Input paper: [[1]](#footnote-1) ARM8-10.18

Input paper for the following Committee(s): check as appropriate Purpose of paper:

**X** ARM **□** ENG **□** PAP **□** Input

**□** ENAV **□** VTS **X** Information

Agenda item [[2]](#footnote-2) (from agenda) 10

Workplan Task Number2 …………………………………

Working Group WG2

Author(s) / Submitter(s) Eivind Mong/S-124CG

Harmonized AtoN change terms

# Summary

With S-201 development progressing well, it is worthwhile to consider how S-201 data will be used in downstream systems. AtoN information is an integral part of the navigation system that consistently contributes to the preservation of life at sea, preventing accidents and supporting efficient marine transportation. Therefore, changes to AtoN information need to be quickly promulgated to maintain the integrity of the navigation system. One method to improve on the promulgation of AtoN information is to harmonize the terms used so that downstream systems can easily integrate the update information.

## Purpose of the document

This paper proposes for S-201 development to consider categories of AtoN changes that can be utilized by Navigational Warning systems to more quickly generate Navigational Warnings with less risk of human error.

# Discussion

Changes to AtoN information are an important source of information in the navigation system. The method utilized to promulgate urgent safety information to mariners is navigational warnings and other MSI. To that end WWNWS-Sc has stood up the S-124 Correspondence Group to develop S-124 as a format for promulgating navigational warnings in an S-100 format intended for ECDIS. S-124 has a comprehensive list of change terms, and in order to improve on the promulgation of AtoN information it could be beneficial to harmonize the any S-201 change terms, so that downstream systems like Navigational Warning issuing systems can easily integrate the update information. S-124CG is developing the S-124 data model, and has drafted a list of warning hazard types that can serve as a starting point for discussion among the S-201 development team on the inclusion of such information into the S-201 data model. The list is attached to this paper as Annex 1.

It is expected that S-201 will be an important source format in creating of navigational warnings. In particular, changes to AtoN information are a major source of new navigational warnings. By adding a category of change in S-201, AtoN datasets can assist in the creation of navigational warnings, since it can reduce the need for human interpretation of the S-201 dataset. This can be further improved if there is harmonization of the change categories between S-201 and S-124, and the navigational warning issuance system employed by the competent authority includes a function to map the S-201 input data to S-124 templates.

For example, S-201 data could be structured in a manner similar with the example below to simplify ingestion into navigational warning systems.

Dataset 1: Everything normal (status is normal)

Dataset 2: Buoy damaged, change from last update = Damaged (status is damaged)

Dataset 3: Buoy moved, change from last update = Moved (status is still damaged)

Dataset 4: Buoy repaired, change from last update = Repaired (status is normal)

# References

1. S-124 draft 20181017

# Action requested of the Committee

The Committee is requested to:

1. Note this paper
2. Consider the need for harmonization between S-201 and S-124
3. WarningHazardTypes for AtoN – Proposed by France – 16 Oct 2018
   1. Yves Le Franc (Shom) and Gaëlle Nassif (Cerema)

|  |  |  |
| --- | --- | --- |
|  | | |
| *Subjects (not part of S124\_warningHazardTypes)* | warningHazardTypes for AtoN (incidents) | Definition |
| *Buoyage* |  |  |
|  | temporary buoyage | A buoyage put into service for a limited period (for example, during summer season, during works). |
| *Buoy* |  |  |
|  | Light buoy off light |  |
|  | Light buoy unreliable |  |
|  | Light buoy out off synchronization |  |
|  | Light buoy damaged | Light over to its original position |
|  | Buoy missing |  |
|  | Buoy off station | Move of the mooring system due to the wind |
|  | Buoy moved | Has been or will be moved intentionally |
|  | Buoy adrift |  |
|  | Buoy damaged |  |
|  | Buoy topmark missing |  |
|  | Buoy topmark damaged |  |
|  | Buoy daymark unreliable | Color of the buoy no longer corresponding to color recommendations |
|  | Buoy withdrawn | Removed for a fixed term |
| *Light* |  |  |
|  | Light off light |  |
|  | Light unreliable | Due to technical problems |
|  | Range light reduced |  |
|  | Fixed light |  |
|  | Light out of synchronization |  |
|  | Light daymark unreliable | No longer noticeable |
| *Beacon* |  |  |
|  | Beacon missing |  |
|  | Beacon damaged |  |
|  | Light beacon off light |  |
|  | Light beacon unreliable |  |
|  | Light beacon out of synchronization |  |
|  | Light beacon damaged | Light over to its original position |
|  | Beacon topmark missing |  |
|  | Beacon topmark damaged |  |
|  | Beacon daymark unreliable | Color of the buoy no longer corresponding to color recommendations |
|  |  |  |
| *Alignment* |  |  |
|  | Front light of the alignment off light |  |
|  | Rear light of the alignment off light |  |
|  | Front light of the alignment unreliable |  |
|  | Rear light of the alignment unreliable |  |
|  | Front light of the alignment range light reduced |  |
|  | Rear light of the alignment range light reduced |  |
|  | Front light of the alignment in fixed light |  |
|  | Rear light of the alignment in fixed light |  |
|  | Alignment lights out of synchronization |  |
|  | Front daymark of the alignment unreliable | Part or totality of the daymark missing or not visible |
|  | Rear daymark of the alignment unreliable | Part or totality of the daymark missing or not visible |
| *Audible signal* |  |  |
|  | Audible signal out of service |  |
|  | Fog signal out of service |  |
| *Radionavigation aids, Signal and radio aids* |  |  |
|  | AIS out of service |  |
|  | V-AIS out of service |  |
|  | RACON out of service |  |
|  | DGPS station out of service |  |
|  | Loran C station out of service |  |
|  | e-Loran station out of service |  |
|  | DGLONASS station out of service |  |
|  | Chayka station out of service |  |
|  | e-Chayka station out of service |  |
|  |  |  |
|  |  |  |
| *AtoN commissioning* |  |  |
|  | New buoy |  |
|  | New light |  |
|  | New beacon |  |
|  | New audible signal |  |
|  | New fog signal |  |
|  | New AIS |  |
|  | New V-AIS |  |
|  | New RACON |  |
|  | New DGPS station |  |
|  | New e-Loran station |  |
|  | New DGLONASS station |  |
|  | New e-Chayka station |  |
| *AtoN changed* |  |  |
|  | Buoy changed |  |
|  | Buoy temporarily changed |  |
|  | Light changed |  |
|  | Light temporarily changed |  |
|  | Beacon changed |  |
|  | Beacon temporarily changed |  |
|  |  |  |
|  | Fog signal changed |  |
|  | Fog signal temporarily changed |  |
|  | Audible signal changed |  |
|  | Audible signal temporarily changed |  |
|  | V-AIS changed |  |
|  | V-AIS temporarily changed |  |
|  | RACON changed |  |
|  | RACON temporarily changed |  |
| *AtoN removal* |  |  |
|  | Buoy removed |  |
|  | Buoy temporarily removed |  |
|  | Light removed |  |
|  | Light temporarily removed |  |
|  | Beacon removal |  |
|  | Beacon temporarily removed |  |
|  | Fog signal removed |  |
|  | Fog signal temporarily removed |  |
|  | Audible signal removed |  |
|  | Audible signal temporarily removed |  |
|  | AIS removed |  |
|  | AIS temporarily removed |  |
|  | V-AIS removed |  |
|  | V-AIS temporarily removed |  |
|  | RACON removed |  |
|  | RACON temporarily removed |  |
|  | DGPS station removed |  |
|  | DGPS station temporarily removed |  |
|  | EGNOS station removed |  |
|  | EGNOS station temporarily removed |  |
|  | LORAN C station removed |  |
|  | LORAN C station temporarily removed |  |
|  | e-Loran station removed |  |
|  | e-Loran station temporarily removed |  |
|  | Chayka station removed |  |
|  | Chayka station removed temporarily |  |
|  | e-Chayka station removed |  |
|  | e-Chayka station removed temporarily |  |
|  |  |  |
| *End of incident* | End of incident |  |

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Input papers should be assigned to a work task as listed in the Committee work plan which is available in input papers. Leave open if uncertain but consider how the paper is to be processed if not relevant to a work task [↑](#footnote-ref-2)