

Paper for Consideration by ENCWG 6

IHO ECDIS Cyber Security Guideline

Submitted by:	ENCWG Chair
Executive Summary:	To address the concern around the security of an ENC exchange set HSSC have agreed to the creation of an ECDIS cyber security guideline.
Related Documents:	MSC-FAL.1/Circ.3 Guidelines on Maritime Cyber Risk Management Resolution MSC.428(98) Maritime Cyber Risk Management in Safety Management Systems
Related Projects:	

Introduction / Background

HSSC tasked the ENCWG to investigate the issues raised by IEC regarding ENC authentication in ECDIS and provide a detailed analysis of the cyber risks associated to ECDIS and possible mitigations through IHO standards. After extensive investigation with OEMS and Data servers it was finally agreed to seek a procedural method to address the concerns.

Analysis/Discussion

There are several files within an IHO S-63 edition 1.2 encrypted ENC exchange set that currently carry no digital signatures for the purpose of authentication by data clients. These are:

- Auxiliary text and picture files (.TXT and .TIF)
- CATALOG.031
- README.TXT
- PRODUCTS.TXT
- MEDIA.TXT
- SERIAL.ENC
- STATUS.LST

In the period while S-100 ECDIS are being developed there is a need to provide guidance to Mariners to support their cyber risk management procedures.

It is suggested that the IHO guidance be split into general recommendations, suggestions below, and more specific tasks that will support Mariners

General Guidance

- 1) Scan removeable media
- 2) Do not allow crew's personal devices to be connected to ECDIS
- 3) Keep Anti-virus and anti-malware tools up to date
- 4) Keep ECDIS updated to latest IHO standards
- 5) Run permits and ENC data through Anti-virus and anti-malware tools

Specific Guidance

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Recommendations

It is recommended that a subgroup be setup to develop a draft of the IHO ECDIS Cyber Security Guideline for approval by the ENCWG before final submission to HSSC 14 May 2022

Justification and Impacts

The work should be completed, and a draft submitted to HSSC 14, assuming the proposal to change the name of S-67 is approved by HSSC, this new information could be included in a NE of this standard.

Action Required of ENCWG

The ENCWG is invited to agree with the recommendation that a subgroup draft a first edition of the IHO ECDIS Cyber Security Guideline