Document Revisions

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**IALA Guideline No. 1087**

**on**

**Procedures for the Management of the IALA Domains under the IHO GI Registry**

**Edition 2**

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***AISM***Association Internationale de Signalisation Maritime ***IALA***

International Association of Marine Aids to Navigation and Lighthouse Authorities

Revisions to the IALA Document are to be noted in the table prior to the issue of a revised document.

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| 25 September 2013 |  | As result of suggested changes from the workshop on producing an IALA S-100 Product Specification, June 2013 |
| 17 September  2015 |  | Further changes to reflect changes in terminology and approach |
| 28 October | Chapter 6 | Amended procedures for submission of product specifications |
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Procedures for the Management of the IALA Domains under the IHO Registry

# Introduction

This document describes the roles, responsibilities and procedures for IALA as a Submitting Organization under the International Hydrographic Organization (IHO) Registry, based on IHO Standards S-100 and S-99, for managing and operating the associated IALA domains.

This guideline explains the concepts of registries and domains, the responsibility of IHO as manager of the IHO Registry and the role of IALA as a domain owner and manager.

IALA’s roles and responsibilities as a submitting organisation are set out and the process for managing submissions is laid down.

The overall context of IALA’s involvement in the IHO Registry is considered, in particular the move towards a Common Maritime Data Structure (CMDS) and the proposed IMO/IHO Harmonization Group on Data Modelling (HGDM).

# Background

The IHO S-100 Universal Hydrographic Data Model was published as an international standard in 2010. One objective of S-100 is providing an ISO-conformant registry, managed by the IHO, containing registers such as feature concept dictionaries and product feature catalogues that are flexible and capable of managed expansion; another objective is to provide separate registers for different user communities. The operational procedures for the organization and management of the IHO Registry are set out in IHO Publication S-99.

There is a Memorandum of Understanding between the IHO and IALA, which was signed in 2001 and covers work on the IHO Registry, which is governed by S-99. Within the IHO Registry, external Submitting Organisations may use “Supplementary Registers”. The S-99 and S-100 standards are maintained and developed by TSMAD (Transfer Standard Maintenance and Applications Development working group) on which IALA has a seat. There are two aspects to IALA’s participation. The first is to participate as a Submitting Organization. The second is to become a domain owner under the Registry.

At its 57th session IMO NAV agreed to the use of the IHO Registry as a baseline for the collection, exchange, and distribution of data. At the same meeting it was proposed to set up an IMO / IHO Harmonization Group on Data Modelling (HGDM), which is tasked with establishing the Common Maritime Data Structure. As a Domain Owner within the IHO Registry, IALA can expect to contribute to the HGDM and to the CMDS.

At its 52nd session, the IALA Council approved registration of IALA at IHO as a Domain Owner for Aids to Navigation (AtoN), VTS and for other data areas under IALA’s remit, and as a Submitting Organization, in accordance with the IHO / IALA Memorandum of Understanding (MoU).

Because of IALA’s breadth of expertise in AtoN, IALA domains within the IHO Registry are logical extensions of the Registry beyond hydrographical applications. The IHO continues to handle operation of the Registry; the responsibility for the management of the IALA domains rests with IALA. Other Submitting Organisations will be able to propose amendments to existing Registry entries.

As a benefit, IALA gains synergies regarding definition procedures, operational resources, and international standing. This approach is in line with the terms of reference of the proposed HGDM.

IALA will serve as a Submitting Organisation to support its requirements for product specifications.

A “product” is in most cases understood as a technical or operational data service provided to the mariners and to the maritime community at large.

In some cases the product may be associated with a particular piece of equipment, a system or its software.

A “Maritime Service Portfolio” is a set of “products” construed as services in a given sea area, waterway, or port, as appropriate.

The IALA operational procedures addressed in this Guideline conform to the Registry procedures outlined in the IHO standard S-99, although some terms have been renamed for clarity and to better indicate IALA’s internal processes. IALA has developed these internal procedures to interact with the IHO Registry within the context of the Association.

# Scope

The scope of this Guideline is to advise IALA about the interaction between IALA and IHO and its Registry. The governing documentation for this interaction is the IHO S-100 standard and the associated procedures in part 2 of S-100 and S-99. The IALA operational procedures addressed in this Guideline are similar to the Registry procedures outlined in IHO standards.IALA has developed these procedures solely to manage the IALA S-200 domain and its role as a Submitting Organization within the context of the Association. Should there be any conflict between this Guideline and IHO standard S-100 or S-99, IALA should defer to the IHO documentation.

It is important to note the difference between the Registry, as a whole, the different Registers, the IALA domain, the domains to which IALA contributes and the individual entries.

# The IALA Domains

Within the Feature Concept, the Portrayal and the Metadata Registers each entry is assigned to a recognised domain. The purpose of designating domains and a related Domain Control Body is to ensure that the key stakeholders (as represented by the domains) are consulted in any subsequent proposals to adjust items contained in a Register.



1. Domain with Registers

The list of Registers is:

## Product Specification Register:

The Product Specification Register contains a list of product specifications developed and maintained by a recognised organisation. This register is based on the principle of *organisational* responsibility, i.e. a domain is assigned to a specific recognised organisation. In the case of IALA, the scope of IALA is so large that it is advisable to subdivide one organisational domain into several fields that reflect the IALA’s different areas of competence. For example, amongst others, there will be an IALA AtoN field and an IALA VTS field.

An important part of most product specifications is a *feature catalogue*, which is normally produced as a result of modelling the product. It uses item types, such as feature classes and attributes, from the Feature Concept Dictionary Register, and documents the binding between them. In addition, constraints, units of measurement and format description of attributes can be specified.

## Portrayal Register:

Portrayal relates to how the data is presented to the user of the product.

The portrayal of data is independent of the data but closely related to the data. There may be many different portrayals for the same data.

The Portrayal Register contains both symbols for portraying features and general rules that invoke the symbols under certain conditions. More specific rules can also be given in a product specification.

The construction of the Portrayal Register follows the same principles as the other Registers and is shown in Figure 1

## Feature Concept Dictionary Register:

The Feature Concept Dictionary Register hosts all feature concept dictionaries, within the appropriate domains of the Feature Concept Dictionary Register. (See Figure 1)

A *feature concept dictionary* specifies independent sets of definitions of features, attributes, enumerated values and information types that may be used to describe relevant maritime information. A feature concept dictionary may be used to develop a feature catalogue. Unlike a feature catalogue, a feature concept dictionary does not make associations or bind attributes to features.

## Metadata Register:

Metadata is structured information that describes, explains, locates or otherwise makes it easier to retrieve, use or manage an information resource. Metadata is often called data about data or information about information.

The Metadata Register contains the metadata elements from the ISO19115 standard (for an extract of the main metadata table see ANNEX A). It will also contain additional metadata elements required for an IALA product specification.

## Producer Code Register:

This topic is currently beyond the scope of IALA’s activities but this decision may be reconsidered in the future.

# IALA as Domain Owner

Recognising that the IALA domain comprises several functional fields (e.g. VTS, AtoN, World-Wide RadioNavigation (WWRN) and Formal Risk Assessment) in the Feature Concept Dictionary, Portrayal, Metadata and Product Specification Registers, IALA domains will be as indicated below (subject to periodic updating).

1. IALA domain

|  |  |
| --- | --- |
| Product Specification Register | IALA VTS field |
|  | IALA AtoN field |
|  | IALA IWRAP field |
|  | IALA PNT field |
| Portrayal Register | VTS field |
|  | AtoN field |
|  | Formal Risk Assessment field |
|  | PNT field |
| Feature Concept Dictionary Register | VTS field |
|  | AtoN field |
|  | Formal Risk Assessment field |
|  | PNT field |
| Metadata Register | VTS field |
|  | AtoN field |
|  | Formal Risk Assessment field |
|  | PNT field |

# Management of IALA Domain

## The IHO Registry – IALA and Domain Management Relationship

The purpose of this section is to provide information regarding the interaction between the IALA Domain, the International Hydrographic Organization (IHO), and the Registry. It will also describe the roles, responsibilities and procedures for IALA as a Submitting Organization to the IHO Registry, as described by the governing documentation of IHO Standards S-100 and S-99. The overall context of IALA’s involvement in the IHO Registry is considered, in particular the move towards a Common Maritime Data Structure (CMDS) and the proposed IMO/IHO Harmonization Group on Data Modelling (HGDM).

IALA has developed these procedures solely to manage the IALA domain and its role as a Submitting Organization within the context of the Association. Should there be any conflict between this Guideline and IHO standard S-100 or S-99, IALA should defer to the IHO documentation.

### Management of IALA Domain

The overall management responsibility of IALA for its domain in the IHO Registry is distributed over three types of managerial roles:

1. IALA Domain Management.
2. IALA Field Managers.
3. IALA Product Specification Developer.

As a Domain Owner, IALA will require interaction within the IHO’s Domain Control Body and the adherence to the timelines of the IHO’s Registry management processes. This activity affects the work of the IALA Domain Management and could lead to the involvement of IALA Field Managers and IALA Product Specification developers. The IALA committee working structure is not suited to meet the IHO’s S-99 specified timelines of the product specification approval process and involvement between meetings will be necessary. Membership to the IHO’s Domain Control Body provides the Submitting Organizations the opportunity to advocate their own proposals.

#### IALA Domain Management

The IALA Domain Management resides in the IALA Secretariat and coordinates the activities of each of the IALA Field Managers and acts as the single point of contact with the IHO.

The structure is shown in Fig 3. The Domain Management will be overseen at a technical level by IALA ENAV WG1 (Harmonization).

#### IALA Field Manager

In the context of IHO Registry, IALA currently recognises the following Product Fields: VTS, AtoN Information, IWRAP and PNT.

Each Field contains at least one IALA product and one IALA Product Specification. The IALA Field Manager harmonises the different products / Product Specifications within that Field. The IALA Field Manager also considers the usage of entries by others in his Field.

#### IALA Product Specification Developer

A developer is appointed to manage each IALA Product Specification. An IALA Product Specification Developer coordinates the development of an IALA Product Specification, coordinates the usage of existing entries in the IHO Registry that are used by that IALA Product Specification and coordinates the creation of new entries required by that IALA Product Specification. An IALA Product Specification Developer is able to draw on any Register in the IHO Registry.

In addition, a Task Group may be set up, with the approval of an IALA Committee, to carry out the development work. This Task Group may consist of invited experts from within and outside the IALA Committee structure. It will not necessarily meet during IALA Committee sessions and may not meet physically, if it is possible to carry out the work by e-mail and/or teleconference.

A list of the individual Product Specification Developers and Field Managers is maintained by the IALA Secretariat.

#### IALA Organizational Chart



1. IALA Domains organisation

## 

## Procedure on registering product specifications under development

In order to prevent several organizations working on similar product specifications it is necessary that these launching projects are known to the community. Organizations can check if the development of a product specification is already started and contact the organization regarding the details. Then they can decide if this product specification will become a joint effort or co-development, which will save time and costs.

Appendix 3 of the guideline 1106 *On Producing an IALA S-100 Product Specification* contains a template which will have to be filled in by the product specification developer and sent to the IALA Field Manager. The IALA Field Manager will send the information to the IALA Domain Administrator. The Domain Administrator will publish this information within the IALA Domain.

## Procedure on getting “draft status” for a Product Specification

If a product specification is at the stage that it is nearly complete, the PS developer can submit his product specification to the IALA Field manager who will manage the review process (the review process could be managed e.g. like within IEC). After a first positive review by the Field manager supported by the e-Navigation committee the Field Manager will send this to the IALA Domain Administrator and request that the status from “launching project” is changed to “draft status” indicating to the community that the product specification is nearing completion an can be reviewed.

## Procedures for Submitting a Product Specification

Representatives of recognized organizations may submit proposals for addition of a new Product Specification in the Product Specification Register or for the Clarification, Supersession, or Retirement of existing Product Specifications in the Register.

Product specifications with a “draft status” which are reviewed and in a “final state” are to be submitted to the IALA Domain administrator. After a final approval from the Field Manager the IALA Domain administrator will submit the request to IHO using the Registry web interface. The process for submitting proposals for the registration of Product Specifications is illustrated in figure 3.



1. Processing of Proposals

### Submission of Proposals

The organization making a submission shall ensure that all proposals:

* are complete; and
* a copy of the final version of the new Product Specification is made available to the IALA Domain administrator.

### IALA Domain Administrator

The IALA Domain administrator will:

* receive product specifications from product specification developers;
* determine if the proposed item does or does not fall within the scope of the Register; or
* if a registered item (or similar) to the proposed item already exists;
* review product specifications for completeness;
* return product specifications s to the field managers if incomplete; or
* update the item management record, with the status set to ‘pending’.

The IALA Domain administrator shall ensure the following IHO acceptance criteria have been satisfied:

* S-100 is used as the underlying standard (organizations are encouraged to populate Feature Catalogues, either using existing entities registered in the GI Registry or proposing new ones where appropriate);
* identification numbers shall be selected from the numbering series agreed with IHO (S-201-299); and
* the content description is in plain language.

After submission the Domain administrator shall:

* serve as the point of contact and negotiate with IHO regarding any changes required to a proposal; and
* inform the product specification developer of the results of each proposal.

If the proposal is accepted by the IHO registry manager, the IALA Domain administrator informs the product developer and the field manager about the acceptance. If a proposal is not accepted by the IHO registry manager, the Domain Administrator shall:

* inform the product specification developer of the 30 working day deadline for appealing the decision of the IHO registry manager and
* make the results of the approval process available to the product specification developer.

### Appeals

A product specification developer may appeal to the IALA deputy SG if it disagrees with the decision of the Domain administrator to reject a proposal for the inclusion of a Product Specification in the Register. An appeal shall contain at a minimum a description of the situation, a justification for the appeal, and a statement of the impact if the appeal is not successful.

The Submitting Organization shall submit its appeal to the Domain administrator.

The Domain administrator shall:

* forward the appeal to IALA Deputy Secretary-General as appropriate; and
* inform the appellant of the decision.

### Withdrawal of Proposals

Product Specification developers may decide to withdraw a proposal at any time during the approval process.

The Domain administrator shall then:

* change the proposal management disposition to ‘withdrawn’ and the value for *date Disposed* to the current date; and
* keep track of the proposal and report the withdrawal in the next periodic report.

## Procedures for Feature Concept, Portrayal and Metadata Registers

In the development process of a product specification it can be necessary to register new features or amend existing features. Also the registration of items in the metadata and portrayal registers can be relevant. In the following chapters a procedure to do so is described, this procedure is derived from IHO Publication S-99.

### Introduction

Submitting Organizations may submit proposals for new items, or for clarification, supersession, or retirement of registered items. Proposals are to be submitted by using appendix 2 of the guideline *On Producing an IALA S-100 Product Specification*. After approval the IALA domain administrator will submit the proposal using the mechanisms provided in the Registry web interface.

### Addition of registered Items

Addition is the insertion into a Register of an item that describes a concept not adequately described by an item already in the Register.

### Clarification of Registered Items

Clarification corrects errors in spelling, punctuation, grammar or improvements to content or wording. A clarification shall not cause any substantive semantic change to a registered item. The three characteristics that can be clarified are definition, other references, and remarks.

### Supersession of Registered Items

Supersession of an item means any proposal that would result in a substantive semantic change to an existing item. Supersession shall be accomplished by including one or more new items in the appropriate Register with new identifiers and a more recent date. The original item shall remain in the Register but shall include the date at which it was superseded, and a reference to the items that superseded it.

### Retirement of Registered Items

Retirement shall be effected by leaving an item in the Register, but by marking it as “*retired*”, and including the date of retirement.

### Development of Proposals

The IALA Domain administratorshall manage the development of proposals for entries or amendments to the Feature Concept, Portrayal and Metadata Registers from within their respective Working Groups, communities or organizations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Submission Process - Feature Concept, Portrayal and Metadata Registers** | | | |
|  | Proposer | IALA Domain admin. | IHO Register Manager |
| Develop  Proposal  Amend Proposal  No  Forward to Submitting Organization | Submit  Proposal  No  Inform Submitting Organization of Additional requirements  Yes  Proposal  Appropriate & Complete  Review Proposal | Yes  Review Proposal  Proposal  Complete  **A** |

1. Processing of Proposals

# Glossary / Definitions / Acronyms

Definitions and acronyms shall be in accordance with IHO S-100 and S-99 where appropriate. IALA-specific definitions and acronyms are as below.

## Glossary / Definitions

Field: A specific area within the IALA Domain.

## Acronyms

AtoN Aid(s) to Navigation

CMDS Common Maritime Data Structure

ENC Electronic Nautical Chart

HDM Harmonised Data Model

HGDM IMO/IHO Harmonization Group on Data Modelling

IALA International Association of Marine Aids to Navigation and Lighthouse Authorities

IHO International Hydrographic Organization

IMO International Maritime Organization

ISO International Standards Organization

IWRAP IALA Waterways Risk Assessment Program

MoU Memorandum of Understanding

NAV IMO Sub-Committee on Safety of Navigation

TSMAD Transfer Standard Maintenance and Applications Development working group

SN Circ. Safety of Navigation Circular (IMO)

S-99 Operational procedures for the organisation and management of the S-100 Geospatial Information Registry, January 2011

S-100 Universal Hydrographic Data Model

VTS Vessel Traffic Services

WWRN World-Wide Radio Navigation

# References

1. IHO S-99 Operational procedures for the organisation and management of the S-100 Geospatial Information Registry, January 2011.
2. IHO S-100 Universal Hydrographic Data Model, January 2010.
3. ISO 19115 Geographic Information – Metadata, 2003.
4. IALA Guideline *On Producing an IALA S-100 Product Specification.*