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CIRCULAR LETTER 44/2014  
13 June 2014

**PROPOSED REVISIONS TO IHO RESOLUTIONS ON TIDES, WATER LEVELS  
AND TIDAL PUBLICATIONS**

- References:
- A. IHO Circular Letter 17/2014 dated 11 February - *Proposed Revision to IHO Resolution on Tides, Water Levels and Tidal Publication.*
  - B. IHO Publication M-3 - *IHO Resolutions*, 2<sup>nd</sup> Edition - 2010, updated to May 2014.

Dear Hydrographer,

1. Reference A proposed the adoption of revised IHO Resolutions recommended by the IHO Tidal and Water Level Working Group (TWLWG) for:

- a. *Datums and Bench Marks* - Resolution 3/1919 as amended;
- b. *National Tidal Constituent Banks* - Resolution 2/1977 as amended;
- c. *Time to be used* - Resolution 27/1919 as amended;
- d. *Collection and Publication of Tidal Data* - Resolution 1/1977 as amended.

2. The IHB would like to thank the following 44 Member States: Algeria; Argentina; Australia; Bahrain; Belgium; Brazil; Canada; Chile; Colombia; Croatia; Cuba; Cyprus; Denmark; Ecuador; Egypt; Estonia; Finland; France; Germany; Greece; Iceland; India; Ireland; Italy; Japan; Malaysia; Morocco; Netherlands; New Zealand; Norway; Pakistan; Peru; Poland; Portugal; Qatar; Romania; Slovenia; South Africa; Spain; Sweden; Turkey; Ukraine; UK and USA, who replied to Reference A.

3. The Member States' responses and the outcome of their review by the TWLWG Chair and Vice-Chair and the IHB are provided in Annex A. In summary:

- a. Resolution 3/1919 as amended: 41 Member States supported the proposal, 3 Member States objected;
- b. Resolution 2/1977 as amended: 44 Member States supported the proposal;
- c. Resolution 27/1919 as amended: 42 Member States supported the proposal, 2 Member States objected;
- d. Resolution 1/1977 as amended: 44 Member States supported the proposal.

4. There are currently 82 Member States of the IHO with three States suspended. Therefore in accordance with paragraph 6 of Article VI of the Convention on the IHO, the majority required for adoption of the revised Resolutions is 40.

5. Consequently, the revised Resolutions 1/1977 and 2/1977, which did not raise any adverse comments, are adopted. The text of the revised Resolution 27/1919 has been adjusted slightly to accommodate the objections received and is also adopted.

6. Considering the nature of the objections received concerning Resolution 3/1919 and noting that the most recent meeting of the TWLWG in March this year has separately identified that additional work is required on this Resolution, it is proposed not to promulgate any revision to the existing Resolution at this stage, but to invite the Hydrographic Services and Standards Committee (HSSC) to provide further guidance and direction to the TWLWG at the 6<sup>th</sup> meeting of the HSSC in November.

7. The adopted revised versions of IHO Resolutions 1/1977, 2/1977 and 27/1919, are shown in Annex B. They will be made available in IHO Publication M-3 - *Resolutions of the International Hydrographic Organization* on the IHO website as soon as possible.

On behalf of the Directing Committee  
Yours sincerely,



Gilles BESSERO  
Director

Annex A: Member States' responses to CL 17/2014 and consolidated remarks from the TWLWG Chair and Vice-Chair and the IHB.

Annex B: Approved revised IHO Resolutions on Tides, Water Levels and Tidal Publications.

**MEMBER STATES' RESPONSES TO CL 17/2014 AND CONSOLIDATED REMARKS  
FROM THE TWLWG CHAIR AND VICE-CHAIR AND THE IHB**

*Note: unless otherwise specified, the Member States mentioned in this annex supported the four revised Resolutions.*

**AUSTRALIA**

Australia is a member of the TWLWG that prepared these revisions. The changes put forward provide clarification, ensure consistency with GLOSS requirements and cater for those regions where tidal influences are less significant.

**BELGIUM (Vote: NO on Resolution 27/1919)**

d) Resolution 27/1919:

The current resolution seems to suppose that “the actually used time system used at the port” is never daylight saving time. In Belgium ports during ‘summer time’ daylight saving time is used. Time of ETA and ETS is in daylight saving time.

Until now always ‘daylight saving time’ is used in the tide tables published by the Belgium Hydrographic Office (Flemish Hydrography).

The pilots, active in the Belgium waters and on the river Scheldt, require to maintain the existing system with daylight saving time in this period.

Tide tables are not only used by the sailing mariner. A lot of professional (local) users are using the tidal tables (e.g. waterway managers of the inland waters, authorities and private firms responsible for coastal infrastructure, coastal activities ...). These professional users always use daylight saving time.

*Remarks: due to the fact that the dates upon which daylight saving time commences and ceases differ each year, this Resolution attempts to provide ‘stability’ in the times used throughout printed national Tide Tables to refer them to one Time Zone. This would normally be the Standard Local Time Zone at the location involved (for example UTC in the UK).*

*To cater for situations referred to by Belgium, the wording of paragraphs 1 and 2 of the Resolution is amended from “it is resolved” to “it is recommended”.*

**CANADA (Vote: NO on Resolution 3/1919)**

Canada votes NO on Resolution 3/1919 because at present it does not appear to be comprehensive in its recommendations for the definition of vertical datums. In particular, item 8 in 3/1919 does not adequately provide for the appropriate definition of navigationally safe datums for all navigable water regimes between Ocean and Inland Waters. Canada suggests further amendment is necessary to broaden the scope of 3/1919 resolution’s and would be happy to suggest appropriate amendments to redress what it considers are 3/1919’s existing liabilities.

*Remarks: Notwithstanding the approval by a majority of Member States, it has been decided to postpone the revision of this Resolution as the TWLWG has identified separately that additional work is, in any case, required on this Resolution. This will allow Canada an opportunity to propose amendments that it considers appropriate to address its concerns. When finalized, a further revised version of the Resolution will be presented to HSSC for endorsement and subsequently to Member States for adoption.*

**CUBA**

Although we do not have the digital tide tables and the web page yet, we consider that the proposed amendments are feasible.

## ECUADOR

As per Resolution No. 3/1919, the LAT and HAT data can be included in the tidal information, maintaining the same reduction level for the soundings and for the nautical charts and publications (Tide Tables) adopted by each Member State.

## MALAYSIA

We have received and reviewed the adoption and agree.

## NETHERLANDS (Vote: NO on Resolution 27/1919)

27/1919:

NL has a comment on the resolution to not use Daylight Saving Time (DST). NL understands certain circumstances where using DST might be unpractical or undesirable, but suggests to rephrase slightly in order to take into account the current practice.

NL (amongst others) has deviated from present resolution on applying DST in printed Tide Tables (since 1986) for practical reasons; DST is used 7 months per year; by using DST we keep aligned with other national authorities supplying and using tidal information and with local users and harbor authorities. The use of DST is clearly indicated in the tables, so there is no room for misinterpretation.

In order to cater for current practice at some HO's, suggest to change wordings slightly from "resolved" into "recommended" as follows:

QUOTE It is resolved that daylight saving time shall not be used in the predictions UNQUOTE into:

QUOTE It is recommended that daylight saving time shall not be used in the predictions UNQUOTE.

*Remarks: this comment is essentially the same as that made by Belgium and is taken into account as indicated in the remarks on comments from Belgium.*

## PERU (Vote: NO on Resolution 3/1919)

In the case of Peru, the ranges of tides are not significant, that is why the hydrographic and topographic chart datums are well defined with the Low Tide Mean Level of the Ordinary Syzygies and the Mean Sea Level (MSL), respectively. Likewise, there are no geographical areas with a limited connection to the oceans, that's why these criteria do not apply.

*Remarks: Peru is invited to contribute to the further revision of Resolution 3/1919 described in the remarks on the comments submitted by Canada.*

## SOUTH AFRICA (Vote: NO on Resolution 3/1919)

Refer the previous wording of Resolution 3/1919.

Do not agree that negligible tidal range should be specified to be "<30cm".

*Remarks: South Africa is invited to contribute to the further revision of Resolution 3/1919 described in the remarks on the comments submitted by Canada.*

## SPAIN

Concerning the paragraph 4 of the Resolution 3/1919 as amended, we recommend these two corrections, as we consider that they are best suited to the Spanish language:

4 Se resuelve que deberían hacerse determinaciones de alturas elipsoidales de las marcas de referencia verticales utilizadas para observaciones de mareas/del nivel del mar, para apoyar la producción de colecciones de datos continuos; a saber, para permitir la traducción **referenciación** entre series de datos y dátums verticales que difieran. Se ha resuelto además que dichas observaciones deberían referirse a un sistema de referencias geocéntricas, preferentemente al Sistema de Referencia

Terrestre Internacional (ITRS) o a una de sus ~~realizaciones~~ **materializaciones**, pe. el Sistema Geodésico Mundial de 1984 (WGS84).

*Remarks: The comment by Spain will be taken into account in the preparation of the Spanish version of the revised Resolution when it is adopted.*

#### **UNITED KINGDOM**

UK congratulates the TWLWG for their efforts in producing these revisions.

## Approved revised IHO Resolutions on Tides, Water Levels and Tidal Publications

### I. Resolution 1/1977 as amended

TITLE	Reference	Last amendment (CL or IHC)	1 <sup>st</sup> Edition Reference
<b>COLLECTION AND PUBLICATION OF TIDAL DATA</b>	<b>1/1977 as amended</b>	<b>44/2014</b>	<b>A6.7</b>

It is recommended that Member States gather tidal data from as many locations as feasible and maintain sets of harmonic constants in National Tidal Constituent Data Banks.

It is recommended that Member States make public, using their web site or other suitable means, tidal and tidal stream predictions and a list of locations included in their own Tidal Constituent Data Banks.

### II. Resolution 2/1977 as amended

TITLE	Reference	Last amendment (CL or IHC)	1 <sup>st</sup> Edition Reference
<b>NATIONAL TIDAL CONSTITUENT BANKS</b>	<b>2/1977 as amended</b>	<b>44/2014</b>	<b>A6.8</b>

It is resolved that the National Tidal Constituent Banks should store the following information for each location:

- a) Location identification by number, name, country, body of water, and geographic coordinates;
- b) Source, date, time zone, and duration of data used in analysis;
- c) Identification of geodetic levelling datum, and date of reference to this datum, elevation of mean sea level and, where applicable, the connection to and identification of the appropriate bench mark(s); and
- d) Listing of values for tidal constituents giving amplitudes in metres and Greenwich phase lags in degrees and designation of organization responsible for analysis. (Tidal constituents used should form part of those in the Standard List prepared by the TWLWG and published on the IHO website.)

See also 9/1919 (A 6.1) and 10/1919 (A 6.2).

### III. Resolution 27/1919 as amended

TITLE	Reference	Last amendment (CL or IHC)	1 <sup>st</sup> Edition Reference
<b>TIME TO BE USED</b>	<b>27/1919 as amended</b>	<b>44/2014</b>	<b>G1.2</b>

It is ~~resolved~~ **recommended** that the time system employed in printed Tide Tables shall be Standard Time as observed at the port.

It is ~~resolved~~ **recommended** that daylight saving time shall not be used in the predictions in the printed Tide Tables but that a notice or caution relative to its use and the period of its application shall be included therein.

It is strongly recommended that the time system employed in Digital Tide Tables (DTT) published in web sites shall be Standard Time as observed at the port, without daylight saving time application. A notice or caution relative to its use and the period of its application shall be included therein. Additionally, DTT can offer to the user the possibility to set automatically another time system.