

# JOINT RENC - PRIMAR & IC-ENC

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**SPECIFICATION FOR**

**PAY As You SAIL SERVICES**

**FOR VALUE ADDED RESELLERS AND  
NOTIFIED BODIES**

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# **1 GENERAL**

## **1.1 Introduction**

During recent years ENC chart data distributors and Value Added Resellers (VARs) have been developing and offering several new and innovative methods for licensing of chart data, such as the Pay As You Sail (PAYS) services. PRIMAR and IC-ENC (together referred to as “the Joint RENC’s”) have developed individual RENC Guidelines and Specifications for approval of PAYS services. This specification is based on the PRIMAR and IC-ENC Guidelines and Specifications, but also further details the approval process and the requirements for distribution of authorised PRIMAR and IC-ENC electronic chart data through PAYS services. This specification describes the methods for demonstrating compliance with the requirements.

Compliance with this specification shall be documented by a certificate, issued by a competent Notified Body.

The certificate shall be valid for 3 years, unless there is a change to the service that necessitates a new approval. At certification expiry the PAYS service provider shall renew certification or discontinue PAYS services as detailed in the PRIMAR distributor agreement / IC-ENC VAR agreement.

Only a certification body with a valid accreditation for performing both EC type-examination of ECDIS and assessment of the quality system in accordance with Marine Equipment Directive (MED) 2014/90/EU will be authorised for issuing a PAYS service type approval certificate in accordance with this specification.

At certificate renewal, the certification body must be invited to, and carry out, audits to make sure that the PAYS service provider maintains and applies the quality management system and must provide the Notified Body conducting the assessment with audit reports.

Where commercial and specific technical aspects are covered in a separate distribution agreement / VAR agreement between PRIMAR, IC-ENC and the PAYS service provider, these will be referenced in this document.

A prerequisite for all companies who wish to run PAYS services is that they must hold valid ISO 9001 Quality Management System (QMS) certificates.

The joint PAYS specification sets out how companies can offer a PAYS service without developing their own technical solution for vessel track acquisition and ENC usage reporting. This part of the PAYS service can be satisfied by using an approved third-party tracking solution that has been accredited against the Joint RENC PAYS specification.

## **1.2 Objectives**

This specification describes the approval process and the requirements for distribution of authorised PRIMAR and IC-ENC chart data through PAYS services. This specification also describes the methods for demonstrating compliance with the requirements.

## **1.3 Application**

This specification applies to applicants to be granted status as PRIMAR and/or IC-ENC approved PAYS service provider.

## **2 NORMATIVE REFERENCES**

The following current editions of normative documents contain provisions which, through reference in this text, constitute provisions of this specification:

- IC-ENC RENC Guidelines for subscription (type 7) tracking of usage - ENC Licensing Guidance Notes.
- IMO Resolution MSC.232 (82) Performance standards for Electronic Chart Display and Information Systems (ECDIS).
- Marine Equipment Directive (MED) 2014/90/EU.
- IEC 61174 Maritime navigation and radio communication equipment and systems, Electronic Chart Display and Information System (ECDIS) – Operational and performance requirements, methods of testing and required test results.
- S-57 IHO Transfer Standard for Digital Hydrographic Data.
- S-63 IHO Data Protection Scheme.
- PRIMAR Distributor Agreement Appendix 4 PAYS.
- IC-ENC VAR Agreement Schedule 3 – ADDITIONAL TERMS AND CONDITIONS RELATED TO THE RELEASE OF ENC DATA WITHIN A PAYS SERVICE.

## 3 DEFINITIONS AND ABBREVIATIONS

### 3.1 Definitions

In the context of this specification, the following definitions apply.

#### 3.1.1 Notified Body

Notified Bodies assigned by European Member States to carry out conformity assessment procedures for ECDIS referred to in the Marine Equipment Directive. See the MarED website <http://www.mared.org/> for details of approved Notified bodies competent to carry out PAYS certification, ref paragraph 1.1.

#### 3.1.2 ENC Data

Electronic Nautical Charts, standardised as to content, structure and format, issued for use with ECDIS on the authority of a government authorised issuing body such as a Hydrographic Office (HOs). It contains all chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. Sailing Directions), which may be considered necessary for safe navigation.

#### 3.1.3 PAYS service provider

Company offering ENC chart data distribution through a Pay As You Sail service.

#### 3.1.4 PAYS vessel tracking provider

Company offering vessel tracking and ENC usage reporting to PAYS service providers satisfying clause 4.2.3 of the Joint RENC PAYS Specification.

### 3.2 Abbreviations

EC	European Communities
ECDIS	Electronic Chart Display and Information System
ENC	Electronic Navigational Chart
OEM	Original Equipment Manufacturer
PAYS	Pay As You Sail
RTR	Real Time Reporting
SENC	System Electronic Navigational Chart
HW_ID	5-digit hexadecimal number defined by the OEM manufacturer

## 4 APPROVAL PROCESS

### 4.1 Project Plan

Each individual organisation wishing to offer a PAYS service must submit a formal request and a project plan to both RENCs (PRIMAR & IC-ENC) for evaluation. The content and structure of the project plan shall include:

- Time schedule for the various project steps
- If you are intending to use a pre-accredited PAYS vessel tracking solution provided by a third party their current, valid type approval certificate will be required
- Where the company is intending to develop their own proprietary PAYS service project plans must include:
- Description of the sea trials
  - o Duration – must be for a minimum of three months
  - o Selected vessels, their type and trade patterns <sup>1</sup>
  - o Method for registering ENC products USED, including description of its functionality.
    - Position tracker in combination with chart catalogue
    - Explicit logging ENC products within ECDIS
  - o Method for measuring registration accuracy of reporting to PRIMAR / IC-ENC
- Description of what constitutes valid results from the trials – these shall not conflict with requirements in 4.2 below.

When the project plan is found satisfactory by PRIMAR / IC-ENC, the sea trials may be conducted.

PAYS service providers using a third-party approved PAYS vessel tracking solution to determine ENC usage will be required to conduct live checks on a maximum of three vessels for 30 days to confirm accurate reporting. On successful completion of this limited live release evidence shall be provided to the RENCs. On approval from the RENCs the company may continue to sign up additional customers to their PAYS service.

At all times when running a PAYS service that uses a third party PAYS vessel tracking solution the type approval certificate of the PAYS vessel tracking solution must be valid.

Where a third party running a PAYS vessel tracking solution service fails to gain compliance with this specification outside of their certification date all providers of PAYS services using their solution will be terminated.

### 4.1.1 RENC Response Times

PRIMAR & IC-ENC confirm that they will acknowledge any formal request and project plan within (3) three working days and complete the primary evaluation within (20) twenty working days from the date received unless revision is necessary.

## 4.2 Requirements

The Joint RENC's requirements are detailed below (in sections 4.2.1 to 4.2.9) in *italics* with clarifications added in non-italics.

### 4.2.1 ENC Sales Reporting

*The PAYS service shall promote voyage planning and look ahead functionality and ensure that such usage is always fairly encompassed in all licensing and subsequent sales reporting.*

*When using the PAYS subscription code, all ENC data in each navigational purpose, at a given position along the vessels track are to be reported as a sale, if they contain data. From the first date of use each used cell will be licensed for a maximum of 90 days,*

*The reporting of ENC sales, by a PAYS system, can be based on data area contained within an ENC cell and not*

*just on the rectangular limits of the ENC (see annex 1 for explanation).*

<sup>1</sup> In order to demonstrate that the PAYS service is suitable for a wide range of vessel types, services and areas, the selection of trial vessels should be representative. Otherwise, limitations to the certification may be given. The tests can be carried out based on live trials or a combination of live trials and simulations.

#### **4.2.2 IC-ENC Members' Data Specific**

*A PAYS service must not allow the sale, to any single vessel, of any combination of PAYS Subscription and Standard Subscription services save under the following exceptions:*

*Existing Standard Subscriptions, without further extension periods, for a time not exceeding 12 months or the remaining period of subscription whichever is sooner.*

*Standard Subscriptions for ENC cells produced by nations which do not approve their data for use in a PAYS service.*

*The PAYS Planning Fee becomes reportable on the first instance when a vessel's IC-ENC ENCs license keys are issued or renewed. After the initial reporting of a PAYS Planning Fee it must be renewed every 90 days until such time as the vessel ceases to subscribe through PAYS.*

#### **4.2.3 PAYS registration / reporting accuracy**

*The PAYS service shall ensure that all ENC products are properly licensed and reported to PRIMAR / IC-ENC, or at least to 99.8% accuracy where the actual products displayed and used are not explicitly logged (unintentional over-reporting by the use of "an uncertainty corridor" may be incorporated in the 99.8% accuracy figure).*

#### **4.2.4 Reporting**

*The PAYS service shall ensure that no more than 72 hrs elapses from first time usage of an ENC until it is registered, as a sale, in the PRIMAR / IC-ENC database.*

#### **4.2.5 Position reporting**

*Positional reports into a PAYS System must be able to be independently verified and be of sufficient frequency to ensure that the 99.8% reporting accuracy can be achieved.*

#### **4.2.6 Data misuse**

*No misuse of data shall take place. The use of HW ID ensuring a unique identification of each installation shall secure that data cannot be accessed on system configurations not holding a registered HW ID. Ref. IHO S-63 rev. 1.1.1 clause 4.2.2.*

*The use of PAYS ENC data is restricted to vessel use only and cannot be used on shore for planning purposes.*

#### **4.2.7 Uninstall PAYS license**

*Procedures shall be in place to uninstall PAYS license keys from the system configuration when the user changes distributor or terminates his license.*



## 4.2.8 Quality management

*The PAYS service provider must operate a quality management system, based on ISO 9001, or equivalent, which embraces all elements of the PAYS service.* The requirements for such quality management system are those defined in this specification.

4.2.8.1 The quality management system must ensure that the PAYS service complies with all relevant requirements of this specification.

4.2.8.2 All the elements, requirements and provisions adopted by the PAYS service provider must be documented in a systematic and orderly manner in the form of written policies, procedures and instructions.

4.2.8.3 The quality management system must, as a minimum, include an adequate description of:

- the quality objectives and the organisational structure, responsibilities and powers of the management with regard to PAYS service quality,
- the techniques, processes and systematic actions that will be used for quality management throughout the PAYS service process, including PAYS registration and reporting accuracy,
- the quality records, including a list of issued licenses
- the means for monitoring the achievement of the required quality of the PAYS service (see also 4.2.2) and the effective operation of the quality management system.

4.2.8.4 Design and development changes shall be identified and records maintained. The changes shall be reviewed, verified and validated, as appropriate, and approved by the approval body before implementation. The review of design and development changes shall include evaluation of the effects of the changes on constituent parts and end users of the PAYS service.

4.2.8.5 Records of the results of the review of changes and any necessary actions shall be maintained.

4.2.8.6 The PAYS service provider shall collect and analyse both internal information and information received from external parties in order to continually improve the PAYS service process.

4.2.8.7 The PAYS service provider shall ensure that people performing work affecting the PAYS service process are competent with regard to appropriate education, training, skills and experience. Appropriate records identifying a person's competence of performing work affecting the PAYS service process shall be maintained.

4.2.8.8 The PAYS service provider shall conduct internal audits at planned intervals to determine whether the quality management system conforms to the requirements of this specification and is effectively implemented and maintained.

4.2.8.9 An audit program shall be planned, taking into consideration the individual process importance in relation to the PAYS service quality, as well as the results of previous audits.

4.2.8.10 Selection of auditors and conducting of audits shall, as far as practicable, ensure objectivity and impartiality in the audit process.

4.2.8.11 The responsibility and requirements for planning and conducting audits, and for reporting results and maintaining records shall be defined in a documented procedure.

4.2.8.12 The PAYS service provider shall ensure that actions are taken without undue delay to eliminate detected non-conformities and their causes. Follow-up activities shall include the verification of the actions taken and the reporting of verification results.

#### **4.2.9 Registry of PAYS service users**

*The PAYS service provider shall maintain a registry of its users.*

4.2.9.1 The registry of PAYS service users shall include a unique identification of each individual user and the vessel is being used upon.

4.2.9.2 The maintenance and correctness of the registry is the responsibility of the PAYS service provider. As relevant, appropriate arrangements shall be made with OEM's ensuring that information about changes relevant to the registry are timely received.

4.2.9.3 The PAYS service provider shall have implemented methods for ensuring efficient and timely invoice handling.

4.2.9.4 The PAYS service provider shall have a system and adequate resources for providing valid sales reports and timely payment to PRIMAR / IC-ENC.

4.2.9.5 The payments to PRIMAR / IC-ENC shall be made on a regular basis in accordance with the agreement made with PRIMAR / IC-ENC.

4.2.9.6 The PAYS service provider shall have implemented procedures for handling cases where the PAYS service user fails to fulfil the contractual obligations. Such procedures shall ensure that the PAYS service is not terminated, unless such termination is assured not to compromise the safety of the relevant vessel(s).

## **5 TESTING AND AUDITS**

### **5.1 Test**

Tests are to be performed to demonstrate compliance with the relevant requirements of section 4.

A test plan shall be prepared by the PAYS service applicant. The test plan shall describe the test methods to be used and acceptance criteria.

It is the PAYS service applicant's responsibility to arrange for verification of the routes reported by the trial vessels against the actual routes sailed.

The test plan shall be approved by the Approval body before commencement of testing.

All PAYS service providers using Joint RENC PAYS specification compliant third-party vessel tracking solutions will be required to test vessel track and ENC usage on three vessels for 30 days to ensure compliance with this Specification.

### **5.2 Audit**

An auditing team shall assess the PAYS service provider's quality management system, with focus on parts specified in section 4 of this specification.

The auditing team shall have personnel with expertise in assessment of the product technology concerned as well as personnel with expertise in assessment of quality management systems.

A comparison of customer sales reports with sales reported to PRIMAR / IC-ENC shall be included in follow-up audits.

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## ANNEX 1

### ENC CELLS TO BE REPORTED

The purpose of this annex is to explain in detail the two different methods in which ENC sales reporting can be based on, ref. clause 4.2.1. The PAYS service provider may choose either of the two options described, but the method based on data area contained within an ENC cell, is the minimum reporting requirement.

In the figure below, the light-red dotted line shows the rectangular limits of an ENC cell. The light- blue area is the actual data coverage area of the cell. The green and red lines are two different ship tracks.

In case of the red ship track, the cell does not need to be reported as a sale because the vessel's route does not interact with the actual data coverage area of the cell. However, if the vessel's route equals the green ship track, the cell must be selected and reported as a sale since the track intersects with the coverage polygons.

If the reporting is based just on the rectangular limits of the cell, the red ship track would result in the cell being reported as a sale, even though this is not required since the track does not interact with the coverage polygon.

The cell selection obtained by the two methods will be equal if the entire cell has data coverage.

