Civic Offices, Altamont Street, Westport, Co. Mayo, Ireland.
Telephone (098) 50400 Fax (098) 50430 / 50429

3rd October 2012

Your Ref.

Our Ref.

Mr. John O'Donnell,
Chairman,
Marine Casualty Investigation Board,
Leeson Lane,
DUBLIN 2.

Re: Draft Report of investigation into incident involving the Passenger Ferry "Pirate Queen" on its approach to Roonagh Pier outside Louisburg, Co. Mayo on 20th December 2011.

Dear Mr. O'Donnell,

I refer to letter dated 6th September 2012 regarding the above.

I attach herewith copy of report dated 25th September 2012 from Mr. Iarla Moran, S.E.E. and Mr. Kieran Lynn, S.E.E. which sets out the Council's observations in relation to your draft report.

I would be obliged if you would have regard to this report when preparing the final report on the incident.

I wish to reiterate that the Council refutes the conclusions that it did not carry out adequate maintenance on pier lighting in the strongest possible terms and also that pier lighting was the cause of the grounding of this vessel.

Yours sincerely,

Marine Casualty Investigation Board
04 OCT 2012
Bord Imscrúdú Tasimí Muirí

Martin Keating,
Director of Services.

MK/jc

COMHAIRLE CONTAE MHAIGH EO

MAYO COUNTY COUNCIL

WESTPORT CIVIC OFFICES

M E M O

TO: **Padraig Walshe, S.E.**

FROM: **Mr. Iarla Moran, S.E.E. & Mr. Kieran Lynn, S.E.E.**

DATE: **25th September 2012**

Please find attached Draft Report of the Investigation into incident involving the Passenger Ferry "Pirate Queen" on its approach to Roonagh Pier outside Louisburgh, Co. Mayo on the 20th December 2011. Please find our observations in this regard and report by Mr. Iarla Moran prepared on the 14th of March 2012, which was forwarded to MCIB.

2. Factual Information

2.3 Pier Illumination (Page 6)

"The existing high level lights which would have illuminated the water had been destroyed by heavy seas breaking over the pier"

As outlined in report by Iarla Moran of 14th of March 2012 "the existing high level lights" were disconnected in August 2008 as they were beyond repair and these were replaced with wall mounted pier working lights in August 2008.

3. Narrative

3.1.5 & 3.1.6

"At 17.35hrs the Master on Clare Island ferry the Clew Bay Queen informed the master of the Pirate Queen that the navigation lights on Roonagh Pier were not operating. This was sent by SMS text to his phone"

Page 1

"18.15 hrs – The master of the Pirate Queen made the decision to berth at Roonagh Pier in the knowledge that the leading lights were not fully operational".
It is not clear from this draft report what information was given to the master of the Pirate Queen regarding which navigational lights were reported as "not operating".

3.4 Findings

3.4.2 *"the working lights on the pier are vulnerable to storm damage and the only remaining working lights are on the pier wall and illuminate the top of the pier and the access to it. These lights are not effectively screened and as some of them are at the level of the wheelhouse of the ferry they can cause dazzle in the wheelhouse, particularly during rainy conditions. They also cause interference with the green light on the end of the pier on some sectors when approached from seaward".*
As already outlined in 2.3 above the high level lights were obsolete from August 2008 when they were replaced by wall mounted pier working lights. No complaints were received from ferry operators prior to the incident regarding "dazzle" from the wall mounted pier working lights and interference with the green light on the end of the pier..

3.4.3 *"The high level lighting on the pier had suffered from storm damage over the years and Mayo CC have submitted plans and documents for the renewal and upgrading of the pier illumination and are currently waiting funding approval".*
These works have now commenced.

3.4.4 *"The navigation lights. The leading lights are mounted on wooden poles. The pole for the upper light was sloping back at an angle which results in the full power of he light pointing up and not down to the pier. Both lights have an array of 6 lamps, with only one operating at a time. When a lamp fails the array rotates to bring a new lamp into operation. All 6 lamps on the lower light were burnt out and three on the upper light. All lamps were replaced on the 22nd December. These lamps are on separate time switches and are not in phase as a result there is a period during the cycle where one light is in dark phase and the other in light phase, this occurs about every 20 minutes".*
The lamps do not work on time switches. The lamps work on photo electric switches. The leading lights are mounted on adjustable brackets to timber poles and contain an integrated levelling bubble. We have checked the light referred to on a sloping pole and the light is level and no correction has been made to the position of this light since the time of the incident and therefore full power of the light was not "pointing up". There has been no report to Mayo County Council of the light pointing up prior to this MCIB draft report.

3.4.5 *"The green light was replaced on the 16th December with a new unit. This light is a sealed unit powered by a battery charged from solar panels on the top of the unit. It is possible that the batteries were not fully charged as the hours of daylight were short and the days overcast. If this was the case it could have been extinguished on the evening of the 20th but sufficiently charged on the 21st".*

Page 2

As outlined in report of the 14th of March 2012 it is our clear opinion that the green light was operational at the time of the incident particularly when it was operating the following night at 21.00 as confirmed by the night patrol.

3.4.9 *"On the evening of the 20th December, when it was known that the leading lights were not operating, no alternative plan was made to approach the pier in darkness, the vessel was headed towards the pier with the intentional of picking up the pier light. In the event by the time the end of the pier was identified the vessel was too far to the east (by about 30 meters) and in close proximity to the rocks which extend further seaward than the end of the pier. It was just about low water and the heavy swell lifted the vessel onto the rocks before corrective action could be made".*
Please note that the pier was not in darkness as the pier working lights were fully operational.

4. Analysis

4.1.3 *"The lighting on the pier (navigational and illumination) had been the cause of the complaint, with a number of communications between the ferry operator and Mayo CC. Despite their dissatisfaction with the lighting the company had not put any alternative plans into their SMS document to cover the event of lighting failures".*
All complaints received had been dealt with as a matter of urgency. In fact the most recent fault report on working lights prior to this incident was on 23rd of November 2011 and repaired on the 24th of November 2011. The most recent fault report on navigational lights prior to this incident was on the 14th of December 2011 and repaired on the 16th of December 2011 as outlined in report of Iarla Moran of the 14th of March 2012 attached.

5. Conclusion

5.1 *"Initial investigations indicated that the failure of the leading lights at Roonagh Pier were the main cause of the vessel grounding".*
Mayo County Council do not accept that failure of a category 2 aid to navigation (leading light in this case) can be a main cause of a vessel grounding as these lights are solely aids to navigation.

5.2 *"In spite of a number of communications from the ferry company to Mayo CC it failed in its obligation to have working lights. It is clear that of the 12 lights (on 2 pods), 9 were burnt out. Evidence was also give that the green light was non-operational on the day of the incident. The pole for the upper light was pointing skywards. None of the failings happened at the same time and it is therefore obvious that Mayo CC did not carry out adequate maintenance on all of the lightings".*
Mayo County Council do not have an "obligation" to have working lights on Roonagh Pier. However Mayo County Council did provide working lights at Roonagh Pier which were fully operational on the night of the incident. In terms of the navigation lights, Mayo County Council are of the clear view that the green light

was operational and that the rear (upper) leading light was not pointing skyward on the night of the incident.

It is incorrect to say that of the twelve lights, nine lights were burnt out. Please note that there are two leading lights each containing six lamps and one leading light was working on the night of the incident and one leading light was not. No complaint was received prior to the incident in this regard. Mayo County Council have outlined in detail that on the night of the incident one of the two leading lights was not operational and all other lights were operational. Furthermore this non-operational leading light could not have been the cause of the vessel grounding. Mayo County Council refutes the conclusion that it did not carry out adequate maintenance on the pier lighting. Records held by the Commissioners of Irish Lights confirm that all the navigation lights at Roonagh Pier exceeded their availability criteria and this fact was outlined to the MCIB investigator during the course of the investigation.

Iarla Moran, S.E.E.

Kieran Lynn, S.E.E.

Page 4

MCIB RESPONSE

The MCIB notes the content of this response and has made amendments where necessary. However the Board would make the following comments.

2.3 The report is factually correct from information supplied from Mayo CC personnel.

3.4.2 It should be noted that three weeks prior to the incident Mayo CC personnel were contacted by the Ferry Operator and met with the Ferry Operators to discuss the lack of screening on the pier working lights. Temporary screening was added to only one light as a result of this meeting.

3.4.3 During the investigation the leading lights were observed from seaward and the upper light was observed to be considerably dimmer than the lower light. If the reduced luminosity was not caused by the slope of the pole then it was from some other defect.

3.4.4 & 3.4.5 The Passenger was quite sure the green light on the end of the pier was not working when he came ashore to the quay. This was the only report that this light was not operating on the night in question. The explanation was offered by Mayo CC personnel as a possible explanation as to why the green light was observed not operating by the passenger and was operating the following evening.

3.4.9 The operation was being carried out during the hours of darkness. The pier illumination did not supply any navigational reference and did not show the state of the swell around or inside the pier.

4.1.3 During the course of the investigation it was clear that communications between the ferry operator and Mayo CC were not effective.

5.1 The purpose of the report is not to attribute blame but to examine all the factors that led to the incident – Failure of the Leading light was one factor.

5.2 There was evidence that the green light was extinguished on the evening of the incident. During the investigation the rear leading light was observed to be distinctly dimmer than the lower light. Had Mayo CC checked the lights earlier, when night navigation started at the end of October, the fact that 5 of the 6 lamps in the lower leading light were burnt out would have been discovered.

Once one leading light is not operational it is not possible to monitor the vessels track by the other light alone.

Mayo CC record has not been questioned, as stated in 4.2.2.

NOTES