

## 9th MEETING OF THE IHO- INTER REGIONAL COORDINATION COMMITTEE

## IHO-IRCC9

Paramaribo, Suriname, 12-14 June 2017

Report of the Worldwide ENC Database Working Group (WENDWG)

<b>Submitted by:</b>	Chair, WENDWG
<b>Related Documents:</b>	Final minutes of IRCC-8 and HSSC-9, IHO Strategic Plan Performance Indicators (and Appendix IV to the IHO Annual Reports).
<b>Related Projects:</b>	N/A

<b>Chair:</b>	Jamie McMICHAEL-PHILLIPS, UK
<b>Vice-Chair:</b>	John NYBERG, USA
<b>Secretary:</b>	Yves GUILLAM, IHB
<b>Member States, RHCs and RENCs:</b>	<a href="#">Membership List</a>

**Meetings Held During Reporting Period**

1. WENDWG7, 21 January – 2 February 2017, Washington DC.
2. Planned: WENDWG8, 20 – 22 March 2018, Buenos Aires, Argentina.

**Programme of Work**

3. In 2017, at the 7th meeting of the Working Group, in Washington DC, the following key issues were discussed and are summarised in more detail further within this report:

- IHO Performance Indicators and the IHO ENC Catalogue
- RENC Harmonisation and Distribution
- The Full Implementation of the WEND Principles
- IRCC8 Decisions and Actions that impact WENDWG
- Draft IHO resolution for eliminating overlapping ENCs
- Review and Update of the WENDWG Work Programme

**IHO Performance Indicators and the IHO ENC Catalogue**

4. WENDWG6 agreed on the simplification of the number of indicators and recommended focusing them on ENC usage bands 1 to 3 in future noting that bands 4 to 6 are usually confined to national rather than regional ENC coverage. However it was also noted that IRCC had decided to put on hold their revision of the Performance Indicators (PIs) pending the outcome of the IHO-A1 proposal on the proposal for a Revised IHO Strategic Plan. WENDWG requests further direction from IRCC9 before it proceeds with more work in this area.

5. Since 2016, improvements have been made to the IHO ENC Catalogue made by the IHO Secretariat since 2016 for which they are to be congratulated. This includes provision of CATZOC data by the RENCs (following approval of ENC producers). Experimentation is still in progress at the IHO Secretariat: in particular for making composite geospatial reports of the areas around the world where un-assessed CATZOC values are encoded in ENCs. Ultimately this may become a potentially useful additional tool to be used by RHCs when undertaking risk assessment analysis.

**RENC Harmonisation and Distribution**

6. Following some five years of fruitful co-operation and harmonization, WENDWG considers that the two RENCs have now entered a period of maturity and stability. They now provide much support to hydrographic offices in ensuring data quality control and capacity building, and also to end-user service providers. They are now a major component of the IHO toolbox for WEND activities.

7. Both RENCs maintain a useful diagram depicting ENC data flow between producers, RENCs, VARs and distributors. This will be updated on a 6 monthly cycle and is available in the WEND Repository on the IHO website here: [ENC Data Flow Diagram](#).

8. The RENCs continue to refine internal procedures and guidelines to assess the significance of any instance of overlapping ENC coverage. They also continue to develop further the possibility of exchanging ENC data between themselves for QC and harmonization purposes and quality control in general.

9. WENDWG believes that all ENC data should be made available to the RENC for ensuring QC.

### **The Full Implementation of the WEND Principles**

10. IRCC8 placed an action on RHC chairs to work to reduce overlaps by applying the WEND Principles in defining approved ENC schemes. Feedback was received from some regions. In addition, at the time of preparation of this report, IHO Member States have been requested via IHO Circular Letter 19/2017, to approve a new Edition of S-11 Part A - *Guidance for the Preparation and the Maintenance of International (INT) Charts and ENC Schemes*. The inclusion of ENC schemes in the guidance will hopefully reinforce the need to implement such scheming at the regional level.

11. Based on existing coverage at usage bands 1 to 3, some 82% of ENC scheme were agreed/available at the end of December 2016. We need to work together as a community to increase this percentage. In the meantime it would be useful for the RHCs to anticipate the possible impact of the development of S-101 ENCs in the future, for instance where some ENC producers intend to take this opportunity to move their former S-57 ENC schemes (derived from INT charts) to grid schemes.

### **Draft IHO resolution for eliminating overlapping ENCs**

12. Following concern raised at IRCC8 regarding little progress in resolving the continuing existence of overlapping ENCs, Action IRCC8/14 was placed on WENDWG to draft a IHO Resolution to address the overlapping issue. This was completed at WENDWG7 and the draft Resolution was forwarded to the IRCC Chair and the IHO Secretariat on 3 May for inclusion in IRCC9 papers. A copy is attached also to this Report and IRCC9 are invited to endorse the Resolution and seek the most expeditious means of adoption by IHO Member States.

### **Review and Update of the WENDWG Work Programme and the continuity of WENDWG activities**

13. A programme of work is included with this report at Annex A and submitted to IRCC9 for approval

14. It is clear the WENDWG still has a role to play within the IHO and IRCC is requested to approve continuation of its activities.

### **Progress on IRCC Action Items**

15. All IRCC previous actions have been incorporated into the WENDWG Work Programme and progressed accordingly.

### **Action Required of IRCC**

16. The IRCC is invited to:

- a. **Direct** WENDWG on further work on Performance Indicators post A-1.
- b. **Commend** IHO secretariat on the improvements made to the IHO ENC catalogue over the last year.
- c. **Commend** both RENCs on the work undertaken hitherto to reach maturity and stability; and for the support provided to hydrographic offices and end-user service providers.

- d. **Note** the revised 6-monthly updates to the ENC Data Flow Diagram.
- e. **Note** the aspiration for all ENC data to be made available to the RENCs.
- g. **Encourage** the work of the IHO community to increase existence of ENC schemes, particularly at regional level.
- h. **Endorse** the draft IHO Resolution for eliminating overlapping ENCs.
- i. **Seek** IHO adoption of the draft IHO Resolution for eliminating overlapping ENCs.
- j. **Approve** the proposed updated WENDWG 2017-18 Work Programme as given at Annex A and the continuity of WENDWG activities ([WENDWG ToRs](#) Art. 4.3 refers).

Annex:

- A. Proposed WENDWG 2017-18 Work Programme.

Enclosure:

- 1. Draft IHO Resolution to address issues related to the existence of overlapping ENC data.

## WENDWG Work Programme 2017-18 (to be approved by IRCC-9)

### Objectives ([WENDWG TORs](#) refer)

1. Monitor the development of adequate ENC coverage to meet carriage requirements for ECDIS;
2. Develop proposals for speeding up ENC production and ensuring uniform ENC quality and consistency, and for making data available worldwide, including SENC distribution, taking advantage of any offers for production assistance, or other ways of mutual assistance and co-operation;
3. Advise MS, where appropriate, on the need, as well as on methods and tools for validating the data, and on any assistance which could be offered by the RENCs;
4. Monitor the implementation of the WEND, in response to Decision 21 of the XVIIth IHC, and advise IRCC of appropriate measures for speeding-up the implementation process;
5. Assist in harmonizing the policies of regional ENC Coordinating Centres (RENC) with respect to matters related to administration, legality, finances, technical processes, et cetera.

### Tasks

A	To assess overlapping ENC data issues within ECDIS and make progress to solve them
B	To finalise paper on Guidelines on Assessing and Eliminating the Risk of Overlapping ENC Cells
C	To progress on RENC Harmonization Issues
D	To continue working to attract ENC producer nations to join the RENCs or distribute their ENCs through a RENC
E	To ensure data quality and consistency
F	To monitor and report ENC coverage report to WENDWG
G	<i>Left blank intentionally</i>
H	To progress the development of the IHO ENC catalogue
I	To <a href="#">provide support on</a> capacity Building activities, <a href="#">as appropriate</a>
J	To propose way ahead for assessing the long term consequences of not achieving full implementation of the WEND Principles
K	To address the relevance of information overlay services and their status in the global IHO ENC Programme

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
A.1	Pilot project using OEM tools to resolve ENC overlapping issues	M	IRCC8 (tbc)	2014	2016	⊖	Singapore/EAH G	Recommendations and potential impact on WEND Principles	See HSSC6-05.6B Action WENDWG6/07 Report expected from EAHC/SG <b>No information available, cancelled.</b>
A.2	Develop scenarios and test cases on ECDIS with overlapping ENCs	M	WENDWG6	—	2016	⊖	IC-ENC	idem	Action WENDWG5/04. <b>Complete</b>
A.3	Assess the impact of overlapping ENC on ECDIS	H	WENDWG7	2016	2017	⊖	IC-ENC, CIRM	Recommendations and Resolution at IHO-A1 (tbc)	Questionnaire to CIRM for full assessment <b>Actions WENDWG6/03, 04, 05.</b> <b>Overtaken by events.</b>
B.1	Finalise paper on Guidelines on Assessing and Eliminating the Risk of Overlapping ENC Cells	M	WENDWG5	2013	IRCC-7	⊖	WENDWG		First step (procedure for RENC): see IRCC6-08C Action WENDWG5/09 <b>Complete</b>
B.2	Develop policy on overlapping data and production responsibilities	M	IRCC8, HSSC8	2014	2017	⊖	RENCs Manager, RENC Chair, RHC, NCWG	Recommendations and Resolution at IHO-A1 (tbc)	<b>Complete</b> <b>Actions WENDWG6/05 and 06</b> <b>New Edition of S-11 Part A including ENC Scheming in progress to be reviewed at NCWG-2, approved by IHO MS</b>

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
B.3	<a href="#">Monitor the implementation of the IHO Resolution on the Elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation</a>	M	<a href="#">IRCC-9</a>	<a href="#">2018</a>	<a href="#">2020</a>	P	<a href="#">Chair, RHCs, RENCs, IHO Sec</a>	<a href="#">No ENC overlap that is navigationally-significant in 2020</a>	<a href="#">Provided IHO Resolution is endorsed by IRCC9 then approved by IHO Council/IHO MS</a>
C.1	<a href="#">Provide revised RHSG paper on WENC</a>	M	<a href="#">WENDWG5</a>	2013	<a href="#">June 2015 (IRCC7)</a>	C	<a href="#">RENCs</a>		<a href="#">WENDWG5-04C. Action WENDWG5/03: Recommendation is that RHSG is to be disbanded while RENC Harmonization issues remain in the programme of work (C.2) Complete</a>
C.2	Report on RENC Harmonization issues and progress made	M	<a href="#">WENDWG87</a>	--	Permanent	O	<a href="#">RENCs</a>		<a href="#">Done for 2015-162016-17</a>
D.1	<a href="#">Provide a joint RENC paper a paper on the benefits for ENC Producer Nations either to join a RENC or to distribute their ENCs through a RENC</a>	M	<a href="#">May 2015</a>	2014	<a href="#">WENDWG6</a>	C	<a href="#">RENCs</a>		<a href="#">Action WENDWG5/17 Complete</a>
D.2	<a href="#">Create a documents repository on the IHO WENDWG webpage</a>	H	<a href="#">April 2015</a>	2015	<a href="#">June 2015</a>	C	<a href="#">IHB</a>		<a href="#">Action WENDWG5/05 Complete</a>

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D.3	Monitor ENC Producers who distribute their ENCs through a RENC	H		2014	Permanent	O	RENCs, <a href="#">IHO Sec.</a>	<a href="#">Updated ENC Data Flow Diagram</a>	IHO CL 59/2014 refers. <del>Done for 2015-16</del> <del>Actions WENDWG6/08 and 09</del> <del>Action WENDWG7/12 (second part)</del>
E.4	<del>Ensure harmonization use of CATZOC and increase resolution of bathymetric contour lines</del>	M		2016	Permanent	P	ENCWG, ENC Producers		<del>Action WENDWG6/21</del> <del>In progress (monitored by ENCWG and HSSC). Complete for WENDWG</del>
F.1	Monitor global ENC Coverage	H		2014	October 2015	O	UK	<a href="#">Annual statistics</a>	<del>Done for 2015-16. Action WENDWG6/42</del> <del>Done for 2016-17</del>
F.2	Using risk assessment methodologies, identify and consider ENC Gaps	H		2014	Permanent	OP	RHCs, <a href="#">IHO Sec.</a>	<a href="#">Improved coverage (and supporting survey plans where needed)</a>	<del>To be continued and improved by RHCs. Very good report made by MACHC at WENDWG6.</del> <del>Action WENDWG6/41</del>

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
F.3	<del>Provide and</del> update the List of Ports (and moorings) database	<del>M</del> H	WENDWG7	2014	Permanent	<del>O</del> P	<del>UK, US, RHCs, IHB</del> IHO Sec.		<del>Action WENDWG6/10</del> WENDWG7/07
F.4	Provide relevant SPIs and WPIs on ENC adequate Coverage and ENC Producers	<del>L</del> H		<del>2015</del> 2017	<del>December 2016</del> Permanent	O	Chair (supported by UK), RENCs, <del>IHB</del> IHO Sec.	<del>IHO Annual Report</del>	WENDWG5-04A refers Action WENDWG5/21 <del>Complete for 2016</del> 5, continue in 20162017 <del>To be reassessed after IHC17/IHO-A1 by IRCC9, see WENDWG Report to IRCC, Action WENDWG7/11</del>
H.1	Continue the development of the IHO ENC Catalogue	H		2014	<del>2017</del> 2018	O	<del>IHO Sec.B, UKHO, Jeppesen,</del> RENCs		<del>Done for 2015. Progress expected in liaison with RENCs and Industry in 2016</del> Actions WENDWG6/15, 16, 17In progress
H.2	<del>Deliver the RENC ENC Catalogue and Overlap Checker to RHCs and IHB</del>	H	March 2015	2014	June 2015	C	RENC (PRIMAR), IHB		<del>Complete, but no evidence of interest or feedback from RHCs in general</del>
H.3	Develop approved ENC schemes in every charting regions (S-57 ENCs, then S-101 ENCs), at least for small scales	M	WENDWG8	--	Permanent	O	RHCs	ENC Schemes available online	Action WENDWG7/08



Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
I.1	Provide support to CBSC on request for compelling requirements in the scope of the WENDWG activities	M		2015	WENDWG87	P	RHCs		<u>As appropriate</u>
J.1	<del>Identify articles in WEND Principles and Guidelines that are considered not fully implemented</del>	M	IRCC8	2015	2017	P	FR, and correspondenc e-group		<u>In-progress Action WENDWG6/18</u> <u>Complete at the WENDWG level</u>
J.2	<del>Identify barriers that prevent these articles to be implemented</del>	M		2015	2017	C	FR, and correspondenc e-group		<b>Complete</b>
J.3	Make proposals for corrective actions	M	IRCC8	2015	2017	P	FR, and correspondenc e-group		<u>Complete</u> <u>In-progress</u> <u>Action WENDWG6/18</u>

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
J.4	If no action identified, assess long term consequences	M	IRCC8	2015	2017	P	FR, and correspondence group		In progress. <u>Complete</u>
J.5	Improve ENC full accessibility	H	IRCC8	2016	WENDWG87	PO	UKHO, Myanmar, Sri Lanka, Thailand, UK, Viet Nam Jeppesen		Action WENDWG6/22 <u>WENDWG7/12</u>
K.1	Provide systematic advanced notices of AIO to ENC Producers in case of safety issues and seek agreement and report on progress made on the information flow	H	IRCC8	2015	Permanent	P	UK		On-going Report(s) provided at WENDWG6 Actions WENDWG6/19, 20 <u>Complete as far as the WENDWG is concerned.</u>
K.2	Provide AIO benefits/risks evaluation, description of information flow, views from NCWG and final recommendations	H	Sept. 2015 (for HSSC7)	2015	WENDWG6	C	UK, All, Chair		Complete