

**GUIDELINES ON THE IMPLEMENTATION OF THE WEND-100 PRINCIPLES'**

As endorsed by CL ...

**1. Introduction**

1.1. The framework for the WEND-100 principles is provided by the IHO resolution 1/2021: "Principles of the WEND for S-1xx products (WEND-100 Principles)". These 'Guidelines on the implementation of the WEND-100 Principles' aim to detail further the applicability of WEND-100 Principles for S-100 based products (or S-1XX products). They are iterative in nature and may evolve over time.

1.2. The S-100 Implementation Roadmap for the S-100 Implementation Decade indicates that S-102, S-104, S-111, S-124, S-128 and S-129 products will be ready for implementation and dissemination before or concurrent with S-101 ENC's. Therefore the guidelines will address those S-1XX products first.

1.3. In line with paragraph 1.1 of the WEND-100 Principles S-1XX products can serve many uses from safe navigation to supporting the blue economy for societal benefit. Applicability of the WEND S-100 Principles to S-1XX products varies with the intended use. In order to structure this wide scope, the following three uses case are developed.

- a) SOLAS V carriage requirement/ECDIS. This use case covers the situation where S-1XX products are used together for 'safe navigation in the context of SOLAS V' in ECDIS<sup>1</sup> as it evolves under IMO regulations<sup>2</sup>.
- b) SOLAS V carriage requirement/other. This use case covers the situation where S-1XX products are used for 'safe navigation in the context of SOLAS V' other than in ECDIS<sup>3</sup>.
- c) NOT SOLAS V. This use case covers the situation where S-1XX products are used for navigation other than for 'safe navigation within the context of SOLAS V', or for other supporting maritime activities.

**2. Guidelines for use case SOLAS V carriage requirement/ECDIS**

2.1. This use case focusses on S-1XX products with have information, directly or indirectly, that is also available in concurrent S-101 ENC's when used for safe navigation in ECDIS: S-102, S-104, and S-111products.. S-98 on will address the technical interoperability between different layers of S-1XX products in ECDIS.

2.2. SOLAS V stipulates that Contracting Governments ensure that the hydrographic and nautical information is made available as unambiguously as possible. This impacts on the organization of S-1XX product dissemination services and for this use case suggests the full applicability of the WEND-100 Principles. As such and in addition to S-98, the overarching WEND-100 principle 5.4<sup>4</sup> on concurrent ("overlapping") S-1XX products applies to S-102,S04 and S-111 as well as to S-101 products.

2,3 However, at small chart scales for regional and oceanic use overlapping or concurrent data for S-102, S-104 and S-111 does not necessarily impede safe navigation in ECDIS. At the same time the end

<sup>1</sup> Ships meeting SOLAS V Regulation 19.article 2.10 criteria

<sup>2</sup> The IMO determines how nautical and hydrographic S-100 based products will be adopted as part of an ECDIS product specification, including guidelines on voyage planning.

<sup>3</sup> Ships falling under SOLAS V Regulation 19.article 2.1.4, but not meeting SOLAS V Regulation 19.article 2.10 criteria.

<sup>4</sup> WEND-100 article 5.4: "In order to ensure unambiguous safety of navigation, concurrent ("overlapping") S-1XX products should be avoided, particularly where official, nationally provided products are available. A unique producing authority should exist in any given area for each S-1XX product when used together with (future) ECDIS, though the same unique authority need not provide all S-1XX products."

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user may require the flexibility to choose between various regional or oceanographic models for these S-1XX products.

2.3. In order to reconcile potentially conflicting requirements a scale threshold is used. This threshold quantifies what is deemed to be regional/oceanic.

2.4 As a guideline Member States use following rule base for application of the WEND-100 principles to S-102, S-104 and S-111 products.

- a) When used in ECDIS with a S-101 ENC with a compilation scale equal or larger than [xxxx], all the WEND-100 principles apply for the S-102, S-104 and S-111 products. As a consequence these S-102, S-104 and S-111 products should be of the same producer State/authority<sup>5</sup> as the S-101 ENC with which it is combined.
- b) When used with S-101 ENC with a smaller compilation scale than [xxxx], it is permissible to have 'concurrent' S-102, S-104 or S-111 products available.

2.5. Sections 5 to 7 of these guidelines will elaborate on respectively S-124, S-128 and S-129 products.

## **FR proposed alternative wording for section 2. FR suggest to remove sections 3 and 4**

### **2. Application to WEND-100 principles to S-102, S-104 and S-111**

2.1 S-98 on data product interoperability in S-100 navigation systems defines how the S-102, S-104 and S-111 products should be used with the S-101 ENCs.

2.2 All the WEND-100 principles apply. However, the principle defined in the 3.1 of the resolution 1/2021 does not strictly apply. As ENC S-101 disseminates bathymetry, water level and surface currents information, Member States shall define the coverage of S-102, S-104 and S-111 products that they deem necessary for safe navigation within their S-101 coverage.

2.3 S-111 products at regional and oceanic scales may be developed for uses other than navigation safety (voyage optimization for example). Due to different modeling, they may overlap. Mariners must unambiguously identify that these products are not part of the products and services meeting SOLAS V and IMO carriage requirements.

### **3. Guidelines for use case SOLAS V carriage requirement/other.**

3.1. This use case focusses on S-1XX products with have information, directly or indirectly, that is also available in concurrent S-101 ENC's when used for safe navigation in the context of SOLAS V other than in ECDIS: S-102, S-104, and S-111 products.

3.2. SOLAS V stipulates that Contracting Governments ensure that the hydrographic and nautical information is made available as unambiguously as possible. However, there is no SOLAS V regulation that dictates 'how' ships outside the 'ECDIS' Regulation 19 article 2.10 fulfil their requirement for carrying nautical charts and publications for safe navigation.

3.2. As such, the use of S-101 ENCs and S-102, S-104 and S-111 products for these SOLAS V ships is optional. On the other hand the shared use of officially issued S-1XX products, or the data within it, for all ships operating in the same area is highly desirable to promote safety of navigation.

<sup>5</sup> This function may be designated to other members state. See WEND-100 paragraph 5.3.

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3.3 Besides, paragraph 1.1 of the overarching WEND-100 Principles stipulate the availability of integrated dissemination services that support current and future hydrographic carriage requirements of SOLAS V. Those services don't discriminate between ECDIS or other SOLAS V carriage requirements. The advantage of using a common integrated dissemination service, is that de-confliction and ambiguity issues of the S-1XX products can benefit from the solutions reached to meet the requirements for (future) S-1XX ECDIS coverage.

3.4. As a guideline Member States are encouraged to apply the WEND-100 Principles for S-101, S-102, S-104 and S-111 products in line with the use case 'SOLAS V carriage requirement/ECDIS' and to use the same integrated dissemination services.

3.5. Sections 5 to 7 of these Guidelines will elaborate on respectively S-124, S-128 and S-129 products.

#### **4. Guidelines for use case NOT SOLAS V**

4.1. The key for this use case is that S-1XX product information is made available to as many users as possible, either for safe navigation outside the context of SOLAS V or otherwise. One of the ways for this are the use of the same integrated dissemination services of for current and future hydrographic carriage requirements of SOLAS V<sup>6</sup> but there are many other ways. Each Member States or region has bespoke arrangements, limitations and/or possibilities.

4.2. As a guideline Member States are encouraged to disseminate S-101, S-102, S-104 and S-111 products as widely as possible within their national constraints, also using the same integrated dissemination services as for SOLAS V carriage requirements.

4.3 Sections 5 to 7 of these Guidelines will elaborate on respectively S-124, S-128 and S-129 products.

#### **5. S-124**

5.1. There is a comprehensive set of arrangements in place for the dissemination of Maritime Safety Information (MSI). IHO S-53 Manual on MSI is a joint IHO/IMO/WMO publication and will need updating to accommodate S-124.

5.2 As such, it is too early to provide complementary guidelines on how the WEND-100 Principles apply to S-124.

#### **6. S-128 product**

6.1. For a S-128 product there is no specific SOLAS V regulation that dictates 'how' to fulfil the requirement for carrying this type of nautical publications for safe navigation. S-128 products will likely be developed by service providers, individual Members States and/or other organizations, each for their particular purpose/user group.

6.2. As a guideline Member States are encouraged to use the integrated dissemination services for SOLAS V carriage requirements also for their S-128 products<sup>7</sup> in addition to other local/bespoke arrangements.

#### **7. S-129 product**

7.1. Dynamic UKCM systems which deliver S-129 products are operated by Member States or a range of other organizations designated by Member States such as port authorities .

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<sup>6</sup> See WEND-100 principles section 3 S-1XX on product availability.

<sup>7</sup> See WEND-100 principles section 3 S-1XX on product availability.

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7.2. S-129 UKCM information will be exchanged directly between UKCM system operators and vessels. For this, the vessel-specific S-129 information will not require the coordination and dissemination arrangements as described by the WEND-100 Principles.

7.3 As such, there are no complementary guidelines on how the WEND-100 Principles apply to S-129.