



Report into the Grounding of:

EUN HAE 107

Port Egmont, Falkland Islands
10 February 2025

NOTE

This report is not written with litigation in mind and, in pursuant to Regulation 19 of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2026, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purpose is to attribute or apportion liability of blame.

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

OOW	Officer of the Watch
SOLAS	Safety of Life at Sea Convention
STW	Speed Through Water
SOG	Speed Over Ground
COG	Course Over Ground
FIMA	Falkland Islands Maritime Authority
UTC	Coordinated Universal Time
LT	Local Time, GMT-3 for Falkland Islands
NM	Nautical miles – 1852 metres
FV	Fishing Vessel
FICZ	Falkland Islands Interim Conservation and Management Zone
GPS	Global Positioning System
VMS	Vessel Monitoring System
AIS	Automatic Identification System
IMO	International Maritime Organization
MSN	Marine Shipping Notice
MSC	Maritime Safety Committee
ECDIS	Electronic Chart Display and Information System
ENC	Electronic Navigational Chart
ECS	Electronic Chart System
CATZOC	Category Zones of Confidence
HMT	Highnet Meteorological Technology
JCR	Joint Control Room
JCRO	Joint Control Room Officer
ARPA	Automatic Radar Plotting Aid

SUMMARY

At 1645LT¹ on 10 February 2025, the Korean-registered jigger fishing vessel *Eun Hae 107* ran aground (Figure 1) south of East Point in Port Egmont, Falkland Islands. The vessel was taking shelter in Port Egmont due to forecast heavy weather conditions where gusting winds were expected to reach gale force 10².

When the vessel ran aground, there were no reported injuries to the crew, or when the vessel was safely refloated on 13 February 2025. There was no reported pollution during the time of the vessel being aground or while the vessel was being refloated.

The vessel proceeded to Stanley Harbour after being refloated. An underwater hull inspection was conducted and no damage to the vessel was reported. There were no voyage plans in place and vessel drift monitoring did not identify the grounding hazard.

Figure 1: FV Eun Hae 107 in Port Egmont



Source: Falkland Islands Government Air Services

¹ LT is local time for Falkland Islands which is at GMT-3, all times in this report will be local times unless otherwise stated.

² Represents wind speeds of 55-63 mph.

SECTION 1 – FACTUAL INFORMATION

1.1 PARTICULARS OF FV EUN HAE 107 AND ACCIDENT

SHIP PARTICULARS	
Vessel's name	<i>Eun Hae 107</i>
Flag	Korea
IMO Number / Fishing Numbers	8712659
Type	Fishing vessel
Registered Owner	Sun Min Fisheries Co Ltd
Local agent	Dragon Maritime Services
Construction	Steel
Year of Build	1987
Length Overall	62.64 meters
Gross Tonnage	1129
Minimum Safe manning	06 ³
Authorised Cargo	Fish Catch
External & internal environment	Wind Beaufort force 8. Daylight, moderate visibility. Rough seas
Persons on board	38

VOYAGE PARTICULARS	
Port of departure	Stanley Harbour, Falkland Islands
Port of arrival	Slow steaming and drifting in Port Egmont
Type of voyage	Coastal
Cargo information	48, 184.50 kg - Squid
Manning	As per Korean Administration requirements

MARINE CASUALTY INFORMATION	
Date and time	10 February 2025, 1645LT
Type of marine casualty or incident	Serious Marine Casualty
Location of Incident	Port Egmont
Place on board	Ship-hull
Injuries / fatalities	Nil
Damage / environmental impact	None
Ship Operation	Sheltering ⁴ from heavy weather
Voyage segment	Coastal

³ The Korean Flag does not issue minimum Safe Manning Certificates for fishing vessels. However, the Administration prescribes minimum officer requirements based on the vessel's National tonnage and vessel length.

⁴ Sheltering of vessels can be defined as an act of avoiding the effects of conditions such as distress on the vessel or heavy weather by taking refuge in sheltered waters such as bays, harbours, sounds, etc.

1.1.1 Vessel Representatives

At the time of the accident, the vessel was owned by Sum Min Fisheries Co. Ltd. In accordance with Falkland Islands regulations, vessels carrying out fishing operations in Falkland Islands waters must be licensed through companies registered in the Falkland Islands. For *FV Eun Hae 107*, the fishing licence was issued on behalf of the vessel to Dragon Fishing and Trading Company Ltd, which therefore became the Licensee.

Supporting the vessel during its visit to the Falkland Islands were the Korean Overseas Fishing Association (KOFA) and Dragon Maritime Services (DMS). KOFA provided the vessel with support for various requirements, including language translation between the vessel and other parties. DMS is a subsidiary of Dragon Fishing and Trading Company Ltd and provides operational advice and consultancy services to vessels for which Dragon Fishing and Trading Company Ltd holds fishing licences. Throughout this report, the local agent for *FV Eun Hae 107* should be understood to be DMS.

1.2 NARRATIVE

16 January 2025

0610 Arrival Port William for pre licensing inspection.

17 January 2025

Around 0600 vessel moves to anchor in Stanley Harbour for a licensing inspection⁵.

1000 Pre-licensing inspection carried out by the Fisheries Officer. License issued at 1120.

1400 Pre-departure checks are conducted onboard. Items checked:

- On deck fishing equipment
- On the bridge, fish finder and radar
- No report to the bridge on results of pre-departure checks. If problems are experienced in the engine room during pre-departure checks these will be reported to the bridge

1445 vessel departs Stanley Harbour for the high seas to conduct fishing operations. Intended fishing area is 45°S 060°W. The vessel had 38 crew members onboard on departure.

09 February 2025

0336 MET Office⁶ issues a FICZ Gale⁷ Warning which is valid from 10 February 2025 at 1200 UTC to 12 February 2025 UTC. Winds force 8 or more are expected within the FICZ.

1338 MET Office issues Severe Weather Warning for heavy and persistent rain in and around the Falkland Islands. This warning was valid from 10 February 2025 at 0300UTC to 11 February 2026 at 0600UTC.

10 February 2025

0453 The Master called the bridge team to the wheelhouse. The bridge team consisted of the Master, Chief Officer and the Radio Officer⁸ who also kept navigational watches. The Master instructs the bridge team that with the Easterly winds, the vessel is to slow steam to the east of Port Egmont, no specific turning point is advised. When reaching eastern area of Port Egmont, the vessel is to stop engine and allow a drift to the west of Port Egmont. A distance of 0.5NM should be kept from the nearest land at all times. The variable range marker was used on the radar to mark 0.5NM around the vessel.

0500 Vessel enters Port Egmont for sheltering as heavy weather conditions where experienced wind directions were easterly and speed was 7-10 metres per second; this converted to knots is about 14 to 19 Knots with gusts reaching 40 knots. This was expected to increase throughout the day and night with forecast wind reaching 39 knots, gusting maximum 61 knots and direction becoming northerly.

⁵ Licensing Inspection – Fishing vessels are inspected by the Fisheries Department Officers prior to receiving a license which allows them to fish within Falkland Islands Exclusive Economic Zone which extends 200 nautical miles from the coast.

⁶ MET Office is the United Kingdom's official national meteorological service. In the Falkland Islands the office provides 24/7 weather forecasting, warning and meteorological services focusing on flight, shipping and public safety.

⁷ Gale – Describes strong sustained surface wind. Gale winds are force 8 on the Beaufort scale which are between 39-46mph.

⁸ Radio Officer held a Third-Class license which allowed him to conduct navigational watches.

0550 Vessel was in position 51°21.51'S 060°02.3'W, engine are put on standby⁹, and vessel starts to drift.

0900 Master hands over the watch to Chief Officer and instructs the Chief Officer to take care to which the Chief Officer responded, "Yes Sir". No further information regarding navigational situational awareness is exchanged. The Master goes to his cabin. Evidence of the night orders was not provided during the investigation.

1500 The Radio Officer takes over the watch from the Chief Officer. Handover information given to the Radio Officer was to take care and follow instructions given by the Master earlier. No additional information on navigation situational awareness is exchanged.

1640 Vessel within 0.4NM of nearest land. When vessel is approximately 0.325NM from nearest land 10 degrees port helm is applied and engine ordered to slow ahead. There is no change in heading or speed. According to the recollection of the OOW, the vessel was heading 320° with speed of 1.2 knots during this time. OOW orders engine to half ahead, there is no change to speed and heading.

1645 In accordance with the logbook entries, the vessel was recorded to have aground in position 51°21.2'S 060°03.6'W. Nearest land according to the Admiralty chart 2545 is 0.12NM. Recorded weather conditions by the vessel:

- Wind - Gale 8 south easterly, expected increase speed further
- Sea state – rough (2.5-5m)
- Weather – Overcast and raining
- Visibility – moderate expected to become poor
- FICZ Gale Warning – In force
- Tide – 1.6m¹⁰, rising

It is unclear how helm was used during the time the vessel was in Port Egmont. One other vessel was in Port Egmont when the *FV Eun Hae 107* ran aground, and this vessel was at anchor in the southern part of the sheltered bay.

1650 OOW calls the Master to the bridge. Master attempts to manoeuvre vessel by applying helm and various engine¹¹ orders. There is no change in the speed and heading of the vessel.

1700 Vessel notifies KOFA representatives. Vessel not within VHF range to contact Stanley Port Control¹². Further attempts are made by the Master to manoeuvre the vessel but are unsuccessful.

1756 FIMA becomes aware of the grounding of the *FV Eun Hae 107* through a member of public.

13 February 2025

0857 *FV Eun Hae 107* refloated with the assistance of the tug Dintelstroom, with FPV Lilibet standing by

⁹ Engine on standby – this act is when the main propulsion system is placed in a state of readiness so that the vessel can be manoeuvred immediately.

¹⁰ 1.6m (1.6 meters)

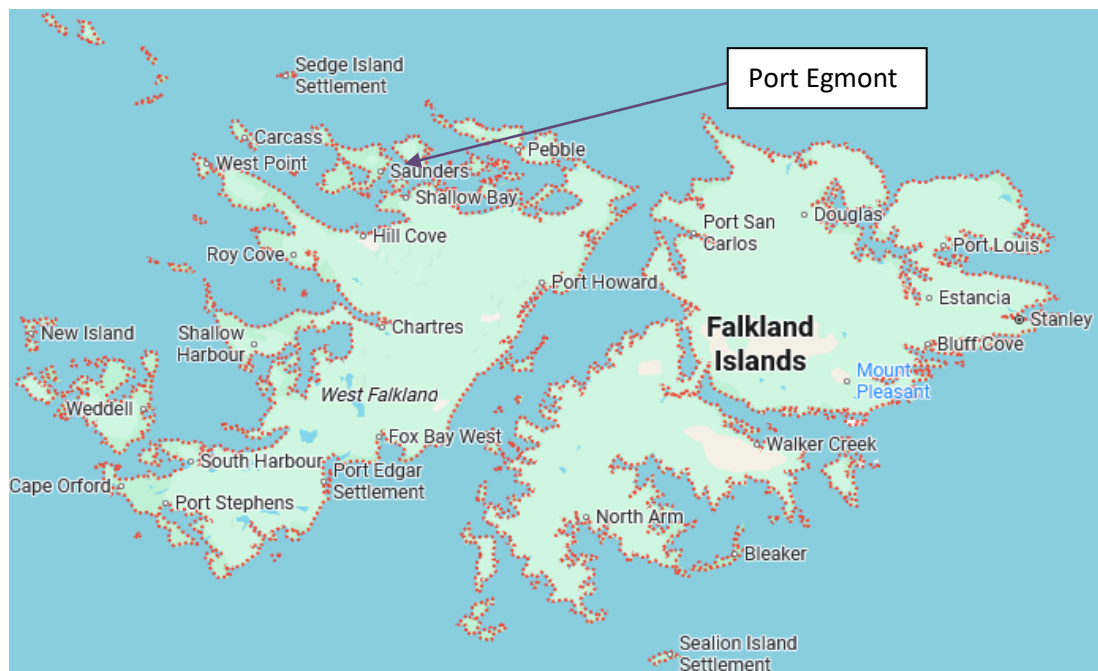
¹¹ *FV Eun Hae 107* is fitted with a single main engine

¹² Stanley Port Control provides port control services within Stanley Harbour, Port William and Berkeley Sound

14 February 2025

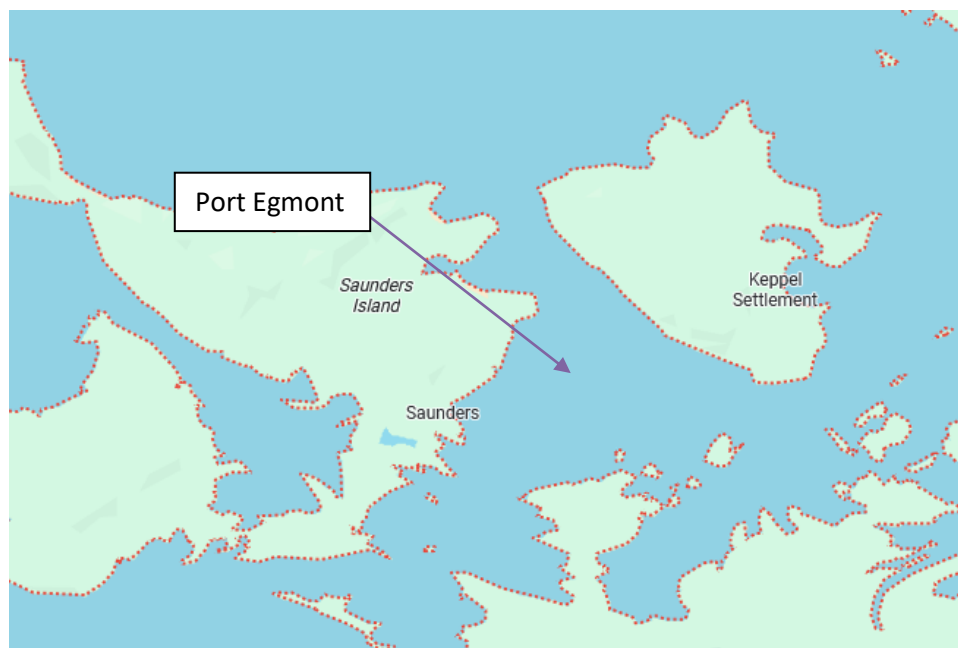
0656 Vessel arrives in Port William

Figure 2: Falkland Islands Map



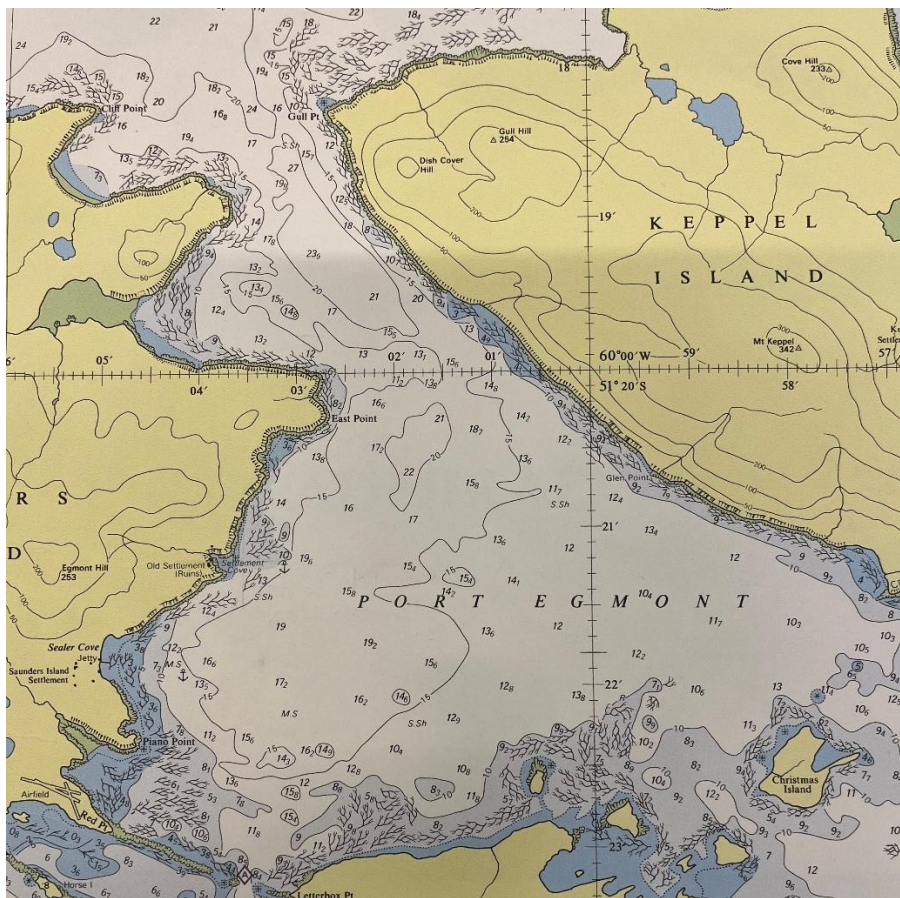
Source: Google Maps

Figure 3: Port Egmont



Source: Google Maps

Figure 4: Port Egmont Chart 2545



Source: Falkland Islands Maritime Authority

Figure 5: FICZ Gale Warning

FICZ Gale Warning for Mare Harbour

Attn : Falkland Islands Government	Warning text : Winds force gale 8-9 (perhaps 10 for a time Monday) are expected at times across the FICZ. Monday sees cyclonic wind direction as a low pressure crosses eastward through the FICZ. Winds then become southwesterly overnight into Tuesday and remain southwesterly until easing from the northwest through Wednesday morning.
Issued at : Sun 9 Feb 0636Z 2025	
Validity : 101200Z to 121200Z	This warning is issued when the following conditions are expected: ≥ Force 8 within the FICZ

Issued by: Met Office, Falklands/MPA

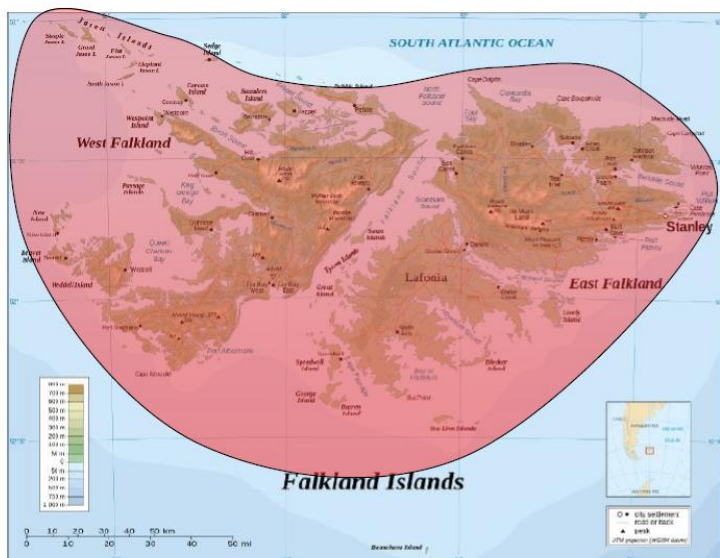
Tel: 94130 3575

Source: MET Office – Mount Pleasant

Figure 6: Severe Weather Warning



Warning issued by the Met Office for: Heavy rain



Issued at: 16:37 UTC on Sunday 09 February 2025

Validity time: 10/0300 Z until 11/0600 Z

Source: MET Office Mount Pleasant

Figure 7: Shipping Forecast for FICZ Open Waters

Forecast Issued on Monday 10 February 2025 at 05:38 Z

Shipping Forecast for FICZ open waters for the period 0900 Zulu today until 0900 Zulu tomorrow.	
Synoptic situation	At 0900Z, low pressure 979 lies to the northwest of the FICZ, deepens and moves east across the north of the FICZ. Associated troughs move eastward across the FICZ Monday and Tuesday.
Outlook for Today (0900-2100 Z)	
Wind	Northeasterly 5 to 7, isolated gale 8. Northeasterly 4 or 5 in the southwest at first. Isolated variable 3 to 5 for a time in the northwest at first then northeast. Becoming southerly or southwesterly 5 to 7, occasional gale 8 or 9, perhaps gale 10 in the north later.
Weather	Fair, becoming occasional rain or heavy rain, isolated fog.
Visibility	Good, becoming occasionally moderate to poor, isolated very poor.
Sea State	Rough or very rough. Moderate in the south at first. Becoming high in the north and east later.
FICZ Gale Warning	In force.
Outlook for Tonight (2100-0900 Z)	
Wind	Southerly or southwesterly 5 to 7, occasional gale 8 or 9, perhaps gale 10 in the north for a time. Isolated variable 3 to 5 in the northeast at first. Becoming southwesterly 7 or gale 8, occasionally gale 9 later.
Weather	Fair, occasional rain or heavy rain, isolated fog. Becoming fair, isolated showers, perhaps wintry later.
Visibility	Good, occasionally moderate or poor, isolated very poor. Becoming good, isolated moderate later.
Sea State	Very rough, high in the north and east. Rough in the south at first.
FICZ Gale Warning	In force.
Outlook for Tomorrow	
Wind	Southwesterly 7 or gale 8, occasionally gale 9. Decreasing southwesterly 5 to 7 isolated gale 8 in the west later.
Weather	Fair, isolated showers, perhaps wintry.
Visibility	Good, isolated moderate.
Sea State	Very rough. High in the north and east.
FICZ Gale Warning	In force.

Source: MET Office Mount Pleasant

1.3 Vessel Track in Port Egmont

When the vessel approached Port Egmont at 04:53 the Master called the bridge team to the wheelhouse. The bridge team consisted of the Master, Chief Officer and the Radio Officer who also kept navigational watches. The Master of the vessel instructs the bridge team that with the easterly winds, the vessel is to slow steam to the east of Port Egmont, no specific turning point is advised. When reaching eastern part of Port Egmont the vessel is to stop engine and allow a drift to the western part of Port Egmont. According to the Master's orders, a distance of 0.5NM should be kept from the nearest land at all times. No other navigation information is discussed, expected change in wind speeds or direction are not discussed, nor the effects of tides within the area. Consideration was not given to shallowing depths closer to prominent land points.

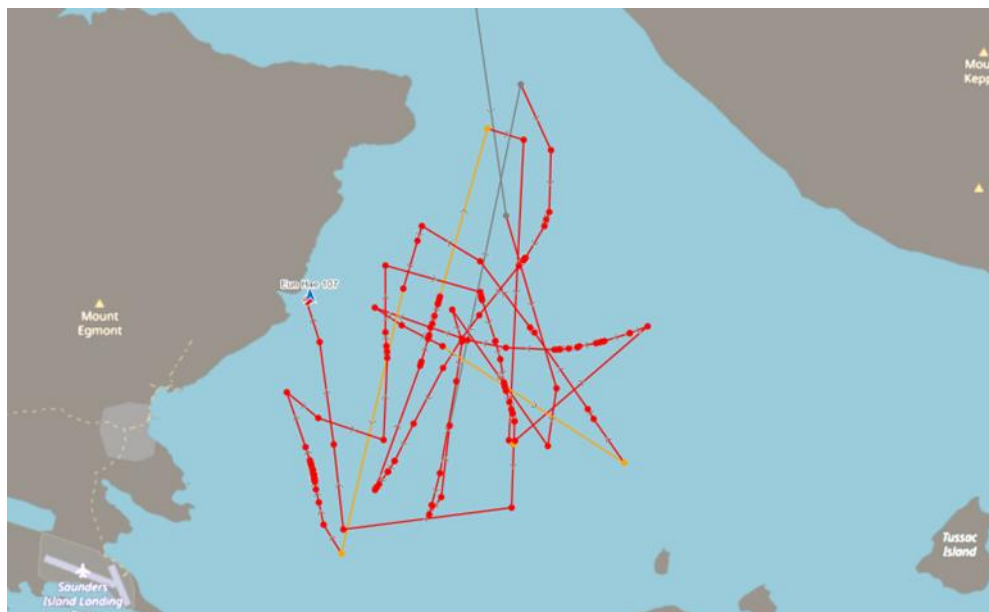
Figure 8: On arrival, planned track to follow during sheltering



When the vessel was at GPS position 51°21.5'S 060°02.3'W at 0900 the Master handed over the watch to Chief Officer and told the Chief Officer to take care. No other information was provided to the Chief Officer at this time to which the Chief Officer responded with "Yes Sir". The Master then went to his cabin leaving the navigational watch with the Chief Officer. At first the vessel was drifting at 0.3knots with engine on standby to the western part of Port Egmont. Vessel logbooks show that there were periods where the engine was in use and periods when the engine was put on standby allowing the vessel to drift.

Throughout the watch of the Chief Officer, AIS shows that the vessel maintained rough courses of 320° and 110°. This kept the easterly winds on the beam of the vessel. This meant the vessel had a westerly drift even during course changes between north and south that were not accounted for. At 1500 the Radio Officer took over the navigational watch from the Chief Officer.

Figure 9: Actual track of the vessel in Port Egmont



Source: Trackwell VMS¹³

1.4 Handing over of Bridge Watch

The investigation found that there is no procedure in place for handing over the navigational watch and for navigational information to be passed over to the relieving officer. When the vessel approached Port Egmont, a bridge team meeting was held, and some navigation information was shared by the Master to the bridge watchkeeping officers. The investigation determined that no additional information was shared amongst the watchkeepers at the watch changeover. Vital information such as how the vessel had been behaving given the weather conditions within Port Egmont, the courses maintained, and the weather changes expected were not shared or discussed by the watchkeepers. The vessel had no written procedures for handing over the watch. The bridge logbook had only noon information recorded in it. This would make tracking of any changes in weather conditions difficult. There is no evidence to indicate that effects of tidal movements on the vessel track were considered.

During the bridge team meeting the Master conveyed to the bridge team that should there be any concerns then the Master should be called immediately. The Master's cabin is located aft of the wheelhouse and on the same deck, making it quick for the OOW to call the Master should he have concerns (provided that the Master has not gone to another part of the vessel further away from the bridge). In the sequence of events, it is noted that the first time the vessel did not respond to engine orders or helm orders was at 1640. Though the investigation could not determine the exact course of the vessel not responding the following factors were considered:

- High wind speeds and direction which were pushing the vessel onto shore
- Initial actions consisted of incorrect helm orders
- Incorrect engine orders applied. According to the OOW on initial actions, slow ahead orders were applied, possibly causing the vessel to go aground further.
- Incorrect helm orders applied. During the initial actions helm order of 10 degrees to port was applied, land was on the port side of the vessel.

¹³ Trackwell VMS is a satellite-based software used by Authorities to track fishing vessels activities. The system uses AIS data for tracking vessel movements.

The Master was called at 1650. The OOW who was on watch during the vessel grounding had stated that during years of working together with the Master on *FV Eun Hae 107*, there had been instances when the Master was called and had offered help without difficulty and the bridge team had maintained good working relationship between each other.

1.5 Look Out

Rule 5 of Colregs¹⁴ which applicable to all seagoing vessels and reads:

“Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.”

At the time the vessel grounded the OOW was distracted by performing work on the bridge that did not relate to watchkeeping. The OOW only realized that the vessel was very close to land when it was inside the 0.5NM limit, which was assessed to be the safest distance from the nearest land. Due to the work the OOW was doing at this time there was no assessment of the rising tide which creates flood currents¹⁵ that in turn affect the rate of turn of the vessel’s steering particularly as the vessel had been drifting and moving at very slow speed. Whilst the incoming tide increases water depths this meant that vessel could be pushed by the wind further into shallow depths resulting in greater difficulty in the vessel refloating itself during the highest tide by using its own engine and steering.

A jigging vessel is designed to fit jigging lights¹⁶ on the exterior of the superstructure of the vessel as shown in figure 8 which provides an example of the lights in relation to the bridge windows. These lights are mounted along the vessel at wheelhouse level and are used during fishing operations. These lights were not in use during the time the vessel was taking shelter. When one looks outside the windows in the wheelhouse as seen in Figure 9, the lights are at bridge window level which complicates the view out of the wheelhouse window. Extra consideration should be given to the presence of these lights given the sea spray, rain and general weather conditions that impacted the OOW’s visibility when maintaining lookout through the wheelhouse windows.

Figure 10: Jigging Lights



Source: Falkland Islands Maritime Authority

Jigging lights

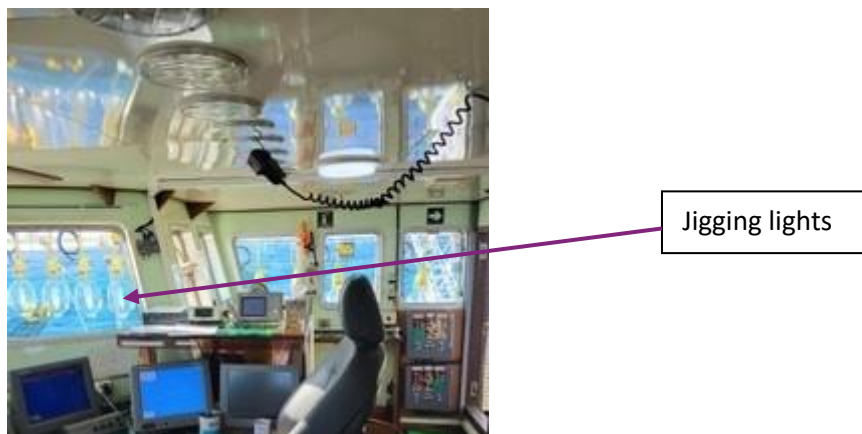
Wheelhouse windows

¹⁴ Colregs is the Convention on the International Regulations for Preventing Collisions at Sea 1972, as amended.

¹⁵ Flood current is the flow of water towards the shore as the tide rises.

¹⁶ Jigging lights are very bright lights placed around the exterior of the jigger vessel’s superstructure. The lights when switched on are used to attract the squid.

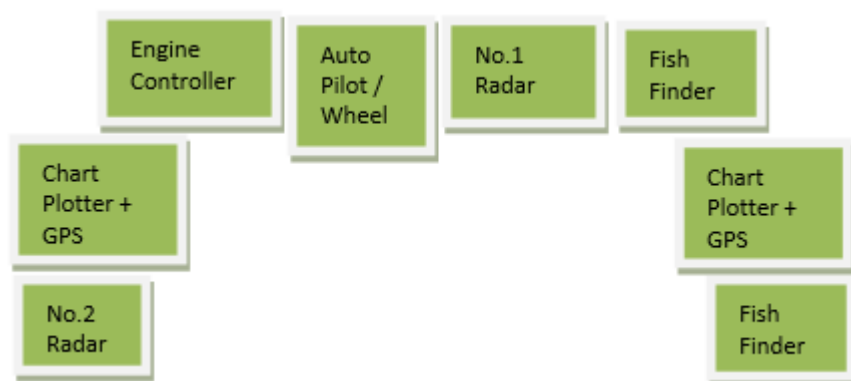
Figure 11: View from inside the wheelhouse looking out



Source: *FV Eun Hae 107*

1.6 Bridge Equipment

Figure 12: Wheelhouse Layout



Note: not all equipment is included in the above diagram

FV Eun Hae 107 is fitted with equipment needed to provide sufficient situational awareness of the surrounding area. Other equipment includes rudder angle indicator, anemometer, magnetic compass, gyro compass, AIS and GMDSS¹⁷ equipment. At the time that the investigation was carried out onboard the vessel, all bridge equipment was operational upon testing, and no malfunctioning of equipment was reported to have occurred when the vessel went aground. There were no reports of other machinery failures such as failure of the steering gear or the vessel's main engine as examples. All equipment and machinery were working as expected leading up to the grounding of the vessel.

Other items which have been considered during this investigation are the presence of shore lighting, back scatter lighting from the vessel or the presence of other vessels in the area which could have possibly obstructed clear visibility of the shoreline. The area the vessel was in when the accident occurred does not have lighting on the shoreline, which meant that shore lights could not have impacted the watchkeeping officer's ability to determine where the shoreline was. The grounding of the vessel occurred at 1944 and

¹⁷ Global Maritime Distress and Safety System. This is a mandatory international system using satellite and terrestrial radio technology to alert rescue authorities and nearby vessel in an emergency.

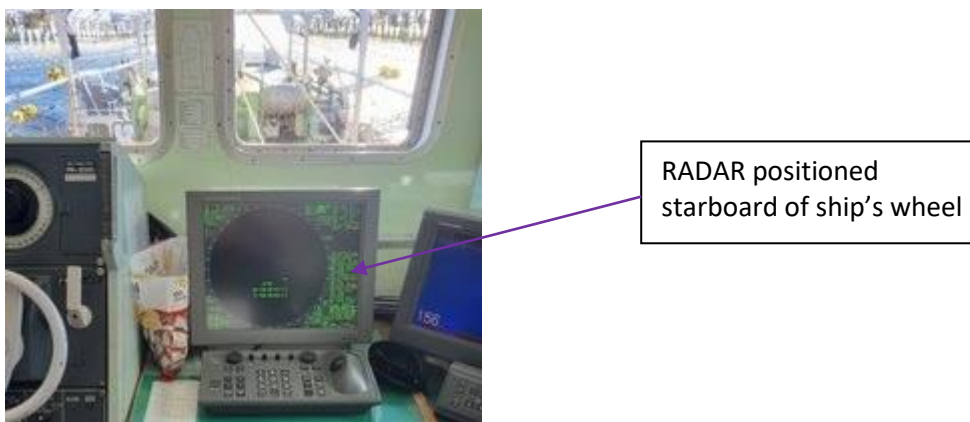
sunset on that day was at 2028¹⁸. Even if there was light on the shoreline, this would not have contributed to the vessel grounding as there was still sufficient daylight. Light on the deck forward of the bridge would not have had an effect either where back scatter of deck light might have caused the OOW not to see the shoreline during hours of darkness.

1.6.1 RADAR

The vessel is fitted with two radars which are enhanced with Automatic Radar Plotting Aid (ARPA). The ARPA radars fitted onboard are the X-band and S-band radars manufactured by Furuno. The two radars were used as part of the primary means of keeping a look out by the bridge watchkeeper. The two ARPA radars are designed to comply with SOLAS requirements for ships below 10,000 GT¹⁹. The radar is able to display information on the vessel's course and Course Over Ground (COG), and Speed Over Ground (SOG). SOG is the true speed at which a vessel moves over the Earth's surface.

The cursors on the radars were used by the watchkeeper to measure the distance between the vessel and the most prominent land (and the minimum distance to keep was 0.5NM). The radars are fitted with Variable Range Markers (VRM) and Electronic Bearing Lines (EBL) which can be used to measure distances and bearings of objects in relation to the vessel.

Figure 13: RADAR



Source: *FV Eun Hae 107*

The radars onboard have the function of Guard Zones which are suitable when vessel is at anchor to alert the OOW when targets cross into the perimeters set around the vessel. When the bridge watchkeepers onboard *FV Eun Hae 107* were requested to demonstrate how radar parameters are set, the process was not demonstrated, including the use of the electronic bearing markers (EBM) and variable range markers (VRM). The heavy weather has a negative effect for object detection on the X-band. There is reduction of sea and rain clutter on the S-band radar. The bridge watchkeepers did not provide evidence that they were familiar with features on the radars for setting safety parameters and if these equipment features were used leading up to the accident.

¹⁸ Weather information as provided by the MET Office, FIG Met Brief for Monday 10 February 2025

¹⁹ Safety of Life at Sea (SOLAS) – the requirements of the ARPA radars fitted are in accordance with the IMO MSC.192(79) standards.

1.6.2 GPS Plotter / Electronic Chart System

Fitted on the bridge with two Electronic Chart Systems (ECS), example of equipment given in Figure 12. The ECSs are used by the vessel crew for charting purposes and as one of the primary means of navigation. During the investigation, the vessel did not produce evidence of carrying paper charts for Port Egmont or an approved Electronic Chart Display and Information System (ECDIS) for the Port Egmont area as per the requirements of SOLAS Chapter V, regulation 27²⁰. The ECS carried onboard is updated by shore staff when the vessel is in Montevideo, Uruguay²¹. Since the vessel's last port call in Montevideo, no update corrections on the ECS were carried out by the vessel crew. The ECS displayed areas around the Falkland Islands including depths of surrounding waters.

The ECS is connected to GPS therefore can display the vessel's GPS position. The system has a function to zoom in and out of the chart and the function to also display AIS targets of other vessels in the area. The ECS does not provide warnings on inaccuracies of soundings. The ECS have Electronic Navigational Charts (ENC) installed into the system. When a vessel is at anchor, crew can plot an anchor turning circle or swing radius on the chart.

The distinction between ECS and ECDIS lies in regulatory and legal compliance. ECDIS complies with SOLAS regulations and is legally recognized as a complete replacement for paper charts or supplement to paper charts if vessel is not in compliance with all the requirements for complete replacement of paper charts using ECDIS. In contrast, ECS is intended as a supplementary navigation aid, does not meet these regulatory standards, and must be used alongside official paper charts which must be kept up to date. If the ECS is to serve the same purpose as ECDIS, for a vessel built before 1999 the system installed would need to comply with the performance standards as prescribed in IMO Resolution A.817(19).

Figure 14: Electronic Chart System (ECS)



Source: *FV Eun Hae 107*

²⁰ SOLAS Chapter V, regulation 27 is applicable to fishing vessels.

²¹ The ECS onboard uses an SD card which has charts for the area of operation. When an update becomes available, a new SD card is bought by the vessel owner and sent via airfreight to Montevideo where the vessel will have the update SD card installed by a vessel shore staff member once the vessel is in Montevideo.

Regulations applicable to the fishing vessels within Falkland Islands territorial waters for carriage of navigational charts reads from the MSN 1873 Amendment 1 (F)²² 9.5.3 **The charts to be carried must be those-**

(i) that are of such a scale, and which contain sufficient detail as clearly to show:

(a) all navigation marks that may be used by a vessel when navigating the waters that are comprised in the chart.

(b) all known hazards affecting those waters; and

(ii) that are either published by the Hydrographer of the Navy or any authority in any country other than the United Kingdom duly exercising functions similar to those of the Hydrographer, and are of a similar scale and contain equivalent detail; and

(iii) which, in all cases, are of the latest available edition and have been adequately corrected.

ENCs are required to be produced by national hydrographic offices and conform to the International Hydrographic, specifically the S-57 format for data transfer and S-52 for display presentation. The electronic chart used needs to be maintained weekly with chart updates installed without much delay from the time of publication. In the case of the *FV Eun Hae 107* the ENC updates were not carried out weekly. For a vessel to solely use ENCs without the use of paper charts, all bridge watchkeepers would need to have undergone ECDIS training as per the requirements of MSC.1/Circ.1503/Rev.1.

1.7 Weather Forecasting Tools

Highnet Meteorological Technology²³ (HMT) gives weather forecast 5 days in advance at 3-hour intervals. Information given in the forecast includes barometric pressure, air temperature, wind direction and speed, precipitation and wave height. Windy.com is another weather forecasting tool that was being used on the vessel, it is a web-based application which is widely used. It shows an hourly forecast and the free mode which the vessel uses covers a 5-day period. There are no local weather recording instruments in the Port Egmont area which can provide wind speeds and direction to vessels in the area. Reliance is therefore placed on the vessels' anemometer and physical observation.

1.8 Use of Engine

When it was within Port Egmont the vessel was not at anchor. According to the admiralty chart 2545 edition 6²⁴ as issued by the UK Hydrographic Office, shows the deepest depth is 19.6m. It should be noted that a note is published on the chart to advise that detail on this chart may not be accurate given the age and quality of survey information. The choice opted for by the vessel in taking shelter in Port Egmont was to drift and engage engine to steam away from danger when needed. Information provided by the bridge movement book shows that the engine was used more frequently than compared to the initial sheltering plan when the vessel had entered Port Egmont.

²² MSN 1873 Amendment 1 (F) – The Code of Practice for the Construction and Safe Operation of Fishing Vessels of 24m Registered Length and Over

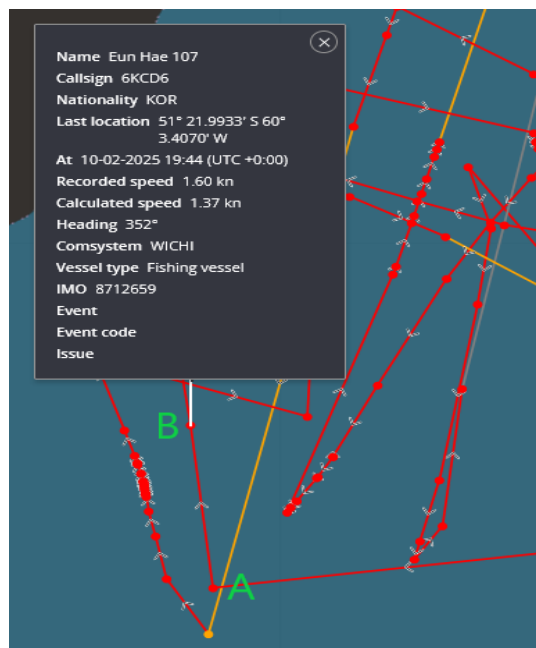
²³ HMT is a Korean meteorological service which collects data from various weather information sources world-wide.

²⁴ An Admiralty chart number 2545 provided by the Falkland Islands Maritime Authority (FIMA) was used to make this assessment. FIMA keeps this chart up to date by making corrections to it.

According to the occurrence summary from the crew, when the vessel was about 0.325NM from the land, the wheel was turned 10° to starboard and engine slow ahead. There is no evidence to provide reading of the depth of water available to the vessel during this time. The vessel was heading in a northerly direction, and the wind was coming from the south. Vessel Course Over Ground (COG) was northerly, when the engine was put on slow ahead whilst the vessel had a northerly momentum this increased the speed of the vessel in the northly direction towards the area where the vessel finally grounded. It can be seen on AIS that the speed before the vessel ran aground increased from about 1.7 knots to about 4 knots.

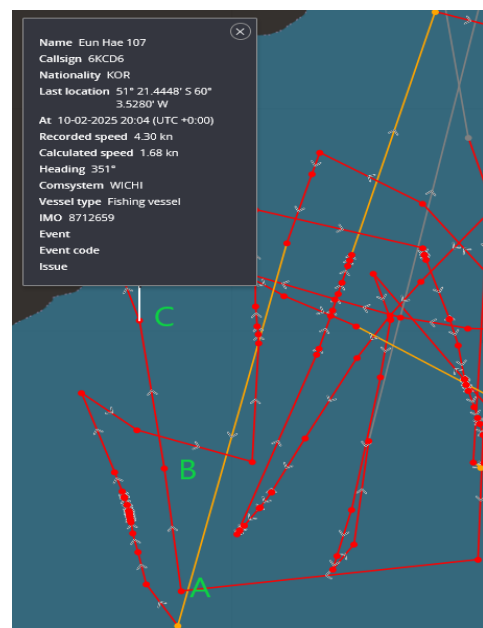
When the engine had been placed on slow ahead, a certain amount of time is needed to allow the vessel to gain substantial speed to affect the steering commands. On the *FV Eun Hae 107*, it takes 14 seconds for the engine to respond when placed slow ahead and 17 seconds when placed slow astern. From this time the vessel will start gaining speed. This information was calculated during sea trials, as provided by the vessel owner. The response of the engine is expected to be different when other factors influence the vessel response. Factors such as wind, current, how much the vessel is loaded will also influence the response time of the vessel to gain significant momentum to avoid danger. No engine or steering issues were reported, which could have had an effect on the manoeuvrability of the vessel. The engine and steering capabilities performed as expected throughout.

Figure 15: Vessel Position B



Source: VMS

Figure 16: Vessel Position C



1.9 Crew Certification and Training

The vessel was manned as per the requirement of the vessel's Minimum Officer Manning document as per the Korean Regulation. The manning document requires that the vessel which is over 60 metres in length and over 500 gross tons be manned as follows:

- Master (3rd Class)
- 1st Mate (4th Class)
- 2nd Mate (5th Class)

The 2nd Mate in this case is the Radio Officer and he held a 3rd Class license. All officers held valid Certificates of Competency for the ranks which they served under. Through investigation it was discovered that the crew had not received the minimum training for operating electronic charts which were fitted onboard.

The Master had over 10 years' experience of sailing in the Falkland Islands waters and had used Port Egmont many times before for sheltering during strong winds and heavy weather conditions. The Radio officer had also served on other jigger vessels which operated in the Falkland Islands waters for many years prior to joining the *FV Eun Hae 107*. The Radio Officer had been on the *FV Eun Hae 107* for 2 years prior to the incident occurring and had worked with the Master for 4 years. The bridge watchkeeping officers had explained that such an accident had never occurred on the ship before. Drills carried out onboard before the occurrence of the accident included man overboard, abandon ship and response to fire onboard.

1.10 Description of Port Egmont

Port Egmont is a sheltered bay located east of Saunders Islands and southwest of Keppel Island. The sailing directions describe Port Egmont as an area where local knowledge is required when within that area. As per the sailing directions *"it was reported in 1996 that with the large number of drying edges and the lack of suitable landmarks within the harbour, accurate navigation is difficult."* This makes it difficult for navigators to use ranges and bearings from visual observations and radar as additional means of ascertaining through plotting position of the vessel on paper charts. Therefore, this increases reliance mainly on electronic charts.

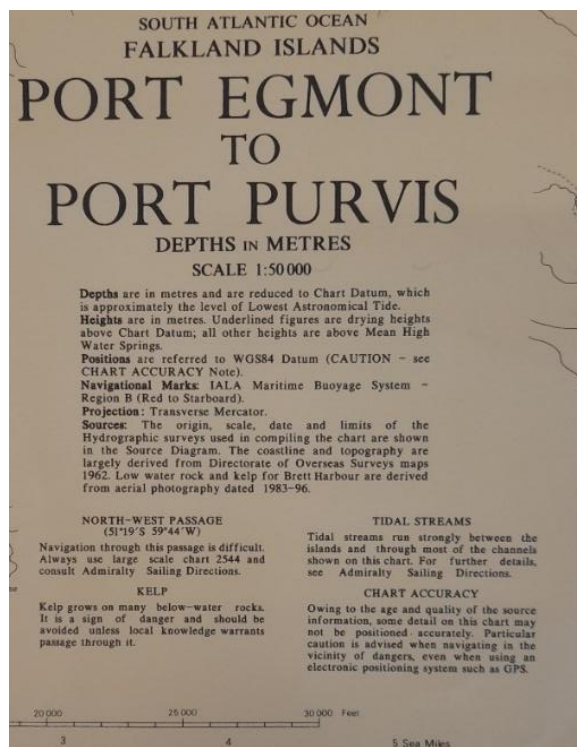
Sailing directions for Port Egmont suggest that harbour tidal streams attain rates between 1 and 1.5 knots. A local vessel conducted an observation on the tidal behaviour whilst at anchor in the vicinity where *FV Eun Hae 107* ran aground. The local vessel observed that with winds SW at 40 knots there was a 1.7m tide flow out at the rate of 2.2 knots at 024 degrees. During the time of observation, it was reported by the local vessel that the tidal height exceeded 3.3m. The area has deepest depths of around 19m and the seabed is of mud and sand which provides good anchor holding ground. There are 2 marked anchoring positions east of Sealer Cove and Settlement Cove with depths around 13m.

The Falkland Islands has an estimated 1288km of coastline and the majority of this area has not been hydrographically surveyed²⁵. Survey effort mainly focused on the east of the Falkland Islands, Stanley Harbour and Port William and has been surveyed to A1 Category Zone of Confidence (CATZOC) ratings. Port Egmont falls within CATZOC C and has a low accuracy survey. This is reflected in the Admiralty chart note, see figure 15. On

²⁵ The Falkland Islands Hydrographic Working Group has identified areas around the Falkland Islands which require hydrographic surveys due to their vessel traffic frequency. The list of these areas has been received by the Falkland Islands Maritime Authority to put forward actions to improve the hydrographic surveys of these areas.

an approved ECDIS, the CATZOC rating will appear on the chart display to bring to the attention of the navigator where the vessel is in an area of poor depth accuracy where there is an increased risk of unidentified dangers. This warning or information was not found on the ECS used on the *FV Eun Hae 107*.

Figure 17: Admiralty Chart 2545 note



Source: FIMA

1.11 Falkland Islands Maritime Authority (FIMA)

FIMA was responsible for coordinating the response to the accident, which resulted in the successful refloating of the fishing vessel *FV Eun Hae 107*. FIMA became aware of the grounding through a member of the public who contacted the duty Assistant Harbour Master via the 24-hour duty mobile phone. The FIMA office is located in Stanley and monitors maritime activity throughout the waters of the Falkland Islands. The Port Egmont area is monitored by FIMA using AIS only, and in this case, *FV Eun Hae 107* was fitted with AIS. The investigation noted that the FIMA office is opened daily between the hours of 08:00 to 16:30 and a duty person is on standby during out of office hours to respond to emergencies. During the hours of 16:00 to 08:00 port control duties are carried out by Joint Control Room Officers (JCRO)²⁶.

Upon receiving the report of the grounding of the *FV Eun Hae 107*, FIMA staff immediately implemented their accident response procedures. The team consists of five members: the Head of Maritime, the Harbour Master, and three Assistant Harbour Masters. Once it was established that the response operation would extend over a prolonged period, the FIMA team was divided into two-person watches to ensure continuous 24-hour monitoring of the vessel's condition.

²⁶ The Joint Control Room (JCR) is part of the Directorate of Emergency Services and Island Security. The JCR is manned 24/7 and receives emergency calls from different agencies of emergency services.

FIMA maintained communication with the vessel through the local vessel operator. Communication was conducted via telephone calls, email, and WhatsApp. During the initial response, the FIMA office guided the vessel's crew in attempting to refloat the vessel using rudder movements and engine manoeuvres. This attempt was unsuccessful, and the vessel remained in position with a list to starboard. During this time, FIMA was coordinating the availability of vessels that could provide assistance in refloating the grounded vessel. The vessels identified as suitable were the Fisheries patrol vessel Lilibet and a tug Dintelstroom. Both vessels were delayed in proceeding to the scene due to heavy weather conditions and other contributing factors.

The vessel provided a report at 30-minute intervals, a report was made to FIMA from the vessel through the local operator to give a report on the following conditions of the vessel:

- Soundings: bow, midships and aft
- Vessel list
- Crew welfare
- Weather conditions and sea state
- Vessel heading
- General status of machinery

FV Eun Hae 107 was refloated on 13 February 2026 at 0857 with the assistance from the tug Dintelstroom. No pollution was reported to FIMA during the refloating process. The vessel reported a slight list to port, from which it recovered from without any further impact. FIMA continued to monitor the vessel during its passage to Port William. *FV Eun Hae 107* was escorted by the fisheries patrol vessel Lilibet which would provide support should the *FV Eun Hae 107* require assistance. Whilst FIMA has the responsibility for monitoring Falkland Islands waters, monitoring in remote areas is limited to AIS and internet-based communication methods where VHF radio coverage is unavailable. Port Egmont is one of the areas which has limited means of communication between FIMA and any vessel in that area.

During periods of adverse weather, vessels often seek shelter along the coastal areas of Falkland Islands waters, where communications may be limited. FIMA's ability to advise vessels on suitable areas for anchoring or drifting is also constrained, as the majority of the coastline has not been surveyed hydrographically in recent years. Consequently, the selection of a suitable sheltering area remains solely the responsibility of the vessel's master, who must make that decision based on their own risk assessments and onboard procedures.

SECTION 2 – ANALYSIS

2.1 AIM

This investigation seeks to determine contributory factors and causal factors leading up to the fishing vessel *FV Eun Hae 107* grounding and to provide recommendations to prevent further occurrence of similar nature.

2.2 OVERVIEW

2.2.1 Causal Factors

- Proper lookout in accordance with Colregs was not maintained during the navigational watch, as the OOW was engaged in other work on the bridge which prevented him from effectively monitoring vessel movement and continuously assessing prevailing circumstances affecting the vessel.
- The decision to slow steam and drift compared to anchoring. The vessel ran aground during the drifting leg. During the drifting legs, the vessel was completely vulnerable to the effects of weather conditions and changing tide. During the drift periods, the OOW had very limited control over the movement of the vessel.
- Full assessment of all navigational hazards including shallowing areas was not conducted. The vessel did not have all the appropriate resources such as approved and up-to-date nautical charts to assess the area where the vessel was to take shelter in.
- Poor handovers between officers on the vessel. Handovers between officers lacked crucial information pertaining to changes to the Master's initial sheltering plan, weather conditions and its effect to vessel maneuverability, traffic in the vicinity and full assessment of navigational hazards.
- Over reliance on equipment which OOW was not fully trained on how to use. Crew members had a basic understanding of the characteristics of ECS fitted onboard, however they were not familiar with limitations of the equipment and how to mitigate those limitations.

2.2.2 Contributory Factors

- Jigger fishing lights fitted along the outer superstructure at the same height as the bridge windows partially obstruct visibility. The lights are used during fishing operations. During the heavy weather sea spray and rain accumulate on the outside of the windows obstructing visibility of the watchkeeper. The presence of the jigger fishing lights contributed to the limited visibility of the watchkeeper.
- During the period leading up to the accident, the vessel was experiencing very heavy weather conditions, including heavy rain, strong winds with high-speed gusts and rough seas.
- The bridge watchkeeping team were used to taking shelter in this area and therefore not fully assessing the area for hazards, marking hazards / no-go areas, considering the effects of weather and determining best method of limiting effects of weather on the vessel whilst utilizing the safest method for the prevailing conditions.
- A dynamic risk assessment was done to determine most suitable sheltering method to follow within Port Egmont. This limited the situational awareness of the watchkeeping officers when assessing potential hazards in the area that the vessel is exposed to when drifting or slow steaming.

SECTION 3 – CONCLUSIONS

3.1 SAFETY ISSUES DIRECTLY CONTRIBUTING TO THE ACCIDENT THAT HAVE BEEN ADDRESSED OR RESULTED IN RECOMMENDATIONS

The investigation found that:

- A proper lookout was not maintained by the watchkeeper as the watchkeeper was distracted by other tasks on the bridge during the navigational watch. As part of keeping a proper lookout, the vessel did not have the approved means of plotting vessel position, monitoring vessel position and ascertaining potential hazards within the area where the vessel was in. Consideration was not given to effects of weather conditions to the drift rate of the vessel.
- The decision to drift and slow steam within Port Egmont was made on the basis that the crew had taken shelter within Port Egmont before without any issues. Consideration was not given to the possibility of anchoring instead of drifting and slow steaming which exposes the vessel to unknown hazards in Port Egmont.
- Actions taken by both the watchkeeper and Master when the vessel was not responding to helm orders potentially worsened the situation. When there was no response from the helm and with the echo sounder showing zero depth, the action carried out on the bridge was to attempt to increase forward speed without fully assessing the situation.
- Navigational hazards and effects of weather conditions to the vessel in Port Egmont were informally assessed and not all fully identified. There was no consideration given to the effects of a rising tide and the wind changing direction.

SECTION 4 - ACTIONS TAKEN

When the vessel was in Port William on 17th of February 2025, an underwater hull inspection was carried out on the vessel. Minor damage to the propeller was observed by divers but the damage was not significant enough to prevent the vessel from participating in the fishing season. An internal investigation was conducted by the vessel owner and Dragon Maritime Services. The internal investigations further outlined best actions to take when vessels are avoiding the effects of heavy weather, and these findings were promulgated by the owners to their vessels.

The investigation concluded that Port Egmont is navigationally constrained and appears to offer only moderate holding ground for vessels when seeking shelter in this area during poor weather conditions. Furthermore, the accident was a result of partial failure in Bridge Resource Management, lack of dynamic risk assessment, and less than good situational awareness.

Post-fishing season of 2025, the vessel dry docked in Cape Town, South Africa where the vessel underwent a full hull inspection which resulted in minor repairs to the propeller and replacement of anodes.

SECTION 5 – RECOMMENDATIONS

Sumin Fisheries Co Ltd is recommended to:

1. Determine and implement crew resources to ensure that crew are able to develop suitable passage plans, and implement, execute, monitor and appraise plans for all intended voyages. This should include a link to the safety management requirements that ensure a proper lookout is kept at all times in accordance with the International Regulations for Preventing Collisions at Sea 1972.
2. Review and implement effective management tools and procedures to ensure that all bridge watchkeeping officers are properly familiarised with bridge navigational equipment. This should include comprehensive understanding of the operational characteristics, functions, and limitations of the equipment, in addition to the mitigating measures and contingency plans established to address any gaps or risks arising from such limitations.