Report on the Investigation of

the grounding

of the passenger ferry

Trident V

In the Alligande Passage, approaches to Herm Island

On 08 June 2016

States of Guernsey

Extract from

The Merchant Shipping (Accident Reporting and Investigation)

(Bailiwick of Guernsey) Regulations 2009 Regulation 5:

"The sole objective of a safety investigation into an accident under these Regulations shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame."

NOTE

This report is not written with litigation in mind and, pursuant to Regulation 13(9) of the Merchant Shipping (Accident Reporting and Investigation) (Bailiwick of Guernsey) Regulations 2009, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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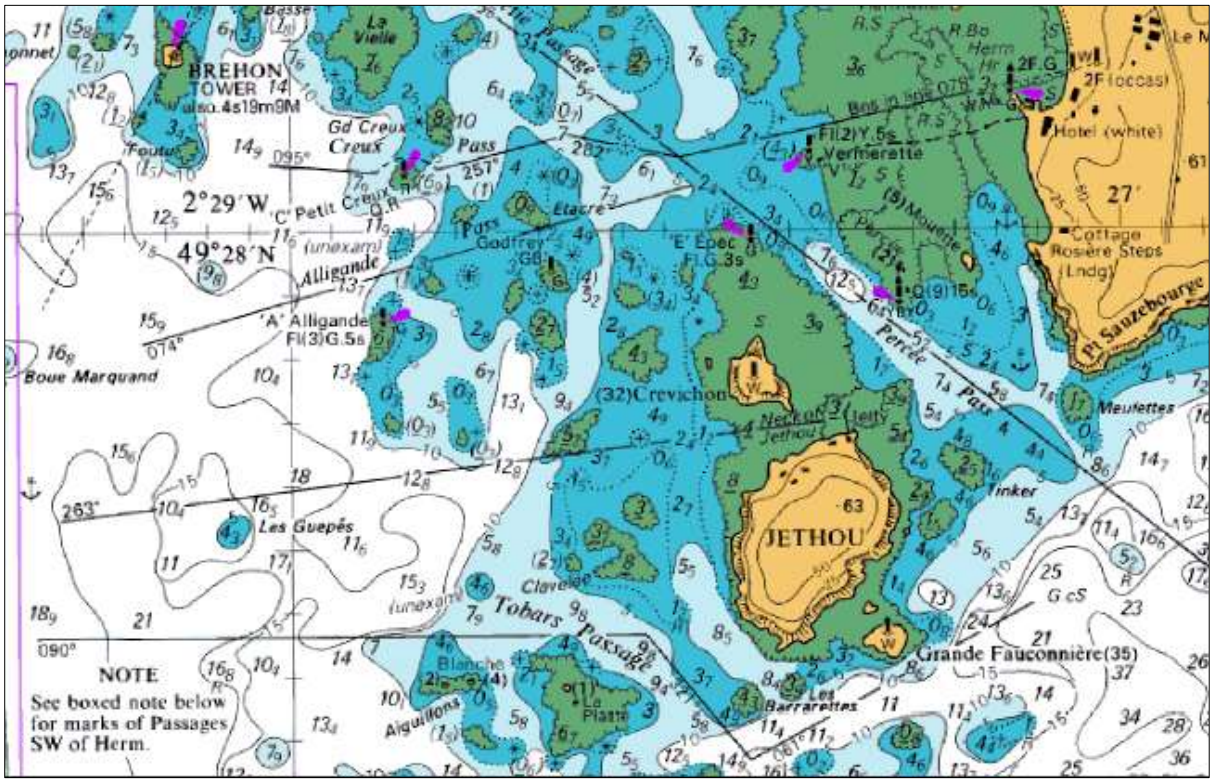
SYNOPSIS

At approximately 1530 on 08 June 2016, the domestic passenger ferry *Trident V* grounded on a charted, rocky reef in the Alligande Passage, on the approaches to Herm Island. On board, there were 19 passengers and 3 crew. No-one was injured and there was no pollution. However, there was significant damage to the port skeg, propeller shaft, propeller and rudder.

The grounding caused a noisy bang and caused the vessel to stop dead in the water, swinging to port. The manoeuvrability of the vessel was significantly reduced. The Coastguard and passengers were immediately notified of the grounding. All passengers were instructed to don lifejackets re-assured that the vessel was not taking water. The passengers were transferred to the St Peter Port lifeboat and *Trident V* was towed to St Peter Port harbour.

The investigation found that there had been insufficient passage planning for the voyage and ineffective navigational techniques; in particular, the reduced visibility and low tide were not properly considered.

Safety recommendations have been made to Trident Charter Company and Guernsey Harbours, designed to ensure appropriate levels of proficiency in the conduct of safe navigation.



SECTION 1 – FACTUAL INFORMATION

1.1 PARTICULARS OF TRIDENT V AND ACCIDENT

SHIP PARTICULARS	
Vessel's name	*Trident V*
Flag	Guernsey
Type	Domestic passenger ferry
Registered owner	Trident Charter Company
Manager(s)	Trident Charter Company
Construction	Steel hull, wooden superstructure
Year of build	1989
Length overall	22.5m
Beam	10.0m
Draft	1.0m
Minimum safe manning	3
VOYAGE PARTICULARS	
Port of departure	St Peter Port, Guernsey
Port of arrival	Rosaire Landing, Herm Island
Type of voyage	Domestic passenger service
Cargo information	Passengers
Manning	3
MARINE CASUALTY INFORMATION	
Date and time	08 June 2016, 1530 local
Type of marine casualty	Serious marine casualty
Location of incident	Alligande Passage, Guernsey east coast
Place on board	Port hull and propulsion
Injuries/fatalities	None
Damage/environmental impact	Hull, shaft, rudder and propeller damage
Ship operation	On passage
Voyage segment	Mid water
External & internal environment	Wind: northerly, force 1-2 Sea state: calm Visibility: poor
Persons on board	3 crew and 19 passengers

1.2 NARRATIVE

At 1515 on 08 June 2016, *Trident V* sailed from St Peter Port heading for Rosaire Landing, Herm Island with 3 crew and 19 passengers on board. The Master had determined to approach Herm Island via the Alligande and Percee Passages. Restricted visibility was encountered on the previous rotation, and the Third Hand enquired with the Master if he required a second Master to be called in, in accordance with company procedures. The Master declined.

On clearing St Peter Port harbour, a standard passage was followed towards the Alligande passage. The visibility was poor and assessed as being less than 1 cable. The Master was in command and monitoring navigation, giving course instructions as required. The Engineer was helming the vessel and the Third Hand was providing a dedicated look-out.

The Master approached Alligande rock from the south, which is standard practice in the tidal conditions at the time. This is to anticipate a 'kick' from the tidal streams in the vicinity of Alligande rock.

As the vessel approached the western end of the Alligande Passage, the vessel was north of the recommended track. The Master was monitoring the vessel's position by radar but failed to alter the VRM setting in time, causing the vessel to remain north of track. Visual leading marks were not available due to the restricted visibility. The Master realised that the VRM setting should have been altered and gave a series of course alterations to the Engineer in order to head south and regain the track.

At 1530, whilst proceeding at 12.5 knots over the ground, a noisy bang was experienced. The vessel stopped dead in the water and swung to port. The port engine revolutions increased rapidly indicating a reduction in load. There was no doubt that the vessel had grounded. The Master immediately broadcast a Pan-Pan by VHF. The Third Hand informed the passengers of what had happened. The Engineer attended the engine room, steering flat and then systematically checked the void spaces for water ingress. The Master then attempted to manoeuvred the vessel into safe water and instructed for the anchor to be released.

A local charter vessel responded to the Pan-Pan and proceeded to the location. The charter vessel was alongside *Trident V* at 1543 and stood by. The St Peter Port lifeboat went alongside *Trident V* and evacuated all passengers by 1558.

Trident V was then towed back to St Peter Port harbour by the Guernsey Harbours workboat, Sarnia, where a dive inspection took place. Damage to the hull plating, skeg, propeller shaft, propeller blades and rudder was evident. The Passenger Ship

Safety Certificate was withdrawn by the Authorities. The vessel was then towed to Marine and General Shipyard at St Sampson's harbours for docking and repairs.

1.3 DAMAGE

The grounding caused significant damage including:

The skeg of the port hull was distorted. **(Figure 1)**

The port rudder was distorted out of position with contact damage to the rudder itself. **(Figure 2)**

The port propeller blades were distorted. **(Figure 3)**

The port shaft and 'P' bracket were distorted with contact damage. **(Figure 4)**

1.4 ENVIRONMENTAL CONDITIONS

1.4.1 Weather

Wind:	Light and Variable
Sea State:	Calm to slight
Visibility:	Poor, in daylight

1.4.2 St Peter Port tidal data for 08 June 2016

High water:	0944, 9.1m
Low water:	1603, 1.4m
Height at grounding:	1.6m

1.5 VESSEL

Trident V is a domestic passenger ferry which was purpose built in 1989. The vessel is owned and operated by Trident Charter Company (the company).

Trident V is a steel catamaran, with a wooden superstructure. There are 4 voids in each hull, an engine space and steering flat.

The wheelhouse equipment includes a main radar, a radar/chart plotter, a GPS, an AIS, 2 VHF DSC radios, a magnetic compass and a fluxgate compass

Figure 1: Distortion to port skeg

Figure 2: Port rudder distorted out of position

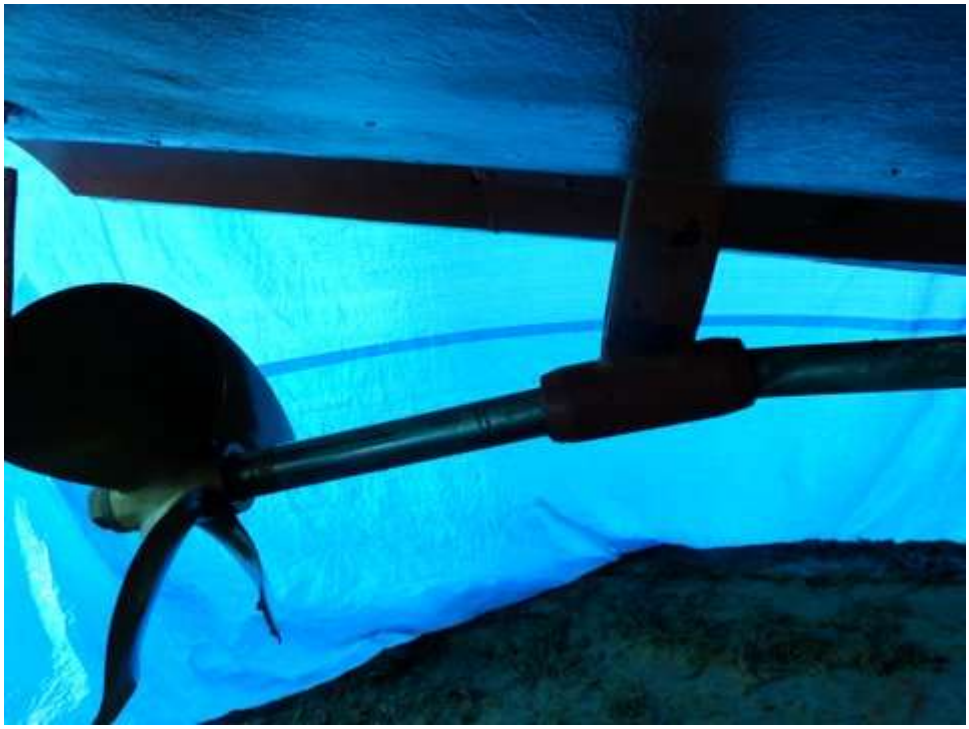


Figure 3: Port propeller blades distorted

Figure 4: Port shaft and 'P' bracket distorted

1.6 CREW

Trident V's crew typically consists of a Master, Engineer and Third Hand. The Master and Engineer are required to undertake local examinations in order to be issued with a domestic licence to operate a passenger vessel in Bailiwick of Guernsey waters.

The Master was 55 years old and had held a domestic licence since May 2014. He had held a licence in previous years but this had lapsed. He has a good working knowledge and extensive experience of navigation in the waters around Guernsey and Herm.

The Engineer was 34 years old and had held a domestic Engineer licence since December 2015. He joined the company as a Third Hand in June 2015.

The Third Hand was 63 years old and also held a domestic Engineer licence since 1992. He had joined the company in 1991.

1.7 NAVIGATION BETWEEN ST PETER PORT HARBOUR AND HERM ISLAND

Herm Island lies 3 nautical miles to the east of St Peter Port harbour. There area is subject to numerous rocky reefs, heads and shallows. There are recognised passages available to pass the various navigational hazards. These allow for passages to both the north and south of the small island of Jethou.

The depth of water within the recognised passages to the north of Jethou is sufficient for *Trident V* at all states of tide however, the availability of navigable water between hazards is severely restricted and leaves very little margin for cross-track error.

The syllabus for the local Man-in-charge licence training is detailed and requires a sound knowledge of all striking marks for the various hazards as well as clearing and leading marks for the passages.

Navigation in these areas relies heavily on visual transit marks however radar techniques using parallel indexing and variable range markers are available and effective.

1.8 PASSAGE PLANNING AND EXECUTION

1.8.1 International requirement

The International Maritime Organization's (IMO) Resolution A.893(21) *Guidelines for Voyage Planning* requires Masters to plan every voyage, identifying a route that takes into account all navigational hazards and ensures sufficient sea room for the safe passage of the vessel. The IMO guidelines explain that:

'The development of a plan for voyage or passage, as well as the close and continuous monitoring of the vessel's progress and position during the execution of such a plan, are of essential importance for safety of life at sea, safety and efficiency of navigation and protection of the marine environment.'

The guidance sub-divides passage planning into four key stages: appraisal, planning, execution and monitoring. The initial voyage planning **appraisal** stage involves the gathering of all information relevant to the intended voyage. The next stage requires the detailed **planning** of the whole voyage from berth-to-berth. The third and fourth stages are the effective **execution** of the plan and **monitoring** the progress of the vessel during the implementation of the plan.

1.8.2 Company guidance on passage planning

The investigation found that there was limited company guidance on approved routes and navigational risk assessments.

1.8.3 Onboard preparations

Prior to commencing the daily schedule, the Master and Engineer typically have an informal tool-box talk about the day. The Master typically makes the decisions about tides and which landing point to use in Herm[1]. This is not questioned by the Engineer or Third Hand as it is understood that the Master has the most experience. During adverse weather, discussions take place regarding revising the schedule or delaying the service.

The Engineer will conduct engine space checks to prepare the vessel for service. The Master tests equipment in the wheelhouse. Other than determining the destination at Herm, there are no other passage planning considerations.

1.8.4 Passage execution

The usual configuration in the wheelhouse is for the Master to helm the vessel and control the engines which also being responsible for the navigation. Typically, the other crew attend the wheelhouse as there is no designated rest area on board.

[1] Herm Harbour is not accessible from approximately half tide down until half tide up. Rosaire Landing is used over the low water.

In restricted visibility, common practice is for the crew to be employed to assist the Master. The Master will monitor the navigation by radar and chart plotter whilst a crew member will take the helm. The other crew member will perform look-out duties.

This was the configuration when the vessel grounded.

1.8.5 Company guidance on passage execution

Following a similar, recent accident, the company issued a directive on how the wheelhouse should be manned and the vessel routed in restricted visibility. **(Annex A)** The Master chose not to follow the company directive on this passage.

1.9 INSPECTION AND AUDITS

Trident V is considered as a Class VI passenger vessel. The vessel is surveyed annually to the relevant UK Construction Standards by an approved surveyor of the MCA. The vessel was last surveyed on 8th March 2016. The report of inspection noted 6 minor deficiencies which were all rectified by the operator.

The vessel is also inspected/audited in accordance with the requirements of the Safety Management Code for Domestic Passenger Ships in the Bailiwick of Guernsey by a representative of Guernsey Harbours. *Trident V* was audited on 14th April 2016 and was found, in general, to be in good order with a competent Master and crew demonstrating a very tidy and well run vessel. The audit did not assess navigational competence, company guidance or risk assessment of routes.

On this basis, a Domestic Passenger Ship Safety Certificate was issued by the Harbour Master, on behalf of the Public Services Department, States of Guernsey on 15th April 2016.

Following a grounding incident on 22nd April 2016, the Domestic Passenger Ship Safety Certificate was suspended until the vessel was repaired and surveyed.

SECTION 2 – ANALYSIS

2.1 AIM

The purpose of the analysis is to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar accidents occurring in the future.

2.2 THE GROUNDING

Trident V suffered significant damage to the port skeg, propeller shaft, propeller and rudder after grounding on a charted, rocky reef in the Alligande Passage. Although using recognised radar techniques, the Master did not monitor the vessel's position accurately enough in the restricted visibility. The lack of risk appreciation occurred because insufficient passage planning had taken place prior to the voyage; in particular, the low tide and limited navigable sea room, coupled with the poor visibility were not properly assessed.

2.3 PASSAGE PLANNING

The route between St Peter Port harbour and Herm Island is well established. In the height of summer, *Trident V* will make some 8 to 10 return voyages per day. The passages used have been followed for decades with navigational knowledge being passed down through generations.

It is therefore unsurprising that, prior to sailing, the Master did not consider any specific passage planning requirements for the particular voyage.

Passage planning factors not properly taken into account by the bridge team of *Trident V* were the height of tide, visibility and navigational monitoring techniques.

For mariners planning passages through unfamiliar waters, consideration of the height of tide, interaction and the calculation of UKC and LDLs are no more than the application of basic navigation principles. However, where the passage is through familiar waters navigated daily all year round for many years by special pilotage licence holders, such planning action may not appear necessary.

As the vessel approached the Alligande, the Master was aware that the radar settings were not as he would usually have them, but did not make any adjustments. A VRM of 0.042NM is initially used when passing Alligande rock. This is typically reduced to 0.038NM once passed and approaching Godfrey, in order to give further clearance on the Etacre reef to the north. The Master found the controls on the radar set awkward and therefore chose not to alter them on this occasion.

Without visual references and correct configuration of the radar, accurate assessment of the available width of safe water in relation to the position of the vessel was not available and the Master did not appreciate that the vessel was beyond the limit of navigational safety.

Irrespective of a vessel's size, its operational function or, in some cases, the repetitive nature of its journeys, it is imperative that every voyage is properly planned taking into account all relevant factors necessary to ensure that hazards are avoided. Complacency can be defined as 'repeated exposure to risk without consequence', and the evidence in this case clearly indicates that the repetitive nature of the task was a causal factor.

2.4 HEIGHT OF TIDE

The mean spring range of 7.9m in St Peter Port is significant and requires awareness of its applicability to each passage; specifically, how the height of tide affects the width of safe water available. The grounding occurred approximately 0.5 hour before low water when the height of tide was 1.6m. Although the Master was aware of the time and height of low water, no action was taken to assess its significance.

2.5 CALCULATING THE SAFETY DEPTH

The master was aware of the charted rocky reefs in the Alligande passage. The minimum charted depth in the area is a head of rock known as Tasse, which dries at 1.5m above chart datum. There is also the Etacre reef, which dries at 0.9m above chart datum to the north of the track. He was also aware of the height of tide of approximately 1.6m.

There was no consideration of a minimum UKC or the potential effects of squat.

Thus his planning appreciation of the navigational situation should have been, exclusive of UKC and squat:

Draught = 1.2m

Height of tide – charted depth – draught = - 1.1m

It is important to note that, with very strict track control, there is sufficient water for *Trident V* to use Alligande passage at the height of tide at the time, however, the width of navigable water severely restricts the vessel to deviate from the track.

Had an accurate assessment of the safety depth been made prior to the voyage, alternative plans, such as selecting an alternative route or rescheduling the service may have been considered.

2.6 PASSAGE EXECUTION AND MONITORING

2.6.1 Route

Admiralty sailing directions, British Admiralty charts and the Special Pilots Syllabus all identify the Alligande Passage as a route between the Little Russel and the island of Herm.

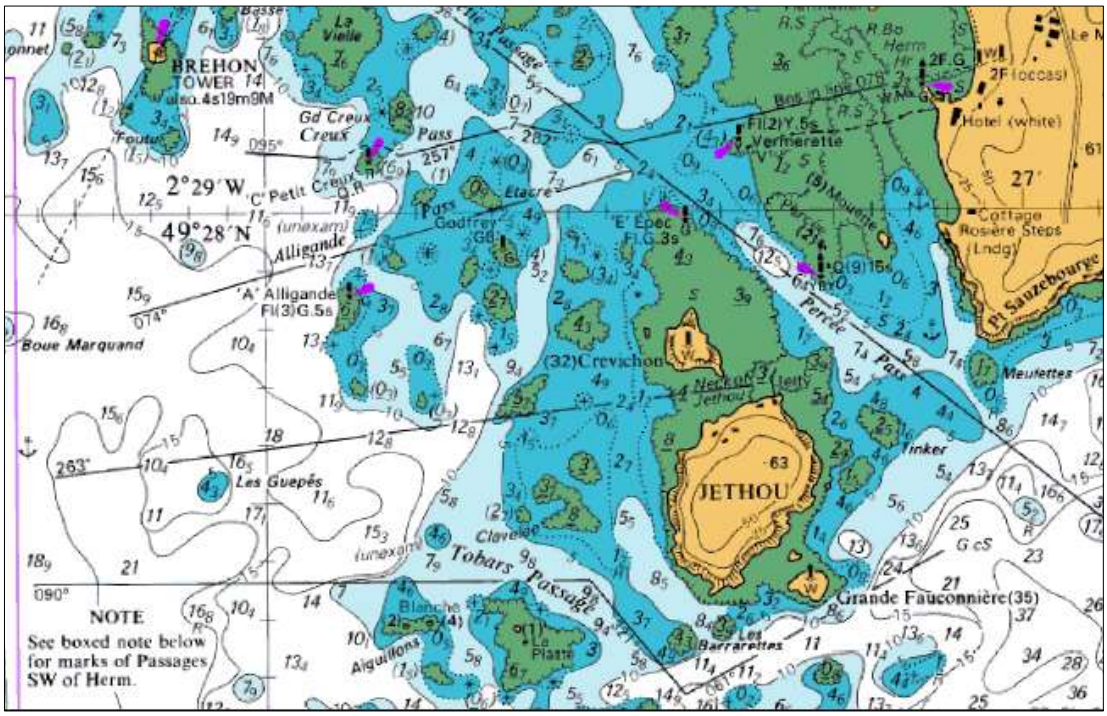


Figure 5: Admiralty chart extract of Alligande Passage

It is clear that the charted 074° track passes close to a number of hazards both to the north and south, and strict track control is required. The visual transit to maintain the track is Vermerette Beacon in line with Herm harbour pierhead white patch. This is followed until either the Percee passage track is adopted or the approach into Herm harbour, depending on the height of tide.

The absence of leading transit marks due to restricted visibility meant that it was not possible to visually monitor the vessels position and that it was vital that radar navigational techniques were employed to ensure strict monitoring of the vessels position in relation to the hazards.

Whilst the route is recognised locally, there was no company guidance or risk assessment of the route and therefore decision making was solely left with the Master.

Figures 6 & 7 show the AIS track of time and COG taken by the vessel. It also shows the charted 074° track (magenta). In the approach to the grounding, *Trident V* was always to the north of the approved track.

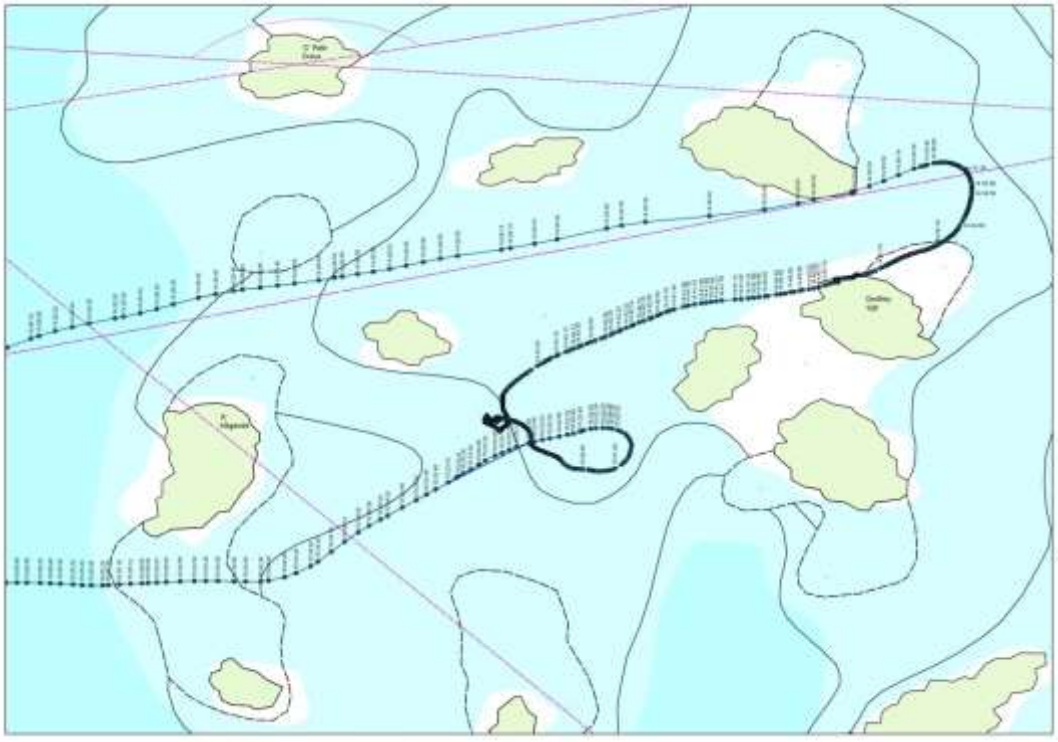


Figure 6: AIS data showing vessel position and time

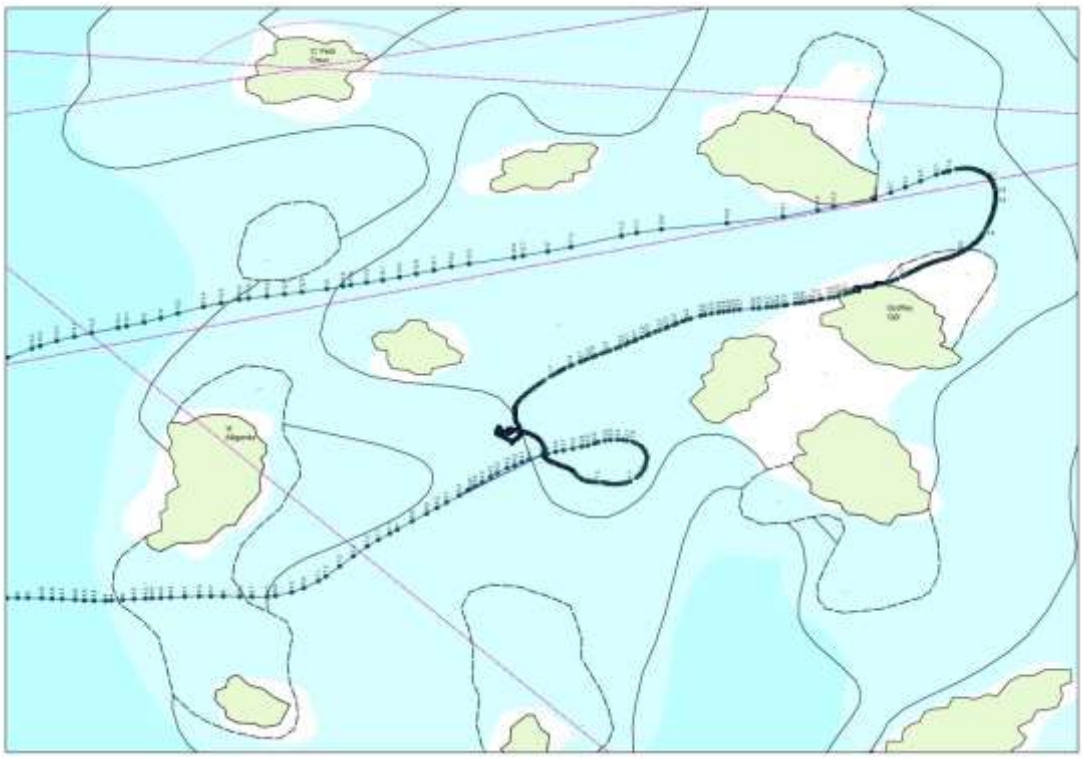


Figure 7: AIS data showing vessel position and COG

2.6.2 Monitoring

Positional awareness in the Alligande Passage was primarily achieved visually using the 074º transit; however, the margins of safety were extremely limited. Radar techniques using VRM or Parallel Indices are effective and used by other Masters. At the point of grounding, the vessel was slightly north of the intended track. Such limited distances of navigable sea room require highly accurate levels of situational awareness to remain on track; there is also effectively no sea-room to allow for other vessels. Nevertheless, had the Master followed, with precision, the charted route through the Alligande Passage, *Trident V* would not have grounded.

Teamwork in the wheelhouse is vital, especially in pilotage waters where maintaining continuous, high levels of situational awareness is required and frequent decisions relating to navigational safety are being made. Key to this is a common understanding of the plan. Pre-departure and pre-arrival briefings provide one method of delivering this.

2.6.3 Use of electronic navigational aids

Although the primary means of maintaining track in the Alligande passage was visual, electronic navigation aids can provide vital additional data, aiding the team.

The main radar and chart plotter were in operation at the time of grounding. The Master did not accurately set the VRM on the radar. The chart plotter did not have the route displayed and history trails were deselected.

Following a recent grounding, the layout of the wheelhouse was altered to allow the main radar to be worked without the need to stand at the helm. This allowed the Master to assign another crewmember to the helm. The configuration of the rudders in relation to the shafts makes helming the vessel difficult as it is directionally unstable. The sister vessel *Trident VI* had the rudders reconfigured following a grounding but this alternation was not made to *Trident V*.

The vessel was not fitted with an echo sounder. Use of an echo sounder as a safety barrier during pilotage can be effective but relies on two conditions: the expectation of danger, and seabed contours that would show reducing soundings in sufficient time to react. In this case, the steep sided nature of the rocky pinnacles in the area would not have provided sufficient forewarning that the vessel was about to run aground.

2.7 EMERGENCY RESPONSE AND DAMAGE ASSESSMENT

2.7.1 Appropriate response

The Master and crews immediate response was entirely appropriate. There was no denial that the vessel had grounded. The Master alerted the coastguard by Pan – Pan message while the crew inspected the vessel and kept the passengers informed. The grounding checklist **(Annex B)** was not referred to however, the crew did check all compartments for damage and water ingress.

The fact that the Master broadcast a Pan-Pan message by VHF allowed vessels in the vicinity to respond and provided situational awareness for all involved.

2.12 SAFETY MANAGEMENT

2.12.1 Onboard guidance

Onboard guidance is limited. There is a General Layout of Emergency Equipment file which provides details of all safety related equipment as well as a Station Bill and check-lists to cover a limited number of emergency scenarios **(Annex D).**

In addition, There are 5 Standard Operating Procedures (SOPs). These, in most cases, duplicate the check-list contained within the General Layout of Emergency Equipment file.

There is no onboard guidance on navigation, approved routes or passage planning.

2.8.2 Audits and inspections

The degree of navigational risk routinely being taken on board *Trident V* and highlighted in this investigation had not been identified as a concern by any of the recent or external audits or inspections of the vessel.

Audits and inspections are recognised as a sampling process, and it is not possible to check every facet of a vessel's navigational safety and compliance. Nevertheless, *Trident V's* lack of navigational techniques and company guidance ought to have been detected by audits and inspections.

2.8.3 Training and readiness

Whilst it is clear from the Monthly Log (extract at **Annex C**) that regular training occurs for certain scenarios, it is evident from *Trident V's* internal training records that the response to grounding is not exercised. The possibility of grounding given *Trident V's* scheduled service suggests a requirement for such training. Thus, if grounding or damage control had been strong themes in the programme of internal training, then the onboard response would potentially have been more instinctive.

There is no training in navigational techniques, particularly blind pilotage exercises.

2.8.4 Domestic licencing and monitoring

Domestic legislation directs that a Man – in – Charge licence is required to operate a domestic passenger vessel. This is categorised by the number of passengers to be carried. The Master held a valid Man – in – Charge licence for up to 250 passengers.

A syllabus exists which focuses heavily on the pilotage within the area the licence applies. There is little or no focus on navigational competence or use of electronic navigation aids. There is also no requirement for any formal, independent, industry recognised qualification which would ensure the wider requirements of acting as a Master are met.

There is also no arrangement in place for the issuing authority to ensure continued competence following initial qualification. The licence holder has to declare a minimum number of days at sea during the preceding year in order to qualify for revalidation.

SECTION 3 - CONCLUSIONS

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

1. *Trident V* grounded on a charted, rocky shoal in the Alligande Passage because insufficient passage planning had been undertaken. In particular, the extremely low tide and the poor visibility had not been properly taken into account. [2.3, 2.4, 2.5]

2. The absence of sufficient passage planning meant that the Master was unaware of the limits of safe water so approached danger without appreciating the hazard. Furthermore, a safer course of action was available - use of alternative passages. [2.3,2.4, 2.5]

3. The highly repetitive nature of *Trident V's* schedule induced a degree of planning and navigational complacency. [2.3]

4. The significant navigational risk routinely being taken by *Trident V* went undetected by audits and inspections. [2.8.2]

5. The company did not have in place continuation training for Masters to practice radar navigation techniques. [2.8.3]

6. The domestic licencing requirements for Masters do not currently formally assess radar competence or require professional radar qualification. [2.8.4]

7. There was no company guidance or risk assessment of approved routes. [2.8.1]

3.2 SAFETY ISSUES NOT DIRECTLY CONTRIBUTING TO THE ACCIDENT THAT HAVE BEEN ADDRESSED OR RESULTED IN RECOMMENDATIONS

1. Man – in - charge licence holders were thoroughly trained; however, there was no provision for continuous professional development after their initial qualification. [2.8]

2. At no time did the Master comply with the requirements of the International Collision Regulations by sounding the appropriate sound signal in restricted visibility. [Observation only]

3. Maintaining a course can be difficult due to the position of the rudders requiring excessive concentration. Following a grounding of the sister vessel, *Trident VI*, a recommendation was made to modify the rudder arrangements. This was only applied to *Trident VI* and not *Trident V*. [2.6]

SECTION 4 – ACTIONS TAKEN

Trident Charter Company has:

- Imposed a restricted visibility procedure where a second Master will be called in when visibility is less than 0.25NM and the height of tide is less than 1.7m. The vessel will also take an alternative route.
- Formalised radar techniques for monitoring the vessel's position using VRM settings which are posted in the wheelhouse.
- Introduced minimum manning of 3 within the wheelhouse during restricted visibility to provide support to the Master.
- Imposed the requirement that the Master will brief the crew prior to each voyage on the passage plan and intended route.

Guernsey Harbours, acting on behalf of the States Supervisory Trading Board has:

- Re-instated the Passenger Ship Safety Certificate for *Trident V* following its revocation due to the damage to the vessel. This was re-instated following satisfactory re-examination of the vessel and a Declaration of Survey being issued by the MCA.
- Suspended the Man – in – Charge licence of the Master for 3 months. The Master will be required to undertake a check-trip prior to the licence being reinstated.

SECTION 5 - RECOMMENDATIONS

Trident Charter Company is recommended to:

02/2016 – TV/1 Introduce regular blind pilotage navigation training for all Masters.

02/2016 – TV/2 Risk-assess and approve routes to be taken by company vessels.

02/2016 – TV/3 Modify the rudder arrangements to allow for improved directional stability.

02/2016 – TV/4 Consider fitting auto-pilot.

02/2016 – TV/5 Consider fitting an automated sound signalling device to ensure compliance with the requirements of International Regulations for the Prevention of Collisions At Sea.

02/2016 – TV/6 Review onboard guidance and training to ensure all potential situations are covered. To include but not be limited to collision, pollution, fire in passenger area, enclosed space rescue, navigational training and blind pilotage training.

Guernsey Harbours, acting on behalf of the States Supervisory Trading Board is recommended to:

02/2016 – GH/1 Update the domestic syllabus for Special Pilot Man – in – Charge licence to include blind pilotage assessment.

02/2016 – GH/2 Introduce the requirement that a Special Pilot Man – in – Charge licence holder shall have undertaken an approved radar operator course within the previous 12 months prior to being examined.

02/2016 – GH/3 Amend the Domestic Safety Management Code audit and inspection process to include the checking of navigational training for all Masters.

02/2016 – GH/4 Develop an annual 'check-trip' for all Man – in –charge licence holders to ensure continuous professional development following initial qualification.

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

Annex A - Restricted Visibility Company Procedure

Trident Charter Company Limited

Visibility Procedures

With immediate effect 6th May 2016

Company procedures regarding visibility:

It is proposed that risk assessments are undertaken each morning prior to the first trip on each day and will give due consideration to the visibility at the time and the forecasted visibility. All navigation equipment will be checked and in good working order prior to departure.

It is suggested that visibility below 0.25 miles and a tide height of 1.7 and below a second skipper will be called in; also the Alligande passage will be avoided. Vessels will reroute to the Lower Heads and then up to a position east of Goubiniere and from there to Rosiere. A second skipper will be made available at short notice on a roster basis.

VRM's (variable range markers) will be set prior to the vessels departure and adjusted as required.
A copy of these VRM's and courses will be kept on board each vessel and will be easily available to the crew.

Three crew will man the wheelhouse, the skipper will be on radar, Engineer to steer compass courses given to him and the third man to keep a good watch. If a second skipper is in then he shall be used where most applicable. The skipper will brief the crew prior to each trip as to which route will be taken. Regular training sessions will be carried out and logged.

Peter Wilcox
Managing Director

Annex B - Grounding Check - List

GROUNDING

After grounding, engines to neutral. Immediately inform Coast Radio Station.

Passengers to don life jackets.

Assessment of damage made. Assessment of situation and action to be made, depending on damage and water ingress.

Pumps, motor, electric and hand, all manned if necessary, and if afloat and not unduly damaged the vessel will return to Port or be beached, whichever is nearest or safest.

If the damage to the hull is deemed too great, no effort will be made to move the vessel.

Life rafts will be made ready for immediate evacuation if the vessel is in a sinking condition.

Two crewmen to assist at life raft stations on the port and starboard quarters.

Passengers evacuated in as orderly manner as possible.

Coastal Radio Station kept constantly informed and any other vessels asked to assist if in the vicinity.

"MAYDAY" PUT OUT IF NECESSARY.

Annex C - Monthly Log extract of training

TRIDENT MONTHLY CHECKS / EXERCISES

CHECKS	DATE	BY	COMMENTS	DATE	BY	COMMENTS
RUDDERS	4/3/16	Rolly	All ok			
FIRE HYDRANTS	4/3/16	Rolly	All ok			
EXTINGUISHERS	4/3/16	Rolly	All ok			
ANCHOR	4/3/16	Rolly	ok			
FIRST AID KIT	4/3/16	Rolly	All ok			
FLARES	4/3/16	Rolly	All ok			
ESCAPE WINDOWS	4/3/16	Rolly	All ok			
LIFERAFTS	4/3/16	Rolly	All ok			

EXERCISES

CHECKS	DATE	MASTER	CREW	DATE	MASTER	CREW
MAN OVERBOARD	4/3/16	Tony	Scott and Rolly			
ENGINE ROOM FIRE	4/3/16	Tony	Scott and Rolly			
ABANDON SHIP	4/3/16	Tony	Scott and Rolly			
LIFEJACKET DONNING	4/3/16	Tony	Scott and Rolly			
ANCHORING	4/3/16	Tony	Scott and Rolly			
HANDHELD VHF	4/3/16	Tony	Scott and Rolly			
FLARES	4/3/16	Tony	Scott and Rolly			

COMMENTS:

melody press printers

States of Guernsey

Annex D - On board guidance

TRIDENT CHARTER CO LTD

DAILY RISK ASSESSMENT

To be assessed by the Master in Charge

1. **Weather, sea and tidal conditions – Check weather reports.**
2. **Bad weather, difficult sea conditions, darkness – only crew in wheelhouse.**
3. **Check shipping movements in bad visibility / darkness.**
4. **Check with crew that all is well before departure e.g. Engines, Ropes, Equipment etc.**
5. **Make sure that a list of emergency numbers is available to you.**
6. **Engine room checks – for safety reasons the engineer must have assistance.**
7. **Crew to wear life jackets at all times & report back to wheelhouse after every departure.**
8. **Any faults to be reported to management or authorities.**
9. **DO NOT SAIL IF YOU HAVE ANY DOUBTS WITH REGARD TO THE ABOVE – REMEMBER ONE LIFE LOST IS ONE TO MANY.**

TRIDENT MASTER IN CHARGE

DUTIES/RESPONSIBILITIES

1. Risk Assessment Once you have carried out Risk Assessment, only set sail when all is in order and you are happy that NO RISKS will be taken.

2. Ensure vessel is ready for use. Check with the engineer that he has carried out his duties and then complete the log.

3. Check weather on a regular basis including expected sea conditions for the area. Enter weather checks in log.

4. Check Radio Communication.

5. Check for all shipping movements (especially fast ferry) in poor visibility.

6. Have plan for daily departures/arrivals inc. night trip. Allow for tides, weather & sea conditions when deciding on loading points.

7. Departure times to be displayed on the blackboard in the cabin area. Keep the kiosk and Herm informed of any late changes Nominate a member of crew to assist.

8. Check you have at least the minimum number of crew before setting sail.

9. Check navigational equipment inc. lights (see engineer)

10. Log book present and updated.

11. Liaise with office/Management for any changes to schedule.

12. Ensure that garbage is not disposed of at sea.

13. Procedures for reporting accidents/Incident are logged.

14. Master and Company Safety Officer to check Crew training on a regular basis. Manual is updated when required and available

for inspection. Ensure the crew are in complete understanding of their personal files.

15. Master to ensure crew abide by the Company Policy – No drugs or alcohol at work.

16. Passenger numbers must be correctly logged.

17. Safety of passengers & crew.

18. Safety of vessel

19. The Master has the authority to make decisions regarding the safety of the ship and persons on board. Assistance shall be available ashore at all times from the company.

20. Crew must wear life jackets.

21. Oversee cargo loading/off loading & re-fuelling.

22. Ensure crew report back to the wheelhouse after each departure.

23. Chain of command

EMERGENCY PROCEDURE

MUSTER STATIONS

RATING	COLLISION STATION	FIRE STATION	BOAT STATION
MASTER	In charge on bridge and in contact with passengers	In charge on bridge and in contact with passengers	In charge on bridge and in contact with passengers
ENGINEER	Ascertaining damage and reporting to Master	Starting fire pumps and taking control at point of fire	In charge of launching Life Rafts
3rd/4th HAND	Assisting Engineer	Assisting Engineer	Securing painter as required and Mustering Passengers

ALL CREW ARE ASKED TO READ & BE FULLY CONVERSANT WITH THE TRAINING MANUAL IN FULL

[illegible]EMERGENCY PROCEDURE.doc

MASTER

DURING INCIDENT

1. Will control operations from wheelhouse.

2. Keep in contact with coastal radio stations or other mobile stations.

3. Try to maintain log of fire/grounding/collision, times, positions and radio contact.

4. Put out "MAYDAY" if deemed necessary.

5. Order the abandonment of the vessel.

6. Will be the last person to leave ship after abandonment when saving or salvage of vessel is impractical.

ENGINEER

DURING INCIDENT

1. Maintain power on main engines D.A.'s for manoeuvring/light/water pumps/fire pumps.

2. Fight small isolated fires with the aid of fire extinguishers.

3. Man emergency steering position on the aft deck if needed.

4. Take charge of the loading and releasing of inflatable life raft if necessary.

RAFT NOS TWO + FOUR PORT SIDE/AFT/MID SHIPS

GROUNDING Assess damage - Maintain power to main engines D.A. bilge pumps.

Keep wheelhouse informed of situation. If in danger of foundering, man life raft station.

COLLISION As above.

CAPSIZE Survive.

THIRD HAND

DURING INCIDENT

1. Try to calm passengers, but keep them informed of situation.

2. Order the donning of life jackets.

3. Move them to safest position on board.

4. Assist engineer if possible.

5. Man the emergency steering position on the after- deck if needed.

6. Take charge of the loading and releasing of inflatable life raft if necessary.

Maximum 65 persons Minimum 15 persons

RAFT NOS ONE – THREE STARBOARD SIDE AFT/MID SHIPS

GROUNDING Assist and calm passengers. Assist engineer if possible.

COLLISION As above.

CAPSIZE Survive.

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AIS	Automatic identification system
CIMA	Chief Inspector of Marine Accidents
COG	Course over ground
GMDSS	Global Maritime Distress and Safety System
IMO	International Maritime Organization
kts	Knots (1 knot = 1 nautical mile per hour)
LDL	Limiting danger line
m	metre
MCA	Maritime and Coastguard Agency
NE	North-east
nm	Nautical miles
UKC	Under keel clearance
UTC	Universal Time Constant
VHF	Very High Frequency (radio)
VRM	Variable range marker

TIMES: all times used in this report are UTC+1