Annex A

Union Moon post-collision checklist

COLLISION

SOUND THE FIRE ALARM
Inspect the damages.

COMMUNICATION WITH THE OTHER SHIP
Does the other ship need assistance?
Does your own ship need assistance?
The name, nationality, last port and destination of the other ship.

ALERT OTHER SHIPS IN THE VICINITY
Is your own ship/the other ship any danger to other traffic?

SECURING OF EVIDENCE

The evidence should be collected and sent to the Company without being shown to outsiders.

The crew must not give any information as to the question of liability.

The following information to be included as a minimum:

- The exact time of collision
- The position, course, speed and propeller revolutions of own ship.
- The exact times and description of rudder and engine manoeuvres immediately before and after the collision (times on the bridge and in the engine should be identical).
- How was the visibility, what signals were seen or heard from the other ship?
- What signals were given by own ship?
- How did the other ship manoeuvre before the collision?
- Who was on the bridge, name of officer on duty, who was look-out, were the lights lit, was the radar in use?
- The events must be entered in the logbook. This will be used to establish the liability. It must therefore only contain factual information, no personal opinion or assumptions.
- What charts were in use, courses steered, positions and times. It is important to have up-dated charts.
- A drawing of the scene, showing the movements of the ships until the moment of collision, and the angle of collision.
- Photographs.
- The Radio Log Book

COLLISION NOTIFICATION

An example of a collision notice that should be sent/delivered to the other ship:

"We hold you responsible for all damage consequences and losses as result of this collision"

On receipt of collision notice from the other ship you may reply:
"Signed as an acknowledgement of receipt only and not as an admission of liability"

You should then also reply to the other ship as follows:
"Liability rejected stop we hold your ship responsible for all damage consequences and losses as result of this collision"

You must not admit any kind of responsibility, neither to the other ship nor to any person or organisation, no matter how obvious the situation might appear to be.

ASSISTANCE BY SALVAGE SHIP
Calls for assistance should be made through the Company.
Inform of the weather, the condition of the ship, any danger of running aground or pollution.
By immediate danger, or if any delays will lead to an immediate danger, it is the captain's duty to do whatever is in his power to save the ship, crew and cargo, including entering into a salvage contract.

REFERENCES
Lloyd's Open Form 2000 (LOF)

COLLISION

		TICK OFF
1	Stop MAIN ENGINES, unless circumstances dictate otherwise.	☐
2	Stop all cargo operations.	☐
3	Call the Master and maintain a Time Log.	☐
4	Close watertight doors.	☐
5	Sound EMERGENCY GENERAL ALARM crew at stations.	☐
6	Determine if other vessel needs assistance or stand-by.	☐
7	Inform Engine Room and request inspection of machinery conditions.	☐
8	Warn vessels in vicinity.	☐
9	Continuous watch on channel 16 VHF.	☐
10	Vessel position available in radio room, satellite terminal and other Automatic distress transmitters, updated as necessary, send navigational warnings on all distress frequencies.	☐
11	If deemed necessary by the Master send distress messages on all distress frequencies.	☐
12	Sound all tanks and bilges.	☐
13	If oil spill occurs follow SOPEP or VRP plans.	☐
14	Inform the Designated Person Ashore.	☐
15	Check crew for absence or injury.	☐
16	Assess meteorological conditions in the area.	☐
17	Verify damage to own vessel, check stability.	☐
18	Check draught fore and aft list and trim.	☐

COLLISION

		TICK OFF
19	Check steering gear condition.	☐
20	Check other machinery/equipment condition.	☐
21	Mark course recorder and engine room data logger with collision time.	☐
22	Establish exact position of collision, mark it on the chart and enter record in log book.	☐
23	Check log book records, (course, speed, visibility) prior to collision.	☐
24	Estimate and record angles of impact.	☐
25	Note course and speed at time of impact.	☐
26	Note time of all sound/light signals made and heard/seen.	☐
27	Record details of other vessel (name, flag, where from and to, cargo) and any failure and damage to her machinery and equipment.	☐
28	Monitor weather forecasts.	☐
29	Consider anchoring possibilities.	☐
30	Establish distance from nearest port of refuge.	☐
31	Check cargo weight-distribution.	☐
32	Check cargo, fuel, steam, hydraulic pipes and valves for damage.	☐
33	Check bunker on board distribution.	☐
34	Check ballast/fresh water distribution.	☐
35	Collision notice sent to other vessel.	☐

Annex B

Stena Feronia post-collision checklist

4.2. COLLISION

PRELIMINARY ACTION

1. PITCH TO ZERO OR IF STUCK IN OTHER VESSEL, LEAVE THE PITCH SLIGHT AHEAD.
2. CALL THE MASTER IF NOT ALREADY ON BRIDGE.
3. "**WORKING PARTY BLUE**" ANNOUNCEMENT FOR THE CREW.
4. SOUND **GENERAL ALARM** AND MUSTER PASSENGERS IN A SAFE AREA FOR A HEAD COUNT.
5. ENSURE WATERTIGHT DOORS ARE CLOSED.

IMMEDIATE ACTION

6. SWITCH ON / HOIST APPROPRIATE LIGHTS / SHAPES. SWITCH ON ALL DECK LIGHTING AT NIGHT.
7. ESTABLISH SHIP'S POSITION.
8. BROADCAST **DISTRESS ALERT** AND **MESSAGE** IF THE SHIP IS IN GRAVE AND IMMINENT DANGER AND IMMEDIATE ASSISTANCE IS REQUIRED ("MAYDAY"), OTHERWISE BROADCAST AN UREGENCY MESSAGE TO SHIPS IN THE VICINTY ("PAN PAN"). USE GMDSS STATION, SATELLITE TERMINAL AND OTHER AUTOMATIC DISTRESS TRANSMITTERS. UPDATE AIS STATUS.
9. MAKE SOUNDINGS ROUND THE SHIP TO ESTABLISH THE WATER DEPTH WHERE SHE IS AGROUND, THE TYPE OF SEABED AND DETERMINE ANY HULL DAMAGE.
10. REQUEST ENGINE CONTROL TEAM TO CHECK ALL TANK AND BILGE SOUNDINGS.
11. OFFER ASSISTANCE TO OTHER SHIP.
12. PREPARE LIFEBOATS FOR EVACUATION, SHOULD SITUATION DETERIORATE.
13. EMERGENCY TEAM TO ORGANISE THE SOUNDINGS OF ALL BALLAST AND DRY TANKS, VOID SPACES ETC. CHECK OVERSIDE FOR SIGNS OF ANY POLLUTION.
    INFORM PORT AUTHORITIES / COASTGUARD IMMEDIATELY IF POLLUTION PRESENT!
    USE EMERGENCY CONTACT LIST.

SUBSEQUENT ACTION

14. ESTABLISH STATE AND DIRECTION OF TIDE AND POSSIBLE EFFECTS.
15. ESTABLISH WEATHER CONDITIONS AND ANY EFFECT IT WILL HAVE ON THE SITUATION.
16. EMERGENCY TEAM TO COMMENCE PUMPING OUT ANY SPACE FOUND FLOODED.
17. ONCE BALLAST CONDITION IS KNOWN, CHECK WHETHER IT WOULD BE ADVANTAGEOUS TO ALTER THE BALLAST CONFIGURATION TO STABILISE THE SITUATION.
18. **PUBLIC ANNOUNCEMENT TO PASSENGERS**, ADVISE THEM OF THE SITUATION.
19. KEEP PORT RADIO OR **COASTGUARD** INFORMED OF THE SITUATION. REQUEST ASSISTANCE FROM TUGS, LIFEBOAT ETC. AS NECESSARY.
20. ADVISE **TECHNICAL MANAGERS** OF THE SITUATION AND UPDATE THEM AS NECESSARY.
21. KEEP **ENGINE CONTROL ROOM** ADVISED AS NECESSARY.
22. CONTINUE OBSERVING SHIP'S CURRENT CONDITION – ANGLE OF LIST, DAMAGED TANKS (IF ANY), POLLUTION (IF ANY), AVAILABLE ASSISTANCE ETC.
23. CONSIDER EVACUATION OF PASSENGERS BY THE SAFEST MEANS.
24. INFORM THE COMPANY.

SPECIFIC DANGERS / LIKELY PROBLEMS

- MOVEMENT OF VEHICLES / CARGO IF VESSEL IS ROLLING / PITCHING HEAVILY;
- PASSENGERS BECOMING APPREHENSIVE OR PANICKY DUE TO VESSEL MOVEMENT OR NOISE.

POINTS TO CONSIDER

- IF MAIN ENGINE POWER AVAILABLE, CONSIDER ATTEMPT TO CONTINUE THE PASSAGE;
- SOUNDING **GENERAL ALARM** AND MUSTERING PASSENGERS IN A SAFE AREA FOR A HEAD COUNT;
- PREPARING LIFEBOATS FOR EVACUATION SHOULD THE SITUATION DETERIORATE.

Annex C

‘Bridge Organisation’ section of Northern Marine Management Ltd’s safety management system

SECTION 2.0

BRIDGE ORGANISATION

2.1 Bridge Team Management
2.1.1 Composition of Bridge Watches
2.1.2 Taking over the Watch
2.1.3 Periodic Checks of Navigational Equipment
2.1.4 Helmsmen
2.1.5 Master's Assessment of Navigation Procedures
2.1.6 Company Assessment of Navigation Procedures
2.2 Masters Standing Orders
2.2.1 Bridge Order Book (SFOPS 49)
2.3 Movement Book (SFOPS 2)
2.4 Deck Log Book (SFOPS 1)
2.5 Documentary Evidence
2.6 Checklists

2.1 Bridge Team Management

Bridge Team Management must not be considered as purely theoretical, but as a programme to ensure the effective use of personnel and equipment during vessel operations. Designed to reduce errors and omissions in bridge operations via a simple system of checks and the delegation of duties, it emphasises a co-ordinated effort between bridge watchkeeping personnel to ensure smooth, efficient, and safe operation of the vessel.

The primary objectives of Bridge Team Management are:

- To assist the Master in the management of the vessel's Bridge Team and ensure personnel are rested, trained and prepared to handle any situation
- To assist the Master to recognise workloads and other risk factors that may affect decisions in setting watch conditions
- To ensure that the vessel's navigation is planned in adequate detail with contingency plans where appropriate
- To provide close and continuous monitoring of the vessel's position, ensuring as far as possible that different means of determining position are used to check against error in any one system
- To allow cross-checking of individual human decisions so, that errors can be detected and corrected at the earliest opportunity
- To allow the information available from plots of other traffic to be carefully used to guard against over-confidence (bearing in mind that other vessels may alter course and/or speed)
- To ensure that optimum and systematic use is made of all information that becomes available to bridge team members
- To ensure bridge team members are trained, comprehensively briefed, and aware of their responsibilities
- To ensure that the intentions of the Pilot are clear and assist bridge team members to interact with and support the Master and/or Pilot.

The 'Company Bridge Watchkeeping Standing Orders', (SFOPS 24) are to be posted on the bridge and strictly observed at all times. **The Company Standing Orders are not to be deleted or altered in any way whatsoever.**

2.1.1 Composition of Bridge Watches

The composition of a navigational watch should comprise one (or more) qualified officers supported by certificated navigational watchkeeping ratings. The actual number of officers and ratings on watch at a particular time will depend on the prevailing circumstances and conditions.

There must be, at least, two qualified navigating officers on the bridge when navigating in confined or congested waters, on the approach to and entering and leaving port, and at any other time when the proximity of navigational hazards or traffic density may pose an unacceptable work load on the watchkeeper.

Composition of the Navigational Watch **minimum** requirement:

Operations Mode	Master	Chief Officer	1st OOW	2nd OOW	1st Look out / Watch Rating	2nd Look out / Watch Rating
Navigation in **Deep Sea**			1		1[a]	
Navigation in **Coastal Water, Shallow Water**			1		1	
Pilotage **(Within port limits, fairways berths, STS Mooring)**	1	1[e] (C/O or OOW)			1	1[b]
Pilotage **(under Pilot Exemption Certificate)**	1	1[e] (C/O or OOW)			1	1[b]
Navigating in **Restricted Visibility**	1[f] (Master or C/O)		1	1[c]	1	1[b]
Navigating in **Heavy Weather, Ice and Extreme Environmental Conditions (Severe Sub-Zero Conditions)**	1[f] (Master or C/O)		1		1	1[b]
Navigating in **Confined or Congested Water where there is High Traffic density, in or near TSS.**	1[f] (Master or C/O)		1		1	1[b]
Dynamic Positioning (DP) Mode	1[d] (Senior DPO - Master or C/O)		1[d] (Junior DPO)		1[b]	
Vessel at **Anchor**			1		1[a]	
Navigating in **High Risk Area or Pirate Area**			1		1	1[g]
Breach of Security	As per Security Muster List					
General Emergency Situation	As per Emergency Muster List					

[a] *The lookout assigned to the watch may be allotted other duties during daylight hours provided such duties are close to the bridge, contactable by radio and enabling him to be summoned without delay when required.*
[b] *If required by the navigational situation, or Masters discretion, or when manual steering is engaged, however 2nd lookout should be contactable by radio or other suitable means enabling him to be summoned to the bridge or at anchor stations without delay when required.*
[c] *If required by the navigational situation, or Masters discretion.*
[d] *When on DP duty, other Officer to maintain OOW requirements.*
[e] *Masters discretion on selecting either Chief Officer or OOW to be on the bridge*
[f] *Masters discretion and he may deputise Chief Officer if navigational situation requires prolonged periods of enhanced bridge manning.*
[g] *Additional lookout must be assigned as per Security Level 2 requirements*

When deciding the composition of the bridge team, (which may include appropriate deck ratings) the following factors are to be taken into account:

- At no time is the bridge to be left unattended
- Weather conditions, visibility, daylight or darkness
- Proximity of navigational hazards which may make it necessary for the Watch Officer(s) to carry out additional navigational duties
- Operational condition of navigational aids
- Whether the vessel is fitted with automatic steering
- Any unusual demands on the navigational watch that may arise as a result of special operational circumstances.
- Fatigue

The Officer of the Watch is to ensure that a proper lookout is maintained at all times. In times of restricted visibility the Master must ensure that a proper lookout by sight and hearing is maintained in addition to radar surveillance.

Under the following circumstances an effective bridge lookout is to be maintained in addition to the Officer of the Watch by a certificated navigational watchkeeping rating who is not to be allotted any other task which may interfere with these duties:-

1. During the hours of darkness, including twilight periods.
2. When the visibility is reduced due to any condition including heavy weather.
3. When due to traffic density and/or the proximity to any navigational danger, including when navigating in or near traffic separation schemes, the Officer of the Watch requires giving his sole attention to his navigational duties.
4. Any other circumstances where the Master considers it necessary.

Subject to the above, the lookout assigned to the watch may be allotted other duties during daylight hours provided such duties are close to the bridge enabling him to be summoned without delay when required.

The duties of the lookout and helmsman are separate and the helmsman shall not be considered to be the lookout while steering.

The lookout should be kept appraised of the current navigational situation with regard to expected traffic, buoyage, weather, landfall, pilotage and any other circumstance relevant to good watchkeeping.

During the hours of darkness the Officer of the Watch is not under any circumstances to be left unaccompanied on the bridge and to this end the lookout shall be allowed access to refreshments on the bridge. The Master must ensure that a system exists for the calling of reliefs without the lookout leaving the bridge. Lookouts should be aware of the requirement to call the Master should the Officer of the Watch become ill or otherwise incapacitated.

Masters should ensure that the in port watchkeeping routine is organised so that the officer and rating taking the first watch at the commencement of a voyage and the subsequent relieving watches are sufficiently rested to be able to carry out their duties in an effective manner.

2.1.2 Taking over the Watch

Watch Officer(s) are not to hand over the watch if there is any reason to believe that the relieving Watch Officer is unfit to, or temporarily unable to carry out his duties effectively and if in doubt, the Master must be called. The SFOPS 40 – Bridge Checklist No.8: Changing Over the Watch is to be completed by the relieving Watch Officer.

The relieving Watch Officer is to ensure that members of his Watch are fully capable of performing their duties and that sufficient time is allowed for the adjustment to night vision. He is not to assume command of the watch until his vision is fully adjusted to the light conditions and he has personally satisfied himself regarding:

- Standing Orders and other special instructions issued by the Master relating to the navigation of the vessel
- The position, course, speed and draft of the vessel
- Prevailing and predicted tides, currents, weather, visibility and the effect of these factors upon course and speed
- The navigational situation including but not limited to the following:
  - The operational condition of all navigational and safety equipment being used or likely to be used during the Watch
  - Errors of gyro and magnetic compasses
  - The presence and movement of vessels in sight or known to be in the vicinity
  - Conditions and hazards likely to be encountered during the Watch
- The possible effects of heel, trim, water density and squat on underkeel clearance.
- Active radio emergencies or warnings affecting other mariners
- Details of any work at locations which may influence a decision to act to ensure the safety of the vessel's personnel

In instances where a manoeuvre or other action is taking place, the hand over is to be deferred until the action or manoeuvre is completed. The Watch Officer is to ensure that a proper record of the navigation related movements and activities that occur during the watch is kept.

2.1.3 Periodic Checks of Navigational Equipment

The Watch Officer is to have a thorough working knowledge of all the vessel's navigational equipment and frequent and regular operational tests of navigational equipment are to be carried out at sea as frequently as practicable, particularly when hazardous conditions affecting navigation are expected. These operational tests are to ensure that:

- The helmsman or the automatic pilot is steering the correct course
- The standard compass error is established at least once per Watch and when possible, after any major alteration of course. The standard and the gyro compasses are to be frequently compared and repeaters synchronised with their master compass
- The automatic pilot is tested in the manual position at least once per Watch
- The navigation and signal lights, and other navigational equipment are functioning correctly.

2.1.4 Helmsmen

The Master must ensure that all Navigating Officers, Cadets and Deck or G.P. Ratings are able to steer on any of the steering systems available (by both gyro and magnetic compasses), able to change from one system to another and be familiar with the steering characteristics of the vessel through regular practise.

A responsible officer must supervise the change over from automatic to manual steering and vice versa.

At all times when a helmsmen is steering his performance is to be monitored, this is of particular importance whilst navigating in confined waters and when in pilotage waters.

Helmsmen must be instructed to report at any time when the vessel fails to respond to the helm or if the vessel's steering characteristics depart from the normal.

2.1.5 Master's Assessment of Navigation Procedures

The Master is required to carry out a navigational audit, using section 2.0 of the OFQUAL 2 – Internal Audit Checklist (Ships), within 7 days of joining the vessel reporting any findings to the Ship Manager and Superintendent using the OFQUAL 13 – Internal Audit Report and OFQUAL 4 – Non Conformance/Preventative Action Report.

The Navigational Awareness CBT course is to be completed at least annually, by all officers involved in navigational watches and manoeuvring the vessel, and should be completed as soon after joining a vessel as possible. Deck ratings and cadets with lookout duties are also encouraged to complete the module. The results from the course form part of the Master's assessment.

2.1.6 Company Assessment of Navigation Procedures

The Company will carry out a navigational audit, using section 2.0 of the OFQUAL 2 – Internal Audit Checklist (Ships), during the vessel's scheduled annual IA02 audit, reporting any findings to the Ship Manager and Superintendent using the OFQUAL 10 – Audit, Survey and Inspection Reporting Tool.

In addition to the annual IA02 audit, the Company employs a suitably qualified independent company to conduct navigational reviews ensuring that a minimum of 10% of the fleet receives a review each year.

The results of the audits and reviews are analysed to ensure that areas of improvement and best practice are identified and promulgated throughout the fleet.

2.2 Masters Standing Orders

Every Master of Company managed vessels is to personally formulate their own "Masters Standing Orders".

These should contain clear specific instructions that supplement the Company Bridge Watchkeeping Standing Orders (SFOPS 24) including but not limited to:

- Familiarisation of duties, including the need for all new watchkeeping officers to make themselves familiar with the operation of bridge equipment, control systems and instruments, known equipment errors and limitations and to be capable of setting up and operating all appropriate bridge equipment including I.B.S. equipment.
- Bridge Watch composition, including the number of qualified individuals that should be on watch to ensure that all duties can be performed effectively in all watch conditions; and conditions that warrant task reassignment among members of the watch

- Watch keeping schedules, ensuring that schedules allow adequate rest periods to all members of the watch, and that excessive or unreasonable overall working hours are not undertaken
- Calling the Master
- Watchkeeping duties, ensuring that all duties are documented, making specific reference to Company requirements, and supplementing those with duties specific to the vessel / area of operation, in order that every individual is in no doubt as to the actions and responses required of them
- Lookout requirements and duties, including the need to perform tasks in a clear order of priority and to adjust the priority of tasks as circumstances may require; the need for clear, immediate, reliable and relevant communications; the need for continuous assessment of the lookout and helmsman
- Safe speed
- Watch handover arrangements, including the need for the Officer of the Watch to ensure that all members are and remain fully capable of carrying out their duties, and that the watch is not to be handed over if there is any reason to believe that the relieving officer is not capable of carrying out his duties effectively
- Procedures for restricted visibility, including assigning members of the watch to locations where they can best perform their duties most effectively and the minimum visibility when the Master is to be called. Minimum visibility is defined by the Company as being 2 nautical miles. Depending on the size, type and operating area of the vessel the Master may increase the minimum visibility when he is to be called.
- Radio-communication procedures
- Port Watchkeeping procedures
- Standby and mooring operations
- Navigation under pilotage
- Security and Safety requirements
- Details of safe cargo operations

These instructions should leave the bridge watchkeepers in no doubt as to actions and responses required of them by the Master. All bridge watchkeeping officers are to sign these orders to indicate understanding.
The Master must forward a copy of the "Masters Standing Orders" to the Ship Manager.

When these Standing Orders are to be amended for any particular reason then the Master must notify the Company of these amendments and forward a complete revised set of "Masters Standing Orders" to the Ship Manager.

On vessels where the same Masters relieve each other at short regular intervals, one set of Standing Orders may be used provided it is suitably endorsed by both Masters.

2.2.1 Bridge Order Book (SFOPS 49)

In addition to general standing orders, a Bridge Order Book (SFOPS 49) is to be properly maintained with specific instructions to the Officer of the Watch concerning the navigation and operation of the vessel when the Master is not readily available i.e during night hours. It should be written up every day. All entries made shall be annotated by the Master with the

date and time of writing. The Officer of the Watch shall sign, date and time the Bridge Orders when taking over the watch to indicate understanding of the contents

2.3 Movement Book (SFOPS 2)

This is an important record of events and as such, events are to be recorded in the Movement Book at the time of occurrence, not retrospectively.

The Movement Book is to be used at all times when manoeuvring of engines is anticipated i.e. entering/leaving/shifting in port, mooring operations (SPM/Berth/Jetty/Offshore Loading), restricted visibility, restricted waters, anchor watch, anchoring, helicopter operations, personnel transfer operations, UMS operations and at other times as considered appropriate by the Master e.g. activation of fire alarm, accidents, unusual occurrences, drill duration and activities etc. Pertinent entries to be transferred to the Deck/Engine Log Books and event marked on Course Recorder.

Entries shall include but not be limited to:

- Arrival / Standby engines
- Time of each engine order
- Time of pilot onboard/away
- Time of passing landmarks, bridges, etc.
- Use of tugs and their names
- Finished with engines
- Departure
- Master taking and handing over control of navigation

For vessels on dedicated routes, a pro-forma movement sheet for recording of routine port entry/departure details may be used where agreed with the Company, however the Movement Book SFOPS 2 should remain available for use outwith routine port movements.

2.4 Deck Log Book (SFOPS 1)

The Officer of the Watch shall complete all sections in the Deck logbook where applicable before leaving the bridge.

Pertinent comments and times should be made in the "remarks" section which should include the following subjects:-

- Vessels position (recorded at frequent enough intervals to allow the ship's actual track to be reconstructed at a later stage and at least once per watch where electronic position fixing systems are available)
- Weather and visibility.
- State of sea and swell.
- Any navigational accident occurring to ship.
- Alter course positions.
- Principal details of mooring operations.

- Clock changes.(including crossing dateline)
- Passing salient points, buoys, lightfloats etc.
- Principal manoeuvring details.
- Officer's rounds.
- Anchor position.
- Details of pilot.
- Details of tugs.
- Steering gear changeover (manual/autopilot).
- Master assuming control of navigation.
- All other notable occurrences.

In addition the following are to be entered in the Deck Log Book in red ink and respective carbon copy entries to be underlined in red ink:

- Point of Departure / Arrival
- Finished With Engines / Standby Engines
- Test of Emergency Steering Gear.
- Test of Bridge gear prior to standby.
- Tests required under US Navigation Safety Regulations.
- Masters Inspections
- Change of Master
- Emergency exercises/drills.
- Details of distress messages.
- Voyage deviations
- Ship search for stowaways, narcotics, explosive devices.
- Instigation of any other emergency procedure.
- Pollution drills
- Notes of Protest
- Incidents of Damage to Hull or Cargo
- Accidents to Personnel (Shore or Crew)
- Battening down of Ship and closing of all watertight doors and bow and stern doors.

Sufficient information must be transferred from the Movement Book (SFOPS2) and the Port Log Book to the "remarks" section of the Deck Log Book (SFOPS1) to allow a reconstruction of events at a later stage.

2.5 Documentary Evidence

All personnel should be made aware that in the event of a marine casualty involving the vessel all records may be used as documentary evidence in a Court of Law.

It is imperative that any corrections are made by drawing a single line through the incorrect entry, which should be initialled by the Officer making such correction. Entries should only be corrected by the Officer who made the incorrect entry.

Bridge records that may be used as documentary evidence can include but not be limited to:

- Deck Log Book (SFOPS 1)
- Movement Book (SFOPS 2)
- Masters Standing Orders
- Masters Night Orders
- Engine Order Printout
- Echosounder Recorder Printout
- Course Recorder Printout

In addition the chart in use will require to be retained in its condition at time of incident. Additional information may be added where necessary for the safety of the vessel however no positions, markings or text of any kind should be erased from the chart. If possible the chart should be photocopied as soon as possible after the incident.

2.6 Checklists

Copies of completed checklists requiring a signature or initials confirming completion must be maintained (e.g. SFOPS 40 – Bridge Checklist No.8: CHANGING OVER THE WATCH). It is not necessary to maintain copies of other checklists however they must be completed on every occasion. An entry shall be made in the Deck Log Book noting satisfactory completion of each checklist.

Annex D

Extract from Continental Ship Management AS’s safety management system detailing lookout at night

WATCH-KEEPING ON THE BRIDGE

OBJECTIVE
The objective with this procedure is to ensure a proper watch keeping on the bridge.

RESPONSIBILITY
The Master

DESCRIPTION
The watch-keeping on the bridge is to be so organised that the following functions are safely taken care of:

- Position fixing
- Watch-keeping
- Look-out
- Monitoring of other vessels' movements
- Ship handling Communication
- Safety
- Emergency preparedness

Duties shall be organised such that the first watch and subsequent relieving watches have had sufficient rest and otherwise fit for duty.

During the watch the courses steered, position and speed shall be checked at sufficiently free guent intervals, using any available navigational aids necessary, to ensure that the ship follows the planned course.

<u>When organising a bridge watch, the following shall be taken into consideration:</u>

- The bridge shall not under any circumstances be unmanned.
- It is required to have two handed watches on the bridge while navigating during the hours of darkness.
  The assistant may be another officer or cadet or a watch keeping rating as the look-out.
- Situations needing simultaneous watch-keeping/monitoring.
- Operational conditions and maintenance of equipment needed for the necessary performance of navigational duties and other equipment needed for safe watchkeeping.
- Any unusual extra strain on the watch-keeping personnel which may occur as a consequence of special operations.

All persons taking bridge watch must be part of the ships recognised bridge team and consequently supernumeraries or pilots are not accepted as bridge watch.

<u>The Officer on watch shall:</u>

Keep watch on the bridge. He may under no circumstances leave the bridge until properly relieved.

The Officer on watch shall notify the Master if in any doubt about the measures to be taken in order to maintain safe watch-keeping. In addition, he shall always notify the Master immediately under the circumstances mentioned under Doc. 7.5.2

The OOW should give watchkeeping personnel all the appropriate instructions and information to ensure the keeping of a safe watch including an appropriate look-out.

Annex E

Continental Ship Management AS’s alcohol policy

DRUG AND ALCOHOL ABUSE POLICY

1. The Company's Drug and Alcohol Abuse Policy exceeds the recommendations contained in OCIMF's "Guidelines for the Control of Drugs and Alcohol On Board Ship".

2. With regard to Alcohol, this Policy is based on the following:

- 1 hour of abstinence for each unit of alcohol consumed,
- Total abstinence from alcohol for 4 hours prior to a period of scheduled responsibility, i.e. watchkeeping duties, port arrival/departure etc.
- The acceptable level of blood alcohol content at any time on board must never exceed 0.5 prom.
- Flag, Port or Coastal State requirements which exceed the requirements of this policy shall be adhered to as if included in this policy.

Definition of units, see below table. (This is average figures).

1/2 bottle light beer	33 cl	0.5 unit
1/2 bottle beer	33 cl	1.0 unit
1/2 ltr. beer		1.5 units
1/2 bottle export beer	33 cl	1.5 units
1 bottle table wine		6.0 units
1 glass table wine		1.0 unit
1 bottle dessert wine		8.0 units
1 small glas dessert wine	7 cl	1.0 unit
1 bottle liquor 40%		20.0 units
1 drink liquor 40%	4 cl	1.0 unit
1 bottle liquor 60%		30.0 units

3. In addition, the Company maintains a system based on breathalysers and random testing by urine sample to monitor the effectiveness of this Policy.

4. Any form of drug, with the exception of prescribed drugs, is totally banned from Company managed vessels. Personnel on prescribed drugs must declare this fact to the Master upon joining the vessel, or upon prescription if prescribed during the period of service onboard. The Master if on prescribed drugs must declare this fact to the company prior joining the vessel, or upon prescription if prescribed during the period of service onboard.

5. This policy is monitored on board all vessels by the Master. In addition, Officers and Ratings undergo appropriate tests carried out during routine medical examinations.

Officers and Ratings are subject to unannounced random tests conducted by qualified personnel to Port State and Owners' requirements.

[redacted]

CONTINENTAL
SHIP MANAGEMENT AS

Managing Director

Random drug testing procedure

The Company may carry out random, unannounced, and post accident tests for drug use on all vessel.

The test method will depend on a number of factors, such as whether the test is unannounced or post accident

The random test will consist of the crew member providing a urine sample, in an approved sample bottle, which will be sealed and signed in their presence . The sealed and signed sample will then be sent to an independent approved laboratory for analysis.

The urine sample will be provided under controlled conditions in order to prevent any substitution, mishandling or contamination.

When post accident tests are required a medical practitioner may carry out on the spot analysis. Blood samples may be required in such cases.

Detection of an illicit or unprescribed drug, following a random, or a post accident test, will initiate formal proceedings which which will result in suspension from duty pending full investigation, or dismissal at the next most suitable port.

Refusal to cooperate in a random, or post accident drug test will be considered as obstructing the Master in the course of his lawful duty, and therefore grounds for disciplinary proceedings.

A report identifying the time, place and name/position to be entered into the vessels Log Book. The conducter, collector and witness to sign the records entered.

Misuse of Alcohol - Control and Prevention

INTRODUCTION
The control of use of intoxicants on board must be such that no seafarer can operate the ships equipment while impaired by drugs or alcohol

Our policy specifies the acceptable level of blood alcohol content, at any time on board must never exceed 0.50 promm. BAC (0.4 promm. for tankers). By definition this means that the crew members serving on our vessels will virtually be expected to abstain from use of alcohol during their service periods on board.

The law and use of alcohol on board
Rules have existed for many years, which have effectively created a no alcohol regime for officers and other watchkeeping personnel. In an emergency however the rest of the ships crew are of equal importance.

By this policy we are now clearly stating that we expect all crew members on board vessels managed by CSM AS to observe complete compliance with the above regulation during their period of service on board.

The same rules apply to key members of shore staff when on board on duty

Annex F

Extracts from the Belfast VTS Manual

Note: There may also be circumstances, depending on context, where the vessel is deemed relevant traffic in spite of a negative assessment of the foregoing.

3.1.6 Sailing Plan & Passage Plan

Sailing Plan to have the following information:

- Vessels name
- Masters Name
- Position
- ETA @ Fairway Buoy (or ETD)
- Destination (Berth or Next Port)
- Intended Route (Turning Location etc)
- Pilotage requirement
- Tugs required
- Any defects / deficiencies
- Dangerous goods declaration

Passage Plan to have the following:

- Master / Pilot Exchange - See Master / Pilot Exchange Form
- If no Pilot required – Master to confirm that Passage Plan has been prepared.

3.1.7 Reporting Points

Vessels Inward should report as follows:

a. Not less than 2 hours before arrival at the Fairway buoy (54°41'.71N 5°46'.23W)
b. 15 minutes prior passing the Fairway buoy for Traffic Clearance
c. On passing the Fairway buoy
d. On passing Light Beacon No 12

e. On anchoring or berthing

Vessels Outward or Shifting Berth should report as follows:

a. ETD should be sent at least 2 hours in advance if a Pilot is required or 15 minutes in advance if a Pilot is not required.
b. When ready to depart requesting Traffic Clearance
c. On departing the berth
d. On passing Buoy No 12
e. On passing the Fairway buoy

Note: this section excludes pilot boats, work boats and tugs; these vessels report only when departing the berth.

3.1.8 Vessel Transit Reports

The following reports should be Vessel-initiated; however, prompt the vessel with a reminder if necessary.

3.1.8.1 Pre Arrival Information - Prior Entry to Belfast AOR

3.1.8.1.1 Vessels requiring Pilot

Vessels requiring a pilot are required to send ETA off the Fairway Lt Buoy (54° 41'.71N 005° 46'.23W) 6 hours and 2 hours in advance stating:

- Vessel's name
- Maximum draught
- Last port
- Master's name
- Any defects / deficiencies
- Dangerous goods declaration
- If less than 100m LOA and not carrying hazardous cargo in bulk pilot boarding position required (Fairway buoy or Beacon No 12)

- Fire aboard a vessel;
- The involvement of a vessel in a collision, grounding or striking;
- Any defect to a vessel's hull, machinery, steering system, radars, compasses, communications, anchors and cables;
- Any discharge or threat of discharge of a pollutant;
- Another vessel in apparent difficulty;
- An obstruction to navigation;
- An aid to navigation that is not functioning correctly or is off position;
- The presence of any pollutant in the water;
- The presence of any vessel that may impede the movement of other Vessels;
- Weather conditions that may be detrimental to safe navigation;
- Dangerous occurrences.

3.2 Providing Traffic Information

3.2.1 Results Oriented

All Port Control communications should be conducted to ensure that intentions are clear and avoid terminology that could be interpreted as conning instructions.

3.2.2 Timing

Provide relevant vessel traffic information:

- When requested by any vessel;
- As soon as practicable after a vessel, including a recreational or fishing vessel, has acknowledged its Traffic Clearance whether arriving or departing;
- When a vessel has reported at a Reporting Point;
- At any time that a potential traffic conflict has been identified.

3.2.3 Content

Communications concerning relevant traffic shall contain:

- Name and type of vessel

- Information concerning its position, track and intentions
- Waterway and terminal data
- Any information that could affect the operation of the vessel

Alert vessels in transit or at anchor of all relevant operations or interactions such as but not limited to:

- The position and intention of vessels manoeuvring to embark or disembark a pilot;
- Vessels meeting at critical points;
- Vessels carrying dangerous goods;
- LPG/LNG vessels at appropriate berths;
- Diving and bunkering operations;
- Men working on the waterline;
- Positions of specified vessels underway;
- Positions of all deep draught vessels underway;
- Positions of vessels constrained by draft; and
- Any other operations that may have impact on vessels in the Belfast AOR.

Alert vessels intending to depart of any of the foregoing information items which may impact the Master's intention to depart.

3.2.4 Format

Provide relevant information by identifying vessels by their complete name or call-sign. When it may be of assistance, include the type or class of vessel(s) that will be encountered, together with their direction of movement, position, relevant data and intentions. Use the message marker "Traffic Information" to precede the message. Example

Marinex

This is

Ensure that good two-way information flow is maintained between Port Control and Coastguard.

Establish and maintain communications with the casualty or casualties until otherwise instructed by MCA. [Note: It is normal for a casualty to remain on the calling frequency unless a change of frequency is negotiated by the MCA - if so it is likely to be on Channel 16 or 67]; however, consider the transfer of other vessels from the incident channel to an alternative channel.

3.8.3 Vessel in apparent or declared distress

Obtain immediately the vessel's name, position, persons on board and nature of distress.

If feasible, delegate a staff member to inform MCA.

Continue to collect information appropriate to provision of assistance.

Advise other stakeholders such as Harbour Master, Fire / Police, etc., in accordance with Contingency Plans

3.8.4 Issuing Warnings

A warning may be given to a vessel if it is apparent that it is standing into danger. This is normally done when it is evident that a vessel should take action in response to a circumstance identified by the PCO.

Warnings may relate to:

- traffic information, such as the activity of other traffic; or,
- navigation information, such as danger of grounding, collision, striking, etc.

A warning shall be preceded by the message marker "WARNING", include the words "from my equipment" and given in a clear concise manner so that the Mariner is in no doubt as to what is causing the alarm.

Example

Seatrax

This is Belfast Port Control

WARNING - from my equipment, you are standing into of danger of grounding north of Victoria Channel.

ADVICE - take <u>immediate</u> action.

Over

3.8.5 Vessel impeding navigation

- Identify the vessel impeding navigation
- Determine its location and intentions
- Issue a Warning to other vessels

3.8.6 Malfunction of Aids to Navigation

- Identify the malfunctioning aid to navigation (boy, light, etc.).
- Verify the characteristics to determine if the aid is damaged, not functioning, on backup power, or is off charted position.
- Determine direction of drift if applicable.
- Record the position and time of first report.
- Issue a warning to other vessels.
- Inform both Deputy Harbour Masters and the Works Engineer by e-mail.

3.8.7 Pollution

Refer to Oil Pollution Contingency Plan (OPRC) and complete Incident Reporting and Information Management System (IRIMS) report.

Annex G

Belfast Harbour’s risk assessment concerning the fairway buoy

4.7 Risk Assessment Records

RISK ASSESSMENT RECORD

1	SCENARIO DESCRIPTION				
Area	1 nm E of Fairway to Oil Berth 4 and VT1,2 and 3	**Hazard**	Other Vessels	**Event**	Collision
Vessel	All vessels (general discussion)				

2	CAUSES
1.	Watch keeper failure
2.	Not conforming to IMO collision avoidance regulations

3 POTENTIAL RISK RANKING

With regard to risk ranking for collision in this area of the port, as there have been no incidents in the port the frequency it would usually ranked at 2. However as there are extensive risk management procedures in place within this area of the port it has been reduced to 2. For consequences ranking the rankings from collision in the Lough have been applied however the business risk has been increased as a collision within the channel is likely to result in greater loss to the port due to the potential for delaying or stopping trade.

4 DISCUSSION

1 nm to the E of the Fairway buoy was recognised to be a pinch point that the majority of vessels headed for before entering the channel or after leaving it. Because of this "congestion" it was recognised as a sensitive area in terms of navigational risk.

The users of the port and the pilots attending the workshop both indicated that pleasure boats, jet skis and canoeists have posed a problem during this area of the port. The tendency was for recreational users to be encountered between 3 and 4 and the Fairway, especially during regattas.

Fishing vessels were considered to behave in a well-managed manner however slight concern was expressed, as the level of fishing activity was likely to increase.

Vessels at anchor in this area were also identified to pose some problems to vessel navigating this area of the entrance to the port. Identification of these vessels was considered to the difficult by the VTS and hence their management was not as efficient as it could be.

5 RISK MANAGEMENT

Vessel cannot enter the port without authorisation and being "tagged" on the VTS, as traffic in the port is regulated by the VTS. In the event that this does not happen, a marine safety notice is raised and the incident is formally investigated.

All vessels are required to have a passage plan and submit a port entry form prior to entering the port limit. A component of this is a check that all equipment is in order. A vessel without a passage plan is delayed until this is addressed or takes a pilot.

Routeing guidance is presented in the ALRS, which indicates the preference for inbound vessels to pass to the North of the fairway and outbound vessels to pass to the South. This posed a problem to the ferries, which need to pass 1.5 nm from Cloghan and Kilroot jetties when a vessel is berthed, and hence to the South of the Fairway buoy when inbound

PEC's are issued to larger vessels following examination and a required number of visits to the port. This process is documented and well managed and operates on the basis of educating regular users about safe navigational practices in the port

The VTS and VHF also offer a means of managing the risk in the area by monitoring the traffic movements and offering advice to traffic in this area.

The channel sounded and dredged to ensure its depth is preserved. It is also marked with navigational aids and there are standing orders in place to promote the safe passage of vessels.

There is also an adverse weather procedure whereby channel navigation will reduced to one way traffic in reduced visibility.

There are pilotage directions in place which are regulated and enforced by the Port of Belfast.

6 EMERGENCY RESPONSE

In terms of emergency response to a collision scenario in this area there as 2 tugs available on a 24 hour basis and on 2 hours response

In addition there is RNLI presence at Bangor, which will be used to assist in an emergency scenario in cooperation with the Habour. The pilot boats would also offer assistance in this event.

7 RECOMMENDATIONS

Discussion needs to be held with the ferry companies to investigate their procedure for passing 1.5 nm from the Jetties. The basis requires investigation as this results in the incoming vessel passing to the South of the Fairway, which increases the risk of head on encounters with outbound traffic.

It should be procedure for vessels to call in to the VTS when they reach the area between New Island and Black head. This will allow them to be tagged on the VTS well in advance of reaching the Fairway and will also assist VTS communications in the more congested waters. This would also overcome the problem associated with not being able to identify vessels at anchor, mainly solved now with the AIS.

Prohibited areas should also be marked in proximity to the Fairway where vessels are not permitted to anchor. This will help reduce congestion.

Consideration should be given to moving the Fairway buoy further to the SE. This would provide the required clearance that the ferries require from the jetties, which will reduce confusion in the area and result in a more orderly flow of traffic. In addition this would also allow vessels to line up for the channel prior to reaching No.'s 3 and 4.

Monitor the pilotage operations to investigate whether this boarding point provides sufficient time for the Pilot/Master exchange now that a more formal procedure has been implemented.

A protocol should be developed for recreational users and fishing vessels to ensure they navigate in a safe manner and understand the risks they present to other port users. As part of this protocol consideration should be given to restricting these users from entering the channel until 15 and when outbound to requiring them to leave the channel at no. 12. This will keep the main navigation channel clear for large vessels using the port. Also if they must enter/cross the channel this has to be done under authorisation of the VTS and must be done under power.

At the time of vessels reporting their ETA they should be provided with information on the outbound vessels they are likely to encounter and details on vessels currently at anchor.

All vessels should be required to obtain permission to enter or leave the channel, which will improve the management of the traffic.

8 RISK SUMMARY

The following summarises the risk results from this assessment.

Vessel Type	People	Asset	Environment	Business	Total
Ferry	10	10	8	10	38
Tanker	8	10	10	10	38
Merchant	8	8	6	8	30
Small Vessel	8	4	2	4	18

Annex H

‘Navigation with Pilots’ section of Northern Marine Management Ltd’s safety management system

A copy of ICS 'Bridge Procedures Guide', Part A, Annex 5 ('Required Boarding Arrangements for Pilots') is to be posted on the bridge and all Deck Officers should become familiar with its contents.

The embarkation or disembarkation of a Pilot must always be supervised by a responsible Officer.

The maximum height of climb with a conventional pilot ladder shall not exceed 9 metres. If this distance is approached, then a combination of pilot ladder and accommodation ladder must be used. When this arrangement is used it must be similarly checked by a responsible Officer that it is properly and securely rigged in a safe manner.

Where necessary the vessel's course and speed must be adjusted in order to minimise the risk to personnel using the ladder. Where sea/swell conditions may affect the safe transfer of personnel from boats to the ladder, the Master is to make a lee. If the Master cannot make an adequate lee then he is to inform the concerned parties the conditions for boarding are dangerous and should not be attempted.

3.5.2 Navigation with Pilots

The presence of the pilot does not relieve the master or the officer of the watch of their duties and obligations.

Whenever a Pilot, either compulsory or otherwise, is on board, full and continuous surveillance of the ship's position is to be maintained by the Officer of the Watch.

The Master may, at his discretion, decide to make use of non-compulsory pilotage services in areas where he deems this necessary.

The Master should inform the pilot on boarding of the ship's characteristics using the SFOPS 29 – Pilot Boarding Card. This card should be completed by the master and handed to the pilot on boarding. Pilot advice and instructions to the Master must be noted in the Other Information section of SFOPS 29 and signed by the Pilot. Before proceeding, the Master should request information from the pilot regarding local conditions and his passage plan. This information should be in a form to enable the Master or Officer of the Watch to monitor the planned passage. The name of the Pilot and time of boarding should be recorded in the Deck Log Book.

Whilst the Master should generally remain in charge of the Bridge at all times when a Pilot is on board, except when pilotage is temporarily suspended and vessel safely anchored, during extended pilotage the Officer of the Watch may take charge of the bridge provided he is left in no doubt that the Pilot is only on board in an advisory capacity. The only exception to this rule is the Panama Canal where the Pilot has full authority and is in control of the vessel's navigation and movement.

The Officer of the Watch should co-operate closely with the pilot to assist him where possible and to maintain an accurate check on the ship's position and movements, including

systematic plotting of the vessel's position on the largest scale chart available, at frequent intervals.

If the Master or the Officer of the Watch becomes unsure of the pilot's actions or intentions he should seek clarification and, if still in doubt, take such necessary actions to ensure the safety of the vessel and, in the case of the Officer of the Watch, immediately afterwards inform the Master.

Whenever a Pilot is on board his name must be recorded. In the event of an accident occurring to the vessel whilst a Pilot is on board, no Certificate exonerating the Pilot from responsibility for the incident should be given without express consent from the Company's Office.

3.5.3 Use of Tugs

No lines should be passed to or taken from tugs without express orders from the Bridge. Care should be taken to keep the propeller clear or advise the Bridge when it is NOT clear.

Names and times of all tugs used and their station shall be recorded.

No undue reliance should be placed on tugs whilst using them for manoeuvring. Due regard should be had to any limitations imposed on the tugs used particularly sea state, positioning of own vessel and individual tugs manoeuvrability.

Where a vessel has "pushing marks" then tugs must only use these areas for pushing, except in an emergency.

In any situation where it is suspected that a tug used by the vessel has caused damage this should be communicated to the Bridge and noted.

Officers in charge of mooring stations must ensure that any mooring rope or wire passed to a tug is suitable for the purpose of towing.

At all times when a tug is made fast to the vessel then the appropriate mooring station must be manned, and supervised by Deck Officer in radio-communication with the Bridge.

Whenever tugs are made fast, then the vessel must only be operated at low speeds to the tug skippers satisfaction. Excessive engine movements should be avoided where possible particularly when tugs are operating in the vicinity of the propellers.

The Bridge should always be in communication with all tugs present, in attendance or made fast.

3.5.4 Use of VHF Radio

Bridge watchkeepers must maintain a continuous listening watch on Channel 16 (VHF) for distress, urgency and safety communications, and port information.

Annex I

Section 8 of the Pilotage Act 1987

Pilotage exemption certificates.

8.—(1) Subject to subsection (3) below, a competent harbour authority which has given a pilotage direction shall, on application by any person who is bona fide the master or first mate of any ship, grant a certificate (in this Act referred to as a "pilotage exemption certificate") to him if it is satisfied (by examination or by reference to such other requirements as it may reasonably impose)—

(a) that his skill, experience and local knowledge are sufficient for him to be capable of piloting the ship of which he is master or first mate (or that and any other ships specified in the certificate) within its harbour or such part of its harbour as may be so specified; and

(b) in any case where it appears to the authority to be necessary in the interests of safety, that his knowledge of English is sufficient for that purpose.

(2) The requirements imposed under subsection (1) above—

(a) must not be unduly onerous having regard to the difficulties and danger of navigation in the harbour in question; and

(b) must not be more onerous than those required to be met by a person (other than a person who immediately before the appointed day was the holder of a licence under section 12 of the Pilotage Act 1983 or a time-expired apprentice pilot or recognised assistant pilot within the meaning of section 3 above) applying to the authority for authorisation under section 3 above.

(3) If the Secretary of State is satisfied, on application by a competent harbour authority, that it is appropriate to do so by reason of the unusual hazards involved in shipping movements within its harbour, he may direct that during such period (not exceeding three years) as he may specify, notwithstanding that the authority is satisfied as mentioned in subsection (1) above, it may refuse to grant pilotage exemption certificates under that subsection.

(4) Where a direction is given in respect of a competent harbour authority under subsection (3) above any pilotage exemption certificate granted by the authority shall cease to have effect and the authority shall notify the holders of such certificates of that fact.

PART I

(5) A pilotage exemption certificate shall not remain in force for more than one year from the date on which it is granted, but—

(a) if the holder continues to be the master or first mate of a ship, may be renewed annually by the competent harbour authority on application by the holder if the authority continues to be satisfied as mentioned in subsection (1) above; and

(b) on the application of the holder may be altered so as to refer to different ships from those to which it previously referred if the authority is so satisfied as respects those ships.

(6) A competent harbour authority may suspend or revoke a certificate granted by it under this section if it appears to it that the holder has been guilty of any incompetence or misconduct affecting his capability to pilot the ship of which he is master or first mate or any other ships specified in the certificate.

(7) Before refusing an application by any person under this section for the grant, renewal or alteration of a certificate or suspending or revoking a certificate held by any person a competent harbour authority shall give him written notice of its intention to do so, stating the reasons for which it proposes to act, and shall give him a reasonable opportunity of making representations.

(8) A competent harbour authority may charge such fees in respect of any examination required to be taken for the purposes of this section or the grant, renewal or alteration of any pilotage exemption certificate as the authority considers reasonable for the purposes of meeting its administrative costs in connection therewith.

Annex J

Section 8.4.3 of A Guide to Good Practice on Port Marine Operations

suitably rested before commencing an act of pilotage, and that time has been allocated for the proper development of the pilotage passage plan.

8.3.36. Formal risk assessment should be used to identify any circumstances in which more than one pilot would be needed to conduct the navigation of a vessel safely.

Incident & disciplinary procedures

8.3.37. It is good practice for each authority to have a formal incident and discipline procedure in the event of a marine incident. This would be in addition to normal industrial incident and discipline procedures. It is good practice for harbour authorities to make provision for ship masters to make reports, including confidential ones, of unsatisfactory performance by an authorised pilot, whether or not there has been an incident. Such provision must, however, be coupled with an equitable investigation procedure.

8.4. PILOTAGE EXEMPTION CERTIFICATES

8.4.1 There are powers and duties which CHAs have to exempt certain ships officers from their requirements to take an authorised pilot. The use of these powers should follow these general principles:

A The standards for exemption certificates must not be more onerous than those required for an authorised pilot; but they should be equivalent.

B Exemption certificate holders and their employers are accountable to the issuing harbour authority for the proper use of any certificate.

C Harbour authorities should have formal written agreements with certificate holders and their employers to regulate the use of certificates.

The requirements of a Pilotage Exemption Certificate (PEC) system are outlined in Sections 8 and 15 of the Pilotage Act 1987.

Eligibility for a PEC

8.4.2 The Act requires CHAs to grant a PEC to only certain senior officers – see 8.4.3 below. In practice, a large proportion of commercial shipping movements, especially ferries, are conducted by such officers with a PEC. Many are highly trained and experienced not only to be familiar with their ship but also harbours which they visit regularly. The arrangements whereby applicants may qualify, obtain, and use a PEC should be laid down in the pilotage regulations, which normally accompany the pilotage directions. The pilotage directions will specify the type and size of vessels which are subject to pilotage and therefore, by definition, the vessels to which a PEC applies.

Bona Fide Master and First Mate

8.4.3 The Pilotage Act requires that a PEC is granted only to persons who are bona fide the master or first mate (referred to “chief mate” under the STWC95) of a ship.

This language recognises that practice on board varies. The first mate is the person on board who will take command in the event of the master being indisposed. Some ships carry two mates and two masters, and often ships do not have articles which establish unambiguously that a particular officer is the first mate: whoever is the de-facto master/first mate at the time must be a PEC holder.

Award of Certificates

Authorities have a duty to issue pilotage exemption certificates to appropriately qualified mariners, and are not allowed to withhold one for reasons unconnected with an applicant's skill and experience.

Harbour authorities should have formal procedures for assessing the suitability of applicants. The standards adopted by harbour authorities should be equivalent to the national guidelines developed in parallel to this Code for the issue of exemption certificates. The standards and procedures adopted by each authority should be published and available to applicants. Where an authority's pilots participate in the assessment process, it is necessary to have an additional independent element of validation.

8.4.4 When an applicant applies for a PEC the first step will be for the CHA to register the application and brief the candidate on what he is required to do before his application can be assessed.

8.4.5 Once the requirements have been determined, applicants who satisfy them have a right to exemption whilst serving as bona fide master or first mate on the vessel for which they hold a certificate whether they choose to use it or not. It should be noted that CHAs are not allowed to withhold certification for reasons unconnected with an applicant's skill and experience, local knowledge and knowledge of English. (But see 8.4.25 below regarding a CHA where there are exceptional navigational hazards). A risk assessment may show for example that special requirements apply if the vessel were to take tugs. In that case, the authority has to choose whether it is reasonable to make the related skills a requirement for exemption; or whether to adopt an alternative risk management device. If the ship for which the master holds a PEC requires the services of tugs on a regular basis then this particular experience and ability should be covered with other relevant matters in the assessment prior to granting a PEC.

Responsibility of the Authority

8.4.6 A PEC is valid for one year from date of issue. Renewal should depend upon the CHA being satisfied with the conduct of the PEC holder. The PEC should only be renewed on confirmation that the holder's certificate of competency remains valid. The CHA should also ensure that the skill and local knowledge is still

The importance of ensuring that harbour authorities review the competency of PEC holders and ensuring they are fully informed. These points are illustrated following the grounding of the ro-ro ferry Dieppe; the collision between the Tor Dania and Amenity, and the collision of the ro-ro ferry Ursine.

Annex K

Extracts from the International Regulations for Preventing Collisions at Sea 1972 (as amended)

EXTRACTS FROM THE INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1972 (as amended by Resolutions A464(XII), A626(15), A678(16), A736(18) and A.910(22))

Rule 2

Responsibility

(a) Nothing in these Rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

(b) In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger.

Rule 8

Action to avoid collision

(a) Any action taken to avoid collision shall be taken in accordance with the Rules of this Part and shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.

(b) Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.

(c) If there is sufficient sea-room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in good time, is substantial and does not result in another close-quarters situation.

(d) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.

(e) If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

(f) (i) A vessel which, by any of these Rules, is required not to impede the passage or safe passage of another vessel shall, when required by the circumstances of the case, take early action to allow sufficient sea-room for the safe passage of the other vessel.

(ii) A vessel required not to impede the passage or safe passage of another vessel is not relieved of this obligation if approaching the other vessel so as to involve risk of collision and shall, when taking action, have full regard to the action which may be required by the Rules of this Part.

(iii) A vessel the passage of which is not to be impeded remains fully obliged to comply with the Rules of this Part when the two vessels are approaching one another so as to involve risk of collision.

Rule 15

Crossing situation

When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel.

Rule 16

Action by give-way vessel

Every vessel which is directed to keep out of the way of another vessel shall, so far as possible, take early and substantial action to keep well clear.

Rule 17

Action by stand-on vessel

(a) (i) Where one of two vessels is to keep out of the way the other shall keep her course and speed.

(ii) The latter vessel may however take action to avoid collision by her manoeuvre alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules.

(b) When, from any cause, the vessel required to keep her course and speed finds herself so close that collision cannot be avoided by the action of the give-way vessel alone, she shall take such action as will best aid to avoid collision.

(c) A power-driven vessel which takes action in a crossing situation in accordance with sub-paragraph (a)(ii) of this Rule to avoid collision with another power-driven vessel shall, if the circumstances of the case admit, not alter course to port for a vessel on her own port side.

(d) This Rule does not relieve the give-way vessel of her obligation to keep out of the way.

Rule 34

Manoeuvring and warning signals

(a) When vessels are in sight of one another, a power-driven vessel underway, when manoeuvring as authorized or required by these Rules, shall indicate that manoeuvre by the following signals on her whistle:

- one short blast to mean “I am altering my course to starboard”;

- two short blasts to mean “I am altering my course to port”;

- three short blasts to mean “I am operating astern propulsion”.

(b) Any vessel may supplement the whistle signals prescribed in paragraph (a) of this Rule by light signals, repeated as appropriate, whilst the manoeuvre is being carried out:

(i) these light signals shall have the following significance

- one flash to mean "I am altering my course to starboard";

- two flashes to mean "I am altering my course to port";

- three flashes to mean "I am operating astern propulsion";

(ii) the duration of each flash shall be about one second, the interval between flashes shall be about one second, and the interval between successive signals shall be not less than ten seconds;

(iii) the light used for this signal shall, if fitted, be an all-round white light, visible at a minimum range of 5 miles, and shall comply with the provisions of Annex I to these Regulations.

(c) When in sight of one another in a narrow channel or fairway:

(i) a vessel intending to overtake another shall in compliance with Rule 9(e)(i) indicate her intention by the following signals on her whistle:

- two prolonged blasts followed by one short blast to mean "I intend to overtake you on your starboard side";

- two prolonged blasts followed by two short blasts to mean "I intend to overtake you on your port side".

(ii) the vessel about to be overtaken when acting in accordance with Rule 9(e)(i) shall indicate her agreement by the following signal on her whistle:

- one prolonged, one short, one prolonged and one short blast, in that order.

(d) When vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by a light signal of at least five short and rapid flashes.

(e) A vessel nearing a bend or an area of a channel or fairway where other vessels may be obscured by an intervening obstruction shall sound one prolonged blast. Such signal shall be answered with a prolonged blast by any approaching vessel that may be within hearing around the bend or behind the intervening obstruction.

(f) If whistles are fitted on a vessel at a distance apart of more than 100 metres, one whistle only shall be used for giving manoeuvring and warning signals.

Annex L

Extract from MGN 324 (M+F) Radio: Operational Guidance on the Use of VHF Radio and Automatic Identification Systems (AIS) at Sea

Maritime and Coastguard Agency

MARINE GUIDANCE NOTE

MGN 324 (M+F)

Corrected

Radio: Operational Guidance on the Use Of VHF Radio and Automatic Identification Systems (AIS) at Sea

Notice to all Owners, Masters, Officers and Pilots of Merchant Ships, Owners and Skippers of Fishing Vessels and Owners of Yachts and Pleasure Craft.

This notice replaces Marine Guidance Notes MGN 22, 167 & 277

Summary

Given the continuing number of casualties where the misuse of VHF radio has been established as a contributory factor it has been decided to re-issue the MCA Operational Guidance Notes on the use of VHF Radio. It has also been decided to include operational guidance notes for AIS equipment on board ship formerly contained in Marine Guidance Notice 277.

Key Points

- The use of marine VHF equipment must be in accordance with the International Telecommunications Union (ITU) Radio Regulations.
- Although the use of VHF radio may be justified on occasion as a collision avoidance aid, the provisions of the Collision Regulations should remain uppermost
- There is no provision in the Collision Regulations for the use of AIS information therefore decisions should be taken based primarily on visual and/or radar information.
- IMO Guidelines on VHF Communication Techniques are given in Appendix I
- Typical VHF ranges and a Table of Transmitting frequencies in the Band 156 - 174 MHz for Stations in the Maritime Mobile Service is shown at Appendix II
- IMO Guidelines for the Onboard Operational Use of Shipborne Automatic Identification Systems (AIS) is shown in Appendix III
- MCA Guidance on the use of AIS in Navigation together with a list of MCA AIS base stations is shown in Appendix IV.

1. The International Maritime Organisation (IMO) has noted with concern the widespread misuse of VHF channels at sea especially the distress, safety and calling Channels 16 (156.8 MHz) and 70 (156.525 MHz), and channels used for port operations, ship movement services and reporting systems. Although VHF at sea makes an important contribution to navigation safety, its misuse causes serious interference and, in itself, becomes a danger to safety at sea. IMO has asked Member Governments to ensure that VHF channels are used correctly.

2. All users of marine VHF on United Kingdom vessels, and all other vessels in United Kingdom territorial waters and harbours, are therefore reminded, in conformance with international and national legislation, marine VHF apparatus may only be used in accordance with the International Telecommunications Union's (ITU) Radio Regulations. These Regulations specifically prescribe that:

(a) Channel 16 may only be used for distress, urgency and very brief safety communications and for calling to establish other communications which should then be concluded on a suitable working channel;

(b) Channel 70 may only be used for Digital Selective Calling not oral communication;

(c) On VHF channels allocated to port operations or ship movement services such as VTS, the only messages permitted are restricted to those relating to operational handling, the movement and the safety of ships and to the safety of persons;

(d) All signals must be preceded by an identification, for example the vessel's name or callsign;

(e) The service of every VHF radio telephone station must be controlled by an operator holding a certificate issued or recognised by the station's controlling administration. This is usually the country of registration, if the vessel is registered. Providing the Station is so controlled, other persons besides the holder of the certificate may use the equipment.

3. Appendix I to this notice contains the IMO Guidance on the use of VHF at sea. Masters, Skippers and Owners must ensure that VHF channels are used in accordance with this guidance.

4. Appendix II to this notice illustrates typical VHF ranges and a table of transmitting Frequencies in the Band 156 – 174 MHz for Stations in the Maritime Mobile Service, incorporating changes agreed by the 1997 World Radio Conference.

5. Channels 6, 8, 72 and 77 have been made available, in UK waters, for routine ship-to-ship communications, Masters, Skippers and Owners are urged to ensure that all ship-to-ship communications working in these waters is confined to these channels, selecting the channel most appropriate in the local conditions at the time.

6. Channel 13 is designated for use on a worldwide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement and port services.

Use of VHF as Collision Avoidance Aid

7. There have been a significant number of collisions where subsequent investigation has found that at some stage before impact, one or both parties were using VHF radio in an attempt to avoid collision. The use of VHF radio in these circumstances is not always helpful and may even prove to be dangerous.

8. At night, in restricted visibility or when there are more than two vessels in the vicinity, the need for positive identification is essential but this can rarely be guaranteed. Uncertainties can arise over the identification of vessels and the interpretation of messages received. Even where positive identification has been achieved there is still the possibility of a misunderstanding due to language difficulties however fluent the parties concerned might be in the language being used. An imprecise or ambiguously expressed message could have serious consequences.

9. Valuable time can be wasted whilst mariners on vessels approaching each other try to make contact on VHF radio instead of complying with the Collision Regulations. There is the further danger that even if contact and identification is achieved and no difficulties over the language of communication or message content arise, a course of action might still be chosen that does not comply with the Collision Regulations. This may lead to the collision it was intended to prevent.

10. In 1995, the judge in a collision case said "It is very probable that the use of VHF radio for conversation between these ships was a contributory cause of this collision, if only because it distracted the officers on watch from paying careful attention to their radar. I must repeat, in the hope that it will achieve some publicity, what I have said on previous occasions that any attempt to use VHF to agree the manner of passing is fraught with the danger of misunderstanding. Marine Superintendents would be well advised to prohibit such use of VHF radio and to instruct their officers to comply with the Collision Regulations."

11. In a case published in 2002 one of two vessels, approaching each other in fog, used the VHF radio to call for a red to red (port to port) passing. The call was acknowledged by the other vessel but unfortunately, due to the command of English on the calling vessel, what the caller intended was a green to green (starboard to starboard) passing. The actions were not effectively monitored by either of the vessels and collision followed.

12. Again in a case published in 2006 one of two vessels, approaching one another to involve a close quarter's situation, agreed to a starboard to starboard passing arrangement with a person on board another, unidentified ship, but not the approaching vessel. Furthermore, the passing agreement required one of the vessels to make an alteration of course, contrary to the requirements of the applicable Rule in the COLREGS. Had the vessel agreed to a passing arrangement requiring her to manoeuvre in compliance with the COLREGS, the ships would have passed clear, despite the misidentification of ships on the VHF radio. Unfortunately by the time both vessels realised that the ships had turned towards each other the distance between them had further reduced to the extent that the last minute avoiding action taken by both ships was unable to prevent a collision.

13. Although the practice of using VHF radio as a collision avoidance aid may be resorted to on occasion, for example in pilotage waters, the risks described in this note should be clearly understood and the Collision Regulations complied with.

Use of VHF Automatic Identification Systems (AIS)

14. AIS operates primarily on two dedicated VHF channels (AIS1 – 161.975 MHz and AIS2 – 162.025 MHz). Where these channels are not available regionally, the AIS is capable of automatically switching to alternate designated channels. AIS has now been installed on the majority of commercial vessels, and has the potential to make a significant contribution to safety. However the mariner should treat the AIS information with caution, noting the following important points:

15. Mariners on craft fitted with AIS should be aware that the AIS will be transmitting own-ship data to other vessels and shore stations.

To this end they are advised to:

15.1 initiate action to correct improper installation;

15.2 ensure the correct information on the vessel's identity, position, and movements (including voyage-specific, see Annex IV) is transmitted; and

15.3 ensure that the AIS is turned on, at least within 100 nautical miles of the coastline of the United Kingdom.

16. The simplest means of checking whether own-ship is transmitting correct information on identity, position and movements is by contacting other vessels or shore stations. Increasingly, UK Coastguard and port authorities are being equipped as AIS shore base stations. As more shore base stations are established, AIS may be used to provide a monitoring system in conjunction with Vessel Traffic Services and Ship Reporting (SOLAS Chapter V, Regulations 11 and 12 refer).

17. Many ship owners have opted for the least-cost AIS installation to meet the mandatory carriage requirement. By doing so, many of the benefits offered by graphic display (especially AIS on radar) are not realised with the 3-line 'Minimum Keyboard Display' (MKD).

18. The Pilot Connector Socket and suitable power outlet should be located somewhere of practical use to a marine pilot who may carry compatible AIS equipment. This should be somewhere close to the wheelhouse main conning position. Less accessible locations in chart rooms, at the after end of the wheelhouse are not recommended.

19. The routine updating of data into the AIS, at the start of the voyage and whenever changes occur, should be included in the navigating officer's checklist and include:

-ship's draught;
-hazardous cargo;
-destination and ETA;
-route plan (way points);
-correct navigational status;
-short safety-related messages.

20. The quality and reliability of position data obtained from targets will vary depending on the accuracy of the transmitting vessel's GNSS equipment. It should be noted that older GNSS equipment may not produce Course Over Ground and Speed Over Ground (COG/SOG) data to the same accuracy as newer equipment.

21. Operational guidance for Automatic Identification Systems (AIS) on board ships can be found in the MCA Guidance on the Safety of Navigation - Implementing SOLAS Chapter V (accessible from the MCA website at www.mcga.gov.uk) and reproduced in Appendix IV of this notice.

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APPENDIX I

GUIDANCE ON THE USE OF VHF AT SEA

(Extract from: IMO Resolution A.954 (23). Proper use of VHF Channels at Sea (Adopted on 5th December 2003))

1. VHF COMMUNICATION TECHNIQUE

1.1 Preparation

Before transmitting, think about the subjects which have to be communicated and, if necessary, prepare written notes to avoid unnecessary interruptions and ensure that no valuable time is wasted on a busy channel.

1.2 Listening

Listen before commencing to transmit to make certain that the channel is not already in use. This will avoid unnecessary and irritating interference.

1.3 Discipline

(a) VHF equipment should be used correctly and in accordance with the Radio Regulations. The following in particular should be avoided:
(b) calling on channel 16 for purposes other than distress, and very brief safety communications, when another calling channel is available;
(c) non - essential transmissions, e.g. needless and superfluous signals and correspondence;
(d) communications not related to safety and navigation on port operation channels; communication on channel 70 other than for Digital Selective Calling;
(e) occupation of one particular channel under poor conditions;
(f) transmitting without correct identification;
(g) use of offensive language.

1.4 Repetition

Repetition of words and phrases should be avoided unless specifically requested by the receiving station.

1.5 Power reduction

When possible, the lowest transmitter power necessary for satisfactory communication should be used.

1.6 Automatic identification system (AIS)

AIS is used for the exchange of data in ship-to-ship communications and also in communication with shore facilities. The purpose of AIS is to help identify vessels, assist in target tracking, simplify information exchange and provide additional information to assist situational awareness. AIS may be used together with VHF voice communications.

AIS should be operated in accordance with Resolution A.917 (22) as amended by Resolution A.956 (23) on Guidelines for the onboard operation use of shipborne automatic identification systems.

1.7 Communications with coast stations

On VHF channels allocated to port operations service, the only messages permitted are restricted to those relating to the operational handling, the movement and safety of ships and, in emergency, to the safety of persons, as the use of these channels for ship-to-ship communications may cause serious interference to communications related to the movement and safety of shipping in port areas.

Instructions given on communication matters by shore stations should be obeyed.

Communications should be carried out on the channel indicated by the shore station. When a change of channel is requested, this should be acknowledged by the ship.

On receiving instructions from a shore station to stop transmitting, no further communications should be made until otherwise notified (the shore station may be receiving distress or safety messages and any other transmissions could cause interference).

1.8 Communications with other ships
VHF Channel 13 is designated by the Radio Regulations for bridge to bridge communications. The ship called may indicate another working channel on which further transmissions should take place. The calling ship should acknowledge acceptance before changing channels.

The listening procedure outlined above should be followed before communications are commenced on the chosen channel.

1.9 Distress communications
Distress calls/messages have absolute priority over all other communications. When heard, all other transmissions should cease and a listening watch should be kept.

Any distress call/message should be recorded in the ship's log and passed to the master.

On receipt of a distress message, if in the vicinity, immediately acknowledge receipt. If not in the vicinity, allow a short interval of time to elapse before acknowledging receipt of the message in order to permit ships nearer to the distress to do so.

1.10 Calling
In accordance with the radio regulations Channel 16 may only be used for distress, urgency and very brief safety communications and for calling to establish other communications which should then be conducted on a suitable working channel.

Whenever possible, a working frequency should be used for calling. If a working frequency is not available, Channel 16 may be used, provided it is not occupied by a distress call/message.

In case of difficulty to establish contact with a ship or shore station, allow adequate time before repeating the call. Do not occupy the channel unnecessarily and try another channel.

1.11 Changing channels
If communications on a channel are unsatisfactory, indicate change of channel and await confirmation.

1.12 Spelling
If spelling becomes necessary use the spelling table contained in the International Code of Signals and the radio regulations and the IMO Standard Marine Communication Phrases (SMCP)

1.13 Addressing
The words "I" and "You" should be used prudently. Indicate to whom they refer.
Example of good practice:
"Seaship, this is Port Radar, Port Radar, do you have a pilot?"
"Port Radar, this is Seaship, I do have a pilot."

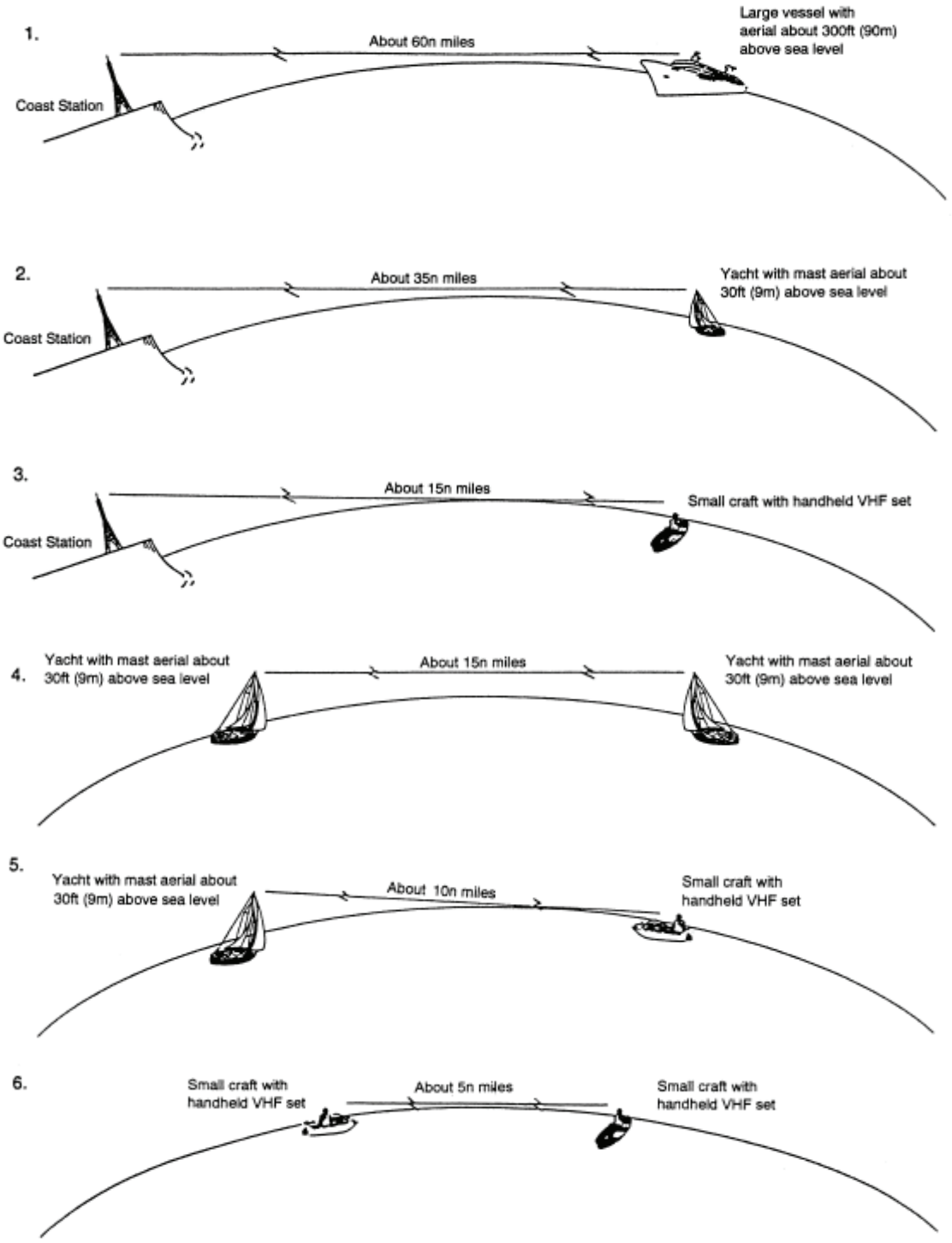
1.14 Watchkeeping
Every ship, while at sea, is required to maintain watches. Continuous watch keeping is required on VHF DSC Channel 70 and also when practicable, a continuous listening watch on VHF Channel 16.

In certain cases Governments may require ships to keep a watch on other channels.

APPENDIX II

TYPICAL VHF RANGES

(Extract from Admiralty List of Radio Signals Volume 5 published by the United Kingdom Hydrographic Office)



It should be noted that the fact that a transmitter and receiver are within radio sight does not automatically guarantee that an acceptable signal will be received at that point. This will depend, amongst other things on the power of transmission, the sensitivity of the receiver and the quality and position of the transmitting and receiving aerials. The range may also be affected to some degree by the pressure, temperature and humidity of the air between the transmitter and receiver.

Table of Transmitting Frequencies in the VHF maritime mobile band

(Extract from Admiralty List of Radio Signals Volume 5 published by the United Kingdom Hydrographic Office)

Channel designators	Notes	Transmitting frequencies (MHz)		Inter Ship	Port operations and ship movement		Public correspon-dence
		Ship stations	Coast stations		Single frequency	Two frequency	
60		156 025	160 625			X	x
01		156 050	160 650			X	x
61	*m), o)*	156 075	160 675		x	X	x
02	*m), o)*	156 100	160 700		x	X	x
62	*m), o)*	156 125	160 725		x	X	x
03	*m), o)*	156 150	160 750		x	X	x
63	*m), o)*	156 175	160 775		x	X	x
04	*m), o)*	156 200	160 800		x	X	x
64	*m), o)*	156 225	160 825		x	X	x
05	*m), o)*	156 250	160 850		x	X	x
65	*m), o)*	156 275	160 875		x	X	x
06	*f)*	156 300		x			
66		156 325	160 925			X	x
07		156 350	160 950			X	x
67	*h)*	156 375	156 375	x	x		
08		156 400		x			
68		156 425	156 425		x		
09	*i)*	156 450	156 450	x	x		
69		156 475	156 475	x	x		
10	*h)*	156 500	156 500	x	x		
70	*j)*	156 525	156 525	**Digital selective calling for Distress, Safety and Calling**			
11		156 550	156 550		x		
71		156 575	156 575		x		
12		156 600	156 600		x		
72	*i)*	156 625		x			
13	*k)*	156 650	156 650	x	x		
73	*h), i)*	156 675	156 675	x	x		
14		156 700	156 700		x		
74		156 725	156 725		x		
15	*g)*	156 750	156 750	x	x		
75	*n)*	156 775			x		
16		156 800	156 800	**Distress, Safety and Calling**			
76	*n)*	156 825			x		
17	*g)*	156 850	156 850	x	x		
77		156 875		x			
18	*m)*	156 900	161 500		x	X	x
78		156 925	161 525			X	x

Continued on next page

Channel designators	Notes	Transmitting frequencies (MHz)		Inter Ship	Port operations and ship movement		Public correspon-dence
		Ship stations	Coast stations		Single frequency	Two frequency	
19		156 950	161 550			x	x
79		156 975	161 575			x	x
20		157 000	161 600			x	x
80		157 025	161 625			x	x
21		157 050	161 650			x	x
81		157 075	161 675			x	x
22	*m)*	157 100	161 700		x	x	x
82	*m), o)*	157 125	161 725		x	x	x
23	*m), o)*	157 150	161 750		x	x	x
83	*m), o)*	157 175	161 775		x	x	x
24	*m), o)*	157 200	161 800		x	x	x
84	*m), o)*	157 225	161 825		x	x	x
25	*m), o)*	157 250	161 850		x	x	x
85	*m), o)*	157 275	161 875		x	x	x
26	*m), o)*	157 300	161 900		x	x	x
86	*m), o)*	157 325	161 925		x	x	x
27		157 350	161 950			x	x
87		157 375	161 975		x		
28		157 400	162 000			x	x
88	*h)*	157 425			x		
AIS 1	*l)*	161 975	161 975				
AIS 2	*l)*	162 025	162 025				

Note—For assistance in understanding the Table, see notes *a)* to *o)*

General notes

a) Administrations may designate frequencies for the following purposes, intership, port operations and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast stations in predominantly maritime support operations. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.

b) The channels in this table, with the exception of Channels 06, 13, 15, 16, 17, 70, 75 and 76, **may** also be used for high-speed data and facsimile transmissions, subject to special arrangement between interested and affected administrations.

c) The channels in this table, but **preferably** Channel 28 and with the exception of Channels 06, 13, 15, 16, 17, 70, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations.

d) The frequencies in this table may also be used for radiocommunications on inland waterways.

e) Administrations having an urgent need to reduce local congestion may apply 12·5 kHz Channel interleaving on a non-interference basis to 25 kHz channels, provided:

- Recommendation ITU-R M.1084-2 shall be taken into account when changing to 12·5 kHz Channels;
- it shall not affect the 25 kHz Channels of the Appendix 18 maritime mobile distress and safety frequencies, especially the Channels 06, 13, 15, 16, 17, and 70, nor the technical characteristics mentioned in Recommendation ITU-R M.489-2 for those channels;
- implementation of 12·5 kHz channel interleaving and consequential national requirements shall be subject to prior agreement between the implementing administrations and administrations whose ship stations or services may be affected.

Specific notes

f) The frequency 156·300 MHz (Channel 06) **may** also be used for communication between ship stations and aircraft stations engaged in co-ordinated search and rescue operations. Ship stations shall avoid harmful interference to such communications on Channel 06 as well as to communications between aircraft stations, ice-breakers and assisted ships during ice seasons.

g) Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters.

h) Within the European Maritime Area and in Canada, these frequencies (Channels 10, 67 & 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged in co-ordinated search and rescue and anti-pollution operations in local areas.

i) The preferred first three frequencies for the purpose indicated in note a) are 156·450 MHz (Channel 09), 156·625 MHz (Channel 72) and 156·675 MHz (channel 73).

j) Channel 70 is to be used exclusively for digital selective calling for distress, safety and calling.

k) Channel 13 is designated for use on a worldwide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement and port operations service subject to the national regulations of the administrations concerned.

l) These Channels (AIS 1 and AIS 2) will be used for an automatic ship identification and surveillance system capable of providing worldwide operation on high seas, unless other frequencies are designated on a regional basis for this purpose.

m) These Channels (18 and 82 to 86) may be operated as single frequency channels, subject to special arrangement between interested or affected administrations.

n) The use of these Channels (75 and 76) should be restricted to navigation-related communications only and all precautions should be taken to avoid harmful interference to Channel 16, e.g. by limiting the output power to 1 W or by means of geographical separation.

o) These channels may be used to provide bands for initial testing and the possible future introduction of new technologies, subject to special arrangement between interested or affected administrations. Stations using these channels or bands for the testing and the possible future introduction of new technologies shall not cause harmful interference to, and shall not claim protection from, other stations operating in accordance with ITU Radio Regulations / Volume 1 / Chapter SII - Frequencies / Article S5 / Frequency allocations.

APPENDIX III

OPERATION OF AIS ON BOARD

(Extract from IMO Resolution A.917. (22). Guidelines for the onboard operational use of shipborne Automatic Identification Systems (AIS) (Adopted on 29th November 2001). As amended by Resolution A.956. (23). (Adopted 5th December 2003).

INHERENT LIMITATIONS OF AIS

31. The officer of the watch (OOW) should always be aware that other ships, in particular leisure craft, fishing boats and warships, and some coastal shore stations including Vessel Traffic Service (VTS) centres, might not be fitted with AIS.
32. The OOW should always be aware that other ships fitted with AIS as a mandatory carriage requirement might switch off AIS under certain circumstances by professional judgement of the master.
33. In other words, the information given by the AIS may not be a complete picture of the situation around the ship.
34. The users must be aware that transmission of erroneous information implies a risk to other ships as well as their own. The users remain responsible for all information entered into the system and the information added by the sensors.
35. The accuracy of the information received is only as good as the accuracy of the AIS information transmitted.
36. The OOW should be aware that poorly configured or calibrated ship sensors (position, speed and heading sensors) might lead to incorrect information being transmitted. Incorrect information about one ship displayed on the bridge of another could be dangerously confusing.
37. If no sensor is installed or if the sensor (e.g. the gyro) fails to provide data, the AIS automatically transmits the 'not available' data value. However the built in integrity check cannot validate the contents of the data processed by the AIS.
38. It would not be prudent for the OOW to assume that the information received from the other ship is of a comparable quality and accuracy to that which might be available on own ship.

USE OF AIS IN COLLISION AVOIDANCE SITUATIONS

39. The potential of AIS as an anti collision device is recognised and AIS may be recommended as such a device in due time.
40. Nevertheless, AIS information may be used to assist collision avoidance decision making. When using the AIS in the ship to ship mode for anti collision purposes, the following precautionary points should be borne in mind:
    a. AIS is an additional source of navigational information. It does not replace, but supports, navigational systems such as radar target tracking and VTS; and
    b. The use of AIS does not negate the responsibility of the OOW to comply at all times with the Collision Regulations
41. The user should not rely on AIS as the sole information system, but should make use of all safety relevant information available
42. The use of AIS on board ship is not intended to have any special impact on the composition of the navigational watch, which should be determined in accordance with the STCW Convention.
43. Once a ship has been detected, AIS can assist tracking it as a target. By monitoring the information broadcast by that target, its actions can also be monitored. Changes in heading and course are, for example, immediately apparent, and many of the problems common to tracking targets by radar, namely clutter, target swap as ships pass close by and target loss following a fast manoeuvre, do not affect AIS. AIS can also assist in the identification of targets, by name or call sign and by ship type and navigational status.

APPENDIX IV

USE OF AIS IN NAVIGATION

(Extract from MCA Guidance on the Safety of Navigation – Implementing SOLAS Chapter V)

1. AIS is designed to be able to provide additional information to existing Radar or ECDIS displays. Until the optimum display modes have been fully evaluated and decided upon internationally, AIS will comprise “stand alone” units without integration to other displays.

2. AIS will provide identification of targets together with the static and dynamic information listed in the IMO Guidelines paragraph.12. Mariners should, however, use this information with caution noting the following important points:

a.) Collision avoidance must be carried out in strict compliance with the COLREGs. There is no provision in the COLREGs for use of AIS information therefore decisions should be taken based primarily on visual and / or radar information.

b.) The use of VHF to discuss actions to take between approaching ships is fraught with danger and still discouraged. (See above). The MCA’s view is that identification of a target by AIS does not remove the danger. Decisions on collision avoidance should be made strictly according to the COLREGs.

c.) Not all ships will be fitted with AIS, particularly small craft and fishing boats. Other floating objects which may give a radar echo will not be detected by AIS.

d.) AIS positions are derived from the target’s GNSS position. (GNSS = Global Navigation Satellite System, usually GPS). This may not coincide exactly with the target.

e.) Faulty data input to AIS could lead to incorrect or misleading information being displayed on other vessels. Mariners should remember that information derived from radar plots relies solely upon data measured by the own-ship’s radar and provides an accurate measurement of the target’s relative course and speed, which is the most important factor in deciding upon action to avoid collision. Existing ships of less than 500 gt. which are not required to fit a gyro compass are unlikely to transmit heading information.

f.) A future development of AIS is the ability to provide synthetic AIS targets and virtual navigation marks enabling coastal authorities to provide an AIS symbol on the display in any position. Mariners should bear in mind that this ability could lead to the appearance of “virtual” AIS targets and therefore take particular care when an AIS target is not complemented by a radar target. AIS will sometimes be able to detect targets which are in a radar shadow area.

The MCA has established an Automatic Identification System (AIS) network in accordance with SOLAS Chapter V Regulation 19 and the European Traffic Monitoring Directive 2002/59/EC for base station transponders. The AIS network consists of base stations located as shown in the table on page 15.

The AIS Network is defined to operate within IMO guidelines and will be capable of receiving all message types and in particular AIS message type 5: Ship Static and Voyage related data, provided as 6 minute intervals in accordance with ITU R M. 1371-1. This automated procedure will enable identification and tracking of suitably equipped vessels without further intervention from either the vessel's crew or Coastguard personnel.

Areas Covered

The diagram below provide an indication of the areas covered by the MCA AIS Network.

MCA District	Base Station	Latitude			Longitude			AIS
		Degrees	Minutes	N / S	Degrees	Minutes	W / E	MMSI
Aberdeen	Dunnett Head	58	40.313	N	003	22.491	W	002320712
	Durness	58	34.288	N	004	45.177	W	002320713
	Gregness	57	07.638	N	002	03.225	W	002320735
	Noss Head	58	28.727	N	003	03.038	W	002320711
	Rosemarkie	57	37.994	N	004	04.498	W	002320763
	Windy Head	57	38.892	N	002	14.696	W	002320736
Belfast	Limavady	55	06.712	N	006	53.390	W	002320764
	Orlock Head	54	40.422	N	005	35.042	W	002320765
Brixham	East Prawle	50	13.049	N	003	42.608	W	002320766
Clyde	Glengorm	56	37.916	N	006	07.948	W	002320739
	Kilchairan	55	45.958	N	006	27.333	W	002320741
	Law Hill	55	41.745	N	004	50.501	W	002320769
	Pulpitt Hill	56	24.241	N	005	29.147	W	002320767
	South Knapdale	55	55.055	N	005	27.731	W	002320768
	Tiree	56	30.229	N	006	57.853	W	002320740
Dover	Fairlight	50	52.300	N	000	38.100	E	002320704
	MRCC Dover	51	07.750	N	001	20.200	E	002320705
	North Foreland	51	22.494	N	001	26.830	E	002320706
Falmou h	Lands End	50	08.068	N	005	38.096	W	002320721
	Lizard Point	49	57.853	N	005	12.463	W	002320720
	Scillies	49	55.753	N	006	18.223	W	002320723
Forth	Inverbervie	56	51.103	N	002	15.700	W	002320770
	MRCC Forth	56	16.711	N	002	35.217	W	002320734
	St. Abbs Crosslaw	55	54.449	N	002	12.383	W	002320710
Holyhead	South Stack	53	18.545	N	004	41.168	W	002320771
Humber	Cullercoats	55	04.379	N	001	27.794	W	002320708
	Flamborough Head	54	07.084	N	000	05.204	W	002320709
	Ravenscar	54	23.828	N	000	30.347	W	002320780
Liverpool	MRCC Liverpool	53	29.818	N	003	03.499	W	002320772
	Snaefell	54	15.832	N	004	27.657	W	002320718
Milford	Dinas	52	00.253	N	004	53.686	W	002320742
	St. Anns Head	51	40.953	N	005	10.555	W	002320719
Portland	The Grove	50	32.918	N	002	25.170	W	002320722
Shetland	Collafirth Hill	60	31.994	N	001	23.454	W	002320737
	Compass Head	59	52.066	N	001	16.318	W	002320714
	Saxa Vord	60	49.700	N	000	50.376	W	002320774
	Wideford Hill	58	59.276	N	003	01.532	W	002320781
Solent	Needles	50	39.711	N	001	34.723	W	002320775
	Newhaven	50	46.950	N	000	03.007	E	002320776
	Selsey	50	43.829	N	000	48.217	W	002320744
Stornoway	Butt of Lewis	58	27.683	N	006	13.862	W	002320715
	Forsnaval	58	12.803	N	007	00.379	W	002320738
	Melvaig	57	50.534	N	005	46.950	W	002320717
	Rodel	57	07.475	N	006	09.552	W	002320716
Swansea	Hartland Point	51	01.213	N	004	31.337	W	002320778
	Mumbles Hill	51	34.161	N	003	59.061	W	002320743
	Severn Bridge	51	36.721	N	002	38.769	W	002320777
Thames	MRCC Thames	51	51.295	N	001	16.793	E	002320779
Yarmouth	Langham	52	56.528	N	000	57.234	E	002320773
	MRCC Yarmouth	52	36.470	N	001	43.316	E	002320733
	Skegness	53	08.938	N	000	20.692	E	002320732

Annex M

Belfast Harbour Notice to Mariners No 20 of 2012

Belfast Harbour

NOTICE TO MARINERS

NO 20 OF 2012

Changes in Aids to Navigation and Traffic Management in the Approaches to Belfast Harbour

Mariners are hereby advised that from 0001 30th September 2012, the following changes will be made to buoyage in Belfast Lough.

CHANGES TO AIDS TO NAVIGATION :

The existing Fairway Buoy will be moved ENE to a position :

54°42'.32 N
005°42.30 W

Safe Water Mark :	Red and white pillar buoy with red speherical topmark
Light:	Iso 4s, 6M Racon G, AIS

The following **new** buoys will be established :

No.1 Buoy:

Starboard Lateral:	Green pillar buoy with conical topmark.
	54°41'.666 N
	005°46'.511 W
Light:	Fl G 2s, 5M, synchronised.

No.2 Buoy:

Port Lateral:	Red pillar buoy with can topmark.
	54°41'.553 N
	005°46.425 W
Light:	FL R 2s, 5M, synchronised.

Kilroot Buoy:

Starboard Lateral:	Green pillar buoy with conical topmark.
	54°42'.85 N
	005°42.85 W
Light:	QG synchronised.

Helen's Bay Buoy:

Port Lateral:	Red pillar buoy with can topmark.
	54°41'.86 N
	005°42'.85 W
Light:	QR synchronised

CHANGES TO TRAFFIC MANAGEMENT : effective from 0001LT 30/09/12

Vessels Inward-bound to the Port of Belfast are to pass to the North of the Fairway Buoy.

Reports to Belfast Harbour Radio should be made on VHF Ch12

a. 2 hours before arrival at the fairway Buoy position
Lat 54°42'.32N Long 005°42.30 W

b. 15 minutes prior to arrival at the Fairway Buoy

c. On Passing the Fairway Buoy

d. Inbound passing Beacon No. 5

e. On berthing

Vessels Outward-bound from the Port of Belfast are to pass to the South of the Fairway Buoy.

Reports to Belfast Harbour Radio should to be made on VHF Ch12

a. 15mins prior to departure
b. On departing the berth
c. Outbound passing Beacon No.12 the vessel must indicate its passage plan and where it intends to leave the Victoria Channel.
d. Outbound passing Buoy No.2 or on leaving Port Limits if having left the Victoria Channel before No.2

Vessels arriving to, or departing from Belfast Harbour , when proceeding to or from anchorages or other Berths within Belfast Lough, are requested to make contact with Belfast Harbour Radio on VHF Channel 12 confirming their passage plan.

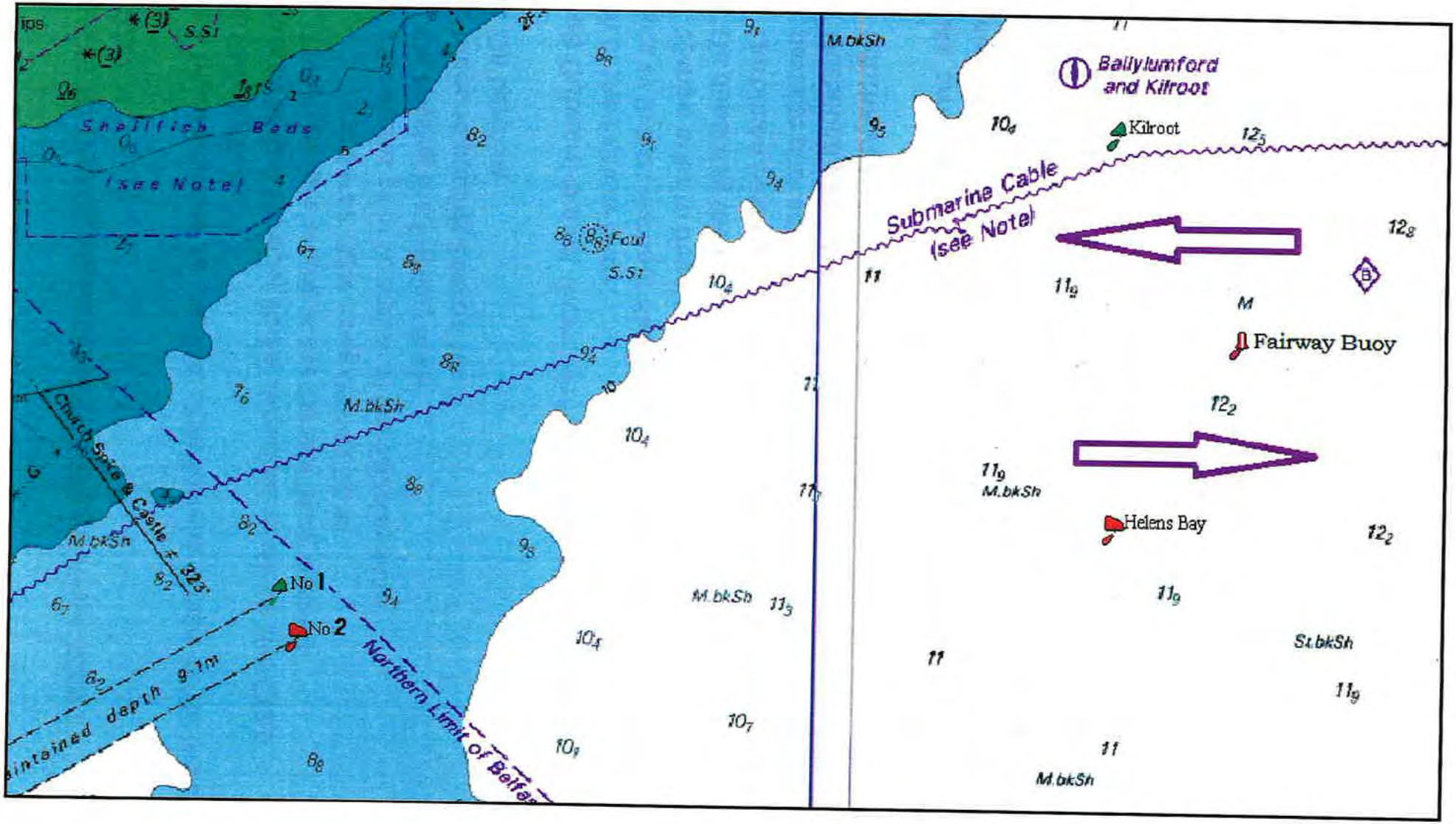
- Inbound 15 min from the Fairway
- Outbound on passing Beacon No.12
- On Heaving Anchor

Please see attached chartlet (Annex I) illustrating buoyage and traffic flow.

[redacted]

[redacted] HARBOUR MASTER PORT OPERATIONS CENTRE BELFAST

28th September 2012



Annex I: New buoyage and traffic management in the approaches to Belfast.

Annex N

Belfast Harbour Notice to Mariners No 17 of 2012

Belfast Harbour

NOTICE TO MARINERS

NO 17 OF 2012

Belfast Harbour Pilotage Directions

Please be advised that from 0001 Hrs on the 1st August 2012 the following changes to Belfast Harbour Pilotage Directions will apply:

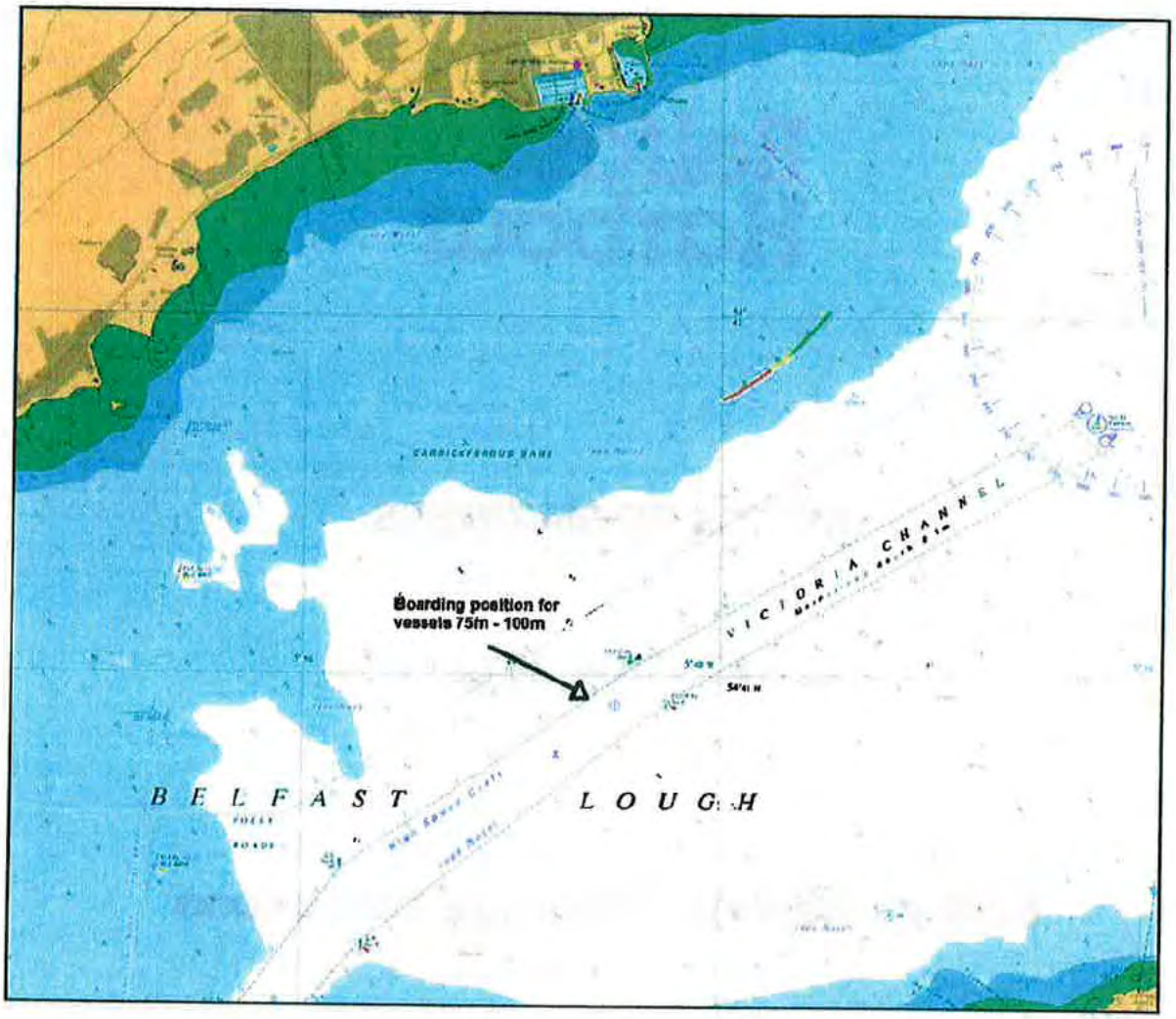
All inbound or outbound Vessels 75 meters or over, but less than 100 metres in length, will be subject to Compulsory Pilotage from a new inner position west of Buoys No.3 and No.4

In position:

Latitude 54° 40.9'N

Longitude 005° 48.5'W

See attached Chart.



This notice supersedes Belfast Harbour Notice to Mariners No.5 of 2012.

[redacted]

HARBOUR MASTER

PORT CENTRE

BELFAST

26th July 2012