Southampton port passage plan Part 1 form

ABP Southampton

Passage Plan Part 1

Ship's Name:	Date:	No:

Ship's Details		Tugs		Pilotage Details	
Ship's Agent		No. Ordered?		**Actual** Boarding Point	
Actual Draught		Confirmed?		Chargeable Board Point	
DWT		Tug 1 (name)		Boarding Time/Date	
GT		Tug 2 (name)		Sailing Time/Date	
NT		Tug 3 (name)		Landing Point	
LOA		Tug 4 (name)		Landing Time/Date	
Vessel Defects	**Y / N**	See below	**Y / N**	Berth:	**SSTQ ☐ PSTQ ☐ Depth:**

Tidal Information	
HW Portsmouth (%)	
LW Portsmouth	
HW Portsmouth (%)	
LW Southampton ( )	
1st HW Southampton	
2nd HW Southampton	
LW Southampton ( )	

UKA	
Nab Channel	
Thorn Channel	
North Channel	
Docks	
Nab Rise at hrs	m
Minimum UKA to be expected on Passage	
Location:	m

Tidal Calculations				
Time of LW				Draught
Time height req'd				UKA
Interval from LW				Depth
Predicted Ht of LW				Datum
Rise from LW ( )				Ht of Tide req'd
Height of Tide				Met correction
Met Correction				Corrected Ht of tide
Corrected Ht of Tide				LW height
Datum				Req'd rise ( )
Depth				Interval from LW
Draught				Time of LW
UKA				Earliest / Latest Time

Passage Times			
Inwards		**Outwards**	
S Nab		Berth	
Nab		Dock Hd	
Warner		Hook	
N Stur		Lepe	
P C		P C	
Lepe		N Stur	
Hook		Warner	
NW Net		Nab	
Berth		S Nab	
Radio Channels Checked			**Y / N**
Weather Forecast			
Discussed? **Y / N**		Attached? **Y / N**	

Hours		Calshot	West Bramble	Prince Consort	C Anchorage	Warner	Nab Channel	Hours	
6B		022' T 1.8	052' T 2.0	084' T 2.5	103' T 1.2	122' T 0.6	085' T 0.7	6B	
5B		038' T 1.0	054' T 2.1	090' T 2.7	109' T 1.6	129' T 1.2	078' T 1.6	5B	
4B		070' T 0.4	055' T 2.0	091' T 2.7	114' T 1.7	129' T 1.3	078' T 1.8	4B	
3B		058' T 0.4	051' T 1.6	090' T 2.2	127' T 1.1	114' T 0.5	065' T 1.5	3B	
2B		019' T 1.4	043' T 1.0	096' T 0.9	176' T 0.4	335' T 0.4	048' T 0.9	2B	
1B		008' T 0.5	253' T 0.2	259' T 0.7	270' T 0.7	314' T 1.0	345' T 0.2	1B	
HW		**232' T 1.0**	**234' T 2.1**	**267' T 2.8**	**284' T 1.4**	**311' T 1.5**	**282' T 1.3**	**HW**	
1A		230' T 1.1	234' T 2.6	268' T 3.8	288' T 2.0	311' T 1.7	265' T 1.5	1A	
2A		226' T 1.2	234' T 2.3	269' T 3.0	294' T 2.0	313' T 1.0	252' T 1.6	2A	
3A		205' T 1.4	230' T 1.8	269' T 1.8	306' T 1.1	168' T 0.2	236' T 1.2	3A	
4A		180' T 2.4	223' T 1.0	275' T 0.5	Slack	149' T 0.9	218' T 0.9	4A	
5A		070' T 0.2	072' T 0.4	083' T 0.8	087' T 0.7	141' T 0.7	193' T 0.4	5A	
6A		025' T 1.6	053' T 1.7	084' T 2.0	101' T 1.1	111' T 0.4	095' T 0.4	6A	

Comments / Attendance / Detention / Defect Details

We confirm that Southampton Passage Plan Parts 1 and 2 have been discussed and agreed.	**Master's Name**	

Pilot's Name		**Signature**	

Signature		**First Pilot** ☐	**(or) Assistant Pilot** ☐

WHITE: VTS COPY **YELLOW: PILOT'S COPY** **PINK: MASTER'S COPY**

Southampton port passage plan Part 2 (a and b) information leaflet

ASSOCIATED BRITISH PORTS SOUTHAMPTON

Passage Plan Part 2

(Additional Information)

Ship's Name:

ARRIVAL Date:	**DEPARTURE** Date:
Berth Notes	Berth Notes
Weather Forecast Notes	Weather Forecast Notes
Tugs (Notes and sketch)	Tugs (Notes and sketch)
Traffic Information	Traffic Information
VHF Channels Checked	VHF Channels Checked
Other Notes	Other Notes

The bridge team is reminded of its duty to maintain an accurate check on the vessel's position as laid down in the ISM Code, STCW Convention, IMO Regulations & ICS Procedures Guide.
Anchors to be cleared and ready for immediate use. All vessels to tend moorings whilst alongside.
Telephone and VHF communications may be recorded for legal purposes.

Protection of ABP Pilots from Passive Smoking

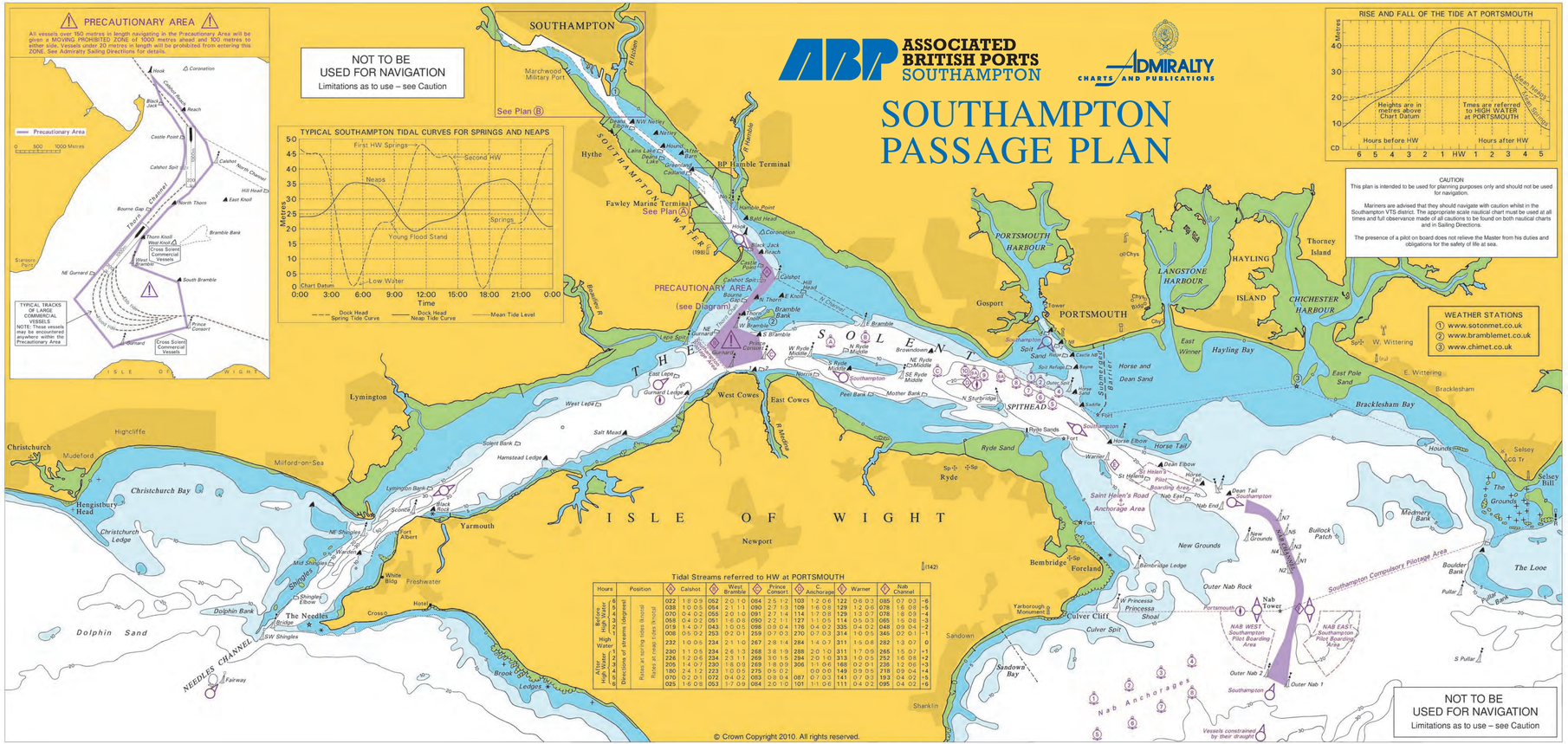
The Port of Southampton has a duty of care to its employees in regard to passive smoking, whilst they are performing their duties. Thus, it is requested that Masters, Owners, Operators and Agents of vessels employing or carrying an ABP Pilot provide a smoke free working area in those internal spaces in which the Pilot is required to work. ABP Pilots will respect all vessels' rules and regulations by smoking only in designated areas and with the Master's permission.

Please refer to the latest ABP Southampton Notice to Mariners - Safety of ABP Pilots

EMERGENCIES WHILE ALONGSIDE IN THE PORT OF SOUTHAMPTON

In the case of any emergency while alongside a berth in Southampton, the OOW should immediately contact the Emergency Services by telephoning "999" or "112" from any telephone. You will be asked which service you require - Fire, Police, Ambulance or Coastguard, and the location of your vessel. Give berth number and location. (For example, Eastern Docks, Western Docks, Fawley Marine Terminal - see charts in this document for names).
As soon as possible afterwards, Southampton VTS ***MUST*** be informed of the emergency by telephone (+44 23 8060 8208) or using VHF Channel 12 – call sign "Southampton VTS". VTS will ensure that the emergency services are guided quickly to your vessel.

Pilot's Name		**Pilot's Name**	
Master's Name		**Master's Name**	

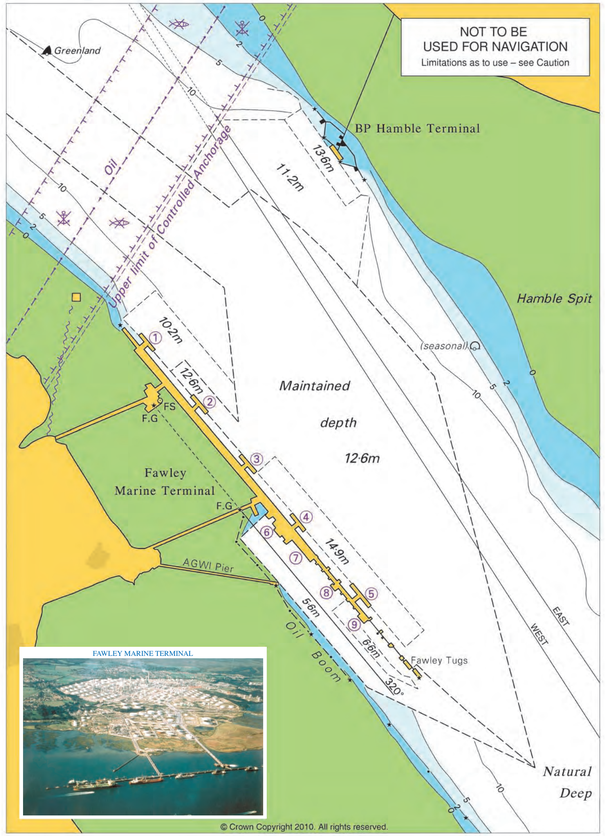


ASSOCIATED BRITISH PORTS SOUTHAMPTON

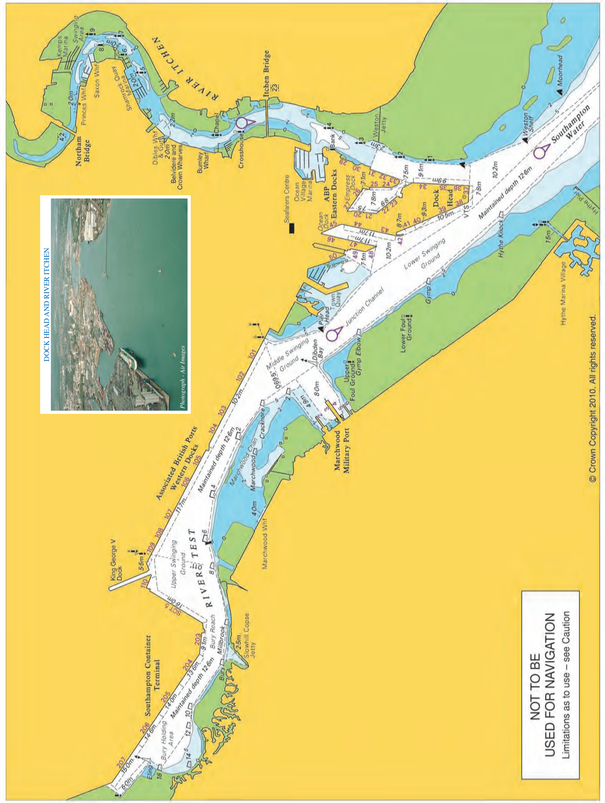
ADMIRALTY CHARTS AND PUBLICATIONS

SOUTHAMPTON PASSAGE PLAN

A FAWLEY AND BP OIL TERMINALS



B SOUTHAMPTON DOCKS AND RIVER ITCHEN



OTHER INFORMATION

PORT DIRECTORY	
Associated British Ports, Southampton	Tel: 02380 488800 Fax: 02380 232991
Vessel Traffic Services (VTS)	Tel: 02380 608208 Fax: 02380 232991 Website: www.southamptonvts.co.uk Email: southamptonvts@abports.co.uk
HM Customs & Excise	Tel: 02380 797000
Maritime & Coastguard Agency	Tel: 02380 329414 / 9401 Fax: 02380 329404 Website: www.mcga.gov.uk
Seafarers Centre	Tel: 02380 333106 Fax: 02380 211394 Email: info@southamptonseafarerscentre.org.uk Website: www.centresforseafarers.org
Port Health Services	Tel: 02380 226631 Fax: 02380 233859
Southampton Waste Management Reporting System (Ship Generated Waste)	Website: www.abpwaste.co.uk
HM Immigration Portsmouth (24 hrs)	Tel: 02392 852700
HM Immigration Southampton	Tel: 02380 820140
HM Coastguard (Solent MRCC)	Tel: 02392 552100
WEATHER INFORMATION	
Live Weather and Tide from Dock Head Southampton Live Weather and Tide from the Bramble Bank Live Weather and Tide from Chichester Bar Marine Weather Forecast	Website: www.sotonmet.co.uk Website: www.bramblemet.co.uk Website: www.chimet.co.uk Website: www.metoffice.gov.uk

NOTES

July 2010

ASSOCIATED BRITISH PORTS SOUTHAMPTON

PORT OF SOUTHAMPTON PASSAGE PLAN

PART 2 (PASSAGE INFORMATION)

www.southamptonvts.co.uk

THE PORT OF SOUTHAMPTON

PLEASE RETAIN ON BOARD
FOR OUTWARD PASSAGE

Risk Assessment NS0229 Grounding-Solent-Piloted

MarNIS Risk Assessment Report
Southampton : NS0229 - Nautical Safety

Hazard Scenario Description

Grounding: Solent - Piloted - Non Hazardous

Worst Credible Scenario

Large vessel grounds leading to multiple slight injuries. Major structural damage to vessel, major pollution serious adverse publicity, and financial impact on port.

Worst Credible Scenario Assessment Scores											
People			Property			Planet			Port Business		
Freq	Cat	Matrix Score	Freq	Cat	Matrix Score	Freq	Cat	Matrix Score	Freq	Cat	Matrix Score
2	2	3	2	4	6	2	3	5	2	3	5

Most Likely Scenario

Vessel grounds in fair weather , no significant damage and refloats on next tide. No injuries, no (or very minor) pollution, no impact on port operations

Most Likely Scenario Assessment Scores											
People			Property			Planet			Port Business		
Freq	Cat	Matrix Score	Freq	Cat	Matrix Score	Freq	Cat	Matrix Score	Freq	Cat	Matrix Score
4	0	0	4	0	0	4	1	3	4	1	3

Likely Cause

CAUSE DESCRIPTION
Adverse tide /current
Adverse weather conditions
Aid to Navigation - failure (out of position/unlit)
AIS failure - equipment or display
Anchored vessel represents a hazard
Bridge resource management -inadequate
COLREGS - failure to comply
Communication failure - equipment (VHF, telephone, etc.)
Communication failure - personnel
Designated berth unavailable
Draught - incorrectly advised
Fire/Explosion
Human error - Other Ship Personnel
Human error - Pilot
Human error - VTS/LPS Personnel
Human error -Tug Personnel
Human error/fatigue - other
Interaction - recreational craft, unplanned
Light pollution
Maintenance/Inspection - inadequate
Malicious action by external parties
Master/Pilot exchange - clarity/understanding failure
Passage plan - failure to follow

Procedures - shoreside, inadequate
Procedures - vessel, inadequate
Radar failure - equipment or display
Restricted visibility
Shoaling - unexpected
Special directions - failure to comply
Special Directions failure to follow
Standing notices - failure to observe
Towage guidelines - failure to comply
Traffic density - high
Traffic management plan - necessary late ammendment
Training/competence - others, inadequate
Tug/Launch - failure
Tugs - inadequate number/type ordered or supplied
Unauthorised swimmers
Vessel details provided inaccurate
Vessel obstructing fairway / Traffic Separation Scheme
VTS / LPS failure - other systems or equipment
VTS/LPS instructions - failure to comply

Existing Controls

CONTROL NAME	COMMENT
Aids to navigation - provision & maintenance of	
AIS coverage	
Anchorage positions - designated	
Arrival/departure - advance notice of	
Bridge resource management training	
Business Continuity Plan	
Byelaws	
Channel/fairway - Management of	
Communications - other port users	
Communications equipment - operational	
Draught - accurate, declared and within max limits	
Dredging programme	
Emergency plans - port (local)	
Fatigue & Health monitoring	
General directions	
Guard/patrol vessels	
Guidance for small craft	
Hydrographic information - latest available	
Hydrographic surveying program	
International COLREGS 1972 (as amended)	
ISPS compliance	
Marine engineering support	
Notices to mariners	
Passage planning (Pilot/PEC)	
Passage planning (VTS/LPS/PAVIS function)	
PAVIS	
Pilot boarding point - designated	

MarNIS Risk Assessment Report
Southampton : NS0229 - Nautical Safety

Pilotage directions	
Pilots - training and authorisation	
PMSC compliance - marine policy	
Port state inspection - MCA	
Pre arrival information (Port to Ship)	
Radar coverage & redundancy provision	
Safety procedures - vessel	
Ship personnel - training	
SOPs - operational	
STCW	
Tidal inforamtion - accurate	
Towage guidelines	
Tugs - availability of appropriate	
Tugs - tug/workboat and crew certification checked	
Vessel defects - requirement for notification	
VTS - navigation information service	
VTS - traffic organisation service	
VTS broadcast - navigation and safety information	
VTS broadcast - traffic information	
VTS personnel - training and authorisation	

Risk Reducing Controls

CONTROL NAME	COMMENT
None	None
No risk reducing options identified	

Notes on Existing Controls and Risk Reduction Options

Reconsidered in light of APL Vanda grounding on Bramble Bank inbound on Saturday 13th February 2016.
Port Users Navigation Guidelines (PUNG), as far as container ships are concerned, are shortly to be reviewed.

General Assessment Comments

None

Overall Risk Assessment Score = 3.81 (Medium Risk)

Name of Assessor :	MDNLWG
Date of Assessment :	17/02/2016
Review Date :	16/02/2019
Originally created on :	20/05/2010
Number of Assessment Reviews :	3

Assessment Number : 327
Reported on 02/02/2017

MarNIS Risk Assessment Report
Southampton : NS0229 - Nautical Safety

Assessment Number : 327
Reported on 02/02/2017

ASSOCIATED BRITISH PORTS

Relevant extracts taken from ABP Southampton's Port
Users Information and Navigational Guidelines 24/01/2014

Port of Southampton

Port Users Information And Navigation Guidelines

CONTENTS

Amendments

Amendment No.	Date	Amended By	Signature
New Issue	25 March 13		
Amendment to Pages 24,46,56	02 April 13		
Amendment to Pages 13,23,78	23 April 13		
Amendment to Pages 66,67,69,72,78,79,110	12 July 13		
Amendment to Pages 14,78	17 December 13		
Amendment to Pages 35,37,38,80	24 January 14		

1. Introduction

The following Guidelines have been established and agreed between the Harbour Master Southampton, CHA Pilots and members of Southampton Port Marine Users Group (SPMUG).These Guidelines supersede the Guidelines updated October 2007.

The information contained in this booklet is intended to bring to your attention the requirements necessary for the Harbour Master to safely regulate traffic movements in The Solent, Southampton Water and Rivers Itchen and Test by commercial vessels, and to comply with local rules and national legislation.

Section 52 of the Harbours, Docks and Piers Clauses Act 1847 is incorporated within the British Transport Docks Act 1969 which sets out the powers of a Harbour Master who may give direction for the following purposes.

a) For regulating the time at which and the manner in which any vessel shall enter into, go out of, or lie in or at the Harbour Dock or Pier, and within the prescribed limits, if any, and its position, mooring or unmooring, placing and removing whilst therein.

b) For removing unserviceable vessels or other obstructions from the Harbour, Dock, pier and keeping the same clear.

The 2003 Port of Southampton Harbour Byelaws are published separately and should be used in conjunction with these guidelines.

These guidelines, Harbour Byelaws and ABP Southampton Notice to Mariners can be found on www.southamptonvts.co.uk

2. Communications VTS Centre

The Operations Room of the Vessel Traffic Service (VTS) Centre situated at 37 Berth, Eastern Docks is continuously manned 24 hours a day.

a) VHF R/T The VTS Centre Southampton, call sign ´SOUTHAMPTON VTS`, guards channels 9, 12, 14, 16, 20 and monitors channels 71 and 74.

b) Telephones:

Location	Numbers	Hours of Operation
ABP Reception	023 8048 8800	Monday-Friday 0800-1700 daily.
Deputy Harbour Master	023 8060 8202	
Data Centre	023 8060 8208	Monday-Friday 0900-1700
VTS – out of hours	023 8060 8208	Monday-Friday 1700-0900 Saturday/Sunday 24 Hours

c) Facsimile 023 8023 2991

d) Website www.southamptonvts.co.uk
Weather www.sotonmet.co.uk
www.bramblemet.co.uk

e) Email vtssouthampton@abports.co.uk

3. Actions Required by Shipowners, Shipping Agents and Berth Operators

The action by Shipowners, Shipping Agents and Berth Operators in implementing the movement of their ships has a great bearing on the co-ordination of all shipping movements in the Port of Southampton.

The following points must be followed to ensure that a suitable and acceptable slot is available for a vessel to manoeuvre within the Port area for either an arrival or a departure passage.

a) The Master, Owner, Agent or Berth Operator should make all necessary arrangements in terms of services to be provided, i.e. Pilots, tugs, linesmen etc for their vessel's movement within the Port. Alterations to ETAs or ETDs must be reported to the VTS Data Centre for confirmation prior to implementation.

b) The Master, Owner, Agent or Berth Operator **must** confirm the ETA times or changes to ETA times and **report**:
   - i Ship's name and International Radio Call Sign (IRCS)
   - ii ETA (12 hour and then 3 hours before arrival)
   - iii Fore and aft SW draughts (Passage Planning requirement)
   - iv Last port of call
   - v Hazardous goods
   - vi Any deficiencies of ship, navigation equipment, machinery and cargo
   - vii Any other relevant information to VTS
   - viii Towage ordered
   - ix ISPS Level

c) The Master, Owner, Agent or Berth Operator **must** confirm the ETD times **3 hours before** departure. The Master **must reconfirm 30 minutes before departure** at which time the Pilot will be dispatched to the ship.
   Details required:
   - i Ship's name
   - ii ETD
   - iii Fore and aft SW draughts (Passage Planning requirement)

iv Next port of call
v Any other relevant information to VTS
vi Towage ordered

d) In cases where a vessel will not be ready to move at the agreed slot time the Owner, Agent or Berth Operator is to inform VTS immediately. The vessel must remain in its present position – safe conditions permitting – until further consultations have resulted in a revised slot time being agreed. Failure to comply may result in the vessel missing her slot time thus resulting in a further delay due to other traffic movements in the Port.

e) Decisions made by the Duty Vessel Traffic Services Watch Manager (VTSWM) of the movement of any ship are final. (Reference 'Section 1 Introduction')

4. Liaison Between Owner/Agent and Master of Vessels

Owners and Agents are requested to ensure:

a) Masters of vessels using the Port of Southampton are in possession of relevant navigational information for both the Ports of Southampton and the Dockyard Port of Portsmouth.

b) Masters of vessels contact the Southampton VTS Centre ('Call Sign Southampton VTS') before sailing, to obtain permission to depart their berth and obtain traffic movements within the Port during the vessel's passage outward.

5. Shipping Movements in the Port of Southampton

All movements (and any subsequent amendments) within the Southampton VTS district must be agreed through Southampton VTS Centre before implementation. This information is also available on www.southamptonvts.co.uk

6. Navigation Guidelines In The Port of Southampton

General note to Guidelines. The term 'large vessel' refers to those vessels >220m LOA unless otherwise stated.

i) Passing Moored Vessels

Due consideration should be taken when passing other moored vessels within the port and a sufficient wide berth must be given at a minimum speed which is possible to maintain steerage way. If the prevailing weather or tide conditions dictate, the use of a tug should be considered when in close proximity to other moored vessels.

ii) State of Readiness of Vessels Alongside

Any work which will render the vessel immobile must not be commenced without the approval of the Harbour Master or his Deputy and the terminal/ berth operator.

iii) State of Readiness of Berths

All berths should be inspected prior to a vessel's arrival by the berth operator. If the berth is not ready in all respects to receive it, then the vessel should be advised before it passes the South Ryde Middle Buoy.

iv) Manoeuvring Equipment

The Master should ensure that all maneuvering and mooring equipment is checked as fully as possible prior to arrival at the Pilot Station or departure from the berth to ensure that it is fully operational. Any defects should be reported to Southampton VTS. Engines should also be tested in the astern mode.

v) Bunkering Operation

Before any bunkering operation can commence, the bunker barge Master is to liaise with the Southampton VTSWM on VHF ch. 12. The planned movement of large vessels will be discussed for the duration of the bunkering operations. The Master of the bunkering barge must be prepared to cease bunkering operations, and if necessary shift his berth, at short notice, if required to do so for the passage of these large vessels.

Port Passage Planning Guidance note (Ref Port Marine Safety Code)

The Harbour Authority and Harbour Masters' powers to regulate the time and manner of ships entry to, departure from and movement within their waters serve to complement port passage planning. Passage plans are therefore to be operated and enforced as an adjunct to the powers of direction.

The object of port passage planning guidance, as required by the Port Marine Safety Code, is to ensure that:

a) All parties know relevant details of any particular port passage in advance.

b) There is a clear, shared understanding of potential hazards, margins of safety, and the ship's characteristics.

Intentions and required actions are agreed for the conduct of the port passage – including the use of tugs and their availability – and any significant deviation should it become necessary.

Port Passage Planning (Pilot/ Master Exchange of Information)

The careful planning of the movements of every ship in the confines of the port is an essential element of the Port's Safety Management System. The Pilot/Master exchange of information needs to be both detailed and structured. The VTS supplied information in conjunction with the Pilot and vessel's passage plan are to be integrated to ensure that both the Pilot and Master have information needed for an agreed Port Passage Plan. It should include as a minimum:

a) The provision by the Pilot of relevant VTS traffic information, detailed local navigational knowledge such as number of tugs, intended berth, side to quay, mooring arrangements and minimum UKC. It should also

include his recommended passage plan. Such details will assist the Master to update his own passage plan.

b) The provision by the Master of precise information, about the ship, its maneuvering characteristics, its equipment, including details of any defects.

Passage Planning (Utilisation of Passage Plans)

All vessels, whether piloted or PEC, must prepare and utilize appropriately detailed passage plans when maneuvering within the Port of Southampton Harbour Area to International Chamber of Shipping Guidelines in conjunction with IMO Resolution A.893(21). The bridge is to be properly manned as required in regulation 11/1 of the STCW Convention. To help with passage planning tide gauge readings from Dockhead, Calshot and Bramblebank are available from VTS. Information on tide heights, passage planning depths and weather is also available from the website: www.southamptonvts.co.uk

Pilots carry aboard Equipment

The CHA has provided a number of ADX Navigation – Portable Pilot Units for use aboard large vessels. Such units provide the pilot/s with highly accurate positional and prediction information. Such information is independent of that provided by the ships equipment.

The CHA expects pilots to use all available means to determine the ships position and not rely exclusively on one piece of equipment. As such the PPU should be considered to be an aid to navigation.

The Bridge Team is reminded of its duty to maintain an accurate check on the vessels position as laid down in the ISM Code, STCW Convention, IMO Regulations & ICS Procedure Guide.

Moorings to be tended

The master of a vessel which is berthed or moored shall ensure that such vessel is securely made fast and that the moorings are adjusted as necessary to allow for the rise and fall of the tide and for the loading and unloading of cargo.

Ref: Southampton Harbour Byelaws
Part III No 18

Safety of Mooring Gangs and Tug Crews - Design and Use of Heaving Lines

Masters and crews of vessels using the Port of Southampton are required to use properly constructed heaving lines for all mooring and towing operations. The use of 'weighted' heaving lines is both illegal and dangerous and may cause serious injury or even death to those on the receiving end ashore or onboard a tug or mooring boat.
The Code of Safe Working Practices for Merchant Seamen, Chapter 25 (25.3.2)
states:

Vessels' heaving lines should be constructed with a 'Monkeys Fist' at one end. To prevent personal injury the 'fist' should be made only with rope and should not contain added weighting material.

Additionally, vessels' mooring parties should always alert shore mooring gangs, tug crews or others in the vicinity prior to throwing a heaving line. Masters are reminded that heaving lines with inappropriate weighting, such as pieces of metal, are not to be used under any circumstances and, if used, appropriate enforcement action will be taken as necessary.

Ref: Local Notice to Mariners.

6.1 Guideline No. 1

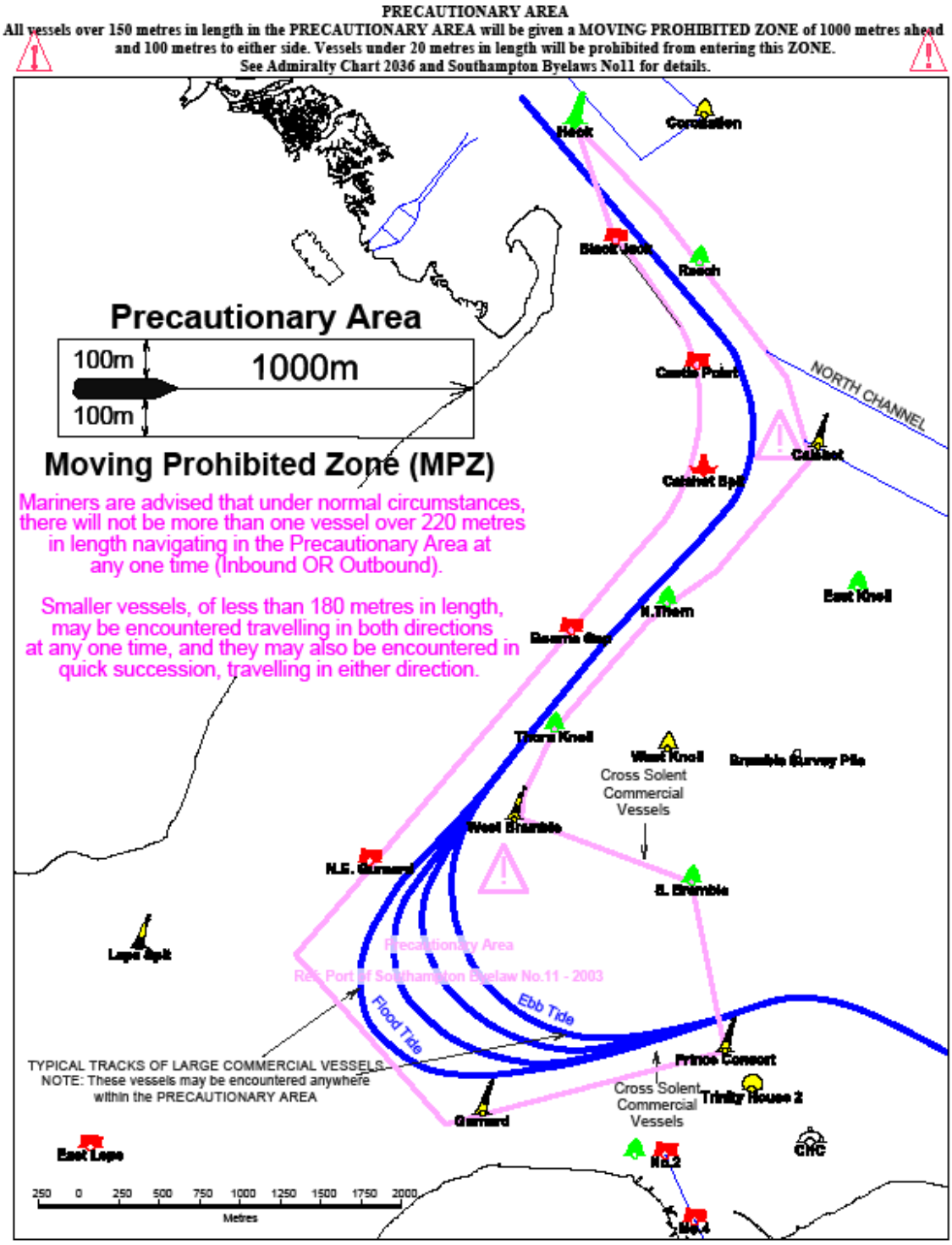
All vessels navigating within the Port of Southampton shall ensure that all large vessels (>220m) shall be given ‘clear channel’ between Hook Buoy and the Prince Consort Buoy. The term ‘clear channel’ is defined as:

‘A clear channel vessel is one which requires a clear and unimpeded passage ahead when transiting the Precautionary Area’.

Vessels may enter the Precautionary Area (see chartlet) maintaining a safe distance astern of a ‘clear channel’ vessel.

A vessel experiencing maneuverability problems may request a ‘clear channel’

See Southampton Local Notice To Mariners for further details (Port of Southampton – Precautionary Area (Thorn Channel).


PRECAUTIONARY AREA
All vessels over 150 metres in length in the PRECAUTIONARY AREA will be given a MOVING PROHIBITED ZONE of 1000 metres ahead and 100 metres to either side. Vessels under 20 metres in length will be prohibited from entering this ZONE.
See Admiralty Chart 2036 and Southampton Byelaws No11 for details.
Precautionary Area
100m
1000m
100m
Moving Prohibited Zone (MPZ)
Mariners are advised that under normal circumstances, there will not be more than one vessel over 220 metres in length navigating in the Precautionary Area at any one time (Inbound OR Outbound).
Smaller vessels, of less than 180 metres in length, may be encountered travelling in both directions at any one time, and they may also be encountered in quick succession, travelling in either direction.
Hook
Calshot
East Knoll
N.Thorn
Cross Solent Commercial Vessels
West Brambles
S. Brambles
Lepe Spit
Precautionary Area
Ref: Port of Southampton Byelaw No.11 - 2003
Flood Tide
Ebb Tide
TYPICAL TRACKS OF LARGE COMMERCIAL VESSELS
NOTE: These vessels may be encountered anywhere within the PRECAUTIONARY AREA
Prince Consort
Cross Solent Commercial Vessels
Trinity House 2
Gurnard
East Lepe
No.2
CHC
250 0 250 500 750 1000 1250 1500 1750 2000
Metres

6.2 Guideline No. 2

The movement of inward bound large vessels

a) Attention is drawn to the current Vessel Traffic Services Procedures and Local Notice to Mariners.

b) Southampton VTS Centre is to ensure that the movements of all large vessels are monitored throughout their passage, and that they are advised of all necessary information relating to movements of other vessels and their own navigational requirements.

c) The Master and Pilot in conjunction with Southampton VTS will agree a passage plan which falls into four main categories:

i ETAs at various locations throughout the intended route
ii Co-ordination of passing arrangements with other vessels
iii Abort points on the planned passage
iv Other planned shipping movements

d) Insofar as inbound vessels >220m LOA are concerned, the turning points are to be established at the West Bramble and on request at Calshot turn. The vessel must be advised of the distance to run at ONE-cable intervals commencing, as agreed, with reference to the West Bramble turn and upon request for the Calshot turn. An indication of left or right of track may also be given. The Pilot will inform the VTSWM when commencing the turn.

e) The West Bramble turning point should be related to the distance to run to the Gurnard Buoy.

f) Inward bound the Calshot turning point should be related to the Calshot Spit Lightfloat/Castle Point Buoy transit.

g) In the case of a large container ship which may not have an abort berth due to her draught, there should be a clear intention from DP World before the vessel passes the South Ryde Middle Buoy that her berth will be clear. If the berth is occupied by another vessel then clear intention from DP World should be ascertained that this vessel will sail on time in order to facilitate a pass at either Dock Head, Fawley or the

Solent. It is the responsibility of the Master of the vessel sailing and DP World to declare any problems that may prevent berthing of the inbound vessel before it passes South Ryde Middle Buoy.

h) If any problems exist with a large vessel or its intended berth, that may prevent the berthing of this vessel, then the vessel will not be permitted to enter the Thorn Channel and will be advised of a suitable anchorage by Southampton VTS in consultation with the Master/ Pilot. It is the responsibility of the Master or intended berth/ terminal operator to declare any problems which may prevent berthing before the vessel passes South Ryde Middle Buoy. This will also apply to any vessel bound for the Fawley or BP Oil Terminals.

i) The passage of large tankers bound for the Fawley/BP Oil Terminals will be in most cases planned so that the vessel arrives at the Hook Buoy between 30 minutes before and 45 minutes after first High Water. On occasions a vessel may also be planned to berth during the Low Water period. In all cases the programmed time will be the result of consultation between the Terminal, the Pilot and the Duty VTSWM.

j) When two large tankers bound for the Fawley/BP Oil Terminals area are to enter on the same HW, the first vessel will be timed to enter the Thorn Channel as early as practicable in order that the second vessel shall be able to enter in sufficient time to clear the Hook Buoy before the end of the slack water period.

Further guidance for Fawley Marine Terminal can be found in section 7.3

6.3 Guideline No. 3

Co-ordination of movements of vessels 180m LOA or greater arriving at Hook Buoy and movement of vessels leaving Southampton Docks

Vessels 180m LOA or greater should take account of the following criteria:

a) The Pilot and Duty VTSWM should ensure that planned movements are confirmed when the Pilot has boarded the vessel and updated as necessary.

b) Inbound vessels180m LOA or greater shall not enter the Thorn Channel unless the following criteria are observed:
   i. A berth or an abort procedure is in place for the vessel.
   ii. Whatever assistance the ship requires to berth – tugs, mooring gang, etc are available and will remain so throughout berthing.
   iii. Passing points co-ordinated and agreed.

c) Two vessels each having a length of 180m or greater shall not pass or overtake each other between Hook Buoy and a line drawn due south of West Bramble Buoy.

d) When an inbound tanker 180m LOA or greater is stemmed for the Fawley/BP Oil Terminals, outbound vessels will not normally be planned to pass south of Dock Head until the inbound vessel is in a controlled situation with tugs secured.

e) A second inbound vessel 180m LOA or greater will not normally be planned to pass Prince Consort Buoy until:

   i The inbound vessel 180m LOA or greater bound for Southampton Docks has passed Reach Buoy.

or

   ii An inbound tanker 180m LOA or greater for the Fawley/BP Oil Terminals is in a controlled situation with tugs secured.

f) Central Solent passes. Vessels 180m LOA or greater should be planned to pass port to port east of Prince Consort Buoy.

g) The Pilot and Duty VTSWM should ensure that when passage planning, due allowances are made for the vessel to be able to safely turn at the West Bramble taking into account sufficient reserve of speed in the prevailing weather and traffic conditions.

h) It is recommended that at the West Bramble turn the maximum mean wind speed (in the South West Quadrant) for container ships 180m LOA or greater is as follows:

i Draught less than 11 metres 30/35 knots (force 7)

ii Draught more than 11 metres 35/40 knots (force 8)

This must be dependant on additional towage being available in the Docks area.

Pilot training schedule

PILOT TRAINING SCHEDULE

Class	Trainee	Lower 2nd Class		Upper 2nd Class	Enhanced 2nd Class	1st Class Restricted Year 1	1st Class Restricted Year 2	1st Class Unrestricted
Examination	EXAMINATION				EXAMINATION			
Authorisation		All vessels ≤110m	All vessels ≤140m	All vessels ≤170m	All vessels ≤170m, Car carriers ≤180m and DWT ≤15,000T	All vessels ≤220m	All vessels ≤280m or DWT ≤60,000T	
Period	13 weeks	6 Mths	6 Mths	12 Months	12 Months	12 Months	12 Months	
Min Acts	100	100	100	200	200	N/A	N/A	
Assessments	2 Formal Assessments 1xInward and 1xOutward	2 Formal Assessments 1xInward and 1xOutward		2 Formal Assessments 1xInward and 1xOutward	2 Formal Assessments 1xInward and 1xOutward	2 Formal Assessments 1xInward and 1xOutward	4 Formal Assessments 2xInward and 2xOutward	
Training Turns	100 Turns visiting all berths where possible	4 Turns. Any vessel >160m - <200m		3 Turns. Car Carriers >170m - <200m 2 Inward Turns, 2 Turns with a swing	8 Turns. Vessels >180m to include 2 inward tankers, 4 car carriers, 1 cruise ship	6 Turns. 3 inward, 3 outward. 2 containerships, 2 car carriers, 2 cruise ships	2 Turns. Any vessel >280m or DWT >60,000T. 1 inward, 1 outward	**Specialist Module**: 6 Turns. 3 inward, 3 outward. Either Containerships >280m or tankers DWT >60,000T, or cruise ships >280m
Tug trips	Min 12 trips including; 1 inward escort, 5 trips on tugs >40T, 3 trips Itchen <40T, 3 trips Esso <40T	6 trips on any tugs handling vessels >140m		3 trips on any tugs handling car carriers >170m	3 trips on any tugs handling vessels >170m	N/A	N/A	N/A
Ancillaries	VTS watch x 2, Hydro, B.O, M.O (Patrol). Visits to Esso, DPW, and QHM. Dredger trip			2 trips on docks mooring launches, ship simulator course, manned model course	Azimuth control device course			
Cumulative Time	3 Months	1 Year 3 Months		2 Years 3 Months	3 Years 3 Months	4 Years 3 Months	5 Years 3 Months	

Bridge card 060 - *Passage plan* and Bridge card 061 - *Passage plan* check list
(note: text highlights are input by the company to draw attention to recent document amendements)

Passage plan

I. Purpose of the document

Safe navigation is based on methodical passage planning resulting from the appraisal, planning execution and monitoring phases. The final plan always remains to the Masters 'responsibility who controls it (redundancy) before providing his validation.

This procedure establishes **all required information resulting from the passage appraisal and planning process, the way to deliver it to the bridge team through passage briefings.**

II. Scope

All CMA Ships vessels.

III. Definitions and abbreviations

Leg: section of the charted track (route) between two way points.

Passage: succession of legs between two ports berth to berth (or Anchorage, eg: Suez Canal). It is divided in three parts: Berth to Pilot Station, Pilot station to Pilot Station, Pilot Station to Berth.

Voyage: succession of passages as defined by the Trade Line.

ENC: electronic navigational chart (vector chart for ECDIS)

IV. Passage plan

The vessel safety during the voyage is based on procedures providing redundancy. This must also be the case for the Passage Planning which must be developed in accordance with the Master's instructions by the Navigation officer. Every Passage Plan has to be checked and validated by the Master.

Any plan alteration/deviation must follow the same process even if time available is short. The officer must highlight all sensitive aspect of the plan alteration (distance from dangers, new UKC…).

The plan is prepared first on the charts then validated by the Master and finally reported in the dedicated software. Passage Planning is prepared from **berth to berth**.

The software has been developed to display the Passage Plans to all concerned parties:

- Routing Operators, in order to be discussed in advance.
- Head office and other vessels, for standardization and sharing best practices.

IV.1. Chart work

Information listed in the *Card No Bridge-061* is to be marked and made available on the charts.
Symbols to be used on navigation paper charts are defined in Annex 2.

IV.2. dedicated software

- The Passage Plan is made with **dedicated software** and sent to the shore
- It is signed by Master, Chief Officer and all the Deck Officers.
- It must be available **prior to the beginning of passage**.
- A printout is displayed on the chart table at the disposal of the Master, the Officers on Watch and the Pilot.
- The printout is filed in the Bridge Record Binder so as to keep only the current voyage and the preceding one.

IV.3. ECDIS, ECS & GPS

- Way points and Tracks are transferred on both systems
- No go areas are to be transferred on the ECS.
- When ECDIS is use on board, the passage plan must be inserted on it.
  A preconditions check must be done on ECDIS:

- The used route must have been successfully checked and reasonable settings for the track limit (i.e.: the monitoring strip for the deviation from route alarm) must have been made for each leg.
- ENC must be available for the entire navigated area.

IV.4. Passage planning briefing: Appendix 1

Prior to departure, the Master shall organise a meeting gathering all OOW, the bosun and the chief engineer when necessary. The Navigation Officer shall make a statement of the particularities of the voyage: true courses, dangers for the navigation encountered in particular areas, safety level changes during the passage, "special" areas in which particular care will have to be taken to prevent pollution of the environment (garbage and waste disposal, sulphur rates in fuel oil…) and any other suggestions which may have consequences on the passage planning…The Master complete the information provided.

IV.5. Passage planning debriefing

A final debriefing shall be organised gathering all OOW, the bosun and the chief engineer when necessary to report the possible corrective actions to be taken for a smoother running of the next voyage: estimated positions, information sources, positioning systems used, conduct of the vessel, steering and propulsion, sea keeping qualities of the ship, cargo stowage, quality of watch keeping, meteorological observations, communications, etc...

Debriefing could also be included in next Passage Plan briefing.

V. Appendices

Appendix 1

Passage planning briefing

The passage briefing should address the following subjects:

- Weather forecast
- Routes overview including:
  - Tide/Currents
  - Special areas crossed (Military exercise, Whale protection, Piracy, Ice, tropical storm, war zones…)
  - Restricted waters
  - VTS
  - Navigation Warnings
  - All relevant information
- ECDIS parameters (Safety contours, Look-ahead sector, Alarms settings…)
- Communications (VHF, NAVTEX,..)
- Bridge/Engine room manning
- Engine special instructions
- Captain's comments and instructions

Appendix 2

Paper Chart Work Legend

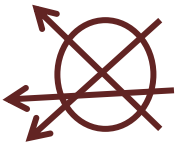
Symbols to be used on navigation charts for:
Waypoint
Dead reckoning position
Terrestrial (coastal) objects visual and radar obtained position
Satellite (GPS) obtained position
Cross index range
Range and bearing

Waypoint

Track

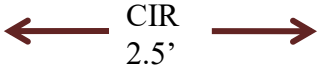
Dead reckoning position with time

GPS Position and Time

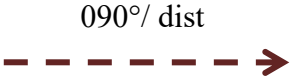


2100

Terrestrial (coastal) objects visual and radar obtained position with time



Cross Index Range (CIR), indicating distance between the course line and the shore object for Parallel Indexing.



Range and bearing from an object, used when marking alterations of the course on the chart during the planning stage

VI. References

Nil

VII. Modifications of the document

Description of the Modification	Date	N° Version
creation	2008-01-01	**1**
Added: IV. Content Software / Chart Work Legend/ passage plan checklist/ Passage Planning briefing	2014-02-01	**2**
References corrected	2014-05-01	**3**
Add of ECDIS specifications	2014-10-01	**4**

VIII. Validation and approval

Versions of the document	Redactor name and function	Date and Signature	Approval Name and Function	Date and Signature
4	[redacted], **SSE Marine Division Manager**	**2014-10-01** [redacted]	[redacted], **SSE Director,** *as per steering committee members*	**2014-10-01** [redacted]

Passage plan checklist

PASSAGE PLAN FROM: **TO:**

VOYAGE NUMBER:

Following items must be included:

Information on passage plan & charts	Y/N	N/A	Comments
Way Points (with N°, name, position)			
Bearings, land/sea marks or transits			
Courses, tracks, distances (berth to berth & pilot to pilot)			
Sailing time at different speed / ETA			
On ECDIS, the track limit should be done for each leg			
Grounding lines /No go areas			
Depth minimum / Minimum UKC per leg			
Safe distances			
On ECDIS, the safety contour value should be set			
Parallel indexing			
Fixing frequency			
Primary/Secondary fixing methods			
Wheel over points			
Point of no return / abort position			
GPS datum			
VTS/Pilot/Port reporting point + VHF channel			
Points of paper chart change			
Anchorage points			
Contingency (Safe anchorage, emergency berth, …)			
Navigational warnings affecting planned voyage			
Special areas: Piracy, Whales protection, Ice, military exercises, war zones …			
Special instructions for above areas			
Areas of security level changes			
Obstructions: rocks, cables, wrecks…			
Load lines			
Ballast water exchange points			
Point to call and point to pick up the pilot			
On ECDIS, the planned route must be checked prior sailing			
Nautical publications used			
Nautical paper charts sequence			
Any other remarks			

Date:	**Name & Rank:**	**Signature:**

Bridge card 100 - *Pilot management* and Bridge card 101 *Pilotage management check list*
(note: text highlights are input by the company to draw attention to recent document amendments)

Pilot management

I. Purpose of the document

The following pilotage procedure is designed to organize the integration of the Pilot in the bridge team, standardize the information exchange and set effective communications rules on the bridge.

II. Scope

Such a procedure will help masters to sail safely in pilotage areas by making the best of the Pilot support. It is also made to provide clear guard lines between the Pilot and the Master's responsibilities and detailed processes to keep each of them in their respective roles.

III. Definitions and abbreviations

Duties: (IMO Resolution A.960)

- Despite the duties and obligations of a pilot, the pilot's presence on board **does not relieve the master or officer in charge of the navigational watch from their duties** and obligations for the safety of the ship.

- The Master, bridge officers and Pilot share a responsibility for **good communications** and **understanding of each other's role** for the safe conduct of the vessel in pilotage waters.

- Masters and bridge officers have a duty to support the pilot and to ensure that **his/her actions are monitored at all times**.

- **SMCP**: Standard Marine Communication Phrases.

- **Coning method:** The person who has the control of the bridge and giving the orders to the bridge team.

IV. Pilot management

1. Preparations for pilotage

The Master and bridge personnel have to :

• Ensure they are adequately rested prior to an act of pilotage, in good physical and mental fitness and not under the influence of drugs or alcohol;

• Know the provisional passage plan developed during the passage briefing (Bridge Card 120) prior to the ship's arrival and based upon the preliminary information supplied by the relevant port or pilotage authority among with published data (e.g. charts, tide tables, light lists, sailing directions and radio lists)

• Prepare suitable equipment and provide sufficient personnel for embarking the pilot in a safe and expedient manner;

• Establish VHF communications with the pilot station to confirm boarding details:
ship's ETA, boarding time, side and height of the pilot ladder, any other relevant information (See Check list)

2. Pilot boarding/disembarking using pilot boat

(For Helicopter boarding/disembarking: see card No Bridge-180)

• **Vessel is ready for pilot boarding when**:
  - Pilot ladder is rigged on the proper side with appropriate personnel and equipment;
  - Designated escort personnel is at boarding station (Cannot be the OOW);
  - Communication with pilot boat has been established;
  - The vessel is at the agreed boarding position;
  - The vessel is at the requested course and speed;

- Specific Port / Pilot request have been fulfilled.

- When the vessel is ready for Pilot boarding the Master/OOW grants the pilot boat authorisation for coming alongside.

- The boarding operation must be closely monitored from the boarding station and from the bridge wing.

- The following information is reported to the bridge:
  - Pilot boat approaching;
  - Pilot boat alongside;
  - Pilot on board/disembarked;
  - Pilot boat away;
  - Pilot boat clear.

- Flag Hotel is hoisted / lowered when pilot is on board/has disembarked.

3. Pilot Briefing

On pilot arrival on the bridge the Master must lead a briefing with the Pilot addressing the following points:

- Bridge team management during the passage:
  - Duties and responsibilities of the Master;
  - Duties of the Pilot;
  - Duties of the OOW;
  - Duties of the OOWA (if applicable);
  - Coning method: OOW with Pilot recommendations under Master supervision / Master with Pilot recommendations / Pilot under Master supervision;
  - Use of English language on the bridge, use of SMCP;
  - Language with external radio stations (Tugs, VTS, Line handlers…). If not English, the Master must make clear with the pilot he will be explained all orders in advance.

- Presentation and Signature of the Pilot Card;

- Unusual ship-handling characteristics, machinery difficulties, navigational equipment problems or crew limitations that could affect the operation, handling or safe manoeuvring of the ship;

- Any impacting Company Regulation (e.g: UKC policy, Port Card Company regulation…)

The Pilot has to provide:

- Local conditions including navigational or traffic constraints;

- Tidal and current information;

- Berthing plan and mooring boat use;

- Proposed use of tugs;

- Expected weather conditions;

- Pilot passage and manoeuvring plan.

After taking this information into account and comparing the pilot's suggested plan with that initially developed on board, the pilot and master should agree an overall final plan early in the passage before the ship is committed. **The Master must not commit his ship to the passage he has not approved.**

Contingency plans should also be made which should be followed in the event of a malfunction or a shipboard emergency, identifying possible abort points and safe grounding areas. These should be discussed and agreed between Pilot and Master.

It must be recalled that communication between Pilot and Master must be continuous. If Master has a doubt regarding action taken by the pilot, he must immediately ask for explanation and confirm that he agrees. Pilot must, when he is going to start an action, in normal transit or in emergency or abnormal situation as it is the case here, explain briefly to Master what is his intention and ask for his agreement.
Master must clearly state to pilot when he takes over the control.
AIS is an additional source of navigational information. It does not replace, but supports, navigational systems such as radar ARPA.
ARPA should always be set on “Target priority” and not on “AIS priority”.
All means available should be used for collision avoidance and, as far as possible, well in advanced.

4. Crew briefing

On completion of the Pilot briefing, the Master takes the first opportunity to let all involved personnel know the final plan and major decisions made with the Pilot : Conning procedure, the changes made to the provisional passage and maneuvering plan,… This may take place on the bridge or on UHF if maneuvering stations are already manned.

The voyage plan is amended accordingly; any inconsistency is reported to the Master immediately.

5. Conduct of Passage in Pilotage Waters

• The Master/OOW/ Bridge team interacts with the pilot through the decided coning method, providing confirmation of his directions and feedback when they have been complied with. It is the OOW responsibility to ensure fluent communication between the Pilot/Master and the rest of the Bridge Team.

• In addition to the Master/Pilot controls, the OOW/OOWA monitors at all times the ship’s speed and position as well as dynamic factors affecting the ship (e.g. weather conditions, manoeuvring responses and density of traffic) and report to the Master/Pilot/OOW/ in accordance with Card BRIDGE-120; He reports her progress and if any doubt arises, as to pilot’s or Master intentions, or departure from the sailing plan – he is to inform / question immediately. **The OOW must not be only an observer. He is full member of Bridge team.**

• The Master and the Pilot being most of the time focused on the ship handling, it is the OOW and the whole bridge team responsibility to check all others aspects of the ship safety and security. (Opposite ship side when the Master in on a wing, long range traffic, communications,…)

• OOW/OOWA confirms on the chart at appropriate intervals the ship’s position and the positions of the navigational aids, alerting the Pilot and the Master to any perceived inconsistencies.

• All Pilot information is challenged with all means available on board (Maritime publications, Chart work,…)

6. Pilot debriefing

• Whenever possible Master will conduct a short debriefing with the Pilot, addressing the actions done during the pilotage passage (bad and good practices) in order to improve the pilotage services for next passage.

7. Pilot non-compliance with this procedure - Master/Pilot disagreement

Pilot certification is a national responsibility. However, IMO A960 resolution makes very clear that Master-Pilot information exchange is essential for efficient pilotage. Pilots should receive initial and continuing training on this matter including: English language, Bridge Resource Management, etc.
Therefore is case of Pilot/Master disagreement, impossibility to find an agreement or communication problem, Masters must report as follow:

1. Report to the local agent in order to liaise with the relevant head organisation pending the case: Pilot Station/ Port Authority/VTS,..
2. If not successful, report to SSE dept Emergency lines and ho.fleet-navcenter
3. Finally, issue a Near Miss for further company action.

8. Pilotage in Panama Canal

Panama Canal regulations give the Pilot specific responsibilities:

"Article 92: The pilot assigned to a vessel shall have control of the navigation and movement of such a vessel. »

This situation limits the Master in his course of actions. In case of an incident/accident, the following actions should be carried out:

- Pilot must be immediately informed and if safe to do operations paused so as to make a full appraisal of the situation.
- All evidence have to be recorded.
- A note of protest to be written in the event of damages found, or if damages are suspected but not readily apparent upon first inspection.

V. Appendices

-Card No Bridge-101 "Pilot preparation check list"
-Card No Bridge-102 "Pilot card and Bollard Pull Scheme"

VI. References

IMO Resolution A 960
International Best Practices for Maritime Pilotage
Dedicated company requirements

VII. Modifications of the document

Description of the Modification	Date	N° Version
Creation	2009-05-14	**1**
IV. Pilot management 1. Preparations for pilotage	2014-02-01	**2**
References corrected	2014-05-01	**3**
Chapters 3. And 5. reviewed	2016-07-01	**4**

VIII. Validation and Approval

Versions of the document	Validation Name and function	Date and Signature	Approval Name and Function	Date and Signature
4	[redacted], **SSE Marine Division Manager**	**2016-07-01** [redacted]	[redacted], **SSE Director,** *as per steering committee members*	**2016-07-01** [redacted]

Pilotage check-list

The Officer of the watch will enter actions taken referring to this list in the **Bridge Log Book**. He will however indicate the points which have not been satisfied and why, as well as the measures taken which are not planned in this list.

Preparations for pilotage	Yes	No	N/A	Comments	Local Time
1. OOW knows the provisional passage plan developed during the passage briefing (Bridge Card 120)					
2. Establish VHF communications with the pilot station to confirm boarding details: ship's ETA, boarding time, side and height of the pilot ladder, any other relevant information					
Pilot Boarding					
3. Pilot ladder is rigged on the proper side with appropriate personnel and equipment					
4. Designated escort personnel is at boarding station					
5. Communication with pilot boat has been established					
6. The vessel is at the agreed boarding position, requested course and speed					
7. Pilot boat approaching/ alongside/ pilot on board information are reported to the bridge					
8. Hotel Flag is hoisted / lowered when pilot is on board/has disembarked					
Pilot Briefing: the pilot is informed					
9. Presentation and signature of the Pilot Card					
10. Of ship's heading, speed, engine setting and draught.					
11. on Bridge team management for the passage (Duties and responsibilities for each bridge personnel)					
12. on conning method					
13. on use of English language on the bridge (SMCP).					
14. Language with external radio stations (Tugs, VTS, Line handlers…). If not English, the Master must make clear with the pilot he will be explained all orders in advance					
15. On unusual ship-handling characteristics, machinery difficulties, navigational equipment problems or crew limitations that could affect the operation, handling or safe manoeuvring of the ship					

Pilotage check-list

16. On any impacting Company Regulation (e.g: UKC policy, Port Card Company regulation…)					
Pilot Briefing: the pilot has to provide					
17. Local conditions including navigational or traffic constraints					
18. Tidal and current information					
19. Berthing plan and mooring boat / trucks use					
20. Proposed use of tugs					
21. Expected weather conditions					
22. Pilot passage and manoeuvring plan					
Crew briefing					
23. Master informed all involved personnel know the final plan made with the Pilot, by UHF					
24. The voyage plan is amended accordingly					
Conduct of Passage in Pilotage Waters					
25. Master/OOW/ Bridge team interacts with the pilot through the decided coning method. OOW keep responsibility of the watch and is not disconnected of the action in progress.					
26. All Pilot information is challenged with all means available on board					
Pilot Debriefing					
27. Master has conduct a debriefing with the Pilot					
Pilot non-compliance with this procedure - Master/Pilot disagreement					
28. Master/Pilot disagreement or Pilot noncompliance with this procedure					
29. Near miss issued by the Master					

Comments:

Time:		**Date:**		**OOW**	

Pilotage check-list

CMA Ships' port card for Southampton - May 2015

CMA CGM port cards are means of gathering port information and experience by individuals and shared by all. It is neither 'to-do-list' but a summary of what an experienced master would advise a colleague who does not know the next port he is scheduled to call at.
Port card are not intended to replace official publications ALRS, navigational charts, etc… Port cards are supplementary information written by ships masters. Masters are invited to maintain port cards updated and corrected whenever change or correction is noted. Corrections and suggestions may be sent to [redacted]

This FBV is based on visit to port Southampton - October 2014 and May 2015 updates from port authority

1. MAJOR OPERATIONNAL ISSUES

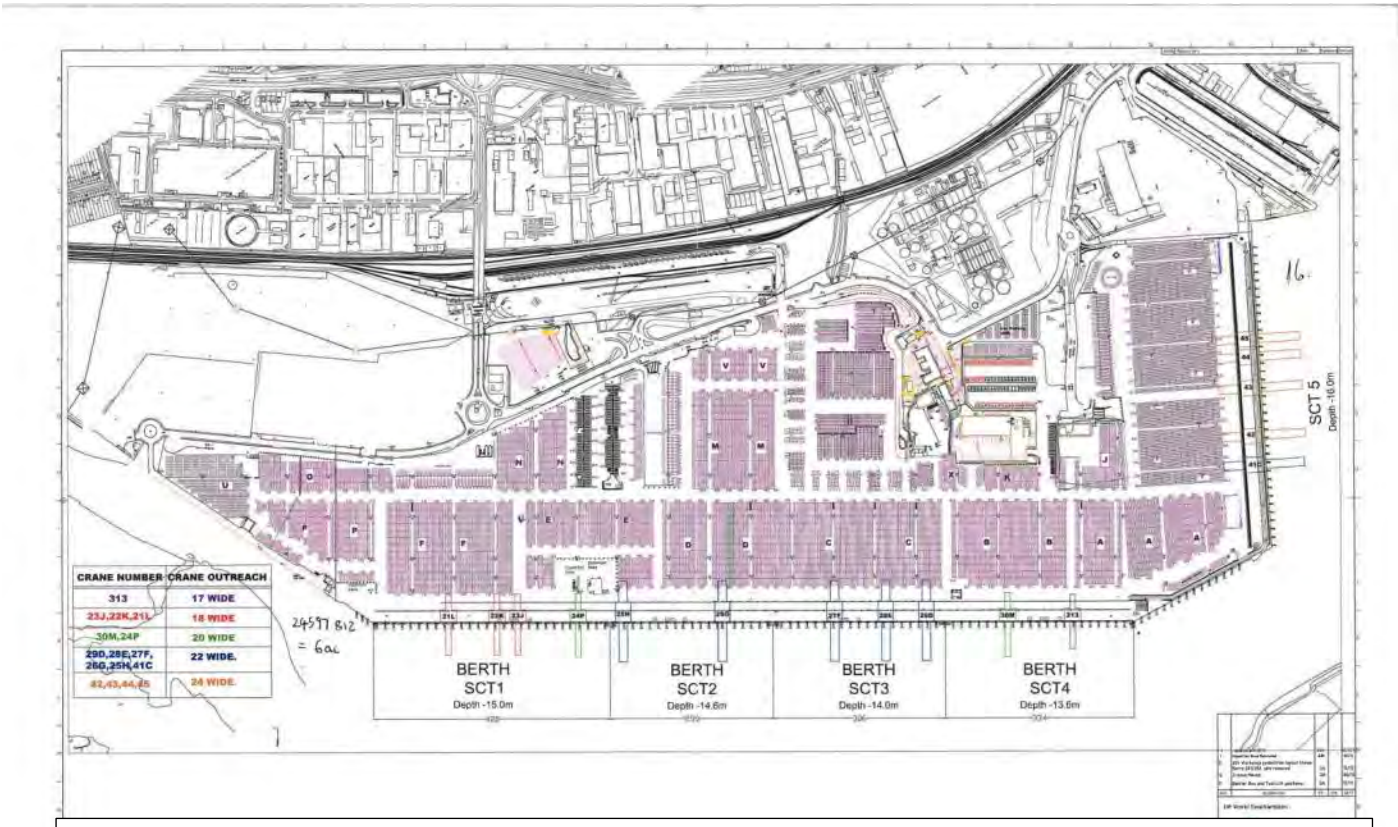
- Approach to the Thorn Channel and in Precautionary area when turning must be performed with maximum precaution. Tidal currents which can be strong should be taken into consideration for maneuvers. Significant drift before Pilot Station / NAB / may occur.

2. COMPANY REGULATION: *NONE*

The regulations included in this section are mandatory for CMA-CGM owned fleet. Chartered vessels are invited to act accordingly without prejudice to owners' particular guidance.

3. TERMINAL

DP World Southampton



Southampton DP World General Arrangement include berth depths and cranes specification's

- Berth SCT5 with Minimum depth 16.0 M / 0 tide / for vessels Marco Polo Class and over
- STC 1 = 15.0 M , SCT2 = 14.6 M , SCT3 = 14.0 M , SCT4 = 13.6 M
- 1.87 Km deep water quay up to 16.0 M depth alongside
- 16 Quayside gantry cranes with Super Post Panamax capacity.

DP WORLD Southampton

- Operational Length/Max.allowable LOA 1350 M from berth 1 – 4 / 500 M SCT5.
- Minimum depth alongside SCT4 13.6 M to STC 5 16.0 M
- Maximum draft alongside 1 – 2 Berth 15.0 M / SCT5 15.5 M
- UKC 0.60 M
- Tide window / range 4.2 – 5.0 M Spring / Neap 3.5
- Max.allowable LOA Up to 400/56M berth No. 5
- Turning basin area 500M minimum depth 13.2 – 0 - tide
- Minimum depth channel 13.2 M / 0 tide
- Maximum allowable wind for berthing 25-35 Kts depend of wind directions
- Crane/size number 16 up to 24 Rows Outhreach
- Fenders/Bollards Good fenders/Pads/Compression every 20 M , Horn Bollards 50 T Pier 1 -4/100 T Pier No.5 interval 15M
- Mooring Boats Yes – if necessary

4. ENVIRONMENT

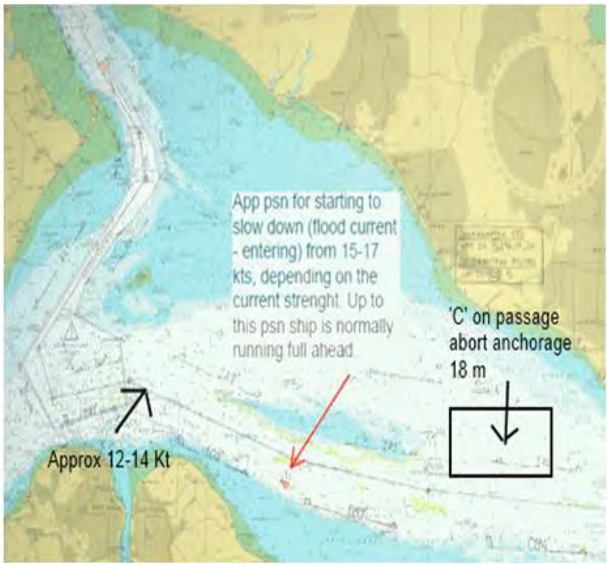
Weather: NW'ly /SWly winds are prevalent (gale force can reach 40kts or more with gusts during winter season with SW winds mostly).
Current: Strong Current up to 4 kts, may encountered on arrival Nab PS.
Visibility: Generally good except in precipitation during winter /spring season, dense fog can reduce visibility less than a cable. Fog in this area can be encountered any time any season.

5. APPROACHES / POINT OF NO RETURN

Approach to **Nab Tower** Pilot Station is from the South, in waters of 20 mtrs depth and over. Traffic is poor to moderate with ships coming in and out of the approach channel mostly.(umerous sailing boats and pleasure boats around in Summer).

Arrival is almost 2 Hours prior High Tide ,there is always more than enough water outside of the channel which entrance is marked with buoys no. 1 & 2. In order to control strong drift to East easier, especially if Pilot running late and ship is already close to the PBG, is better to approach more from the east, and thus have the current on the bow, instead abeam, what will make steering during approach and pilot boarding with low speed a lot easier and safer. It takes 3 to 3.5 h from the PS until berth.

POINT OF NO RETURN: 1.5 Nm S of Outer Nab No.1 Buoy



Turning in Precautionary Area to enter in Thorn Channel is starting abeam or bit before of Gurnard buoy with aprx.speed of 10kts and ROT 20° depending on current set. With Ebb tide track should be kept keep more north and with Floodtide more south (see §11). Before arriving at the turning point, Pilot orders the Pilot Escort Boat to run ahead at 6 cbls, helping pilot for best turn and clearing the channel from other small craft and pleasure boats.

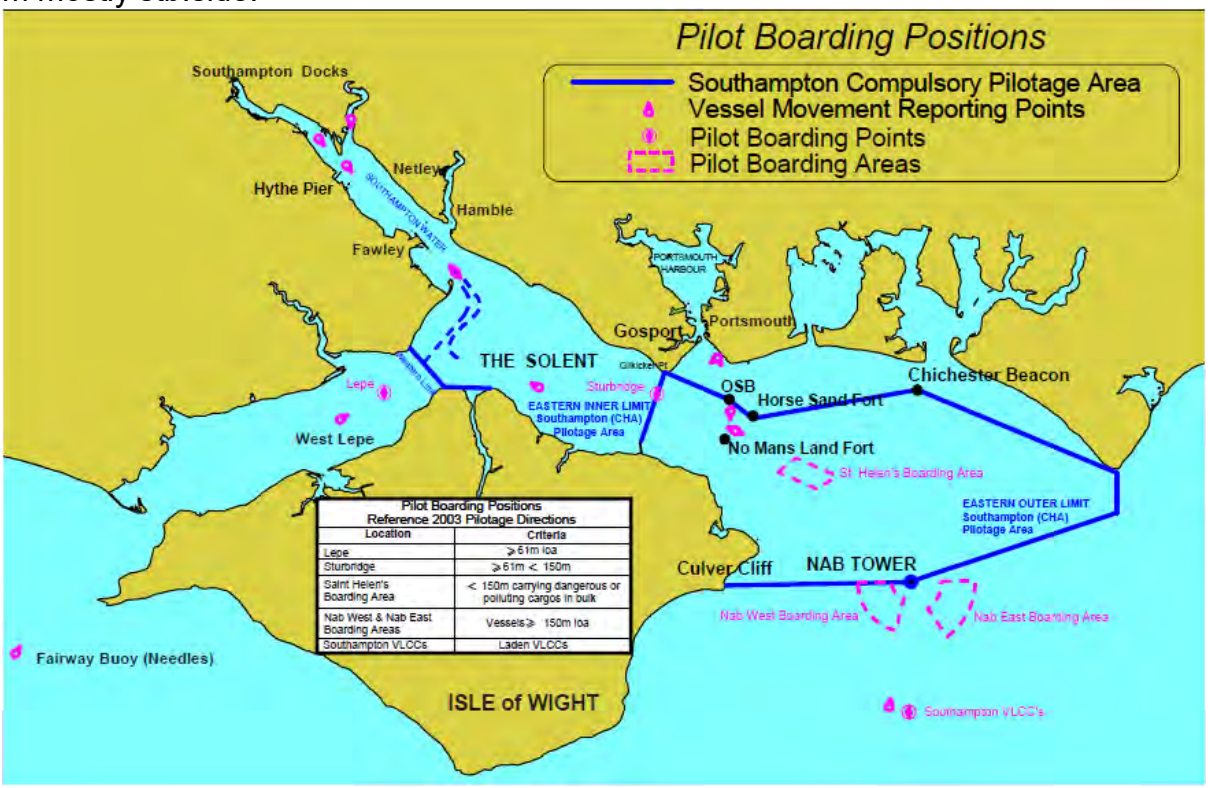
Thorn Channel Turn.
Ebb : speed 8-10kts, better start turning ivo.Catshot Spit. Turning too late or with slow ROT might set the vessel out of the channel due to the current.
Flood– turn to be earlier than with Ebb tide in order to remain in the middle of the channel.
After Hook Buoy vessel will slow down to 7 kts.

6. PILOTAGE

Pilotage - is compulsory, very experienced pilots providing good service and lot of information's regarding the safety of navigation through Solent ,Thorn Channel and harbor approach, having with them well prepared Passage Plan and up to date Tide

Tables. Before arrival Master should inform Agent and Pilots regarding ETA and arrival draft in order to avoid shallow water, before departure as well.

Boarding position – 4 Nm South of NAB Tower Vessels **> 150 M** - ladder aprx. 1.5 m mostly stb.side.



7. TUGS

Practise for berthing/un-berthing is to have 3 tugs for service, if one more tug is necessary for maneuvering due to heavy wind or strong current early request is required due to congestion, 5 tugs available 2 x 60 2x 50 and 1 X 70 T BP

In case of emergency tugs are ready in 30-60 Min. time (TUGS LINE).

8. LIMITS

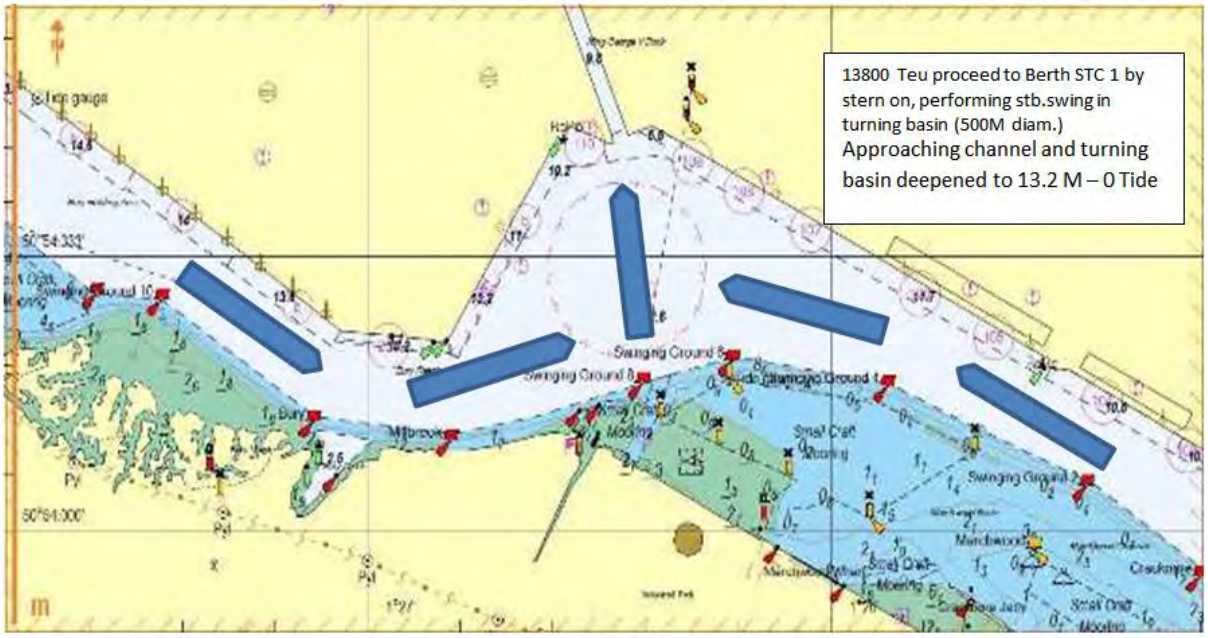
Limits for (13800 – up to 17800 TEU)

- 2 pilots on board with Portable Pilot Unit
- Wind up to 35 kts depending on direction

- Berthing Officer in attendance
- Passage during day / night (24/7) – requires visibility greater than 0.5 miles.Tugs will not work if visibility less than 0.2 miles.
- Passes with other vessels above Prince Consort possible but only smaller vessels.
- Berths from berth 101 to destination all cranes to be boomed up.
- 3 tugs required regardless of side to and whether bow thruster is operational or not
- On departure all limits are the same.

As the pilots get more experience, parameters for this class of vessel may change.

9. BERTH/BERTHING



Berthing on berth 1 to 4 is either port or stbd side alongside. If port side then turning is conducted on arrival and if stbd, on departure. Quite often there is other ships alongside, inside the last part of the approach channel and SCT5 pier as well. This makes the maneuver very delicate and intense, especially with wind over 15 kts.

Turning on arrival is bow to stbd, with 2 tugs in central lead (making fast prior Dock head after NW Netley buoy, speed 6/8 kts), in normal weather conditions. Pilot starts to decrease approach speed of abt 6 kts from Cracknore buoy, using tug aft.

The aim is that at the time ship reaches turning basin (btwn berths 106 and 107) ship's speed should be abt 3 kts and when abt 2/3 of the ship's length enters the basin engine is reversed. From that point on maneuver goes as usual when swinging stb, using tugs and bow thruster/s.

Distances/clearances fwd and aft are reported by tugs and ship's mooring stations. After making the turn, vessel has to run astern and making a port turn with stern at the corner of terminal. If stb side alongside then on departure the vessel has to run astern until reaching turning basin.

When reaching corner of the Terminal stern, the vessel starts to swing to stb. and continues that way (bow to port swing) until the swing completed.

Port recommendation :

The berth has been designed so that each of the largest vessels will nominally be berthed with the Centre Line at bollard 180 to make full use of the 'double' 100t bollards that have been positioned adjacent the bow/stern/spring positions of the relevant vessel.

All bollards are at 14.7m centres along this stretch of berth.

The Port Authority is keen to avoid excess mooring lines being placed on any one bollard to ensure that a 'safe mooring' can be maintained at all times and especially during strong off shore westerly winds.

To this end, please ensure that adequate use is made of all available bollards and with special reference to the 'double' bollards.

If the Master/Pilot of any vessel wishes to berth slightly North/South of this Centre Line position for operational reasons (and in agreement with Shift Manager), then please ensure that an adequate spread of lines is maintained to avoid undue stress on any individual bollard.

10. CAUTIONS

During winter season (November to March) strong SW'ly wind may reach gale force over 40 Kts or more with gusts. Caution for approach the Pilot Station and channel transit. In Winter/spring season fog in area is very common, dense fog les then 2 cables may encounter .Dangerous area for navigation in Solent expressly entering to Thorn Channel.

Also, due caution should be paid to the mooring at SCT5 during strong W'ly winds, in order to avoid accidental unberthing.

11. REMARKS

Southampton: Hydrography **Port of Southampton Passage Planning Depths**

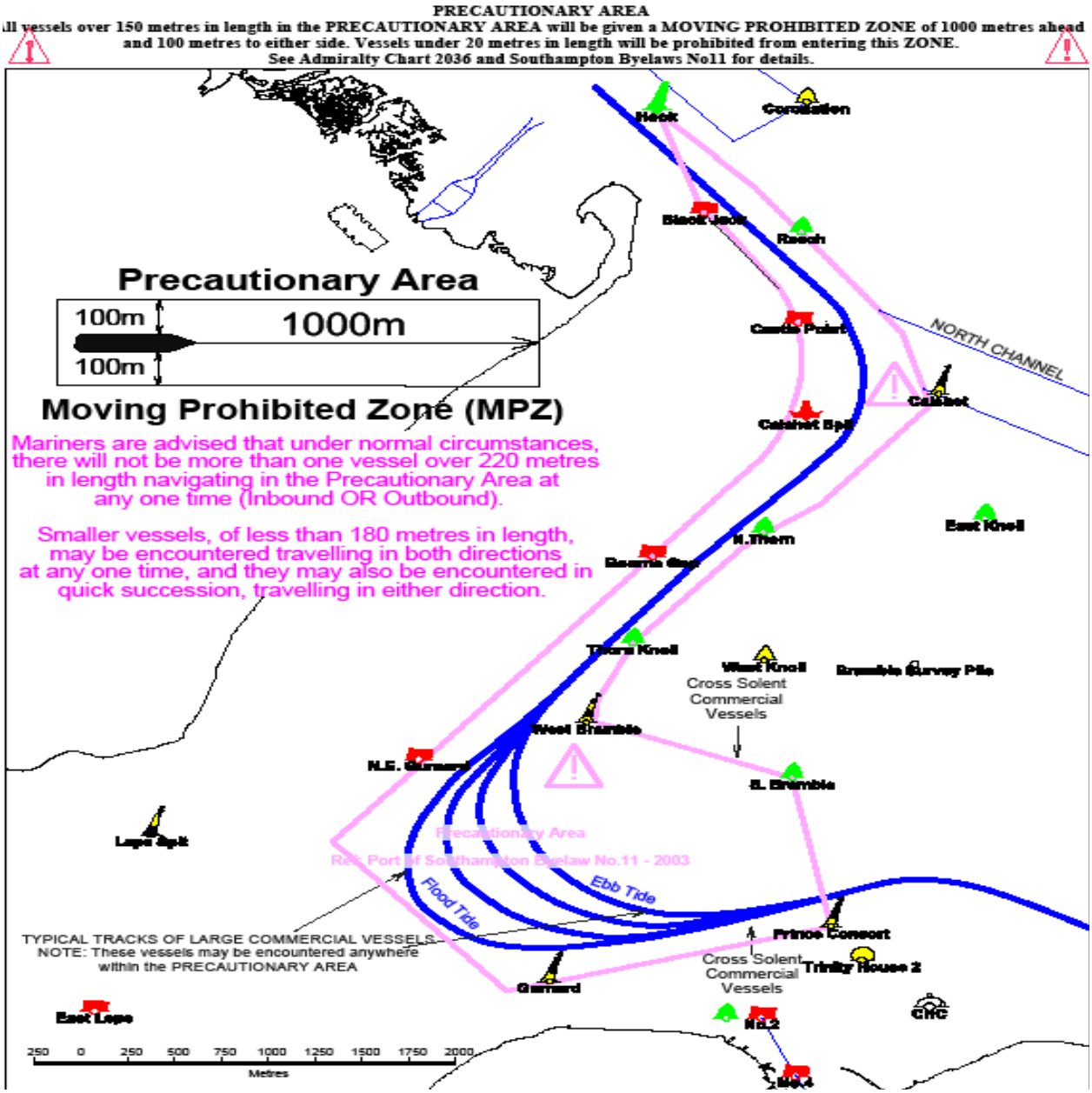
Date of Issue 21 May 2015

Latest Passage Planning Depth (PPD) shown in Red

Advertised Design Depths (ADD) shown in Blue, also see the current Port Of Southampton Tide Tables

SCT 5	16.0	16.0	H3338	shoal in centre 15.8m bollard 181-186
203 Berth	8.3	9.1	H3338	not maintained; iso 8.2m close to quay edge.
SCT 4	13.6	13.6	H3338	shoaling between bollard 226-222; 13.4m
SCT 3	14.0	14.0	H3338	shoaling 13.9m
SCT 2	14.6	14.6	H3338	shoaling towards edge of berth box; 14.5m
SCT 1	15.0	15.0	H3338	iso 14.9m off at bollard 294

> Precautionary area



Annex I

CMA CGM Vasco de Gama's Algeciras to Southampton passage plan and passage plan check list

CMA CGM	BRIDGE MANUAL	MARINE TOOL
Card No **Bridge-061**	Version 03 2014-10-01	Page **1** of **1**
Passage Plan Check-List		

PASSAGE PLAN FROM: ALGECIRAS **TO:** SOUTHAMPTON

VOYAGE NUMBER: 088 FLW

Following items must be included:

Information on passage plan & charts	Y/N	N/A	Comments
Way Points (with N°, name, position)	✓		
Bearings, land/sea marks or transits	✓		
Courses, tracks, distances (berth to berth & pilot to pilot)	✓		
Sailing time at different speed / ETA	✓		
On ECDIS, the track limit should be done for each leg	✓		
Grounding lines /No go areas	✓		
Depth minimum / Minimum UKC per leg		✓	
Safe distances	✓		
On ECDIS, the safety contour value should be set	✓		
Parallel indexing	✓		
Fixing frequency	✓		
Primary/Secondary fixing methods	✓		
Wheel over points	✓		
Point of no return / abort position	✓		
GPS datum	✓		
VTS/Pilot/Port reporting point + VHF channel	✓		
Points of paper chart change	✓		
Anchorage points	✓		
Contingency (Safe anchorage, emergency berth, …)	✓		
Navigational warnings affecting planned voyage	✓		
Special areas: Piracy, Whales protection, Ice, military exercises, war zones …	✓		
Special instructions for above areas	✓		
Areas of security level changes		✓	
Obstructions: rocks, cables, wrecks…	✓		
Load lines		✓	
Ballast water exchange points	✓		
Point to call and point to pick up the pilot	✓		
On ECDIS, the planned route must be checked prior sailing	✓		
Nautical publications used	✓		
Nautical paper charts sequence	✓		
Any other remarks	✓		

Date:	**Name & Rank:**	**Signature:**
18/08/2016	[redacted]	[redacted]

From: ALGECIRAS UTC+02:00
To: SOUTHAMPTON UTC+01:00
Berth to Berth distance: 1221.9 Nm
Pilot to Pilot distance: 1185.8 Nm
Man. Out distance: 4.1 Nm
Man. In distance: 32.0 Nm
Ship Security level: 1
Minimum UKC: m
Voyage No: 088FLW

Average Speed (in kts)	Crossing Time
13.0	03d 19h 12m
15.0	03d 07h 03m
18.0	02d 17h 52m
20.0	02d 11h 17m
21.0	02d 08h 28m
23.0	02d 03h 33m

Last Modified Date: 18/08/2016 17:32

GPS Route Name: ESALG-GBSOU

ECDIS Route Name: ALGECIRAS-SOUTHAMPTON

Berth to Pilot

Point	Lat/Long	Security Level	ID	RL/GC	Course	Distance	Covered	Remain
1	36°07.90' N 005°25.35' W	1					0.0	4.1
				RL	026.8°	0.4		
2	36°08.30' N 005°25.10' W	1					0.4	3.6
				RL	079.2°	1.1		
3	36°08.50' N 005°23.80' W	1					1.5	2.6
				RL	180.2°	2.6		
ALGECIRAS P/S	36°05.93' N 005°23.81' W	1					4.1	0.0

Pilot to Pilot

Point	Lat/Long	Security Level	ID	RL/GC	Course	Distance	Covered	Remain
ALGECIRAS P/S	36°05.93' N 005°23.81' W	1					0.0	1185.8
5	36°04.60' N 005°23.30' W	1	310	RL	162.8°	1.4	1.4	1184.4
6	36°00.70' N 005°23.80' W	1	311	RL	185.9°	3.9	5.3	1180.5
7	35°57.50' N 005°36.50' W	1	312	RL	252.7°	10.8	16.1	1169.7
8	35°57.50' N 006°12.00' W	1	313	RL	270.0°	28.7	44.8	1141.0
9	36°45.00' N 009°09.00' W	1	314	RL	288.4°	150.3	195.1	990.7
10	36°53.00' N 009°19.00' W	1	315	RL	315.0°	11.3	206.4	979.4
11	38°43.00' N 009°51.00' W	1	316	RL	347.1°	112.9	319.3	866.5
12	43°11.60' N 009°47.20' W	1	317	RL	000.6°	268.6	587.9	597.9
13	46°00.00' N 007°44.00' W	1		RL	027.5°	189.9	777.7	408.1
14	48°46.30' N 005°36.20' W	1	318	RL	027.5°	187.5	965.2	220.6
ECA IN	49°00.00' N 005°00.00' W	1		RL	060.1°	27.5	992.7	193.2
16	49°09.40' N 004°41.40' W	1	319	RL	052.3°	15.4	1008.0	177.8
17	49°50.00' N 002°51.70' W	1	320	RL	060.3°	82.0	1090.0	95.8
18	50°08.00' N 001°13.00' W	1	321	RL	074.2°	66.0	1156.0	29.8
NAB P/S	50°36.10' N 000°57.50' W	1		RL	019.4°	29.8	1185.8	0.0

Pilot To Berth

Point	Lat/Long	Security Level	ID	RL/GC	Course	Distance	Covered	Remain
NAB P/S	50°36.10' N 000°57.50' W	1					0.0	32.0
				RL	003.3°	2.2		
20	50°38.30' N 000°57.30' W	1					2.2	29.8
				RL	014.8°	1.2		
21	50°39.50' N 000°56.80' W	1					3.4	28.6
				RL	016.1°	1.1		
22	50°40.60' N 000°56.30' W	1					4.6	27.4
				RL	339.2°	1.9		
23	50°42.35' N 000°57.35' W	1					6.5	25.6
				RL	306.4°	0.6		
24	50°42.70' N 000°58.10' W	1					7.1	25.0
				RL	282.7°	1.6		
25	50°43.05' N 001°00.55' W	1					8.6	23.4
				RL	295.7°	2.4		
26	50°44.10' N 001°04.00' W	1					11.1	20.9
				RL	297.8°	3.0		
27	50°45.50' N 001°08.20' W	1					14.1	17.9
				RL	276.2°	1.8		
28	50°45.70' N 001°11.10' W	1					15.9	16.1
				RL	274.4°	2.0		
29	50°45.85' N 001°14.20' W	1					17.9	14.1
				RL	292.1°	2.4		
30	50°46.75' N 001°17.70' W	1					20.3	11.7
				RL	272.7°	1.1		
31	50°46.80' N 001°19.40' W	1					21.3	10.7
				RL	036.6°	1.1		
32	50°47.65' N 001°18.40' W	1					22.4	9.6
				RL	043.5°	1.0		
33	50°48.35' N 001°17.35' W	1					23.4	8.6
				RL	346.7°	0.4		
34	50°48.75' N 001°17.50' W	1					23.8	8.2
				RL	325.4°	0.7		
35	50°49.30' N 001°18.10' W	1					24.4	7.6
				RL	321.3°	1.9		
36	50°50.80' N 001°20.00' W	1					26.4	5.6
				RL	309.4°	2.3		
37	50°52.25' N 001°22.80' W	1					28.7	3.4
				RL	315.8°	0.9		
38	50°52.90' N 001°23.80' W	1					29.6	2.5
				RL	321.0°	0.9		
39	50°53.60' N 001°24.70' W	1					30.5	1.5
				RL	327.8°	0.5		
40	50°54.00' N 001°25.10' W	1					30.9	1.1
				RL	295.4°	0.7		
41	50°54.30' N 001°26.10' W	1					31.6	0.4
				RL	270.0°	0.4		
BERTH	50°54.30' N 001°26.70' W	1					32.0	0.0

Communication & Documents

Chart sequence:
1455-1448-142-91-3636-3635-3634-3633-1111-1104-2675-2454-2450-2045-2037-2036-2038-2041

Light books to be used:
NP 74, NP 77, ADP ADLL

Nautical instruction to be used:
NP 22, NP 27, NP 67, NP 281 (1), NP 282, NP 285, NP 286 (1), NP 100, NP 131, ADP ADRS

Other documents to be consulted:
GUIDE TO PORT ENTRY

Nautical information to be consulted:
ADP ATT

Weather for cast information to be consulted:
NP 283 (1), NP 284, NAVTEX, NAVAREA I, NAVAREA II, NAVAREA III, BVS

Pilot communications:
ALGECIRAS PILOT CH 13 NAB PILOT 09

Vessel Traffic Services:
ALGECIRAS TRAFFIC CH 74, ROCA CONTROL CH 22, FINISTERRE TRAFFIC CH 11, OUSANT TRAFFIC CH 13, JOBURG TRAFFIC CH 13

Port communications:
ALGECIRAS TRAFFIC CH 74 SOUTHAMPTON VTS CH 12

General Remarks:

Tide Status

Departure Port				
	AM		PM	
Date	Time	Depth	Time	Depth
		SEE ATTACHED		

Arrival Port				
	AM		PM	
Date	Time	Depth	Time	Depth
		SEE ATTACHED		

Drafts

Departure from: ALGECIRAS

		Port (in meters)	Sea (in meters)
Ship's draft	Fwd	13.90	
	Aft	13.90	
Trim			
Air Draft			

Arrival at: SOUTHAMPTON

		Port (in meters)	Sea (in meters)
Ship's draft	Fwd		13.80
	Aft		13.80
Trim			
Air Draft			

Passage plan approved by

Master: [redacted]
Date & Signature:
18/08/2016

Officer 1: [redacted]
Date & Signature:
18/08/2016

Officer 2: [redacted]
Date & Signature:
18/08/2016

Officer 3: [redacted]
Date & Signature:
18/08/16

Officer 4: [redacted]
Date & Signature:
18/08/2016

Officer 5:
Date & Signature:

Completed Bridge card 121 - *Preparation for arrival check list for Southampton*

Coastal and Restricted Waters Navigation Check-list

ARRIVAL SOUTHAMPTON

This card is a reminder for all items to be considered before entering coastal and restricted waters and to be in place or not, depending on the situation, based on Master's risk assessment.

LESS THAN 24 HOURS :
PASSAGE BRIEFING PREPARATION PRIOR ENTERING COASTAL OR RESTRICTED WATERS

SUBJECT	YES	NO	COMMENTS
Is a Passage briefing has been done 24 hours to one hour prior entering coastal and restricted waters	✓		
Is Passage plan prepared and checked	✓		
Is Port card available and read	✓		
Is Tide and tidal window calculated	✓		
Is Navigation Risk assessment of this passage has been done	✓		
Is Local Current information available	✓		
Are Navigation warnings (NAVAREA , Notice to mariners, preliminary/temporary) available	✓		NAVTEX
Are Ship's drafts (FWD/MEAN/AFT) and Air draft available	✓		PILOT CARD
Is Present ship's displacement available	✓		V1 PS
Are Bunker's figure (including fresh water and lube oil) available	✓		V2 PS
Is Latest weather forecast available	✓		SAT-C

15 MINUTES BEFORE:
ARRANGEMENTS TO IMPLEMENT PRIOR ENTERING COASTAL OR RESTRICTED WATERS

SUBJECT	YES	NO	COMMENTS
Is Bridge team ready according to Master's instructions	✓		
Are all steering gears pumps switched on	✓		
Is helm manually checked	✓		
Are both radars switched on and ready on proper scale and is Anticollision radar switched on if fitted	✓		
Is Parallel Index set on radar	✓		
Is echo sounder and recorder switched on (date and time)	✓		
Are hatches closed, are water tight doors closed, general watertight condition	✓		
Are all MARPOL and local regulations complied	✓		
Is the vessel presently on maneuvering speed	✓		
Is foredeck team complete: Boatswain + OS or 2 AB	✓		
Is Anchor ready for emergency anchoring	✓		

Coastal and Restricted Waters Navigation Check-list

SUBJECT	YES	NO	COMMENTS
ECDIS WORK			
Are Waypoints checked and inserted in ECDIS	✓		
Is Cross track error (XTE) is set to 0.5 Nm	✓		
Is Turn radius set in ECDIS corresponds to turn radius set in autopilot	✓		
Is Route displayed on radar screen	✓		
Is mandatory alarms set in ECDIS	✓		
CHART WORK			
Are Courses reported	✓		
Is Parallel Index set	✓		
Is Safe bearing identified	✓		
Are "No go areas" reported	✓		
Is Non return point reported	✓		
Are Emergency anchoring areas reported	✓		
Are Position Fixing intervals reported and following company policy	✓		
Is speed reduction position reported	✓		
Is minimum Under keel clearance reported	✓		
Is required speed reported	✓		
Is Pilot Boarding position agreed and reported	✓		SMOOTH/DO NOT
Is Pilot VHF Chanel reported	✓		09/12
Is Large scale chart transfer position reported	✓		
Is VTS reporting defined (VHF Chanels and information to be provided)	✓		
Is Port authority reporting defined (VHF Chanels and information to be provided)	✓		

Date : 21.08.2016	Time : 21:00 L	OOW Name : [redacted] OOW Signature
Date : 21/08/2016	Time : 2200 LT	Master Name : [redacted] Master Signature

ADX XR Portable Pilot Unit

www.adnav.com
N, 59°16.274' E, 10°26.156'

Ultra-Precise Approach & Docking

N 59° 16.274' E

ADX XR

EXTREME RELIABILITY - SAFE, ACCURATE, EFFICIENT

The accuracy and reliability of the manoeuvring observations provided by the ADX XR PPU system are of a much higher level compared to the shipborne systems and shore based laser docking systems.

AD NAVIGATION

SPECIALISTS IN PRECISE GNSS NAVIGATION

Ultra-Precise Approach and Docking

SPECIALISTS IN PRECISE GNSS NAVIGATION

PERFORMANCE (2sigma):	
Position Accuracy	1.5cm (RTK mode) 0.8m with EGNOS/WAAS 2 meters in uncorrected mode
Bow and Stern Speed	1 cm/sec (0.02 knots)
Vertical/Squat	2cm (RTK mode)
Heading accuracy	0.01 deg (20 m baseline)
Rate of Turn	0.1 deg/min
FEATURES:	
Weight of system w/o laptop	4.2 kg
Dimension each pod (L x W x H)	14 x 14 x 10 cm
Robustness (drop test)	1.5 m down to concrete
Battery life	11 Hours(UHF), 7 Hrs (DualModem)
Wireless standard	WLAN 802.11b/g
RTK Corrections via UHF radio or Dual Modem (GPRS/UMTS/HSDPA) Integrated power management and charger intelligence	
BENEFITS:	
For maximum safety and efficiency during maneuvering	
No Cables / No Connectors	
GPS and GLONASS satellite tracking, prepared for Galileo	
Installed and operational in seconds	
AIS and VTS traffic image available	
APPLICATIONS:	
Laser Docking Replacement	Vessel Trails
Precise maneuvering and docking	Ship to Ship Operations
FPSO and SPM Operations	Rig Move

The most accurate PPU on the market

To meet the exacting demands of navigating and docking large vessels, the measurement of low speeds, precise heading and Rate of Turn is of utmost importance to the pilot. The ADX XR system derives these measurements using state-of-the-art GPS/GLONASS Real Time Kinematic (RTK) techniques along with precise RoT sensors.

Compact and wireless

ADX XR is a wireless PPU system that communicates with the Pilot's portable ECS system via standard wireless technology.
The complete system comprises only three small, light, ruggedized POD units, making it ideal for transportation and operation under various conditions. The ADX XR has been designed in accordance with the POADSS concept (Portable Operational Approach and Docking Support System), which was developed under the european Marnis project.

RTK Signals via dual modem

A unique feature of the ADX XR PPU is the incorporation of two modems allowing reception of RTCM RTK corrections via two different UMTS providers. Automatic selection of provider minimizes loss of corrections, resulting in almost zero downtime. Continuous high precision RTK mode during docking and lock approach translates to extreme reliability.

AD NAVIGATION
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