

PILOTAGE ADVISORY COMMITTEE

Tidal Windows for Ma Wan Passage

Purpose

The purpose of this paper is to seek members' endorsement on revising the existing criteria for determining the transit window for Ma Wan passage, by making direct reference to the predicted tidal currents rather than times of high water/low water.

Background

2. According to the existing Berthing Guidelines, vessels transiting Ma Wan are subject to a tidal window, which is dependent on the type and size of the vessel. At present the window for passage is determined based on the time of HW/LW at Ma Wan (e.g. HW + 1 hour to HW + 3 hours, LW - 1 hour to LW + 1.5 hours etc.). This method, based on the concept of slack tide at HW/LW, does not take into account the actual strength of the tidal current, which may vary from tide to tide throughout the year (e.g. during spring and neap tides). The reason for adopting such a method in the past was due to the lack of a reliable means to predict the tidal current at Ma Wan.

Latest Development

3. Following extensive research, the Hydrographic Office has recently developed a mathematical model, which can provide reasonably accurate predictions of the tidal current at selected locations around the Ma Wan area.

Proposal

4. Given the availability now of a means to predict the tidal current with reasonable accuracy, it is proposed that the existing criteria for determining the window for transiting Ma Wan be revised to be based on the predicted tidal

current. Details of the proposal are as follows:

- (a) For container/passenger vessels -
 - (i) against the current : not more than 3 knots
 - (ii) going with the current : not more than 2 knots
- (b) For tankers/bulk carriers up to 230m LOA -
 - (i) against the current : not more than 2.5 knots
 - (ii) going with the current : not more than 1.5 knots
- (c) The tidal window for tankers/bulk carriers over 230m LOA -
 - (i) against the current : not more than 1.5 knots.
 - (ii) going with the current : not more than 0.5 knots.
- (d) The present restrictions for nighttime transit for vessels of different lengths and drafts will remain subject to further study.

Implications

5. Based on a very preliminary assessment it is expected that the transit window for various classes of vessels will generally be extended using the new criteria. A rough indication is given below:

Tidal window for Ma Wan transit – Tankers and Bulk Carriers

Length	Existing Berthing Guidelines		Proposed Criteria	
	North Bound	South Bound	North Bound	South Bound
153m	24 hours	24 hours	24 hours	24 hours
183m	24 hours*	24 hours*	24 hours*#	24 hours*#
198m	4.5 hours**	4 hours**	9 hours#	9 hours#
230m	0.5 hours**	2 hours**	9 hours#	9 hours#
275m	0.25 hours**	2 hours**	4 hours#	8 hours#

Tidal window for Ma Wan transit – Container and Passenger ships

LOA (m)	Existing Berthing Guidelines		Proposed Guidelines	
	North Bound	South Bound	North Bound	South Bound
153m	24 hours	24 hours	24 hours	24 hours
183m	24 hours*	24 hours*	24 hours*#	24 hours*#
198m	12 hours**	14 hours**	21 hours#	18 hours#
250m	10 hours**	10 hours**	21 hours#	18 hours#
300m	6 hours**	8 hours**	21 hours#	18 hours#

- Remarks: * subject to draft.
 ** based on existing guidelines. In actual practice the duration is longer subject to the pilot's discretion.
 # based on predictions of tidal current over the past year.

Trial Run

6. The above proposal is supported by the PAC Working Group. The Hydrographic Office has developed a web site to enable concerned parties to check the transit windows for the different classes of vessels online through Internet, at www.hydro.gov.hk/transit. A 3-month trial run using the proposed criteria for Ma Wan transit has been conducted from October to December 2002 and the result was found satisfactory.

Recommendation

7. Members are recommended to endorse the proposal described in para 4 above. Subject to members' endorsement a revised berthing guidelines will be circulated for members' further consideration.

Presentation

8. Mr. C N Chung of Marine Department will present this paper.

Marine Department
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