

S-124 Progress Report **Development of a S-100 Product Specification for Navigational Warnings**

Submitted by Chair, S-124 Correspondence Group

Submitted by:	Leader of the S-124 Correspondence Group (Mr Yves Le Franc – France)
Executive Summary:	This paper reports on the work of the S-124 CG since WWNWS6.
Related Documents:	On IHO/IRCC/WWNWS-SC/S-124 CG web pages
Related Projects:	E-navigation, Modernization of GMDSS.

Membership

The Korea Research Institute of Ships and Ocean Engineering (KRISO) and Turkey joined the CG.

The members are:

Australia, Denmark (Danish Maritime Authority - DMA), France, Greece, Japan, New-Zealand, Norway, Sweden, Turkey, United-Kingdom, United States, CIRM and KRISO.

Activities since August 2014 - points to be considered

The CG carried out its works according the program announced.

The background of the modernization of the GMDSS (COMSAR and NCSR documents) has been considered in addition to the e-navigation background (October 2014). On the basis of these elements, the CG reviewed the needs and gaps for each actor. This will insure that the design of the S-124 is in-line with IMO background expectations.

The results of the quality survey conducted by the WWNWS-SC among the mariners in 2013-2014 (ref: WWNWS6-3-4-2a) have been taken into account (December 2014). This survey was very useful to know more exactly what the problems with the current service are. Users' problems viewed by the S-124 CG for its domain of interest are summarized in annex A.

The detailed scenario¹ of the current processing aboard of the NWs received via NAVTEX (what the devices do, what the user does) was established (October 2014). This allows a better understanding of the users' problems and their origins.

It is also used to imagine solutions. So, the first version of a new scenario² based on digital NWs and new functionalities was written (May 2015). The goal is to identify some particular requirements to refine the NW model for the implementation of the solutions (ongoing). The new scenario of the processing of S-124 NWs will also contribute to the draft of future performance standards for systems aboard (Integrated Navigation System).

Early in 2014, the DMA brought an initial NW model developed within the ACCSEAS project. KRISO with Jeppesen has also developed a NW model. KRISO joined the CG in November 2014. DMA and KRISO-Jeppesen worked together to harmonize their models. The objective of this important task is to obtain a unique model that responds to the requirements and expectations identified. The completion of the first version of the unique model was announced during the last HSSC/NIPWG's meeting (July 2015).

1

http://www.iho.int/mtg_docs/com_wg/CPRNW/S100_NWG/2014/Shipboard%20detailed%20scenario%20related%20to%20Navtex%20NW%20VI.pdf

2

http://www.iho.int/mtg_docs/com_wg/CPRNW/S100_NWG/2015/Shipboard%20detailed%20scenario%20with%20solutions.pdf

S-124 NWs will contribute to improve the NWs service for the end users. This implies new systems aboard but also changes in the way of doing things for the coordinators (+ new means of radio communication). For some aspects, it is necessary to envisage these new ways of operation to design the S-124 model. It is especially the case to solve the significant users' problem to know the NWs in force. A S-124 CG's discussion paper on this topic is presented in annex B. It shows that the process described in S-53 is not appropriate and should be modified.

The first meeting of the Nautical Information Provision Working Group (NIPWG) was held on 29 June - 3 July 2015. I reported on S-124 progress. An important task of the NIPWG is to "*Develop high level specifications for a combined Marine Service Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan*". Of course, this includes the NWs service. Therefore, the WWNWS-SC will certainly be involved. This task could include the overall review of the services promulgating new nautical information (NW, T&P NMs, charts permanent updates...).

NIPWG1 was the opportunity to liaise with IALA which is very active in e-navigation. IALA is developing S-100 product specifications that may have some connections with the field of S-124 CG (S-201 Aids to Navigation, S-230 Application Specific Messages).

The S-124 CG reported also on S-124 progress at HSSC6 (10-14 November 2014).

A meeting of the CG will be held on 28th August 2015 in Monaco.

Way ahead

The group's work will continue schematically on the following topics:

- Refine requirements and NW modelling.
- Define the portrayal of the NW in relation other relevant organizations.
- Provide outputs toward other relevant organizations (INS performances standard, Guidelines for the provision of NWs, consistency with others products and services...) and exchange.
- Draft the PS
- Proceed to test-beds in relationship with projects.
- Reach a consensus on the draft S-124 by demonstrating its contribution to the development of solutions and its feasibility (impact on the stakeholders) including the scenario of transition.
- Submit S-124 PS for endorsement.

The tentative schedule in Annex C gives the approximate periods during which the work will focus on the different items.

Action Required of the WWNWS-SC

The WWNWS-SC is invited to:

- a. note the report
- b. consider the discussion paper in annex B (NWs in force)
- c. advice the group as appropriate

Quality survey (2013-2014) – Users' problems viewed by the S-124 CG for its domain of interest

	Problem identified
1	Issue of the added value of plotting information when finally not relevant
2	Plotting is demanding
3	All information is not a subject of interest, too many information sometimes
4	NWs overcrowd charts
5	List of in force messages very often not received when transiting in several NAVTEX areas
6	Same message sent many times by coast station
7	It is not always clear what NWs are in force
8	High consumption of paper
9	Some NWs are corrupted
10	NWs are time-consuming
11	It is possible that NWs from a unwished station are received (same B1 but from a station of another NAVAREA zone, especially during the night with too powerful emissions)
12	Affected area and message should be shown on an Electronic chart
13	There is need of better web support at one place
14	Hardcopy coastal warnings are useful when USGC VHF 16 broadcasts are broken, too soft, or missed during vessel operations.
15	Capitals letters are difficult to read
16	The same information is sometimes received twice

S-124 CG

Discussion paper 2 - "what are the NWs in-force?" – Version 0 – 13/05/2015 – Yves Le Franc

Users complain that is not always clear what are the NWs in-force.

The S-124 CG needs a clear process to model the "status information" to automate the NWs management aboard.

With the current service (cf. S-53), several means of information are related to the NWs status. They can be used to try to know the NWs in-force. The means of information are:

- List of the messages received during scheduled broadcasts
- In-force bulletin broadcast
- No warnings message
- Promulgation of the cancellation of NWs
- NTMs and websites

-> Several means and sources, it is complicated! Are these means reliable?

Are these means reliable? What about these means in the S-53?

- **List of the messages received during scheduled broadcasts**

4.1.5 Navigational warnings should remain in force until cancelled by the originating coordinator. Navigational warnings should be broadcast for as long as the information is valid. However, if they are readily available to mariners by other official means, for example in Notices to Mariners, then after a period of six weeks they may no longer be broadcast.

-> The list aboard is possibly incomplete! The alternative sources (other official means) are not unique or clearly stated. Are they available aboard?

- **In-force bulletin broadcast**

.6 *In-force bulletin* means a list of serial numbers of those NAVAREA, Sub-area or coastal warnings in force issued and broadcast by the NAVAREA Coordinator, Sub-area Coordinator or National Coordinator.

.9 broadcast in-force bulletins not less than once per week at a regular scheduled time;

IN-FORCE BULLETIN

Notes:

- i) *In-force bulletins should be issued once per week at a regular scheduled time.*
- ii) *In-force bulletins should:*
 - *Be part of the numbered navigational warning series, and be issued as an individual numbered message which remains in force for one week;*
 - *Include the DTG of when it was prepared;*
 - *List ALL warnings still in force, not just those issued within the past 6 weeks; and*
 - *Include details of where mariners can obtain copies of those messages which remain in force, but are no longer being broadcast, as they are more than 6 weeks old.*

-> Broadcast at each schedule broadcast or once per week?

- as it remains in force for one week, it should be broadcast at each schedule broadcast
- If not, user could not receive the broadcast of the bulletin

-> Issued once per week: new NWs are not in the bulletin, so the bulletin is possibly incomplete!

- **No warnings message**

5.3 "No warnings" message

5.3.1 When there are no navigational warnings to be disseminated at a scheduled broadcast time, a brief unnumbered message should be transmitted to identify the broadcast and advise the mariner that there is no navigational warning message traffic on hand.

NO WARNINGS MESSAGE

Notes:

- A no warnings message will not be part of the numbered navigational warning series and is therefore not required to have a serial number.*
- The following Example 1 should be used by a NAVAREA to announce that there are no NAVAREA warnings to broadcast. This could be amended to cover occasions when there are no Coastal Warnings to broadcast or when both categories have no warnings to broadcast i.e. NO NAVAREA ?? COASTAL WARNINGS TO BROADCAST or NO NAVAREA ?? WARNINGS OR COASTAL WARNINGS TO BROADCAST.*
- No warning messages are always self cancelling and have a DTG of when it was prepared.*

- **Promulgation of the cancellation of NWs**

The user may not receive the schedule broadcast including the cancellation of a NW (eg the ship is outside the area covered by the station)

How long the cancellation warning is valid and broadcast?

Several kinds of cancellation: a dedicated NW, an indication within a NW, a self-cancelling NW (possibly with a date)

- **NtMs and websites**

4.1.5 Navigational warnings should remain in force until cancelled by the originating coordinator. Navigational warnings should be broadcast for as long as the information is valid. However, if they are readily available to mariners by other official means, for example in Notices to Mariners, then after a period of six weeks they may no longer be broadcast.

-> NAVTEX and safetyNET do not broadcast all the NWs

-> user has to browse multiple websites, not so easy

When referring to NtMs in 4.1.5, does it refer to:

- subsequent (T) or (P) NtMs or chart-updating NtMs (and ENC update) that must be published before the NW is cancelled?

- a recapitulative list of NWs in force?

Are the six weeks counted from the date of the first broadcast of the NW?

- **Special case of NAVTEX**

Résolution MSC.148(77)

“ After between 60 h and 72 h, a message identification should automatically be erased from the store. If the number of received message identifications exceeds the capacity of the store, the oldest message identification should be erased”

-> If the user does not receive the schedule broadcast, he can lose the NWs in force.

Conclusion: it seems almost impossible that users know reliably the NWs in-force.

What solution to automate the management of the NWs aboard?

The current process is not valid for automation.

S-124 CG must model the data received allowing automation and then we must have an idea of the operations in the future.

Draft solution to be discuss

It is assumed that new communication means, able to convey S-124 data, will have the capability to broadcast all the NWs in-force at each schedule broadcast.

Each schedule broadcast must include a complete and updated in-force bulletin. With the self-cancelling process, this bulletin is the reference for system aboard to identify NWs in-force.

The NWs cancelled (not in-force) are:

those previously received but not in the following in-force bulletins received, even if a cancellation NW has been received or not

or

the self-cancelling NWs with a cancellation date previous to reception of the following in-force bulletin.

A cancellation NW is used when reason for the cancellation is of benefit to the mariner and can be stated concisely.

Comments:

Tentative schedule

Work Item	Date start	Date end	Comment
Define a work program			done
Review needs, gaps and requirements	Feb. 2014	Nov. 2014	done
Identify basic functions	Dec. 2014	Dec. 2015	Aboard functions have priority. In relation with WWNWS for the new ways of operations and the scenario of the transition. On going
Improve UML model	Feb. 2015	Dec. 2015	On going
Define the portrayal of the NW	Sep. 2015	Jul. 2016	
Tests	2015	2017	
Contribute to draft performances standards	2016	2017	
Enlarge as appropriate the membership and relationships	2014	2017	So that other projects feed us of their ideas and find a normative outlet in them works, to validate functions by actors, to feed other works of other bodies, to reach a consensus, ...
Reach a consensus (impact on stakeholders,...)	2016	2017	
Submit S124 for endorsement		2017	