



SUB COMMITTEE ON SAFETY OF  
NAVIGATION  
55th session  
Agenda item 7

NAV 55/7  
15 May 2009  
Original: ENGLISH

## DEVELOPMENT OF PROCEDURES FOR UPDATING SHIPBORNE NAVIGATION AND COMMUNICATION EQUIPMENT

### Comments on document MSC 83/25/7

**Submitted by the International Radio-Maritime Committee (CIRM)**

#### SUMMARY

<i>Executive summary:</i>	CIRM offers comments on the considerations given in document MSC 83/25/7 and suggests that SN.1/Circ.266 which gives guidance on the maintenance of ECDIS software is appropriate to use as a model in the general case of updating shipborne navigation and communication equipment
<i>Strategic direction:</i>	5
<i>High-level action:</i>	5.2.4
<i>Planned output:</i>	5.2.4.2
<i>Action to be taken:</i>	Paragraph 5
<i>Related documents:</i>	MSC 83/25/7 and SN.1/Circ.266

### Background

1 Document MSC 83/25/7 from Australia and the United Kingdom proposing the development of a new work item to address software updates, considers various actions to ensure that all affected vessels implement any firmware, operating system and software updates on shipborne equipment required due to changes in the mandatory regulations of IMO, IHO or ITU after the equipment is installed.

2 To provide insight into the practices established over many years by regulatory authorities, CIRM is pleased to provide comments as below to clarify the conditions listed in document MSC 83/25/7. Furthermore, it is recommended that the decisions taken at NAV 53 and MSC 83 regarding maintenance of ECDIS software, documented in SN.1/Circ.266, should be adopted as a model.

For reasons of economy, this document is printed in a limited number. Delegates are kindly asked to bring their copies to meetings and not to request additional copies.



3 This is necessary to maintain the benefit of a consistent definition of the responsibilities of the organizations involved: IMO and Administrations, manufacturers and service organizations, shipowners/operators, and survey/inspection authorities.

### **Comments to the new work item proposal**

4 The comments below refer to the original clause numbers in document MSC 83/25/7, paragraph 8:

- .1 **Identification of affected vessels when firmware, operating systems or software is upgraded.** Manufacturers do not necessarily have records of ships carrying their products. They should, however, have some knowledge of their distributors and dealers, but it is recognized that this will not necessarily ensure the tracing of all affected vessels.

#### **Comments**

The issue here is who should identify vessels that do not comply with minimum carriage requirements due to changes in mandatory regulation of IMO, IHO or ITU.

IMO and Administrations are responsible for documenting minimum carriage requirements.

Manufacturers are responsible for type approval of equipment and systems that they decide to offer as such. Upgrades are normally sold/purchased or equipment replaced in response to customer action. Manufacturers should provide all this information to his approved dealers/service agents in a timely manner.

Owners/Operators are responsible to maintain vessels in compliance when changes in mandatory requirements occur and should maintain a record of software/firmware versions on board which should be checked during annual survey.

Surveyors/Inspectors are responsible to check the Manufacturer provided information (see .5 and .6 below) against the compliance requirements of IMO and Administrations and the onboard information above.

- .2 **Procedure for cases where affected vessels have been sold and/or renamed.** No formal procedures are currently in place. It should be noted that there may be commercial licensing considerations.

#### **Comments (see .1)**

Manufacturers already voluntarily attempt such contact and cooperate with authorities when significant safety and liability concerns arise that affect installed equipment.

As a matter of due diligence, current practice is not perfect. But ways for improvement is significantly limited due to changes in vessel ownership and operator organizations.

Even Governments have difficulty tracking ships that are sold or renamed; equipment manufacturers cannot do that.

- .3 **Means by which firmware, operating systems or software changes are promulgated by manufacturers.** It should be possible for Original Equipment Manufacturers (OEMs) to contact and promulgate any firmware, operating system or software changes via service agents, flag States and OEMs' websites if such changes could affect vessel safety.

**Comments** (see .1 and .5)

- .4 **Identification of appropriate person(s) to undertake shipboard firmware, operating system or software updates and associated cost implications.** It should not fall to unskilled people on board to undertake such updates. Updates should be done through a network of [manufacturer approved] service agents or be facilitated by instructions in accordance with manufacturer's guidelines.

**Comments**

The Manufacturer should specify recommended service requirements, including skill/training prerequisites and log of service actions and provide means for training and authorizing service personnel as appropriate.

- .5 **Clarification on the affect of firmware, operating system or software upgrades on type approval.** The manufacturer should contact the relevant authorities to discuss changes and then arrange for the amendment of type approval certificates as necessary.

**Comments**

This describes long-established practice.

- .6 **Identification of build standard.** A key aspect of firmware, operating system and software configuration management is the ability to identify the build standard of all three elements of the equipment. Equipment should be designed to provide easy access to the build standard (in terms of the version of all relevant elements).

**Comments**

The Manufacturer should provide equipment with means to indicate the current software version(s) and hardware configuration and provide readily available means to determine compliance of software/hardware configurations with current relevant international standards (IMO, ITU, IHO). The equipment manual should describe this process.

IMO, ITU, IHO, etc., should provide readily available means to easily determine what revision of carriage requirements and equipment standards are currently in force, especially when grandfather/sunset clauses are allowed.

*This is consistent with SN.1/Circ.266 and IEC 60945 for ECDIS.*

- .1 It may be possible, for new equipment being developed, that future software updates be effected “over the air” directly by the manufacturer, through use of an appropriate terrestrial or satellite communications link.

### **Comments**

Yes, it may. However, that does not change the responsibilities described above.

Updates to chart databases are already delivered this way. It does not change the requirement for a ship to carry up-to-date charts and the same organizations remain responsible for inspecting/surveying the vessel.

### **Action requested of the Sub-Committee**

5 The Sub-Committee is invited to note this information and to pass it to the Technical Working Group for its consideration in the development of a draft MSC circular on Guidance for updating shipborne navigation and communication equipment.

---