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PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

Maritime navigation and radiocommunication equipment and systems – Part 1: Route plan exchange format (RTZ) – General requirements, methods of testing and required test results

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IEC PAS 61174-1 has been processed by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

The text of this PAS is based on the following document:	This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document
Draft PAS	**Report on voting**
80/978/DPAS	80/986/RVDPAS

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

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INTRODUCTION

A route plan exchange format RTZ was published as Annex S of IEC 61174:2015.

This route plan exchange format is intended be used for many purposes. For example it can be used on board for route plan exchange between main and backup ECDIS, ECDIS and radar, ECDIS and optimization systems, etc.. Another example use is between ship and shore where it can be used to inform the shore about the plan of the vessel, the shore can recommend a route, the shore can optimize a route, etc.

This route plan exchange format is based on standardizing a single route plan. The application level of the sender and receiver is assumed to be able to handle multiple route plans for use cases which require availability of multiple routes, for example alternative route plans for the same voyage or route plans for different purposes.

Since publication of IEC 61174:2015, typographical errors have been identified in the original route plan exchange format. Issues relating to ambiguity in the underlying requirements have also been identified. Testing has uncovered further issues, including (among others) route import failures, highlighting a lack of robustness in the RTZ testing clauses specified in IEC 61174:2015.

During the implementation of route exchange as part of a collaborative industry project, the Sea Traffic Management (STM) Validation Project[1], an iteration of the RTZ XML schema, version 1.1, was developed in order to correct the errors that had been identified in version 1.0 and to expand the schema to accommodate the project's needs.

Further development has led to RTZ schema version 1.2 which incorporates schema version 1.1 and contains a further change by permitting extensions in the Leg element.

This PAS includes the following significant technical changes with respect to IEC 61174:2015:

- modifications to the body text of IEC 61174:2015 Annex S intended to correct typographical errors, properly align the text with the original RTZ schema, and to add clarification and remove ambiguity from the requirements;
- modifications to the testing clauses in IEC 61174:2015 6.9.2 to expand the existing tests for route plan exchange by introducing testing clauses covering the full range of requirements specified in IEC 61174:2015 Annex S;
- an updated RTZ schema to revised version 1.2 in order to expand the original schema and to correct errors and weaknesses in the original schema.

Details of the substantive changes between version 1.0 and version 1.2 of the schema are given in Annex D.

1 https://www.seatrafficmanagement.info/projects/stm-validation/

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –

Part 1: Route plan exchange format (RTZ) – General requirements, methods of testing and required test results

1 Scope

This PAS specifies requirements, methods of testing and required test results for route plan exchange format (RTZ).

This PAS has been developed to improve interoperability between equipment implementing route plan exchange format by addressing issues uncovered in the original RTZ specification (Annex S of IEC 61174:2015), and in recognition of the fact that some manufacturers have identified a pressing business need to implement an improved and expanded version of the RTZ format.

This PAS is intended to complement the original RTZ specification. This PAS provides a revised version 1.2 of the RTZ schema but retains the original version 1.0 of the schema unchanged. The intention is that compliance with this PAS can be achieved without compromising compliance with IEC 61174:2015.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61174:2015, *Maritime navigation and radiocommunication equipment and systems – Electronic chart display and information system (ECDIS) – Operational and performance requirements, methods of testing and required test results*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

No terms and definitions are listed in this PAS.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.2 Abbreviated terms

ECDIS Electronic chart display and information system

EUT Equipment under test