Input paper: [[1]](#footnote-1) ENG16-3.1.3.11

Input paper for the following Committee(s): Purpose of paper:

**□** ARM X ENG **□** PAP X Input

**□** ENAV **□** VTS **□** Information

Agenda item [[2]](#footnote-2) n.n

Technical Domain / Task Number 2 Radionavigation services/3.2.6

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S-245 eLoran ASF data product specification development

# Summary

Korea Research Institute of Ships and Ocean Engineering (KRISO) is in charge of the development of products specification for S-240, S-245, S-246 and S-247, which are the S-200 series relevant to PNT. The committee planed finalized eLoran related product specification during the 2018-2022 period. The Development for S-240, S-246 and S-247 had been completed by ENG 14. The S-245 draft was reported in the 10th ENG committee meeting. After the development of S-246 and S-247, the S-245 was completed. This paper describes the major progress of the S-245 eLoran ASF data product specification.

## Purpose of the document

The S-245 product specifications were completed and requested to review by the ENG committee.

## Related documents

- IALA Guideline 1106 – Producing an IALA S-200 series product specification

- IALA Guideline 1106-1 – IALA Product specification number template

# Background

IALA decided to use the S-100 (Universal hydrographic data model) for marine information exchange and made a plan of developing S-200 series for AtoN, PNT and VTS domains. Regarding the PNT specification, S-240 was first developed and S-245 were followed for the exchange of eLoran ASF data. The specifications were drafted at the ENG10, after which the main document was updated.

# Discussion

## Update of S-245

The S-245 has been produced by the ENC Committee of IALA in response to a requirement to produce an eLoran ASF data product that can be used within an eLoran receiver. It is based on the IHO S-100 framework and the ISO 19100 series of standards. The S-245 was developed as a grid product specification that is primarily intended for encoding eLoran ASF data. The S-245 development team has improved it considering the comments from ENG10 and IHO’s S-100 development.

- Review and application of comments provided at the ENG10

- Update of text in S-245 document

- Correction of Figure numbers

- Revision of text in Chapter 9 Portrayal

- Defining file naming conversion of eLoran ASF dataset

The S-245 like the other S-200 series product specifications, produced digital catalogues used for the utilization of the ASF data in eLoran applications. The produced catalogues are attached as Annexes, and the description of each annex is as shown in the Table 1.

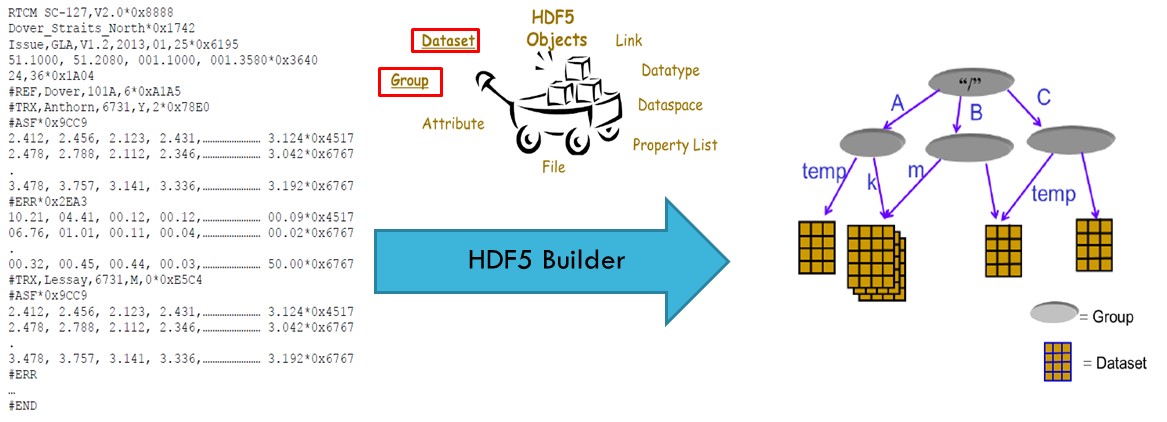
1. Description of S-245 annexes

|  |  |  |
| --- | --- | --- |
| Num | Title | Description |
| 1 | S-245 Feature Catalogue  (XML) | A digital file defining the S-245 data model in XML format according to the FC data model of the S-100 framework |
| 2 | S-245 Feature Catalogue  (Human readable doc) | A document containing tables in a readable format for the S-245 feature catalogue XML file |
| 3 | S-245 Portrayal Catalogue | A package that defines the colour and display rules required for symbol expression of the S-245 ASF dataset in a grid format |

The IHO, which developed the S-100 framework, approves the Ed. 1.0.0 for testing purpose, and the trial version is updated to Ed.1.X.X through the testing process. When the test of S-XXX ed. 1.X.X version is completed, it is designated as Ed.2.0.0, and at this time, the procedure for approving this version as the operating version has been introduced. Since the S-2XX product specification is also for producing and exchanging AtoN data, it needs that many testing processes and revision processes of the S-2XX are necessary. The S-245 is evaluated to have been developed for testing purpose, and S-245 ed.1.0.0 approval is requested for review. Annexes were uploaded on file share.

## Test of S-245 ASF data

The S-245 task team produced the S-245 eLoran ASF test data to check the conformity of the S-245 and tested it through the S-100 Viewer. To produce S-245 test data, a tool was developed to prepare ASF sample data in CSV format and convert CSV files into ASF data in HDF5 format.



1. Conversion from CSV sample to HDF5 format

The S-245 data is composed of internal metadata and grid-type ASF data. According to the application schema included in the S-245 product specification, internal metadata and ASF simulation data were encoded. Figure 2 shows the results of S-245 test data in HDF5 Viewer and S-100 Viewer. The S-245 task team confirmed that S-245 test data was recognized and displayed normally in the relevant tools like HDF5 View and S-100 Viewer according to the S-245 product specification.

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1. S-245 eLoran ASF TDS and Review in S-100 Viewer

# Action requested of the Committee

The Committee is requested to:

1. Review and endorse the S-245 eLoran ASF data product specification

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)