

Distribution methods and dataset types for S-124

Submitted by Canadian Coast Guard

SUMMARY

Executive Summary: A review of the proposed dataset types in light of a discussion over a push or a pull distribution methodology.

Action to be taken: Determine the main distribution method of S-124 and review the dataset types against that.

Related documents: S-124 Product Specification Draft 2.0.0

Questions to consider;

1. The distribution paradigm used so far in developing S-124 is a push service where users must always listen. In contrast ENC distribution is a pull service from the producer point of view, and where middlemen (RENC and/or service providers) take over and create push or pull services for users. Is it plausible that a pull service can be developed also for S-124?
2. Push service is yet to be defined in full detail, but examples are developed or under development in STM Validation Project and SMART Navigation Project. In a push data distribution scenario, there may be a need for a common technical service description for all NW producers. IALA G1128 gives guidance on how to define e-Navigation Technical Services. SMA is drafting a specification. Should it become part of S-124?
3. Are the types of datasets sufficient given the distribution paradigm under development? See Annex A for current words in S-124 Product Specification Draft 2.0.0.
 - a. Is the 'no message at hand' function sufficient?
 - b. Is the In-Force Bulletin function sufficient?
 - c. Should In-Force Bulletins self reference?
4. Is the information flow described in Figure A representative of a typical NW information flow? A representative information flow can help in system design.

Annex A

Types of Datasets

A Navigational Warning is communicated via a dataset. A dataset is a grouping of features, attributes, geometry and metadata which comprises a specific coverage. There are five types of S-124 datasets, and a dataset must contain only one Navigational Warning or In-force Bulletin.

Dataset type	Explanations
New dataset	Dataset with a new warning. The dataset is valid till a cancellation dataset is issued.
New dataset self-cancelling	Dataset with a new warning that include a cancellation date.
New dataset with cancellation	Dataset used to cancel previous warning. May include updated information related to the warning that is being cancelled.
New dataset with cancellation self-cancelling	Dataset used to cancel previous warning. May include updated information related to the warning that is being cancelled. Includes a cancellation date.
In-force bulletin	Dataset that reference all in-force navigational warnings, and always cancel the previous in-force bulletin.

Table **Error! No text of specified style in document..1** - Dataset types

Content of Datasets

All datasets must contain one, and only one, instance of the information type Preamble.

- New dataset - Dataset with warning information that is valid till another dataset with cancellation information is issued. Dataset will contain at least one NavigationalWarningFeaturePart instance, and may contain one or more TextPlacement feature type instance and/or References information type instances.
- New dataset self-cancelling - Dataset with warning information that is valid till the cancellation date in the preamble. Dataset will contain at least one NavigationalWarningFeaturePart instance, and may contain one or more TextPlacement feature type instance and/or References information type instances.
- New dataset with cancellation – Dataset that can contain updated information to a previously issued dataset, and will contain cancellation information for at least one previous dataset. Dataset will contain at least one References information type instances and may contain one or more NavigationalWarningFeaturePart and TextPlacement instances.
- New dataset with cancellation self-cancelling - Dataset that can contain updated information to a previously issued dataset, and will contain cancellation information for at least one previous dataset. Dataset is valid till the cancellation date in the preamble. Dataset will contain at least one References information type instance and may contain one or more NavigationalWarningFeaturePart and TextPlacement instances.
- In-force bulletin – Dataset that references all navigational warnings that are valid at the time of issue. In-force bulletin datasets always cancel the previous in force-bulletin. Dataset will contain one Preamble , and may contain one or more References information type instances and must not contain any NavigationalWarningFeaturePart or TextPlacement instance.

In-force bulletin dataset

All datasets must be considered in-force and valid till a new dataset with cancellation information is issued or where cancellation date is present in a dataset, that date is not passed.

The in-force bulletin must not be used by a producer to cancel valid datasets, that function is reserved for a new dataset with cancellation information for previously issued datasets.

No message on hand

When there are no active warnings in a series, the regularly issued in-force bulletin dataset must be encoded with an NWPreamble associated with only one instance of References. The References instance shall have referenceCategory set to in-force, and noMessageOnHand set to true.

Dataset cancellation

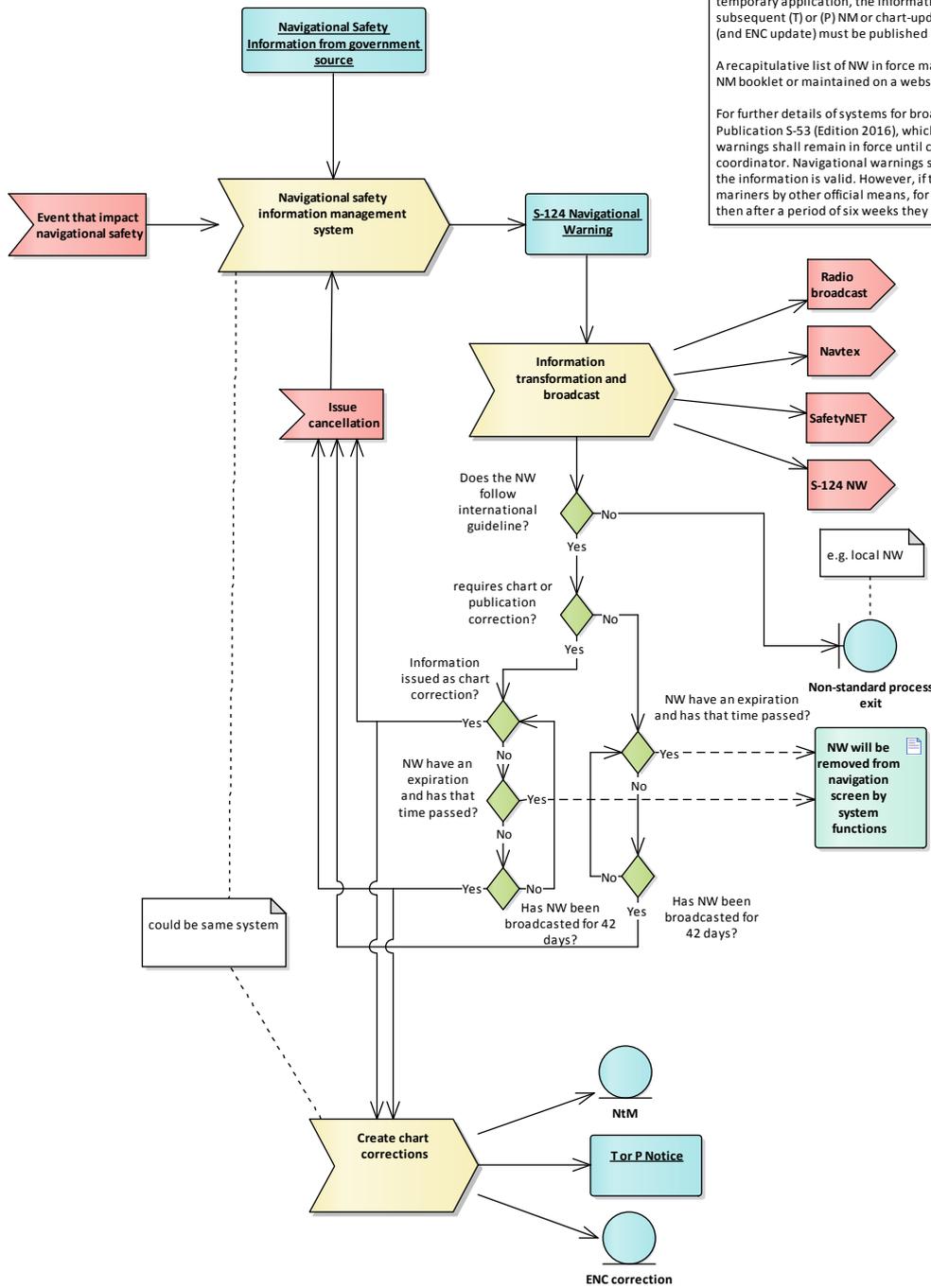
S-124 Datasets may be cancelled in four ways;

- by populating the cancellationDate attribute, and that date has passed. The user system should mark the dataset cancelled;
- or sending a cancellation dataset which contain only on instance of a References information type with the referenceType attribute set to 1 (cancellation), and the messageReference with the identifier of the datasets to be cancelled.
- or sending a new dataset with updated information and a References information type with the referenceType attribute set to 1 (cancellation), and the messageReference with the identifier of the previous datasets to be cancelled.

Or any S-124 dataset in a user system that is not present on the most recent in-force list should be marked cancelled

Figure A

analysis Business Workflows



S-4 Ed 4.6.0, April 2016, B-601.8, Navigational Warning. Navigational Warnings (NW) are used to promulgate the most urgent information. They are not intended for updating charts directly. Unless it is of very temporary application, the information will normally require a subsequent (T) or (P) NM or chart-updating NM, as appropriate. Any NM (and ENC update) must be published before the NW is cancelled.

A recapitulative list of NW in force may be included in the periodical NM booklet or maintained on a website, see B-630.3.

For further details of systems for broadcasting NW, see IHO Publication S-53 (Edition 2016), which states that: 'Navigational warnings shall 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'.