



“ Duke of Normandy”

External Investigation Report into Bottom Contact/Grounding Incident on 2nd September, 2011

Circumstances of the grounding, findings and recommendations

Introduction:

Further to the contact/grounding incident on 2/9/2011, MECAL was appointed by the States of Jersey Ministerial Decision of 5/9/2011 to carry out an external investigation into the circumstances of the grounding and subsequent damage to the State's tug, “Duke of Normandy”. (See annex reference (IV))

MECAL appointed C.J.Gladish, Chief Naval Architect and Principal Surveyor to MECAL, to carry out the investigation which was conducted in the period from 5 Sept 2011 to the date of this report.

It is considered that in accordance with [IMO MSC-MEPC.3/Circ.3](#) of 18 Dec 2008, “[Casualty-Related Matters. Reports on Marine Casualties and Incidents](#)” that the incident could fall into the classification of “Serious Casualty” due to the hull damage. However, arguably, as the vessel was not rendered immediately “unfit to proceed”, this is down-graded to “Less Serious Casualty”. No human injuries were caused, as far as reported, and no pollution occurred and the vessel was able to return to port without assistance & subsequently to Falmouth for repairs following diver survey & anti-pollution precautions. Annexes 1, 2 and 3 of the above IMO Circular are completed and annexed to this report.

Background information.

The “Duke of Normandy” is the States of Jersey tug which also fulfils other general duties such as buoy maintenance , pollution control, and has external fire fighting capability. She is currently surveyed and certified under the Jersey Commercial Vessel Code of Practice. Main particulars are:

Port of Registry	Jersey
Official number	738289
Call sign	MHZS8
Gross Tonnage	161
Load line Length	23.36 metres
Built	2005 by Damen Shipyard, Holland
Build number	1564
Type	Shoalbuster 2609

Under the Code she is certified for Category 2 voyages, i.e. up to 60 nautical miles from a safe haven with up to 15 persons aboard, but with a maximum of 12 passengers. The last 5 year renewal survey was credited in June 2010; the last annual survey was carried out on the 6 June 2011 with satisfactory results for continued service. She is in possession of a full stability information book.

The vessel was subject to an occasional survey on the 3 Sept 2011 after she had returned to her berth after sustaining breaching of the hull in way of the bottom of number 4 diesel oil bunker deep tank, situated on the starboard side forward of amidships. After assessment of the damage extent and nature by diving and internal inspection, with temporary measures taken, the vessel was certified to proceed to a repair port, Falmouth, where repairs were effected under MECAL survey. The vessel returned to her usual berth in Jersey at 2329 BST on 23 Sept 2011, and is currently certified again for normal duties.

Passage Details and Records. (All times BST).

According to the Master's statement, at approximately 0800 on Friday 2 Sept 2011, 8 passengers embarked with the purpose of conducting sailing race committee duties in St. Aubin's Bay, the vessel reportedly being chartered by sponsors Brewin Dolphin. No deck cargo was carried.

The names were listed in the log book & consisted of:

Master
Engineer
2 x Leading Deck Hands – LDH(1 & 2)
8 x Passengers (Pax 1-8)

According to the log and coincidental with the Master's statement and the TRANSAS record (electronic chart and plotting facility) the vessel left her mooring on Albert Pier at 0810 for St. Aubin's Bay to an anchorage to be designated and confirmed by a Race Committee member aboard.

At 0840 an anchor was dropped in position 49degrees 10.676minutes N, 002degrees 08.640 minutes W.

The entire length of voyage being in the order of only 1.75 nautical miles from berth to anchorage.

The chart sounding at anchorage is between 3 to 4 metres.

Weather during the day was typically fair, light Southerly wind, visibility good. (Refer annex (V)).

Tide was two days after spring tide HW 1006, LW 1646 , Range approximately 9.9 metres. Actual predicted LW height at St. Helier at 1620 was 1.4 metres. The vessel's draughts on sailing were not recorded but would possibly be in the order of 2.45m forward and 2.73 m aft, i.e. stern trim of 0.28m.

At some stage in this outbound leg the helm and control was handed to LDH(1) who was at the helm until relieved by the Master to assist in anchoring duties at the desired position.

The vessel stayed on standby at this anchorage until anchor was weighed at approximately 1600, according to Master's statement, and at some time in the early stage of the return voyage the master handed the helm again to LDH(1).

According to the log the vessel was "up anchor and underway to St. Helier" at 1615.

The log records that the vessel touched bottom in position 49degrees 10.26 minutes N, 002 degrees 07.973 minutes W, which is over the Cannon reef within the 2m to 5m chart sounding contours at 1620.

Parts of this reef have chart soundings of 2m and less. (The chart soundings are reduced to Chart Datum being approximately Lowest Astronomical Tide Level).

The log records that the vessel all fast on her berth in St. Helier at 1630.

The TRANSAS record shows that on the outward leg a course roughly to the SW of Hugodiers reef, Cannon reef and the Baleine Starboard Hand passage buoy was maintained. Chart and TRANSAS soundings indicate that at this state of the tide there would have been adequate clearance over shallower ground on the route taken.

The TRANSAS record shows that on the inbound leg, almost at low tide, a course was maintained initially to the NE of the Baleine buoy, i.e. with the buoy on the starboard side of the vessel, and very close to that buoy, possibly in order of 20 to 40 yards, and continuing over the Cannon reef. At the SW extremity of the reef, the course changed to starboard, roughly to a Southerly heading to pass to the W of the Hugodiers reef. The time scale shown on the printout is from 1616,150 yards from and approaching the buoy, to 1618 at the SW extremity of the Cannon reef and change of course. The associated distance being approximately 3 cables, 600 yards. This equates to a speed over the ground of around 9 knots.....however the TRANSAS plotting intervals mean there could be a significant variation on this estimate. (Refer annexes (I), (II) and (XII)).

Interviews and discussions.

(Predominantly in note format as written signed statements not produced except as noted below)

Master (Temporary Master) – interviewed by phone 17 Sept 2011

Holds Republic of Panama Certificate issued under the provisions of the [International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 as amended 1995, Regulation II/2](#), in capacity of Master with Limitations listed as "none", issued 15/4/2009 and valid till 30/3/2014.

Note: As a result of separate enquires it has since become apparent that such qualification from Panama cannot be recognised in Jersey or the UK

See copy of written and signed statements made covering the outgoing and inbound legs of the voyage in Annex ref (III) A, B, C.

On outward voyage handed helm over to LDH(1) on the leading marks out of harbour, checking he knew where he was and leaving him to go to anchorage following instructions of the Yacht Club committee aboard. The course followed was left to LDH(1). The Jersey Harbours Deputy Harbour Master (DHM) had given instruction to use local knowledge if in doubt. (Letter of Appointment in annex Ref (XIII) refers).

The number of people on the bridge varied but no distraction.

No pre-determined anchorage position for this voyage, this with considerations of wind and tide being left in the hands of the yacht club personnel.

The engineer left the vessel at some time after anchoring.

On return, inbound voyage, course planning was left to LDH (1) as soon as he came up to the bridge and took the helm after anchor stowage.

Stated that the Baleine buoy was less than half a mile ahead when helm handed over. {Author's note: the distance from the anchorage to the Baleine buoy is approximately 3/8 nautical miles}.

No instructions given as to which side the buoy should be passed. Eventually it was passed on the starboard side of the vessel.

LDH(1) made no comment when vessel made bottom contact.

The Master took over immediately on contact and slowed down, and altered course to Starboard.

There were 1 or 2 passengers on the bridge who couldn't understand why the vessel should have struck.

No specific recommendations or suggestions made concerning buoyage in the area concerned.

On question as to nature of local waters familiarisation given to himself and other masters, indicated that this was with paperwork and standard procedures or to use local knowledge or call for a pilot. Reference was made to the Port Marine Safety Code and to Duke of Normandy Safety Management System. Stated that he was confident of his own knowledge in conjunction with crew local knowledge.

LDH(1) Leading Deckhand on Duke of Normandy and Pilot Boat coxswain, interviewed by phone 7 Sept 2011 and in person on 22 Sept 2011.

Holds RYA Yachtmaster Offshore certificate, with commercial endorsement, dated 11/1/2008 and with validity till 2013. Also holds valid Efficient Deck Hand certificate issued in 2009 by Maritime Training, Plymouth in accordance ILO 192046(No74), Basic Fire Fighting Certificate valid to 2012, Elementary First Aid STCW issued 1/6/2009, Personal Survival Techniques STCW issued 2009, Restricted Radio Operator certificate issued 5/2/2002.

Stated has worked on the Duke of Normandy on a split duty system since 2005 and has served 25 years on the Jersey pilot boats. Duty being split between tug and pilot boat duties.

Has sailed on two periods, with this Master as master of the tug.

Stated that on return/inbound leg he was initially on deck for raising and stowing of the anchor with LDH(2).

The vessel then proceeding towards St. Helier under the Master's control. Subsequently he went to the bridge. Saw the course was "a bit close" to the Baleine buoy...possibly past or "on top of it". Not sure which side of the buoy the vessel passed. The Master then "said to me" to take over and take into the roads. Was just about to alter course onto the Western leading marks when touched bottom on the Cannon reef. Estimated speed 6 to 7 knots.

Vessel cleared herself. There had been no specific verbal hand-over instruction. When vessel touched the reef the Master was alongside and throttled back and took over the helm. When in port he (LDH1) assisted with usual mooring duties.

The nature of the hand-over of the helm on the outbound leg in the morning was similar, when he took over in the small roads near the tanker berth. There was an informal hand-over with no specific instruction, he being left to ascertain requirements with the yacht club committee members. He (LDH1) chose course to S and W of the Baleine buoy, starting on the Western Passage and then turning NW to desired anchorage. The Master took over to the NW of the Baleine buoy. LDH(1) then went down to assist in anchoring.

Only since this Master took over did he frequently take helm and control.

No problem or difficulty noted with operation of vessel controls (or navigation equipment to his knowledge) during this voyage.

No other vessels noted in the vicinity.

No distractions on the bridge on either inbound or outbound legs.

No pressure or hurry to return to St. Helier.

No opinion concerning any possible chart or hydrographic discrepancy.

Opined that there was a lack of local navigational knowledge by the Master.

No passage plan information exchanged.

Engineer, by telephone on 8 Sept 2011:

Stated on aft deck at time vessel struck on return voyage and was not on the bridge before that. Noticed on "wrong" side of the Baleine buoy, i.e the Elizabeth Castle side. Noticed engine revolutions being raised to 1200-1300 rpm and stated vessel tends to squat when accelerating. (Expressed opinion that there should have been enough water over the rock according to the chart).

Carried out below deck damage inspection immediately after vessel struck.

LDH (2) by telephone on 8 Sept 2011:

6 years service on Jersey pilot boats and the "Duke of Normandy". Previous service as bosun and mate on mega-yachts.

No recollections of significance on the outward voyage.

5 or 6 passengers were on the aft deck after the Master had given a safety briefing.

Stated using accommodation facilities at time vessel struck on return voyage, having gone below when anchor stowed and anchor ball dropped.

Looked over when vessel struck and saw "centralised with Baleine buoy behind us" and wake pattern accordingly.

Went down into the engine room and steering gear compartments to assist Engineer in damage assessment.

Stated no confusion or distractions to crew noted on either leg from passengers.

Deputy Harbour Master, Jersey Harbours, by telephone 14 Sept 2011 and in person 21 Sept 2011
(Discussion and examination of documentation on 21 Sept 2011 in Maritime House, Jersey).

DHM was "line manager" for the Duke of Normandy till 1st Sept 2011.

Copies of Master's certificates, and supporting certificates, were obtained.

On question of Certificates of Equivalent Competence issued on behalf of the States of Jersey, it is understood that no issuance or endorsement considered necessary for duties and reference in this connection was made to the Letter of Appointment, dated 5/7/2011 as covering this. (Refer annex (XIII)).

Records of hours of work before the incident were sighted for the master and the helmsman, LDH(1).

The tug masters are on call whilst on their 3 week period of duty and on 1 hour call only from 1st Sept annually.

The vessel is on standby 40 weeks of year shared between 2 masters.

Pilot crew work 17 weeks p.a. on standby, on a 1:3 basis.

LDH(1) serves 1 week in 3 as coxswain on pilot boats and rest of working periods as deckhand on the tug.

The Port Marine Safety Code Management Systems Manual was sighted by undersigned (stated to be a controlled version) in DHM's office, another version (stated to be controlled) being aboard the Duke of Normandy for later sighting by undersigned.

Section 4, Management of Navigation, subsection 4.7 Directions and Passage Plans, has nothing specific to "berth to berth" passage planning. The index, Page 2 was not accurate, viz numbering out of phase with some contents. Section 6 refers to Pilotage, Section 7.7.1 and 7.7.2 refer to qualifications of Marine Section Staff.....this will be referred to in Part B of this report.

Records of permanent crew members training and updates of certification were sighted.

Vessel's Safe Manning Document with respect to the requirements of the Jersey Code of Practice was sighted.

The familiarisation of the Master was stated to consist of 1 week overlap with the existing relief master, signing off by Jersey Harbours of the items in the Deck Familiarisation Check List of the Marine Section Safety Management System,(see item (XIV) of documents in annex), 2 conducted exercises in July, 2011 supervised by one of the Deputy Harbour Masters including Pilotage Directions, Buoy handling, Helicopter liaison, Pilotage training.

Paper charts and electronic chart updates are made according to Notices to Mariners and are organised from Jersey Harbours, Maritime House, Jersey.

Considered that scope on the Baleine Buoy at low water would not be significant in any possibility of unsafe passage. i.e. it would not be dangerously displaced from its charted position at low water due to mooring length.

Change of nature of buoyage at the Baleine buoy area has been considered.

The contracted standby tug whilst the Duke of Normandy is off station is normally limited to port operations. Invariably a pilot is in attendance in such operations.

Passengers:

Pax(1) by telephone on 15 Sept 2011:

On bridge for both outbound and return legs. Noted on outbound leg that skipper and 1 crew member were on the bridge with 4 to 5 passengers.

The bridge was quiet with no undue noise or other distractions to crew.

Stated that when vessel left berth, a crew member was on the helm from berth to time of preparation for anchoring.

Didn't notice or hear any instructions being given to the helmsman.

On return leg stated just two passengers on the bridge, the rest on the aft deck, the Master on the helm.

As recollected the crewmember took the vessel out, but Master brought her all way back from anchorage to berth.

Left the Baleine buoy to starboard by only 2 to 3 metres. A crew member came up to the bridge, but did not note the crew member taking the helm.

Stated a fishing vessel had gone through just before, some 150metres ahead "in same direction" and possibly faster, but not this was not such as to influence the course of the Duke of Normandy.

Speed reduced after contact.

Whilst at anchor the engineer was taken off in a RIB to St. Helier, and the race functions of the day having finished, they waited some time for the engineer to return in order to make voyage back to St. Helier. However there was no pressure for any hurry in returning nor for short cuts to be made.

Predominantly occupied during both legs with preparation and analysis of race matters.

Pax(2) Telephone interview on 16 Sept 2011 and in person on 21 Sept 2011.

Several such race events attended.

Outbound voyage: Noted safety briefing held. Was either on the aft deck or the bridge, or the monkey island.

No note of who was on the helm on the outbound leg.

Inbound voyage: was on bridge. Varying number of people on the bridge, 2 to 4, plus helmsman and Master.

Quiet with no distractions to crew. The Master got the vessel off station, turning to port to heading "E of S" and then handed over to the helmsman within a few minutes of weighing anchor, or possibly within 1 cable or so of the anchor position.

Cannot recall any details of hand-over instructions between Master and helmsman.

Noticed on returning to harbour that vessel well to E of the Baleine buoy after striking with the buoy about 2 cables (400 yards) astern.

On contact the Master took command, helmsman relieved, engines throttled back, and Master asked for damage report, and took vessel back into her berth. No recollection of any discussion between Master and helmsman after the contact.

Noted weed and silt stirred up by contact.

No oil slick at all noted.

Impressed with the Master's control of the situation.

Race business was finished early at about 1500, and then waiting for the engineer to return for approximately half an hour. No pressure on timing to return.

Expressed opinion, on invitation:

- that there could be lot of scope on the Baleine buoy which could significantly alter its charted position at low water. {Author's note: This was considered later with competent Jersey Harbours personnel and this was estimated to be only in region of 20 to 30 yards}
- that Baleine buoy identity should be S or W cardinal and possibly further to S of the the general cluster of reefs and obstacles. {Author's note: The present buoy acts as a starboard hand buoy if passage is being made towards St. Aubin's, not towards St. Helier, in accordance with the IALA A System}.
- that it may be advantageous for soundings to be checked in area.

Pax(3) in person on 23 Sep 2011

On outward leg attended safety briefing on aft deck.

Thereafter occupied in race preparation in parts of vessel other than the bridge.

On inbound leg was on aft deck all the time.

Noted the Baleine buoy to starboard, sand and seaweed churned up on contact, vessel slowed down and then carried on. Noted list to starboard.

Vessel was waiting to leave anchorage for the engineer to re-board, but no pressure or hurry to return prevailed because of this.

Other passengers were not interviewed.

VTS communications recordings were heard on 3/10/2011 confirming that the required communications were made on by the master for the voyage legs on 2/9/2011 at 0816 and 1622.

Examination of Documentation aboard the "Duke of Normandy" on 3/10/2011

LOG BOOK: was sighted for the day of 2/9/2011, and also for other days including days of the extended passages to and from Falmouth on the 4th and 23rd September (refer to annex XII). Noted that the log book is not of a usual marine format, being in the form of a large "desk diary" and that entries generally are sparse.

- There were no entries covering the engineer's departure and return to the vessel on 2/9/2011.
- One of the passengers was not noted.
- In other entries crew and passengers not always noted.

Under the Safety Management System a Crew and Passenger List (issue 14/4/2011) is supposed to be sent to the Marine Operations Manager/VTS by e-mail or fax. Noted this not used regularly.... The last one compiled and found aboard being by relief master on 15 April 2011 for voyage to Dielette, France. (Whether this is intended to be used for all voyages or for foreign going voyages only is not readily ascertained).

TRAINING LOG: master sheet has no entries from 31 April 2009, to period 15 Sept 2010 to 15 Sept 2011 which latter period referred to a DEFIB course.

References found to MARITAS "Guidance for Tug Hand" , 3/2009, NVQ , level 2, Tug Hand but only details of the course....no other records related to specific tug handling training which may have been carried out.

MGN 209(M), Training and Certification Guidance – Part 15 – Certification of Inshore Tug Personnel also referred to in this section but not related to any specific training record.

DECK FAMILIARISATION CHECK LIST: (Refer item (XIV) in annexes).The copy for this Master was noted as completed and dated 8 July 2011. The result appeared to confer a status of "Unrestricted". However noted entries limited, i.e many lines not acknowledged, for example Tanker Berth, Victoria Harbour, Pilotage Knowledge.

Noted there is more than one version of this form, that used for the other relief master dated 13 April 2011, and the 12 April 2011 version used for this Master, again different from the 12 April 2011 version, item (XIV) in the annex.

According to the relief master aboard at the time of this examination aboard the tug, this Master joined vessel on 5 July 2011 until 8 July 2011 for familiarisation, c.f. 1 week familiarisation referred to in interview section above. There is however no record made in the log book of this Master being aboard on the 5 July 2011.

PASSAGE PLANNING: No established format found aboard nor any records in other format. In the File "All Vessel Procedures and Maintenance", found aboard, under Section 2 "Duke- Bridge Management" various references

- BPG B12 – Changing over the Watch
- BPG B5 -- Passage Plan Appraisal
- BPG B7 -- Extended Passage Making
- Navigation in Coastal Waters.

were found. Refer to items (VIII) to (XI) in annex

"Changing over the Watch" gives guidance on pertinent aspects of which a "relieving officer" should be aware. It does not also require the officer being relieved to ensure such information is passed on to the relieving officer. There is no procedure written for helm hand-over which could be found.

"Passage Plan Appraisal" does state need to prepare a passage plan with courses, hazards etc, for intended passage, however brief this may only need to be.

"Extended Passage Making" enlarges on the fore-going, again without mention of making any record of the plan.

"Navigation in Coastal Waters" enlarges further on the foregoing.

These last three items of guidance are extensive and are more than would be required to be dealt with individually and recorded in a passage plan on short local voyages such as those on the 2nd September 2011. However they do draw attention to certain basic precautions, considerations and necessary planning.

STANDARD OPERATING PROCEDURES (SOPs) ABOARD: There is a large amount of Safety Management System documentation aboard. There may be some confusing duplication and that control/updating may not be comprehensively applied. The relief master aboard on 3 Oct 2011 stated that he believed all SOP's in his letter of appointment had been withdrawn. It is believed that his appointment letter is a "mirror image" of that issued to this Master. (Refer item (XIII) in annex). Indeed some apparent modifications made in un-controlled version seen on 21 Sept 2011 in Maritime House appeared not to have been made in the supposedly controlled version aboard the Duke of Normandy. (Example Section 7.9 of Port Marine Safety Code – Safety Management System).

CHART CORRECTION: The vessel carries paper charts as well as having a TRANSAS electronic navigation system. Another member of the combined tug and pilot vessel crews is, it is understood, tasked with update duties of both systems. This was noted to be up to date and on-going during the examination aboard on 3 Oct 2011 and receipt of TRANSAS correction discs was noted, for example, on about a two week interval. (There is also a Furuno Navnet unit at the helm which is reportedly only used as a log indicator, (speed, depth etc), a notice should be attached to effect that navigational/chart display is not corrected and should not be used in navigation).

Other factors considered and deemed not to be contributory to the incident:

Fatigue: The Master had recorded cumulative hours of 49 in the period 24 Aug to 30 Sept 2011, no part of which exceeded 8.5 hours in a 24 hour period.

Similarly in same period LDH(1) had worked 49 hours, in same period, and only on one day had he worked 13.5 hours but with a 3 hour break, and one day of 10.5 hours.

This is taken as typical, but could be ascertained for the days of 1, 2 September also. This is within the limits for Hours of Work Provisions laid down in the Jersey Code of Practice.

Competence: For this voyage there appears to have been adequate competence amongst crew members concerned.

Vessel and equipment; Vessel fully certified with no overdue surveys, and no crew reports of lack of serviceability of any aspect of the vessel which could have contributed to the grounding.

Weather: Clear and calm.

Navigation aids: No buoyage or marks reported off-station. (However, see recommendations).

Findings:

The very short nature of the voyage on 2nd September, 2011, rendered time scale between on-voyage events very short. Even so, the necessity for certain standard precautions is reinforced regardless of length of voyage.

There was no passage plan drawn up, however brief it needed to be, for either leg of the voyage and thus it was not communicated to the helmsman. Passage plans are required even for "berth to berth" voyages . (Reference could be made to [SOLAS Chapter V, Guidelines for Voyage Planning, Annex 25, IMO Res A893\(21\)](#) and to the [STCW Convention](#)).

There are some differences of recollection of exact position, nature and time of helm handover. On the outward leg the helm was handed over in a direction and location with which the relieving helmsman was immediately familiar. On the return leg this may not have been the case. It would appear there was inadequate transmission of course intention, present position and hazards to the relieving helmsman, or conversely of his immediate assessment of these in the evolving time scale. There is the implication of over confidence on the part of the master in the crew member's ability to make immediate analysis of the situation in waters with which he was deemed to be familiar.

Recommendations :

- 1. Passage plans** should be drawn up for each part of an intended voyage, even if only very brief for short voyages . These should be recorded and maintained, for a period to be determined, after voyages, even if not necessarily in the official log. No passage plan, or notes of intentions, for the voyages to and from Falmouth, for example, were found aboard. It is recommended that the precise form & content of such passage plans are devised by the operator according to the duty of the vessel & the nature of the voyage.
- 2. Clear procedures** should be established for helm hand-over.
- 3. The Master's ultimate responsibility** to satisfy himself on course and handling of the vessel, regardless of availability and utilisation of competent local knowledge, must be re-emphasised.
- 4. Log book:** This was considered to be inadequate in several aspects. The nature of the book itself, not being in an expected maritime format but in the form of a desk diary. This arguably could be acceptable if all expected entries were made. Entries made are sparse and in some cases found to be incomplete. Log book and keeping of the log book should be improved and unless other logs are kept for engine room, weather reports, exceptional radio messages and calls, the log should be made comprehensive. (Larger vessels usually have an official log book, engine room log book and bridge log book for example). Reference could be made to the [UK SI 569 \(1981\) \(MS\) \(Official Log Books\)](#) applicable to ships greater than 25 Tons Gross.
- 5. Details of all persons on board** must be recorded for all voyages
- 6. Procedures and Safety Management Systems:** There would appear to be a need to simplify, correlate and universally control existing documentation. This may have the advantage of reducing the overall size and improving ready utility of the documentation (It is apparent that much effort has been put into trying to achieve a comprehensive working system at some time).
- 7. Possible change of buoyage** in the area of ,and including, the Baleine buoy should be considered. Sudden awareness of a green starboard hand buoy when approaching the major port, St. Helier, may

lead one to believe it is serving the approach to St Helier, when it is more so that it is serving the approach to St. Aubin's harbour to the West. Cardinal buoyage may be more appropriate and safer.

8. **A check on soundings in the St. Aubins Bay area** should be considered. With the level of tide, the calm sea at the time, the chart soundings would suggest that the vessel should possibly have passed over the reef with a small clear margin. (Note that the barometric pressure effect for the day has not been investigated in this report). Various soundings in the Channel Islands area, including on the N. Brittany coast have been reported to be less than charted.
9. **Extent, content and recording of relief/temporary master local waters familiarisation** should be re-assessed. Notwithstanding that a competent master should be able to interpret established chart, pilotage and navigational information independently. Noted that a Jersey Harbours document "Small Boat Passages" marked date of issue 13 Sept 2011 could be a useful adjunct for this end.

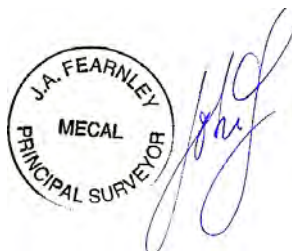
General Note:

Full cooperation and assistance was afforded to the undersigned by all personnel contacted in this investigation.

Date of Final Report 15th November 2011

Issued at Plymouth, 15th November 2011,

For and on behalf of MECAL (Jersey)

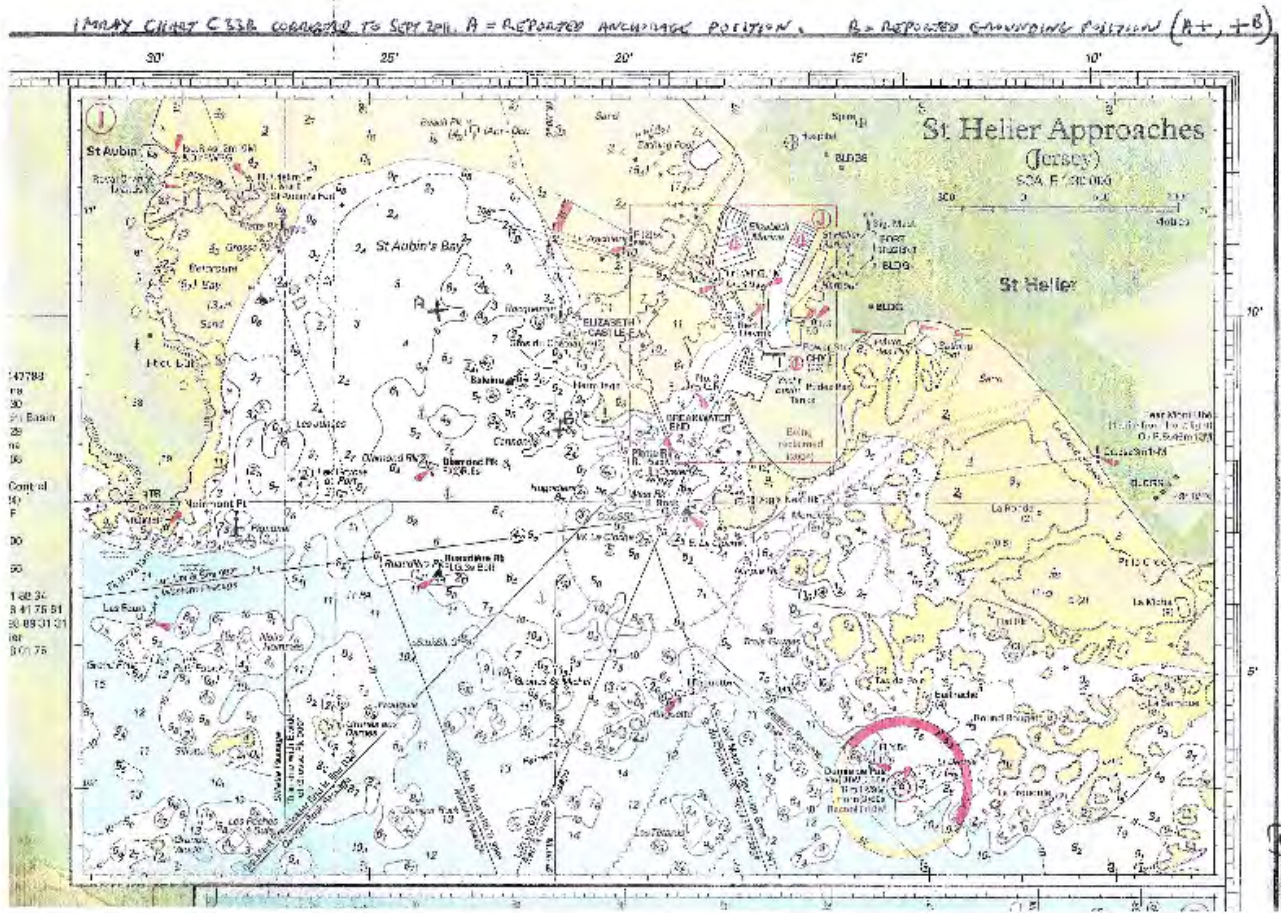


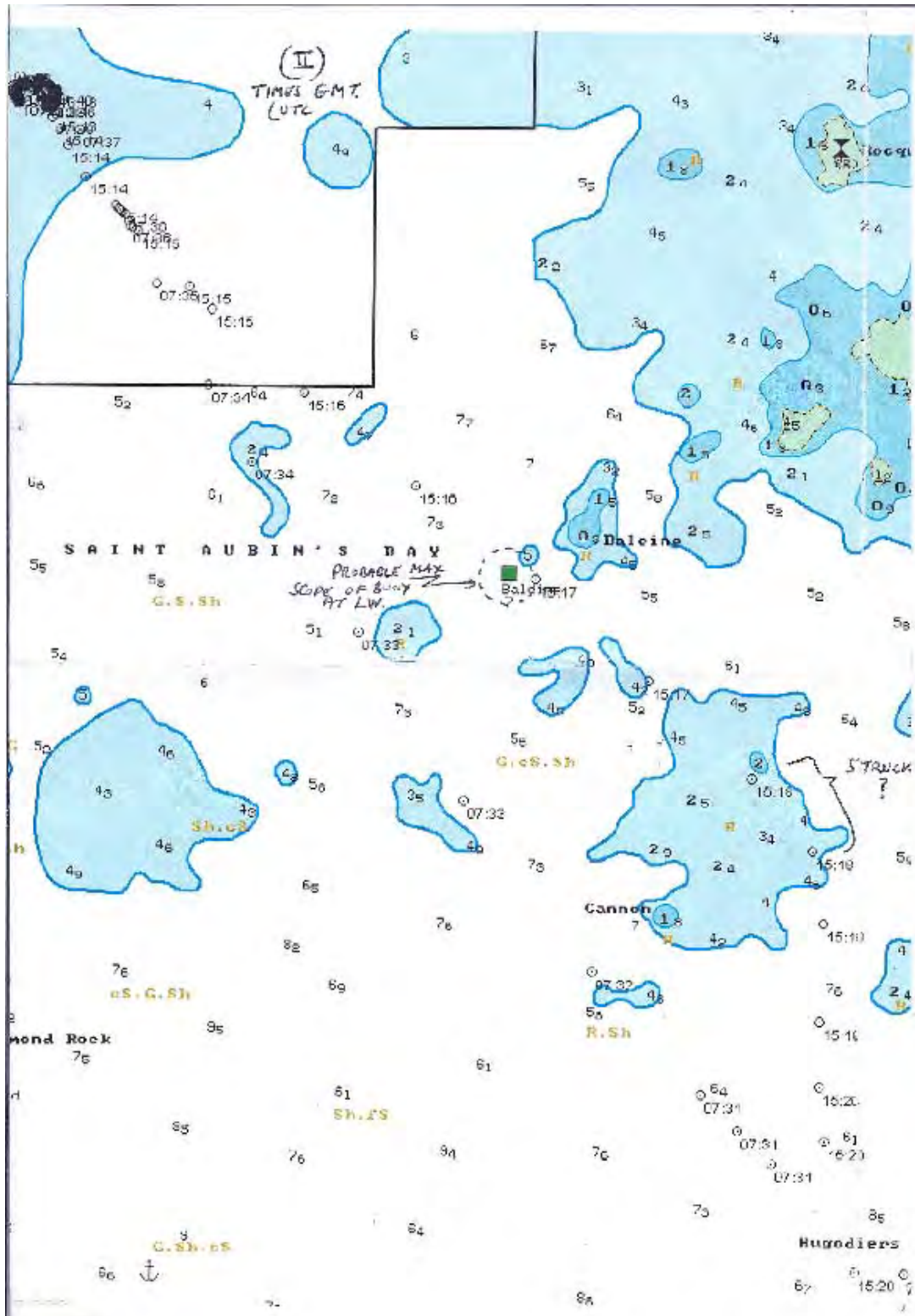
Annexes to this report:

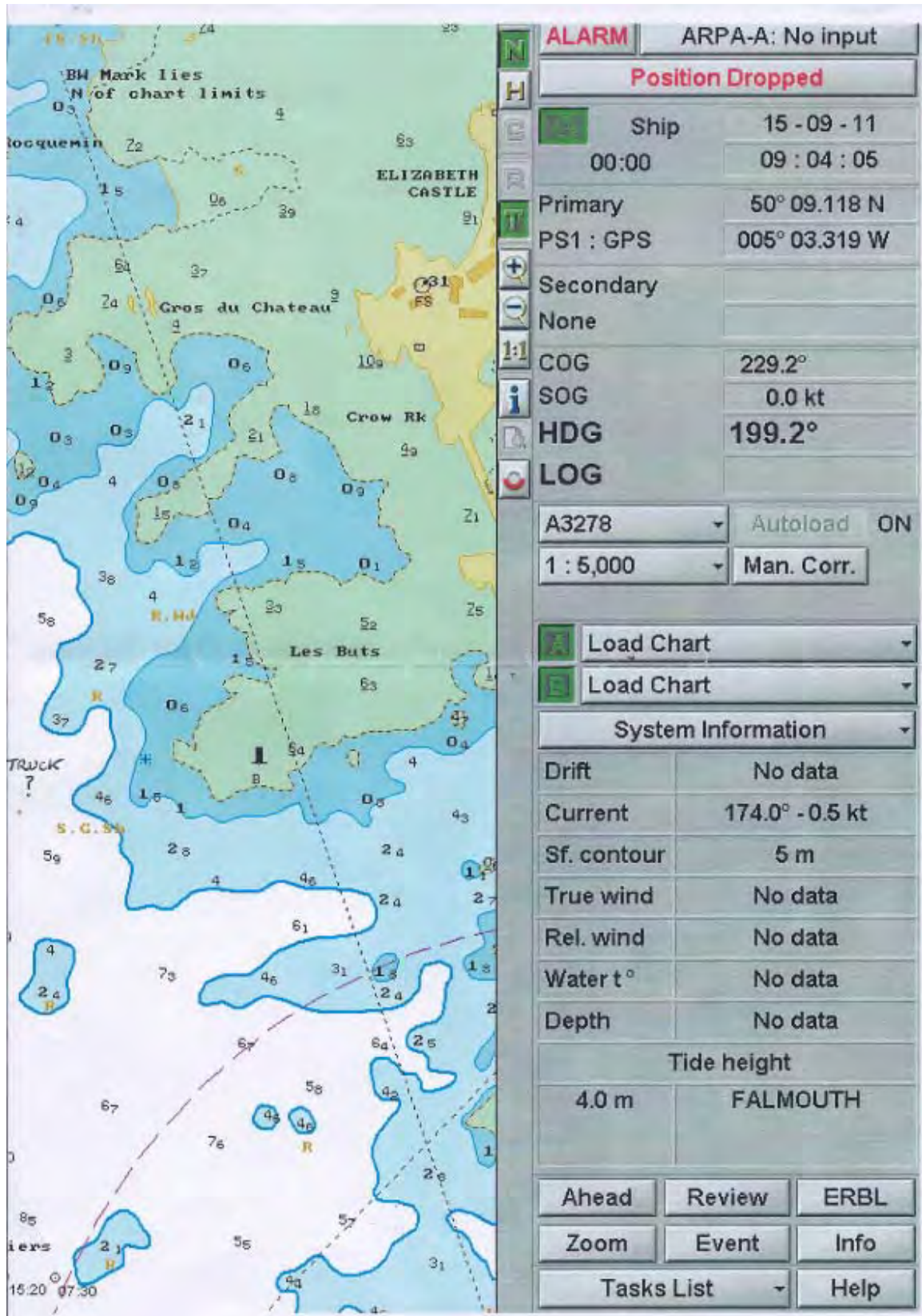
- (I) Chartlet of St. Helier Approaches, with hand entry of anchorage and striking positions.
- (II) TRANSAS record printout with hand amendments/notes
- (III) A-C Master's statements, undated but received around 14/9/2011. (III)C assumed to be initial and superceded with respect to return voyage.
- (IV) Ministerial appointment of MECAL.
- (V) Meteorological/ Tidal summary, local, for 2/9/2011.
- (VI) Jersey Coastguard – Accident report form.
- (VII) Annexes 1,2, and 3 to IMO CIRC MSC-MEPC.3/Circ.3.....14 pages.
- (VIII) Extract from file "All vessel procedures and maintenance"
Section 2 "Duke – Bridge management" Reference BPG B12 "Changing over the watch"
- (IX) Ditto BPG B5 "Passage plan appraisal"
- (X) Ditto BPG B7 " Extended passage making"
- (XI) Ditto "Navigation in Coastal Waters"
- (XII) Ship's log for 2/9/2011, 3/9/2011, 4/9/2011, 23/9/20113 pages.
- (XIII) Letter of appointment to Master dated 5/7/2011.
- (XIV) Deck Familiarisation Check List. 4 Pages
- (XV). Background information on MECAL and MECAL personnel associated with this report

NOTE: Personnel identities have been protected in this report & it's annexes as is normal practice in Flag State investigations

"Duke of Normandy" - External Investigation Report into Bottom Contact/Grounding Incident on 2nd Sept 2011







(21)P

REPORT ON THE GROUNDING OF "THE DUKE OF
NORMANDY" ON THE 2nd OF SEPTEMBER 2011

Sirs

The vessel was chartered by Brewin Dolphin to act as committee boat for the days sailing race and was at anchor in St Aubins bay for the day.

At approximately 16:00 Hrs we raised the anchor and proceeded to St Helier harbour, *LDM(1)* appeared, at about 16:10 Hrs, on the bridge and I asked if he would take the vessel in, as he had the local knowledge, I also asked if he was familiar with the position and the route to St Helier. I pointed out to him, that there was green navigation buoy ahead, to which he acknowledged. He then took over the helm and increased the speed of the engine to 1300 rpm, at 16:20 we touched the bottom at a speed of 8Kn, the vessel pulled to starboard but did not loose any way. At the point of touching the bottom I leant over the consol and I asked *LDM(1)* if he knew what he was doing and decreased the engine rpm's. *LDM(1)* then left the helm seat without replying. At this time I checked the position which was 49°-10.26N and 002°-07.973W as the boat was free and unencumbered we proceeded on to St Helier as planned.

The engineer, came to the top of the companion way and indicated to me that he was starting damage assessment and I asked *LDM(2)* to assist him. At this time *LDM(1)* was still on the bridge. I continued on to St Helier at the same speed, the engineer reported to me that all voids were dry.

Upon arrival at St Helier when moored alongside we noticed that there was a 3.5° list to starboard and that tank 4 was full, all other tanks were checked and no discrepancies were found.

At 16:30 I telephoned *DMM* and informed him about the situation, the divers were called in and they arrived at 17:55 and inspected the hull using video camera and from their inspection we found that there was indentation and three holes. The perforations were in the area of fuel tank 4, there was no leakage of fuel from these holes, the diver also inspected the rest of the hull and reported that there were scratch marks along the starboard skeg and nozzle. As a result of the inspection I requested them to put soft wood wedges in the holes and at this time he came out of the water, and we discussed the possibility of them returning in the morning to finish the repair.

MASTER

(III) e

Report on the sailing of the Duke of Normandy to the start position of the Brewin Dolphin Regatta. On the 02/09/11

Sir as

The vessel was chartered to act as committee boat and start and finish boat for the sailing race.

At approximately 0800 passengers arrived on board with equipment for the day's sailing.

When passengers had arranged themselves, the safety instructions about the vessel were issued to the passengers verbally, and at 815 we departed after clearing the jetties and entering the channel I asked Mr LDH (1) if he was happy to take control of the vessel as he had done so previously and because of his local knowledge we proceeded to St Aubins Bay and on instructions from Mr PAX (1) as to the position he wished to anchor, as we approached anchor position Mr LDH (1) returned control of the vessel to me for anchoring at the position required by Mr PAX (1) at 845 anchor was dropped in position: 49°- 10.676 N and 002°- 08.640 W, and engines were stopped in readiness for the day's racing.

Passengers on board: X 8

Crew MASTER, ENGINEER, LDH(1), LDH(2)

Qualification: Master S.T.C.W.

Experience: 30 years on Tugs

Length of Time on "Duke of Normandy": 28 days total.

MASTER

(III)c

**REPORT ON THE GROUNDING OF "THE DUKE OF
NORMANDY" ON THE 2nd OF SEPTEMBER 2011**

Sics

The vessel was chartered by Brewin Dolphin to act as committee boat for the days sailing race and was at anchor in St Aubins bay for the day.

At approximately 16:00 Hrs we raised the anchor and proceeded to St Helier harbour, the engines were brought up to 1300Rpm slowly and at 16:20 Hrs the vessel touched bottom on rocks at a speed of 8Kn, approximately, at the position of 49°-10.26N and 002°-07.973W, the vessel pulled to starboard and proceeded without losing way.

The engineer, came to the top of the companion way and indicated to me that he was starting damage assessment and I asked LPH(2) to assist him. At this time LPH(1) was on the bridge. I continued on to St Helier at the same speed, the engineer reported to me that all voids were dry.

Upon arrival at St Helier when moored alongside we noticed that there was a 3.5° list to starboard and that tank 4 was full, all other tanks were checked and no discrepancies were found.

At 16:30 I telephoned DKM and informed him about the situation, the divers were called in and they arrived at 17:55 and inspected the hull using video camera and from their inspection we found that there was indentation and three holes. The perforations were in the area of fuel tank 4, there was no leakage of fuel from these holes, the diver also inspected the rest of the hull and reported that there were scratch marks along the starboard skeg and nozzle. As a result of the inspection I requested them to put soft wood wedges in the holes and at this time he came out of the water, and we discussed the possibility of them returning in the morning to finish the repair.

MASTER



Decision Summary
ECONOMIC DEVELOPMENT
Ministerial Decision

Decision Reference: MD-E-2011-0137			
Decision Summary Title (File Name):	Investigation into the grounding of States' vessel, the 'Duke of Normandy'	Date of Decision Summary:	05 September 2011
Decision Summary Author:	Registrar of Shipping	Decision Summary: Public or Exempt? (State clauses from Code of Practice booklet)	Public
Type of Report: Oral or Written?	oral	Person Giving Oral Report:	Registrar of Shipping
Written Report Title (File Name):	n/a	Date of Written Report:	n/a
Written Report Author:	n/a	Written Report: Public or Exempt? (State clauses from Code of Practice booklet)	n/a
Subject: States Vessel "Duke of Normandy" Investigation			
Decision(s): In accordance with article 166 of the Shipping (Jersey) Law 2002, the Minister has decided to appoint the international marine consulting firm known as MECAL to carry out an external investigation to inquire into the circumstances of the grounding of and subsequent damage to the States vessel 'Duke of Normandy' that occurred on Friday 2 September 2011.			
Reason(s) for Decision: Although no passenger or crew injuries occurred and the vessel was able to return to port, the grounding resulted in the vessel being holed in three places. The vessel is a commercial work boat and this had the potential for being a serious incident warranting investigation under procedures laid down by the International Maritime Organisation (IMO). The Minister believes that in the circumstances an external investigator will ensure that there is proper transparency of process and that there is no conflict of interest. MECAL already act on behalf of the Jersey Registry for all commercial vessels and the UK Marine Accident Investigation Board (MAIB) have agreed to provide advice as necessary. In the interest of the safety of all Jersey-registered vessels a formal investigation by MECAL is therefore the most appropriate and resource-efficient way to proceed.			
Resource Implications: Costs are within the Department's budget			
Action required: The Minister will take the action necessary to appoint MECAL to carry out the investigation			

Decision Summary		States of Jersey	
Signature:		Position:	Economic Development Minister
Date Signed:	7-9-11	Date of Decision (if different from Date Signed):	

(1)

Friday 02nd September 2011

CREW

Master
Engineer
AB
AB

L>H (1)
L>H (2)

PASSENGERS

PAX 1-8

TIDAL INFORMATION

1605 ST. HELIER
49°11'N 2°07'W;
JERSEY
Channel Islands
Friday 02/09/2011; **BST**

Low 04:29 1.0 m
High 10:06 11.2 m
Low 16:46 1.3 m
High 22:23 11.0 m
Actual LW Ht 1.30m @ 16:45

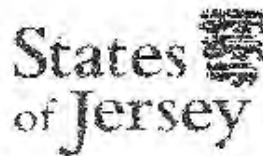
Tidal Predictions @ 5mins BST (UKHO, ATT)

15:00	2.8 m	15:05	2.6 m	15:10	2.5 m	15:15	2.4 m
15:20	2.3 m	15:25	2.2 m	15:30	2.1 m	15:35	2.0 m
15:40	1.9 m	15:45	1.8 m	15:50	1.7 m	15:55	1.6 m
16:00	1.5 m	16:05	1.5 m	16:10	1.5 m	16:15	1.4 m
16:20	1.4 m	16:25	1.3 m	16:30	1.3 m	16:35	1.3 m
16:40	1.3 m	16:45	1.3 m	16:50	1.3 m	16:55	1.3 m

WEATHER

16:00 @ St Helier VTS.

Weather: Fair. Wind: South, 3 knots. Gusting: 3 knots. Visibility: Good



Jersey Coastguard – Maritime Compliance

ACCIDENT REPORT FORM

Details of the Report to be made in the event of an accident as defined by article 165 of the Shipping (Jersey) Law 2002 and submitted in accordance with Article 6 A.a. of the Memorandum of Understanding between Regulatory Services and Jersey Harbour.

1. Name of vessel:
Duke Of Normandy
2. Official Number:
3. Name and address of owner:
Port of Jersey
4. Name of the master, skipper or person in charge at the time:
MASTER
5. Present location of the vessel and contact details (so that an inspector or surveyor may attend the vessel if required):
St Helier Albert Pier No1
6. Date and time of the accident:
02/08/11 at approximately 1620 *E.W. 1642 037. 27th Nov. 1642 approx 1620*
7. Last port of call and next port of call at the time of the accident:
St Helier
8. Latitude and Longitude or geographical location at which the accident occurred:
Cannons Reef 49° 40.25N 002° 08.1W
9. Name and port of registry of any other ship involved:
NA
10. Details of any deaths or injuries, together with name, address and gender of those concerned:
NA
(Please continue on a separate sheet if required)
11. Brief details of the accident, including weather conditions, any sequence of events leading to the accident, the extent of damage and whether the accident has caused pollution or a hazard to navigation:
When grounded on Cannons Reef and is holed in 3 areas including one fuel tank no pollution as tank is vented into another tank and hole has now bunged by divers

Vessel had been deployed as the race start vessel for a sailing regatta and was returning to port at the time of the incident. Weather at the time was fine, wind Sly 3, sea slight, visibility good.
(Please continue on a separate sheet if required)

12. Details of any other agency or organisation to which the incident has been reported and whether they have initiated their own investigation:

NA

13. If the ship is fitted with a voyage data recorder, the make and model of the recorder:

Vessel fitted with TRANSAS plotter and recorder

14. Person submitting report:

Name

HM

Signature

Date

Notes

1. In accordance with Article 6A.1. of the Memorandum of Understanding between Regulatory Services and Jersey Harbours, in force on 1 January 2009, "The Harbour Master shall report to the Department's Maritime Compliance Manager as soon as is practicable and by the quickest means available any accident of which he is aware within or adjacent to the limits of any harbour or in Jersey territorial waters."
2. In determining whether or not to make such a report, the definition of an accident is as given article 165 of the Shipping (Jersey) Law 2002. The terms *collision* and *serious damage* are defined respectively in articles 6B and 6C of the MOU.
3. In the event of a vessel, not being a pleasure vessel, being lost, presumed lost or abandoned, article 162 of the Shipping (Jersey) Law 2002 imposes a duty on the owner, master or senior surviving officer to submit a report to the Master as soon as practicable by the quickest means available. In any other event, the master shall send the report not less than 24 hours after the ship next arrives in port. An owner, master or officer who, without reasonable excuse, fails to submit this report is liable to a fine up to £5,000. Regarding pleasure vessels, information is to be submitted on request.
4. This report is to be sent to the Maritime Compliance Manager, Economic Development Department, Liberation Place, St Helier, JERSEY JE1 1BB. E-mail p.baker@jersey.gov.je Tel: 448136 or Fax 448170.
5. Outside office hours a brief text message should also be sent to the Maritime Compliance Manager requesting he contact the duty Harbour Master. This should be made on 07767-824622.

(VII)

MSC-MEPC.3/Circ.3

ANNEX 1

SHIP IDENTIFICATION AND PARTICULARS

Administrations are urged to supply the ship identification information listed in this annex for all marine casualty reports submitted to the Organization.

SHIP PARTICULARS

- 1 IMO Number: 235 026 811
2 Name of Ship: DUKE OF NORMANDY
3 Flag Administration: STATES OF JERSEY
4 Type of Ship: TUG / MULTI-PURPOSE WORKBOAT.

- | | | |
|-----|--|--------------------------|
| .1 | Liquefied Gas Tanker | <input type="checkbox"/> |
| .2 | Chemical Tanker | <input type="checkbox"/> |
| .3 | Oil Tanker | <input type="checkbox"/> |
| .4 | Other Liquids (non-flammable) Tanker | <input type="checkbox"/> |
| .5 | Bulk Dry (general, ore) Carrier | <input type="checkbox"/> |
| .6 | Bulk Dry/Oil Carrier | <input type="checkbox"/> |
| .7 | Self-Discharging Bulk Dry Carrier | <input type="checkbox"/> |
| .8 | Other Bulk Dry (cement, woodchips, urea and other specialized) Carrier | <input type="checkbox"/> |
| .9 | General Cargo Ship | <input type="checkbox"/> |
| .10 | Passenger/General Cargo Ship | <input type="checkbox"/> |
| .11 | Container Ship | <input type="checkbox"/> |
| .12 | Refrigerated Cargo Ship | <input type="checkbox"/> |
| .13 | Ro-Ro Cargo Ship | <input type="checkbox"/> |
| .14 | Passenger/Ro-Ro Cargo Ship | <input type="checkbox"/> |
| .15 | Passenger Ship | <input type="checkbox"/> |
| .16 | High-Speed Craft | <input type="checkbox"/> |
| .17 | Other Dry Cargo (livestock, barge, heavy cargo, etc.) Carrier | <input type="checkbox"/> |
| .18 | Fish Catching Vessel | <input type="checkbox"/> |
| .19 | Fish Factory Ship/Fish Carrier | <input type="checkbox"/> |

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ANNEX 1

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- | | | |
|-----|------------------------|-------------------------------------|
| .20 | Offshore Supply Ship | <input type="checkbox"/> |
| .21 | Other Offshore Ship | <input type="checkbox"/> |
| .22 | Research Ship | <input type="checkbox"/> |
| .23 | Towing/Pushing Tug | <input checked="" type="checkbox"/> |
| .24 | Dredger | <input type="checkbox"/> |
| .25 | Other Activities Ship | <input checked="" type="checkbox"/> |
| .26 | Non-Propelled Ships | <input type="checkbox"/> |
| .27 | Other Ships Structures | <input type="checkbox"/> |

5 Type of service:

- International
- Short international
- Coastal sea trade
- Inland waters
- Other, please state: *JERSEY WATERS - OCCASIONAL SHORT INT'L.*
- Not reported

6 Were any voyage related restriction limits placed on the ship? Explain: *NO*

7 Gross Tonnage: *161*

8 Length overall: *LOAD LINE LENGTH 23.36M*

9 Classification Society: *JERSEY CODE CERTIFICATE ISSUED BY MECAL LTD.*

10 Registered Shipowner: *JERSEY HARBOURS*

11 Ship Manager/Operator: *JERSEY HARBOURS.*

12 Previous names: _____

13 Previous Flag: _____

14 Previous Class Society:

15 Date of contract/keel laid/delivery: *2005*

16 Date of major conversion: _____

17 Deadweight: *IN ACCORDANCE STABILITY INFORMATION BOOK.*

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- 18 **Hull material:**
- .1 steel
 - .2 light alloy
 - .3 ferrocement
 - .4 wood
 - .5 GRP
 - .6 composite materials
- 19 **Hull construction:**
- .1 single hull *
 - .2 double hull
 - .3 double bottom
 - .4 double sides
 - .5 mid deck
 - .6 other
- * EXTENSIVE SUBDIVISION WITH PARTIAL DOUBLE BOTTOM AND DEEP TANKS.
- 20 **Propulsion Type (type, fuel, etc.):** Steam Diesel Other
- .1 **Bunkers:**
Heavy Fuel Oil (HFO) Medium Fuel Oil (MFO) Marine Diesel Oil (MDO)
- 21 **Nature of cargo (e.g., oil, dry bulk and goods under the IMDG Code):** MISC. DECK CARGO AND GEAR — NON-IMDG.
- 22 **Building yard:** DAMON SHIPYARDS, HOLLAND.
- 23 **Hull number:** 1564
- 24 **Date of total loss/constructive total loss/scraping:** —
- 25 **Number of Crew on ship's certificate:** 15 PERSONS MAX. INC PASSENGERS.
- 26 **Number of Passengers on ship's certificate:** NOT EXCEEDING 12
- 27 **Number of persons onboard at the time of the casualty/accident:** 12
- .1 Crew: 4
 - .2 Passengers: 8
 - .3 Others: —

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PRELIMINARY CASUALTY DATA

28 Date and time (local onboard): APPROX 1620 DST. 2/9/2011

29 Position/location: 49° 10.26' N, 002° 07.973' W

30 Initial event*:

- collision
- stranding/ grounding
- contact
- fire or explosion
- hull failure/ failure of watertight doors/ports, etc.
- machinery damage
- damages to ship or equipment
- capsizing/ listing
- missing: assumed lost
- accidents with life-saving appliances
- other

31 Consequences:

- total loss of the ship
- ship rendered unfit to proceed**
- ship remains fit to proceed***
- pollution
- loss of life
- serious injuries

32 Summary of events:

BOTTOM CONTACT WITH CANNON REEF, ST. AUBIN'S BAY,
JERSEY ON RETURN TO PORT.

* For an explanation of the terms below see annex 2.

** The ship is in a condition, which does not correspond substantially with the applicable conventions, presenting a danger to the ship and the persons on board or an unreasonable threat of harm to the marine environment.

*** The ship is in a condition, which corresponds substantially with the applicable conventions, presenting neither a danger to the ship and the persons on board nor an unreasonable threat of harm to the marine environment.

ANNEX 2

DATA FOR VERY SERIOUS AND SERIOUS CASUALTIES

CASUALTY DATA

- 1 Date and local time of casualty: (24 hr clock) (dd/mm/yyyy): 02/09/2011
Approx 1618 BST.
- 2 Position of casualty (Latitude, Longitude):
49°10.26'N 002°07.973'W
- 3 Location of casualty:
- 3.1 At berth
 - 3.2 Anchorage
 - 3.3 Port
 - 3.4 Port approach
 - 3.5 Inland waters
 - 3.6 Canal
 - 3.7 River
 - 3.8 Archipelagos
 - 3.9 Coastal waters (within 12 miles)
 - 3.10 Open sea
- 4 Pilot on board:
- 5 Type of casualty (initial event):
- 5.1 Collision: striking or being struck by another ship (regardless of whether under way, anchored or moored).
 - 5.1.1 IMO Number of other ship involved. (not coded)
 - 5.1.2 Name of other ship involved. (not coded)
 - 5.2 Stranding or grounding: being aground, or hitting/touching shore or sea bottom or underwater objects (wrecks, etc.).

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- 5.3 Contact: striking any fixed or floating object other than those included in No.1 or 2.
- 5.4 Fire or explosion.
- 5.5 Hull failure or failure of watertight doors, ports, etc.: not caused by Nos.1 to 4.
- 5.6 Machinery damage: not caused by Nos.1 to 5, and which necessitated towage or shore assistance.
- 5.7 Damages to ship or equipment: not caused or covered by Nos.1 to 6.
- 5.8 Capsizing or listing: not caused by Nos.1 to 7.
- 5.9 Missing: assumed lost.
- 5.10 Accidents with life-saving appliances.
- 5.11 Other: all casualties which are not covered by Nos.1 to 10.
- 6 Type of subsequent events: *N/A*.
- 6.1 Collision: striking or being struck by another ship (regardless of whether under way, anchored or moored).
- 6.1.1 IMO Number of other ship involved. (not coded)
- 6.1.2 Name of other ship involved. (not coded)
- 6.2 Stranding or grounding: being aground, or hitting/touching shore or sea bottom or underwater objects (wrecks, etc.).
- 6.3 Contact: striking any fixed or floating object other than those included in No.1 or 2.
- 6.4 Fire or explosion.
- 6.5 Hull failure or failure of watertight doors, ports, etc.

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- | | | |
|----------|--|-------------------------------------|
| 6.6 | Machinery damage which necessitated towage or shore assistance. | <input type="checkbox"/> |
| 6.7 | Damages to ship or equipment. | <input type="checkbox"/> |
| 6.8 | Capsizing or listing. | <input type="checkbox"/> |
| 6.9 | Missing: assumed lost. | <input type="checkbox"/> |
| 6.10 | Accidents with life-saving appliances. | <input type="checkbox"/> |
| 6.11 | Other: all events which are not covered by Nos.1 to 10. | <input type="checkbox"/> |
| 7 | Consequences of the casualty: | |
| 7.1 | Consequences to the ship involved in the casualty: | |
| 7.1.1 | Total loss | <input type="checkbox"/> |
| 7.1.2 | Ship rendered unfit to proceed* | <input type="checkbox"/> |
| 7.1.3 | Ship remains fit to proceed** | <input checked="" type="checkbox"/> |
| 7.2 | Consequences related to human beings: | |
| 7.2.1 | Number of dead or missing crew | <u> </u> |
| 7.2.2 | Number of dead or missing passengers | <u> </u> |
| 7.2.3 | Number of other dead or missing persons | <u> </u> |
| 7.2.4 | Number of crew being seriously*** injured in the casualty | <u> </u> |
| 7.2.5 | Number of passengers being seriously*** injured in the casualty | <u> </u> |
| 7.2.6 | Number of other persons being seriously*** injured in the casualty | <u> </u> |

* The ship is in a condition, which does not correspond substantially with the applicable conventions, presenting a danger to the ship and the persons on board or an unreasonable threat of harm to the marine environment.

** The ship is in a condition, which corresponds substantially with the applicable conventions, presenting neither a danger to the ship and the persons on board nor an unreasonable threat of harm to the marine environment.

*** Incapacitated for 72 hours or more.

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7.3 Consequences to the environment (pollution):

7.3.1 Oil in bunkers:

7.3.1.1	Type of oil	Quantity spilled
<input type="checkbox"/>	Heavy fuel	<u>N/A</u>
<input type="checkbox"/>	Diesel	<u>NIL</u>
<input type="checkbox"/>	Lube oils	<u>NIL</u>
<input type="checkbox"/>	Other	<u>ML</u>

7.3.2 Oil cargo:

N/A

7.3.2.1	Type of oil (not coded)	Quantity spilled
<input type="checkbox"/>	Crude oil	_____
<input type="checkbox"/>	Persistent refined oil products	_____
<input type="checkbox"/>	Non-persistent refined oil products	_____
<input type="checkbox"/>	Others	_____

7.3.3 Chemicals in bulk:

N/A

Category (Appendix I to Annex II of MARPOL)

	Quantity in tons spilled
<input type="checkbox"/> X	_____
<input type="checkbox"/> Y	_____
<input type="checkbox"/> Z	_____
<input type="checkbox"/> OS	_____

7.3.4 Dangerous Goods in packaged form: *N/A*

Class (IMDG Code)	Proper Shipping Names	UN numbers	Quantity lost overboard
1	<input type="checkbox"/>	_____	_____
2	<input type="checkbox"/>	_____	_____
3	<input type="checkbox"/>	_____	_____
4.1	<input type="checkbox"/>	_____	_____
4.2	<input type="checkbox"/>	_____	_____
4.3	<input type="checkbox"/>	_____	_____
5.1	<input type="checkbox"/>	_____	_____
5.2	<input type="checkbox"/>	_____	_____
6.1	<input type="checkbox"/>	_____	_____
6.2	<input type="checkbox"/>	_____	_____
7	<input type="checkbox"/>	_____	_____
8	<input type="checkbox"/>	_____	_____
9	<input type="checkbox"/>	_____	_____

8 Primary causes of the initial event:

Coding principle:

- a The human element is a complex multi-dimensional issue that affects maritime safety and marine environmental protection. It involves the entire spectrum of human activities performed by ships' crews, shore based management, regulatory bodies, classification societies, shipyards, legislators and other relevant parties.
- b Effective remedial action following maritime casualties requires a sound understanding of the human element involvement in accident causation. This comes by the thorough investigation and systematic analysis of casualties for contributory factors and the causal chain of events.

8.1 Internal causes (related to the ship where the casualty occurred):

8.1.1 Human violations or errors by the crew:

.1 Human violations

.2 Human error

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- | | | | |
|-------|---|------------|--------------------------|
| 8.1.2 | Human violations or errors by the pilot: | <i>N/A</i> | <input type="checkbox"/> |
| .1 | Human violations | | <input type="checkbox"/> |
| .2 | Human error | | <input type="checkbox"/> |
| 8.1.3 | Structural failures of the ship: | <i>N/A</i> | <input type="checkbox"/> |
| 8.1.4 | Technical failure of machinery/equipment including design errors: | <i>N/A</i> | <input type="checkbox"/> |
| .1 | Failure of propulsion machinery | | <input type="checkbox"/> |
| .2 | Failure of essential auxiliary machinery | | <input type="checkbox"/> |
| .3 | Failure of steering gear | | <input type="checkbox"/> |
| .4 | Failure of closing arrangements or seals | | <input type="checkbox"/> |
| .5 | Failure or inadequacy of navigational equipment | | <input type="checkbox"/> |
| .6 | Failure of bilge pumping | | <input type="checkbox"/> |
| .7 | Failure of electrical installation | | <input type="checkbox"/> |
| .8 | Failure or inadequacy of communication equipment | | <input type="checkbox"/> |
| .9 | Failure or inadequacy of lifesaving appliances | | <input type="checkbox"/> |
| .10 | Ship design errors (i.e. insufficient stability) | | <input type="checkbox"/> |
| .11 | Other | | <input type="checkbox"/> |
| 8.1.5 | The ship's cargo: | <i>N/A</i> | <input type="checkbox"/> |
| .1 | Cargo shifting | | <input type="checkbox"/> |
| .2 | Fire or explosion in cargo | | <input type="checkbox"/> |
| .3 | Improper stowage of cargo | | <input type="checkbox"/> |
| .4 | Spontaneous combustion | | <input type="checkbox"/> |
| .5 | Cargo liquefaction | | <input type="checkbox"/> |
| .6 | Other | | <input type="checkbox"/> |
| 8.2 | External causes (outside the ship): | <i>N/A</i> | <input type="checkbox"/> |
| 8.2.1 | Another ship or ships (improper actions, etc.) | | <input type="checkbox"/> |
| 8.2.2 | The environment: | | <input type="checkbox"/> |
| .1 | Heavy sea | | <input type="checkbox"/> |
| .2 | Wind | | <input type="checkbox"/> |
| .3 | Currents or tides | | <input type="checkbox"/> |
| .4 | Icing | | <input type="checkbox"/> |
| .5 | Ice conditions | | <input type="checkbox"/> |
| .6 | Restricted visibility | | <input type="checkbox"/> |

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- | | | | |
|-------|--|------------|--------------------------|
| 8.2.3 | Navigational infrastructure: | <i>N/A</i> | <input type="checkbox"/> |
| | .1 Failures in aids to navigation | | <input type="checkbox"/> |
| | .2 Inaccurate charts or nautical publications | | <input type="checkbox"/> |
| | .3 Charts or nautical publications unavailable for the sea | | <input type="checkbox"/> |
| | .4 VTS | | <input type="checkbox"/> |
| 8.2.4 | Criminal acts: | <i>N/A</i> | <input type="checkbox"/> |
| 8.2.5 | Other "external" causes (i.e. not associated with the ship itself): | <i>N/A</i> | <input type="checkbox"/> |
| | .1 Tug boat operations | | <input type="checkbox"/> |
| | .2 Failure or incorrect operation of shore equipment or installation | | <input type="checkbox"/> |
| | .3 Other than .1 and .2 | | <input type="checkbox"/> |
| 8.3 | Unknown causes: | <i>N/A</i> | <input type="checkbox"/> |
| 9 | Violations and error types: | | |
| 9.1 | Violation (deliberate decision to act against a rule or plan): | | <input type="checkbox"/> |
| | 9.1.1 Routine (cutting corners, taking path of least effort, etc.) | | <input type="checkbox"/> |
| | 9.1.2 Necessary (due to inadequate tools or equipment, improper procedures or regulations) | | <input type="checkbox"/> |
| | 9.1.3 "For kicks" (thrill seeking, to alleviate boredom, macho behaviour) | | <input type="checkbox"/> |
| | 9.1.4 Exceptional (taking risks to help people in distress, lack of system knowledge) | | <input type="checkbox"/> |
| 9.2 | Slip (unintentional action where failure involves attention): | | <input type="checkbox"/> |
| | 9.2.1 Incorrect operation of controls or equipment | | <input type="checkbox"/> |
| | 9.2.2 Left/Right, reversal | | <input type="checkbox"/> |
| | 9.2.3 Failure to report due to distraction | | <input type="checkbox"/> |
| | 9.2.4 Other | | <input type="checkbox"/> |
| 9.3 | Lapse (unintentional action where failure involves memory): | | <input type="checkbox"/> |
| | 9.3.1 Forgetting to report information | | <input type="checkbox"/> |
| | 9.3.2 Failure to advise Officer on the Watch | | <input type="checkbox"/> |
| | 9.3.3 Other | | <input type="checkbox"/> |

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ANNEX 2
Page 8

- 9.4 Mistake (an intentional action where there is an error in the planning process; there is no deliberate decision to act against a rule or procedure):**
- 9.4.1 Error in judgement
- 9.4.2 Inappropriate choice of route
- 9.4.3 Deciding not to pass on information
- 9.4.4 Failure to respond appropriately
- 9.4.5 Other
- 10 Underlying factors:**
- 10.1 Liveware:** *N/A.*
- 10.1.1 Physiological:
- .1 Fatigue
- .2 Stress
- .3 Alcohol/illegal drug
- .4 Prescription medicine
- 10.1.2 Psychological:
- .1 Excessive workload
- .2 Communication
- .3 Standards of personal competence
- .4 Lack of familiarity or training
- .5 Panic and fear
- .6 Boredom
- .7 Mental and emotional disorders
- 10.1.3 Physical:
- .1 Hearing problem
- .2 Visual problem
- .3 Injuries and illness
- .4 Less than adequate medical fitness
- 10.1.4 Others:

- | | | |
|--|------------|--------------------------|
| 10.2 Hardware: | <i>N/A</i> | <input type="checkbox"/> |
| 10.2.1 Equipment not available | | <input type="checkbox"/> |
| 10.2.2 Ergonomics | | <input type="checkbox"/> |
| 10.2.3 Design failures (other than ergonomics) | | <input type="checkbox"/> |
| 10.2.4 Maintenance and repair | | <input type="checkbox"/> |
| 10.2.5 Other | | <input type="checkbox"/> |
| 10.3 Software: | <i>N/A</i> | <input type="checkbox"/> |
| 10.3.1 Company policy and standing orders | | <input type="checkbox"/> |
| 10.3.2 Less than adequate operating procedures and instruction | | <input type="checkbox"/> |
| 10.3.3 Management and supervision | | <input type="checkbox"/> |
| 10.3.4 Other | | <input type="checkbox"/> |
| 10.4 Environment: | <i>N/A</i> | <input type="checkbox"/> |
| 10.4.1 Ship movement/Weather effects | | <input type="checkbox"/> |
| 10.4.2 Noise | | <input type="checkbox"/> |
| 10.4.3 Vibration | | <input type="checkbox"/> |
| 10.4.4 Temperature/Humidity | | <input type="checkbox"/> |
| 10.4.5 Less than adequate manning | | <input type="checkbox"/> |
| 10.4.6 Other | | <input type="checkbox"/> |

MSC-MEPC.3/Circ.3

ANNEX 3

SUPPLEMENTARY INFORMATION ON VERY SERIOUS
AND SERIOUS CASUALTIES

To assist completion of marine casualty analysis, in addition to the information in annexes 1 and 2, the following information is required:

- 1 **Principal findings and form of casualty investigation:**
REFER TO MECAL LTR. REPORT 10/2011

- 2 **Action taken:**
*TO BE ADVISED BY JEREMY HANBOWS.
REFER TO RECOMMENDATIONS IN ABOVE REPORT.*

- 3 **Findings affecting international regulations:** *NONE*

- 4 **Assistance given (SAR operations):** *NONE -*

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(VIII)

MARINE SECTION

DUKE OF NORMANDY-CHANGING OVER THE WATCH

WHEN CHANGING OVER THE WATCH, RELIEVING OFFICERS SHOULD PERSONALLY SATISFY THEMSELVES REGARDING THE FOLLOWING?

- STANDING ORDERS AND OTHER SPECIAL INSTRUCTIONS OF THE MASTER RELATING TO NAVIGATION OF THE SHIP.
 - POSITION, COURSE, SPEED AND DRAFT OF THE SHIP.
 - PREVAILING AND PREDICTED TIDES, CURRENTS, WEATHER AND VISIBILITY AND THE EFFECT OF THESE FACTORS UPON THE COURSE AND SPEED.
 - PROCEDURES FOR THE USE OF MAIN ENGINES TO MANOEUVRE WHEN THE MAIN ENGINES ARE ON BRIDGE CONTROL, AND THE STATUS OF WATCHKEEPING ARRANGEMENTS IN THE ENGINE ROOM.
 - THE SHIP SECURITY STATUS.
 - SUFFICIENT TIME HAS BEEN ALLOWED FOR NIGHT VISION TO BE ESTABLISHED AND THAT SUCH VISION IS MAINTAINED.
- NAVIGATIONAL SITUATION, INCLUDING BUT NOT LIMITED TO:
- THE OPERATIONAL CONDITION OF ALL NAVIGATIONAL AND SAFETY EQUIPMENT BEING USED OR LIKELY TO BE USED DURING THE WATCH.
 - THE ERRORS OF THE MAGNETIC AND SATELLITE COMPASSES.
 - THE PRESENCE AND MOVEMENTS OF SHIPS IN SIGHT OR KNOWN TO BE IN THE VICINITY.
 - THE CONDITIONS AND HAZARDS LIKELY TO BE ENCOUNTERED DURING THE WATCH.
 - THE POSSIBLE EFFECTS OF HEEL, TRIM WATER DENSITY AND SQUAT ON UNDERKEEL CLEARANCE.
 - ANY SPECIAL DECK WORK IN PROGRESS.

(IX)

MARINE SECTION

DUKE OF NORMANDY-PASSAGE PLAN APPRAISAL

HAS THE OPERATION OF THE FOLLOWING EQUIPMENT BEEN STUDIED AND FULLY UNDERSTOOD?	
<ul style="list-style-type: none"> * HAVE NAVIGATION CHARTS BEEN SELECTED FROM THE CHART CATALOGUE INCLUDING; * ROUTING AND PLANNING CHARTS FOR SEPARATION SCHEMES AND SHIPS REPORTING SCHEMES. * APPROPRIATE SCALE CHARTS FOR THE PASSAGE. * LARGE SCALE CHARTS FOR COASTAL WATERS * PORT CHARTS. 	<ul style="list-style-type: none"> * HAVE THE FOLLOWING BEEN CHECKED; * PLANNING CHARTS AND PUBLICATIONS FOR ADVICE ON RECOMMENDED ROUTES. * WEATHER AND SEA CHARACTERISTICS OF THE AREA. * NAVIGATION CHARTS AND PUBLICATIONS FOR LANDFALL FEATURES. * SHIPS REPORTING AND VESSEL TRAFFIC SERVICES.
<ul style="list-style-type: none"> * HAVE PUBLICATIONS BEEN SELECTED INCLUDING; * SAILING DIRECTIONS AND PILOT BOOKS. * LIGHT LISTS. * RADIO SIGNALS. * PORT ENTRY GUIDES. * TIDE TABLES AND TIDAL STREAM ATLAS 	<ul style="list-style-type: none"> * HAVE THE FOLLOWING PREPARATIONS BEEN MADE FOR PORT ARRIVAL; * NAVIGATION CHARTS AND PUBLICATIONS FOR PILOTAGE REQUIREMENTS. * SHIP TO SHORE MASTER/PILOT EXCHANGE. * PILOT CARD/INFORMATION. * PORT GUIDES STUDIED FOR PORT INFORMATION INCLUDING ARRIVAL/BERTHING RESTRICTIONS.
<ul style="list-style-type: none"> * HAVE ALL NAVIGATION CHARTS AND PUBLICATIONS BEEN CORRECTED UP TO DATE INCLUDING; * THE ORDERING OF NEW CHARTS AND PUBLICATIONS. * NOTICE TO MARINERS. * LOCAL AREA WARNINGS. * NAVTEX WARNINGS. 	
<ul style="list-style-type: none"> * HAVE THE FOLLOWING BEEN CONSIDERED; * SHIPS DEPARTURE AND ARRIVAL DRAFT AND RESTRICTIONS ON UNDERKEEL CLEARANCE. * ANY CARRIAGE RESTRICTIONS OR REQUIREMENTS REGARDING ONBOARD STORES OR EQUIPMENT. * ANY SPECIAL OPERATIONAL REQUIREMENTS FOR THE PASSAGE. 	<ul style="list-style-type: none"> * HAS WEATHER ROUTING BEEN CONSIDERED FOR THE PASSAGE?



MARINE SECTION

(X)

DUKE OF NORMANDY-EXTENDED PASSAGE MAKING

HAVE THE FOLLOWING FACTORS BEEN TAKEN INTO CONSIDERATION?

- IS KEEPING A LOOKOUT BEING GIVEN DUE PRIORITY?
 - ARE NAVAREA NAVIGATIONAL WARNING BROADCASTS AND EXTENDED WEATHER FORECASTS BEING MONITORED?
 - ARE CHANGES IN THE LOCAL WEATHER CONDITIONS BEING MONITORED AND IS THE BAROMETER BEING OBSERVED REGULARLY?
 - IS PARTICIPATION IN AREA REPORTING SYSTEMS RECOMMENDED?
 - IS THE SHIP'S POSITION BEING FIXED AT REGULAR INTERVALS?
 - ARE MAGNETIC/SATELLITE COMPASS ERRORS BEING CHECKED?
 - HAVE RADAR TECHNIQUES BEEN PRACTICED?
 - HAVE PREPARATIONS BEEN MADE FOR LANDFALL?
-
- IS THE COW PREPARED TO USE THE ENGINES AND CALL A LOOKOUT OR HELMSMAN TO THE BRIDGE?
-
- HAVE ALL MEASURES BEEN TAKEN TO PROTECT THE ENVIRONMENT FROM POLLUTION BY THE SHIP AND TO COMPLY WITH APPLICABLE POLLUTION REGULATIONS?



(XI)

MARINE SECTION

DUKE OF NORMANDY-NAVIGATION IN COASTAL WATERS

HAVE THE FOLLOWING FACTORS BEEN TAKEN INTO CONSIDERATION IN PREPARING THE PASSAGE PLAN?

- ADVICE/RECOMMENDATIONS IN SAILING DIRECTIONS.
 - SHIPS DRAFT IN RELATION TO THE AVAILABLE DEPTH OF WATER.
 - EFFECT OF SQUAT ON UNDERKEEL CLEARANCE IN SHALLOW WATER.
 - TIDES AND CURRENTS.
 - WEATHER, PARTICULARLY IN AREAS PRONE TO POOR VISIBILITY.
 - AVAILABLE NAVIGATIONAL AIDS AND THEIR ACCURACY.
 - POSITION FIXING METHODS TO BE USED.
 - DAYLIGHT/HIGH TIME PASSING OF DANGER POINTS.
 - TRAFFIC LIKELY TO BE ENCOUNTERED-FLOW, TYPE AND VOLUME.
 - ANY REQUIREMENTS FOR TRAFFIC SEPARATION/ROUTING SCHEMES.
 - SHIP SECURITY CONSIDERATIONS.
-
- ARE LOCAL/COASTAL WARNING BROADCASTS BEING MONITORED?
 - IS PARTICIPATION IN AREA REPORTING SYSTEMS RECOMMENDED INCLUDING VTS?
 - IS SHIPS POSITION BEING FIXED AT REGULAR INTERVALS AND BEING CONTINUOUSLY MONITORED?
-
- HAS EQUIPMENT BEEN REGULARLY CHECKED/TESTED, INCLUDING:
 - MAGNETIC AND SATELLITE COMPASS.
 - MANUAL AND EMERGENCY STEERING.
 - RADAR PERFORMANCE AND HEADING ALIGNMENT.
 - DEPTH SOUNDER.
-
- IS THE OOW PREPARED TO USE THE ENGINES AND CALL A LOOKOUT OR HELMSMAN TO THE BRIDGE?
-
- HAVE ALL MEASURES BEEN TAKEN TO PROTECT THE ENVIRONMENT FROM POLLUTION BY THE SHIP AND TO COMPLY WITH APPLICABLE POLLUTION REGULATIONS?

(XII)
2011 SEPTEMBER

WEEK 35

Friday 2

LATEVRSK23 315143

0815 L&T CO. U/WAY TO ST AUGUST BAY
0840 AT ANCHOR IN ST AUGUST BAY
1000 G/SY AT ANCHOR IN ST AUGUST BAY.

1615 U/T TO U/WAY TO ST AUGUST BAY
1620 U/T BOTTOM @ 10.26M & 002.07973W
1630 U/T @ 10.26M

CREW ON BOARD: MASTER, ENGINEER, LDH(1), LDH(2)

PASSENGERS: PAX 1-8

SEPTEMBER

S	1	10	17	24		
F	1	11	18	25		
M	1	12	19	26		
T	1	13	20	27		
W	1	14	21	28		
Th	1	15	22	29		
F	1	16	23	30		
S	1	17	24	31		
WK	39	40	41	42	43	44

S	8	15	22	29
WK	44	45	46	47

(XII)₂

3 Saturday

14-115 FANT week 22

0900 CRAW ON STOPS OF DIVERS A/SIDE

1100 DIVERS FINISH

1 crew: 4 x POB

4 Sunday

14-115 FANT week 22

to Falmouth

0015 POS 49°11'551" N 002°21'978" W cog 300°

0215 POS 49°16'971" N 002°36'922" W cog 300°

0315 POS 49°21'951" N 002°51'6" W cog 300°

0415 POS 49°26'415" N 003°04'255" W cog 304°

0520 POS 49°32'836" N 003°23'340" W cog 299°

0615 POS 49°37'679" N 003°55'049" W cog 300°

0715 POS 49°42'481" N 003°49'13" W cog 300°

0815 POS 49°47'381" N 004°06'23" W cog 304°

0920 POS 49°53'291" N 004°19'01" W cog 307°

1015 POS 49°56'500" N 004°29'0" W cog 300°

1020 POS 50°01'630" N 004°44'250" W cog 302°

1115 POS 50°05'259" N 004°55'316" W cog 297°

11:44 Saint Anthony Head

13:15 A/FAST A/S "TINA THERESA" FALMOUTH

(XII)₃
2011 SEPTEMBER

Friday 23

PAYE week 25 2006-99

0745:- Commence Loading Bunkers from Bunker Barge.
 0959 :- Completed Bunkering operations, Making Checks & Preparations for sea (40,000 mt)
 0954 :- Started ME'S. All Gear (Bridge) Tested & Operational.
 10:04:- Letting Go Mooring. 10:08 :- Clear of N. A.M., Proceeding outwards.
 1032 :- ST Anthony Hd Brg:- 345°(17) x 1.33'Nm 11:05:- 50°04.6'N 004°52.9'W
 1215:- 49°59.3'N 004°37.5'W 13:20:- 49°54.1'N 004°22.1'W
 1400:- 49°50.7'N 004°12.1'W
 1512 ~~49~~ 49°45.1'N 003°56.0'W
 1608:- 49°40.1'N 003°41.9'W
 1702:- 49°34.4'N 003°31.4'W
 1800 49°31.0'N 003°17.7'W
 1915:- 49°25.2'N 002°59.8'W
 2007 49°21.8'N 002°49.6'W
 2122 :- 49°16.7'N 002°33.6'W
 2200 49°14'N 002°26.3'W
 2329:- All Fast A/S P/S To @ No 1 Porton ST-Heter HBR.
 2332:- FWE.

OCTOBER					NOVEMBER							
M	3	10	17	24	31	M	7	14	21	28		
T	4	11	18	25		T	1	8	15	22	29	
W	5	12	19	26		W	2	9	16	23	30	
T	6	13	20	27		T	3	10	17	24		
F	7	14	21	28		F	4	11	18	25		
S	1	8	15	22	29	S	5	12	19	26		
S	2	9	16	23	30	S	6	13	20	27		
Wk	39	40	41	42	43	44	Wk	44	45	46	47	48

(XIII)

Jersey Harbours

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Fax: +44 (0)1534 447799
Email: jerseyharbours@jersey-harbours.com
Website: www.jersey-harbours.com

5th July 2011

Dear MASTER

Welcome to the Port of Jersey Marine Section. You have been appointed as Master of the tug Duke of Normandy. The length of engagement is yet to be determined, and will depend on other staff issues. Your main remit is to work a roster opposite the other Master. You are to assume full command of the States tug and the crew assigned to that roster with you. You will supervise the working arrangements and tasks of the other members of the Marine Section. I attach copies of the Master JD which will apply to you when in sole charge of the vessel/section.

The vessel is registered in Jersey under the small commercial vessel code, and has a safe manning certificate endorsed by the MCA for normal operations within these waters. The minimum manning for any towage or vessel assistance is four persons, including Master, Engineer and two leading deck hands.

The vessel is operated under the Port of Jersey's Port Marine Safety Code, whose policy manual makes particular reference to Pilotage in section 6 and the Provision of Marine Services in section 7. Please familiarise yourself with these sections and ensure you sign the manual kept on board the tug. Particular attention is drawn to the following Standard Operating Procedures listed below each of which has direct impact on the safety of tug operations:

EMS - 414 - IPL	Duke of Normandy - SAR procedures
EMS - 415 - RJV	Procedures for groundings in coastal waters
EMS - 416 - RM	Uncontrolled shipping broken down / drifting in Jersey waters
EMS - 417 - PBM	Fire at sea
EMS - 418 - PBM	Aircraft ditching at sea
EMS - 427 - RDF	Duke of Normandy-standing by for La Collette flygt pumps
PMS - 502 - PRL	Pilotage procedures
PMS - 503 - RJV	Pilotage operating restrictions
PMS - 505 - RJV	Berthing in strong winds
PMS - 515 - RJV	Man overboard from pilot cutter
PMS - 516 - RJV	Boarding and landing procedures
PMS - 522 - PBM	Diving operations
PMS - 523 - IPL	Life jacket servicing
PMS - 524 - IPL	Use of pilot boats - other than pilot work
PMS - 528 - IPL	Fire on board "Duke of Normandy"
PMS - 530 - IPL	SAR crew list
PMS - 531 - IPL	VHF distress procedures for vessels
PMS - 533 - IPL	Buoy & beacon work
PMS - 534 - IPL	"Duke of Normandy" - buoy change procedure
PMS - 535 - IPL	Open water tow
PMS - 536 - IPL	"Duke of Normandy" - general crane operations

Chief Executive/Harbour Master - Captain Howard La Cornu

PMS - 537 - IPL	Towage guidelines for Jersey harbours
PMS - 538 - IPL	Harbour maintenance - water borne
PMS - 539 - IPL	Working on or near water
PMS - 541 - IPL	Using deck capstan
PMS - 551 - PRL	Work Boat Halcyon use to assist commercial vessels
OPS - 735 - AL	Berthing of Arrow / Triumph class ro/ro vessels on Elizabeth east berth

There are a number of risk assessments contained in Section 5 and 6 of the Risk Assessments contain on line on L Drive following the link [L:PORT MARINE SAFETY CODE\PMSC RISK ASSESSMENTS](#). Kindly take some time to review and familiarise yourself with these.

The vessel also operates a Small Vessel ISM system embedded and referred to in the PMSC. This system contains safety equipment plans and operating instructions as well as tests drills and other safety exercise plans which are required to be followed within the specified time periods. You will be expected to maintain these records up to date as appropriate. Planned maintenance and defect reporting also form part of this SMS.

In relation to navigating the vessel, local pilotage directions must be followed at all times. Although there is no requirement for the Duke of Normandy to take a pilot when operating in and around the port and local waters it is required that you designate a crew member with local pilotage knowledge to provide advice and assistance to you on the bridge. Feel free to engage one of the General Pilots if preferred for a particular task. Please ensure you contact VTS on Channel 14 at all times before leaving your berth, arriving in port or moving within the harbour, and pass Traffic Reports to Jersey Coastguard on VHF Channel 82 when working further off shore. Be aware of the IALA Traffic Signals displayed at VTS and obey them at all times.

The International Regulations for Preventing of Collisions at Sea, 1972 apply to all Jersey Waters and must be followed at all times.

When in sole charge of the Section and vessel you will report directly to the Deputy Harbour Master (who is currently assuming the role of fleet superintendent for all Port of Jersey vessels) or in his absence a designated Maritime Professional Manager, keeping him apprised of activities and giving timely information on any defects deficiencies, hazards, incidents and accidents in accordance with the PMSC Safety Management Policy.

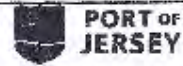
If in doubt feel free to call me at any time either on my home number work mobile
or personal mobile

Yours sincerely


Deputy Harbourmaster
Coastguard Operations Director
Direct dial: (01534) 447701
Email: dhm@gov.je

Chief Executive/ Harbour Master : Captain Roward Le Goff

MARINE SECTION SAFETY MANAGEMENT SYSTEM



DECK FAMILIARISATION CHECK LIST

OFFICER'S/RATING'S NAME	
RANK	

This Check List must be handed to the Deck Officer/Rating upon joining the Marine Section.

It should be completed, signed and returned to the Marine Operations Manager prior to taking over operational duties. If in doubt regarding any subject, the Officer/Rating should consult with the Tug Master, the Chief Engineer [if appropriate] or the Marine Operations Manager.

The Marine Operations Manager should date and countersign this form before filing it.

For crew members who may act as Mate or Master of "Duke of Normandy", the section on page 4 must be completed and must be countersigned by the Deputy Harbour Master or the Master Pilot.

ALL MARINE SECTION VESSELS

FAMILIARISE YOURSELF WITH THE FOLLOWING:	Initials
EMERGENCY PREPAREDNESS	
Assigned emergency duties and responsibilities	
Fire lockers positions and contents	
First Aid provisions, including Defibrillator	
Liferaft preparation and launching	
Man over board routines and equipment	
Procedures and precautions in the event of the following incidents (at sea and in port):	
Fire	
Collision	
Grounding	
Steering Gear Failure	
Location of the following systems and their local and remote operation:	
Fire alarm and sprinkler systems	
Fixed Fire Extinguishing systems	
Fire doors	
Watertight door operation and procedures	
Main Engine and Diesel Generator Stops	
Machinery vent stops, dampers and flaps	
Emergency Generator and Fire Pumps	
Blige and ballast systems	
Emergency steering systems and procedures	

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 Revision / Edition / Date: ORIGINAL File reference: Deck 2011

FAMILIARISE YOURSELF WITH THE FOLLOWING:		Initials
OPERATIONS AND EQUIPMENT		
Navigation and communications equipment:		
	Procedure for hand/automatic steering and control of steering motors	
	All radars, including ARPA	
	Satellite navigation systems	
	Fluxgate and Magnetic Compasses	
	Electronic Chart Systems	
	Engine, thruster and steering controls	
	Navigation and deck lights	
	Ship's whistle control system	
	Emergency communication system	
	PA system	
	Internal communication system	
	Portable Radios	
	GMDSS equipment	
	Recognition and action in the event of any bridge alarm/signal	
Deck machinery:		
	Anchoring operations and position of spare anchor	
	Mooring operations & procedures	
	Capstans	
	Winches	
	HEILA deck crane	
	Other lifting and securing equipment	
	Rigging of 'A'-frame for ploughing operations	
	Configuration of deck machinery for buoyage operations	
	Configuration of LAMOR oil recovery & pollution control eqpt.	
	Layout of all tanks, voids, bilges, sounding pipes etc.	

FAMILIARISE YOURSELF WITH THE FOLLOWING:		Initials
PREVENTION OF POLLUTION		
	Shipboard Waste Management	
	Bunkering and Oil Spill Procedures	
	Sewage Discharge Procedures	
	Bilge Oily Water Discharge Procedures	

PORT OF JERSEY MARINE SECTION - SAFETY MANAGEMENT SYSTEM

FAMILIARISE YOURSELF WITH THE FOLLOWING:		Initials
COMPANY POLICY, PROCEDURES AND INSTRUCTIONS AND OTHER MANUALS AND DOCUMENTS		
	Jersey Harbours Occupational Health and Safety Policy and Procedures	
	PMSC Safety Management System (as applied to the Marine Section)	
	Small Ship's Safety Management System, including SOPs	
	Ship Emergency Organisation & Muster List	
	Ship Stability and Damage Control information [if appropriate]	
	Safety Training Manual	
	Security Procedures	
	Marine Section Organisation	

DECLARATION:	
I have completed my onboard familiarisation and, by my initials above, I confirm that I am familiar with the operation of the vessels and their equipment in accordance with my assigned duties.	
Deputy Harbour Master / Master Pilot	Date
Signature of Marine Operations Manager	Date

PORT OF JERSEY MARINE SECTION - SAFETY MANAGEMENT SYSTEM

For crew members who may act as Mate or Master of "Duke of Normandy", the following sections must be completed and countersigned by the Deputy Harbour Master or the Master Pilot.

SHIPHANDLING AND PILOTAGE KNOWLEDGE		Initials
VESSEL ASSIST		
	Assistance to ferries into / out of Elizabeth Terminal	
	Assistance to vessels into / out of the Tanker Berth	
	General shiphandling in confined waters, inc. buoy and beacon maint.	
	Pilotage knowledge for St. Helier harbour and approaches	
	Pilotage knowledge of Jersey waters in general	
Signature of Deputy Harbour Master / Master Pilot		Date

(XV)



Annex XV Background information on MECAL and MECAL personnel associated with this report

MECAL Ltd - ISO 9001 (2008) Quality Assured Company

International Marine Consultancy
Ocean Building
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PLYMOUTH, PL4 0LP
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Web: www.mecal.co.uk

CHIEF SURVEYOR:

John Feamley BSc CEng CMarEng RMarEST MIEE
Ex Bureau Veritas Ship & Offshore Surveyor (1971 - 1999)

MECAL Ltd is an International Marine Consultancy & Certifying Authority with delegation from UK and Red Ensign Group Flag States for survey and certification of small commercial vessels.

MECAL (Jersey) is the section of MECAL Ltd which has formal delegation from the Jersey Administration to act as their technical arm for the development & application of Jersey marine law as applied to commercial vessels.

LEAD INVESTIGATOR:

Christopher John Gladwin
Chief Naval Architect and Principal Surveyor to MECAL Ltd
BSc (Dunelm), Chartered Engineer, Fellow Royal Institution of Naval Architects.
D.o.b. 25/11/1941.
Holds Yachtmaster Offshore with commercial endorsement, (in course of revalidation)
Formerly employed by Bureau Veritas, International Classification Society from 1970 to 2002 as a marina and offshore surveyor. Last major post for 6 years as Operations Manager for Ships in Service activities for Far East and Middle East.
Subsequently, sub-contracted auditor to IACS, International Association of Classification Societies from 2002 to 2010 inc. and associated with MECAL on non-employed basis.
Author of training Modules for Lloyd's Maritime University.

INVESTIGATOR - Falmouth

Geoffrey W. Wilson
(Involved in repair surveys and obtaining initial statements from the master whilst vessel in Falmouth).
Principal Surveyor (Independent) to MECAL Ltd.
I.Eng., M. Mar. EST, F.C.M.S., F.I. Diag. E.
D.o.b. 4/4/1951.
Director/Principal Marine Surveyor, R Pearce and Co., Falmouth.
Held non-exclusive surveyor appointments to Germanischer Lloyd, Registro Italiano Navale, Det Norske Veritas.
Approved Nautical Inspector for Bahamas maritime Authority, Barbados Ships' Registry and to the maritime authority of St. Vincent and the Grenadines.
Recognised surveyor for various Hull and Machinery, Cargo underwriters and P and I Clubs

