

# PASSAGE PLANNING



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# PASSAGE PLANNING

The master and Navigating Officer have a duty both in public and commercial law to navigate competently at all times.

Upon their actions depend the successful outcome of the voyage, safety at sea and protection of the marine environments.

# BASE ON

## 1. EOHS –NAVIGATION AND BRIDGE PROCEDURES

### Procedure – 0406-3.6 PASSAGE PLAN

## 2. VIQ. CHAPTER 4. NAVIGATION

4. 2 Was a comprehensive passage plan available for the previous voyage and did it cover the full voyage from berth to berth ?

Prior to proceeding to sea, the Master shall ensure that the intended voyage has been planned using appropriate chart and publications for the area concerned ( SOLAS V/34 and IMO Res.A.893).

# PASSAGE APPRAISAL

- Before any voyage can be embarked upon or, indeed any project undertaken, those controlling the venture need to have a good idea of the risk involved.

# INFORMATION SOURCES INCLUDING

- 1. CHART CATALOGUE ( NP 131 )
- 2. NAVIGATIONAL CHARTS ( BA CHART )
- 3. OCEAN PASSAGES FOR THE WORLD ( NP 136 )
- 4. ROUTEING CHARTS & PILOT CHARTS ( give info on ocean routing, currents, winds and ice limit and various meteorological information.
- 5. SAILING DIRECTION AND PILOT BOOKS
- 6. LIST OF LIGHTS AND FOG SIGNALS ( NP 74-84 )
- 7. TIDE TABLES
- 8. TIDAL STREAM
- 9. NOTICE TO MARINES ( ISSUED BY UK HYDROGRAPHIC OFFICE WEEKLY & THURSDAY )
- 10. SHIP'S ROUTEING
- 11. RADIO SIGNAL INFORMATION
- 12. CLIMATIC INFORMATION
- 13. LOAD LINE CHART
- 14. DISTANCE TABLES
- 15. ELECTRONIC NAVIGATION SYSTEM HANDBOOKS
- 16. RADIO AND LOCAL WARNING
- 17. DRAUGHT OF SHIP
- 18. NAVIGATION TERMS
- 19. OWNER'S AND OTHER SOURCES
- 20. PERSONAL EXPERIENCE
- 21. THE MARINER'S HANDBOOK
- 22. GUIDE TO PORT ENTRY
- 23. NAUTICAL ALMANAC AND NORIES TABLE

# NOTICE TO MARINES

- NTM ARE PUBLISHED IN WEEKLY EDITIONS BY THE BOTH THE BRITISH AND US HYDROGRAPHIC AUTHORITIES, ENABLING SHIP TO KEEP THEIRS CHARTS AND OTHER PUBLICATION UP TO DATE
- NTM CONSIST OF 6 CHAPTER :
  - I. EXPLANATORY NOTES. PUBLICATION LIST
  - II. ADMIRALTY NTM. UPDATES TO STANDARD NAVIGATIONAL CHARTS
  - III. REPRINTS OF RADIO NAVIGATIONAL WARNINGS
  - IV. AMENDMENTS TO ADMIRALTY SAILING DIRECTIONS
  - V . AMENDMENTS TO ADMIRALTY LIST OF LIGHTS AND FOG SIGNALS
  - VI. AMENDMENTS TO ADMIRALTY LIST OF RADIO SIGNALS

# I. EXPLANATORY NOTES

- A.1. DATING
- 2. CHARTS AND POSITION
- 3. TEMPORARY AND PRELIMINARY NOTICES
- 4. ORIGINAL INFORMATION
- 5. FURTHER GUIDANCE
- 6. LIGHTS
- 7. RADIO SIGNALS
- 8. SAILING DIRECTIONS
- 9. RADIO NAVIGATIONAL WARNINGS
- 10. UPDATING
- 11. LAWS AND REGULATIONS
- 12. RELIANCE ON CHARTS AND ASSOCIATED PUBLICATIONS
- 13. CHARTS
  
- B. 1. ADMIRALTY CHARTS AND PUBLICATIONS NOW PUBLISHED AND AVAILABLE
  - NEW ADMIRALTY CHARTS AND PUBLICATIONS
  - NEW EDITIONS OF ADMIRALTY CHARTS AND PUBLICATIONS
  - ADMIRALTY CHARTS AND PUBLICATIONS PERMANENTLY WITHDRAWN
  - ADMIRALTY RASTER CHART SERIES – LATEST ISSUE DATES OF REGIONAL DISC
  - CHARTS PRINTED COLOURS

## II. UPDATES TO STANDARD NAVIGATIONAL CHARTS

- 1. GEOGRAPHICAL INDEX
- 2. INDEX OF NOTICES AND CHART FOLIOS
- 3. INDEX OF CHARTS AFFECTED
- 4. MISCELLANEOUS UPDATES TO CHARTS
- 5. BLOCK FOR CHARTS

## III. NAVIGATIONAL WARNINGS

- |  |  |
|--|--|
| 1. NAVAREA I ( NE ATLANTIC )                       | 10. NAVAREA X ( AUSTRALIA, NEW GUINEA )                  |
| 2. NAVAREA II ( E ATLANTIC )                       | 11. NAVAREA XI( MALACCA STRAIT, CHINA S<br>( N PACIFIC ) |
| 3. NAVAREA III ( MEDITERANEAN )                    | 12. NAVAREA XII ( NE PACIFIC )                           |
| 4. NAVAREA IV ( NW ATLANTIC )                      | 13. NAVAREA XIII ( NW PACIFIC )                          |
| 5. NAVAREA V ( W ATLANTIC )                        | 14. NAVAREA XIV ( SW PACIFIC )                           |
| 6. NAVAREA VI ( SW ATLANTIC )                      | 15. NAVAREA XV ( SE PACIFIC )                            |
| 7. NAVAREA VII ( SE ATLANTIC )                     | 16. NAVAREA XVI ( E PACIFIC )                            |
| 8. NAVAREA VIII ( N ATLANTIC )                     |  |
| 9. NAVAREA IX ( PERSIAN GULF, RED SEA,NW ARABIAN ) | 17. HYDROPAC ( PACIFIC, INDIAN OCEAN )                   |
|  | 18. HYDROLANTS ( ATLANTIC, MEDITERANEAN )                |

IV. AMENDEMNETS TO ADMIRALTY SAILING DIRECTIONS

V. AMENDEMENTS TO ADIRALTY LIST OF LIGHTS AND FOG SIGNAL

VI. AMENDEMENTS TO ADMIRALTY LIST OF RADIO SIGNAL

# THE FOLLOWING SHOULD BE MARKED ON THE CHART, WHERE IT ENHANCE SAFE NAVIGATION

1. Parallel Index
2. Chart Change
3. Methods and frequency of position fixing
4. Prominent navigation and radar marks
5. No-Go-Area
6. Landfall targets and lights
7. Clearing lines and bearings
8. Transits, heading marks and leading lines
9. Significant tides or current
10. Safe speed and necessary speed alterations
11. Changes in machinery status
12. Minimum Under Keel Clearance
13. Position where the echo sounder should be activated
14. Crossing and height density traffic areas
15. Safe distance off
16. Anchor clearance
17. Contingency plan
18. Aborts Position

# NO GO AREAS

Coastal and estuarial charts should be examined and all areas where the ship cannot go carefully shown by highlighting or cross-hatching, taking care not to obliterate information e.g. navigation mark or a conspicuous object. Such areas are to be considered as no-go areas. In waters where the tidal range may not be very large, no-go areas will include all charted depths of less than the ship's draught.

# MARGINS OF SAFETY

- A Safety Margin is required around the no-go areas at a distance that in the worst probable circumstances, the part of the ship being navigated ( the bridge) will not pass.

Among the factors which need to be taken into account when deciding on the size of this Margin of safety area:

1. The dimensions of the ship
2. The accuracy of the navigational systems to be used
3. Tidal streams
4. The maneuvering characteristic of the ship

It is not possible to lay down hard and fast rules regarding the distance off a danger that a ship should maintain; it will depend on :

- 1. The draught of the ship relative to the depth of water
- 2. The weather conditions prevailing a strong onshore wind or the likely onset of fog or rain will require an increase in distance off
- 3. The direction and rate of the tidal stream or current
- 4. The volume of traffic
- 5. The age and reliability of the survey from which the information shown on the chart has been derived
- 6. The availability of safe water

# UKC AND SQUAT

**UKC** = FREE DISTANCE FROM KEEL OF SHIP TO BOTTOM SIDE OF

SEA WATER.

ALLOWABLE MIN 10 % FROM MAXIMUM DRAFT.

**SQUAT** = Which is denoted by the ship bodily sinking and trimming moving in shallow water and / or confined waters.

The effect of squatting is particularly noticeable in larger vessels and Where considered detrimental to ship's safety, speed should be reduced commensurate with safe steerage.

Signs of squatting are: high stern wave, vibration, sluggish & difficult steering.

**Effect of squatting can be:**

- Wash damage to shore installations
- Damage to propeller, rudder and skeg
- Damage to vessel's due to excessive vibration

The detrimental affect of squat can be control by reducing speed

# PARALLEL INDEX

PI = is useful method of monitoring cross track tendency in both poor and good visibility. It is good practice to inconspicuously mark the planned PI on the chart at the planning stage.

A fixed radar target, such as a lighthouse or a headland, will apparently track past the own ship, depicted as being at the centre of the screen, on a line parallel and opposite to the ship's ground Track.

# WAY POINT

A Way Point is a position shown on the chart where a planned change of status will occur. It will often be a change of course but may also be an event such as :

1. End of beginning of sea passage
2. Change of speed
3. Pilot embarkation point
4. Anchor station

Way point may also be used as useful reference points to determine the ship's passage time and whether or not a schedule is being maintained.

# ABORTS

**ABORTS** = When approaching constrained waters the ship may come to a position beyond which it will not be possible to do other than proceed. Termed the "point of no return" it will be the position where the ship enters water so narrow that there is no room to turn or where it is not possible to retrace the track due to a falling tide and insufficient UKC.

## **Reasons Aborts** =

1. Deviation from approach line
2. Machinery failure or malfunction
3. Instrument failure or malfunction
4. Non availability of tugs or berth
5. Dangerous situations ashore or in the harbor
6. Sudden change in weather conditions such as onset of poor visibility or dangerous increase in wind speed or direction
7. Any situation where it is deemed unsafe to proceed

# CONTINGENCIES

Having passed the abort position and point of no return the bridge Team still needs to be aware that events may not proceed as planned And that the ship may have to take emergency actions.

Contingency plans need to have been made at the planning stage and Clearly shown on the chart so that the OOW does not have to spend time looking for and planning safe action, but has instantly available Action to correct the situation.

Contingency planning will include:

1. Alternative routes
2. Safe anchorage
3. Waiting area
4. Emergency berths

# REPORTING POINTS

Reporting to the relevant authority as and where required  
Can only make the vessel's routing safer and may also be  
Compulsory.

When experienced officers are making such reports it is  
advantageous to write down, on the chart at the reporting  
Point or in a separate book, the information the officer will  
Need. This may include the appropriate VHF channel and  
Key data required to be transmitted.

# CLEARING BEARINGS – NLT & NMT

In the event that no clearing marks are available a single identifiable charted object may be similarly.

As long as the bearing of the mark remains within the Range 028 deg T – 042 deg T then the ship will be in safe Water. These clearing bearings should be shown on the Chart and may be shown as NLT 028 deg T and NMT 042 Deg T ( Not Less Than / Not More Than ).

# POSITION / FIX PLOTTING

Vessel's position must be obtained and charted, at least

Every :

1. 05 mnt when in TSS/Picking Up Pilot/Approach and Departure.
2. 10 mnt when passage in pilotage waters or open approaches to ports
3. 15 mnt when coasting " close Inshore " i.e within 10 m of land
4. 30 mnt when coasting " offshore, i.e outside of 10 m from land
5. 60 mnt when on open sea passage and ocean passage

# UPKEEP OF THE CHART OUTFIT

## **A. CHART MANAGEMENT SYSTEM**

A system required to keep an outfit of chart up-to-date. It should include arrangements for the supply of New Charts, New edition of charts, as well as new editions and supplements of Admiralty Sailing Directions and other nautical publications, if necessary at short notice.

## **B. CHART CORRECTION LOG AND FOLIO INDEX ( NP 133a)**

It contains sheets providing a numerical index of charts, indicates in which folio they are held, and has space against each chart for logging Notices to Mariners affecting it.

It is dividing into three parts :

- I. Navigation Charts ( including Omega and Loran-C )
- II. Admiralty reproductions of Australian and New Zealand charts
- III. Miscellaneous Charts.

# ON RECEIVING A CHART OUTFIT

## CHARTS :

1. Enter the number of the Notice to which the outfit has been corrected in the chart correction log.  
Insert the folio number on the thumb-label of each chart. If not using standard Admiralty folios, enter the folio number against each chart of the Log.
2. Consult the latest monthly notice listing Temporary and Preliminary Notice in force.
3. Extract all T & P Notice from Weekly Editions subsequent to the current Annual Summary of NTM and make into a T & P Notice file.

# ON NOTIFICATION OF THE PUBLICATION OF A NEW CHART OR NEW EDITION

When a New Chart or New Edition is published, this is announced by a Notice giving the Date of publication and the number of any T & P Notice affecting it. From such notice, enter on the appropriate page of Part I of the Log:

- Number of the Chart
- Date of Publication
- Number of the Notice announcing publication
- Numbers of any T & P notice affecting the chart ( in Pencil )

Until the chart is received, the numbers of any subsequent Permanent, T & P notice affecting it should be recorded with the above entry.

# ON RECEIVING A NEW CHART OR NEW EDITION

Enter the following details in the log.

- If a New Chart, the folio Number against the Chart number in the index.
- On the sheet at the beginning of part I, the date of receipt of the chart.
- Against the chart number in the NTM column of the Index sheet, NC or NE with the date of publication, followed by double vertical line to close the space.
- In the NMT column of the chart in the index, the numbers of any notices recorded against the chart on the sheet at the beginning of Part I.

# ON RECEIVING A WEEKLY EDITION OF NTM

1. Check that the serial number of the weekly edition is in sequence with editions already received than;
2. From the index of charts affected, enter in the log the numbers of the notice affecting the charts held.
3. Turn to the end of section II to see if any T & P notices have been published or cancelled. If they have been, add to or amend the entries in the log against the charts accordingly.
4. Examine the Admiralty publication notice to see if any relevant new charts or new editions have been published, or charts with drawn if they have, take action.
5. Detach and use Sections III to VI as follows:

# ON RECEIVING A WEEKLY EDITION OF NTM

5. Detach and use Sections III to VI as follows:
  - a. Section III. Check printed text of messages against any signaled versions. File section, or note down messages by their areas, and bring up-to-date previous information on the file and any notations made on charts
  - b. Section IV: add to file or list
  - c. Section V : Cut up and use to correct Admiralty List of Lights
  - d. Section VI : Cut up and use to correct Admiralty List of Radio Signals

# CORRECTION OF CHARTS

1. No correction, except those given in Section II of Admiralty NTM, Weekly editions, should be made to any chart in ink.
2. Corrections to chart from information received from authorities other than the Hydrographic department may be noted in pencil, but no charted danger should be expunged without the authority of the hydrographic of the Navy.
3. All corrections given in NTM should be inserted on the charts affected. When they have been completed the numbers of the notices should be entered clearly and neatly.  
Permanent notice in waterproof violet ink.  
Temporary and Preliminary Notices in pencil.
4. T & P notice should be rubber out as soon as the Notice is received canceling them.

# LAST CORRECTION

When correcting a chart, first check that last published Correction to it, which is given at the end of the new Notice, has been made to the chart.

## COMPLETION OF CORRECTIONS

Whenever a correction has been made to a chart the Number of the notice and the year should be entered in the Bottom left-hand corner of the chart: the entries for Permanent notice as small correction, and those for T & P Notices, in pencil, below the line of small corrections.

# ANNUAL SUMMARY OF NTM

## CONTENTS OF ANNUAL SUMMARY OF NTM :

- SECTION 1 - Annual Notice To Marines
- SECTION 2 - T & P Notices
- SECTION 3 - Amendments to sailing directions

Function : to check correction of

- a. I. EXPLANATORY NOTES. PUBLICATION LIST
  - II. ADMIRALTY NTM. UPDATES TO STANDARD NAVIGATIONAL CHARTS
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  - VI. AMENDMENTS TO ADMIRALTY LIST OF RADIO SIGNALS
- b. T & P correction
- c. Sailing direction amendments

# TERIMA KASIH

