13ᵗʰ Meeting of the Hydrographic Services and Standards Committee

Information Paper by France

SENC Delivery and Cybersecurity

Agenda Item 05.1F

HSSC-13, VTC Event, 3 – 7 May 2021

SENC AND SENC DELIVERY

RESOLUTION MSC.232(82)

(adopted on 5 December 2006)

ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)

3.3 *System Electronic Navigational Chart (SENC)* means a database, in the manufacturer's internal ECDIS format, resulting from the lossless transformation of the entire ENC contents and its updates. It is this database that is accessed by ECDIS for the display generation and other navigational functions, and is equivalent to an up-to-date paper chart. The SENC may also contain information added by the mariner and information from other sources.

5.1 ECDIS should be capable of displaying all SENC information. An ECDIS should be capable of accepting and converting an ENC and its updates into a SENC. The ECDIS may also be capable of accepting a SENC resulting from conversion of ENC to SENC ashore, in accordance with IHO TR 3.11[4]. This method of ENC supply is known as SENC delivery.

Note : TR 3.11 is now IHO Resolution 4/2002 as amended

ENC/SENC DISTRIBUTION OPTION (S57)

ENC/SENC DISTRIBUTION OPTION	4/2002 as amended	43/2003	A3.11

It is resolved that SENC distribution can be accepted as an option, in addition to direct ENC distribution, providing that the following principles be adhered to:

a) The HO should ensure that the IHO data (ENC) is always available to any user in the S-57 ENC format.

b) As an option Hydrographic Offices may allow the distribution of their HO data (ENC) in a SENC format.

c) Distributors who are to supply the SENC service must operate under the regulations of the issuing authority. The onshore ENC to SENC conversion must be performed using type approved software.

d) The SENC update mechanism should not be inferior to the ENC - ECDIS update mechanism.

e) The distributor of SENC data should maintain a registry of its users.

f) The copyright of the ENC data should be maintained.

International Hydrographic Organization

15-3 General Description

This Part specifies a method of securing digital nautical, hydrographic and spatial related products and information. The purpose of data protection is threefold:

1. Piracy Protection: To prevent unauthorized use of data by encrypting the product information.

2. Selective Access: To restrict access to only the products that a customer has acquired a license for.

3. Authentication: To provide assurance that the products have come from approved sources.

Piracy protection and selective access are achieved by encrypting the products and providing data permits to decrypt them. Data permits have an expiration date to enable access to the products for a licensed period. Data Servers will encrypt the digital products before supplying it to the Data Client. The encrypted products are then decrypted by the end-user system (for example ECDIS/ECS) prior to being reformatted and imported into the System Internal Format (for example SENC). Authentication is provided by means of digital signatures applied to the product files.

The security scheme does not specifically address how the product information can be protected once it is within an end-user application. This is the responsibility of the Original Equipment Manufacturers (OEMs).
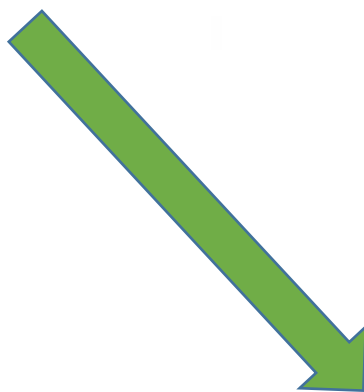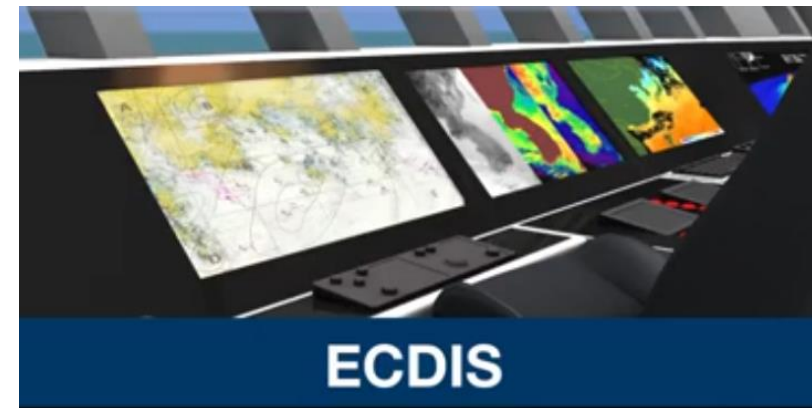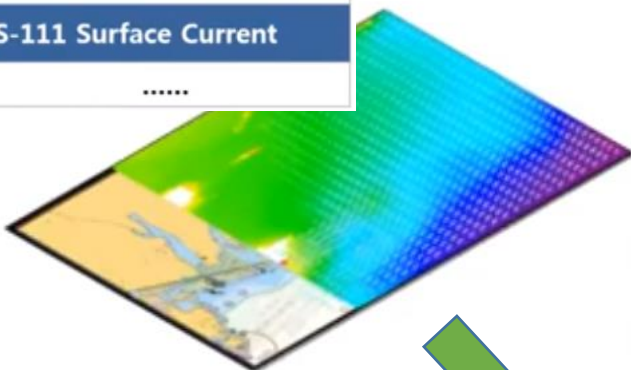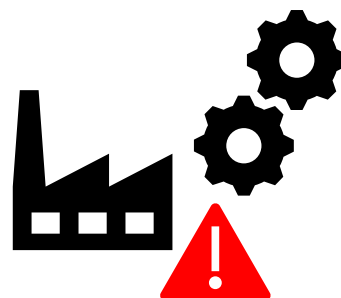
MORE PROCESSES = MORE THREATS

ACTIONS REQUESTED FROM HSSC

1. Note this paper
2. Confirm that a clear position in regards to SENC delivery is needed
3. Instruct S100WG accordingly