Canada's Progress Towards a new Navigation Warning (Issuing) System

(August 28th, 2017)

Background

- Through an e-Navigation initiative, Canada embarked on a project to review regional navigational warning issuing services with the following main objectives:

  - to bring national consistency to procedures used within the navigation warning issuing services;

  - to bring domestic services up, as close as possible, to international standards; and,

  - to acquire/adapt or develop a new national navigation warning issuing system

Comprehensive Review

- The project team commenced a review of:

  - domestic services, noting:

    - regional procedures haven't changed in 25 years;

    - the significant variances in procedures; and

    - the use of 4 different issuing systems;

  - International standards, noting;

    - the results of the WWNWS 2014 Survey; and,

    - responses to the CCG questionnaire sent to WWNWS-SC

  - new systems on market or in production

Operational Requirements

- The new national system should:

  - be accessible to other programs with permissions;

  - have 24/7 availability (built in redundancy);

  - have the capacity to archive, search, filter, sort, etc.;

  - have bilingual capability;

  - be geo-referenced enabled;

  - be able to distribute by email or web alert; and

  - be interoperable with other systems

S-124 Correspondence Group

- Introduced to the S-124 CG, the Danish MSI web-application became the main interest for the CCG.

  - Significant progress has been made to adapt the software to meet the requirements for our new national navigational warning (NAVWARN) issuing system.

  - Currently the NAVWARN system is designed to generate navigational warnings for domestic VHF/MF/HF radiotelephony broadcasts and the International/National NAVTEX Services.

NAVWARN System Design

- There are five regional navigation warning issuing desks which are each responsible for:
  - the domestic radiotelephony services; and,
  - the International and/or National NAVTEX Services
  * The NAVAREA Desk is a 'stand alone' component at one regional navigation warning issuing desk

- The system generates preformatted templates:
  - templates are bilingual
  - some templates permit free-text for amplifying information
  - some templates are free-text only

NAVWARN System Design (con't)

- Subscription based service:
  - Clients receive an email notification based on their choice of NAVWARN categories and regional area(s) of interest:

NW-CA-0027-17 | 2017-07-13 18:43 **Aids to Navigation**

Reference	NW-P-0001-16
Area	Fraser River
Aid	Pitt Lake Light Buoy L11 LL372.5
Details	Unreliable
Position	49 21.280N 122 34.920W
Chart	3062

  - Once published, the NAVWARN is automatically:
    - posted online (bilingual);
    - emailed to subscribers; and,
    - sent to the appropriate MCTS Centres for broadcast

NAVWARN System Design (con't)

- MCTS Centres receive an email containing a navigation warning appropriate to their broadcast area.

  - In regions of domestic broadcast service overlap, multiple MCTS Centres may receive an email.

Broadcast Instructions: Broadcast Once

Navigational Warning P0123 051735 UTC Jul 17

Strait of Georgia - Burrard Inlet

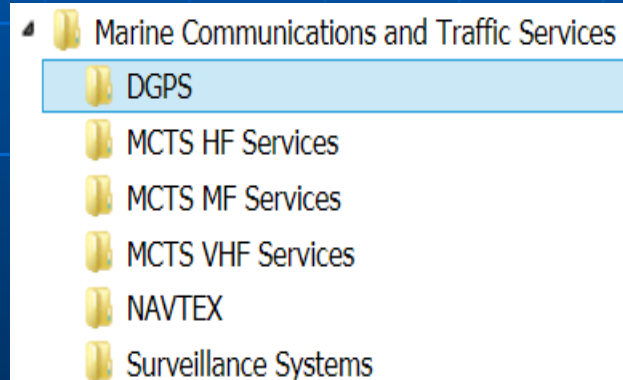Cautionary Light Buoy QB LL388.000 operating properly. Cancel NW P0119/17

NAVWARN System Design (con't)

- To facilitate efficiency, the NAVWARN System uses pre-formatted bilingual templates, where ever it is possible.

- There are 10 key subjects from which a 'category' can be selected:

- Aids to Navigation
- Drifting Hazard
- Ice
- Marine Communications and Traffic Services
- Marine Works
- Obstruction
- Offshore Works
- Recreational Event
- Seasonal Buoy Program
- Waterway Information

- Marine Communications and Traffic Services
  - DGPS
  - MCTS HF Services
  - MCTS MF Services
  - MCTS VHF Services
  - NAVTEX
  - Surveillance Systems

NAVWARN System Design (con't)

- The templates will auto-populate the details section:

Create Draft message

ID & Type

NW – P [▼] – Num. – 2017   Local

Subject

Marine Communications and Traffic Services

MCTS Assets

(Victoria) Alert Bay   ✕ ▼   ✕ (Alert Bay) CCG DGPS Station

Categories – (Edit categories)

✕ DGPS   Apply Template ▼   Clear Template

Other Categories [EN]   Other Categories [FR]   Maintenance
                                                            Normal operation
Title   Out of service
                                                            Reduced power
Title [EN]   Unmonitored
                                                            Unreliable
Details

✕ DGPS   Apply Template ▼   Clear Template

Other Categories [EN]   Other Categories [FR]   Applied template: **Reduced power** [MANUALLY MODIFIED]

Title

DGPS [EN]   DGPS [FR]

Details

CCG DGPS Station Alert Bay located at 50° 35.200'N 126° 55.467'W on 309 kHz operating at reduced power as of 201726 UTC Jul 17. [EN]

Station DGPS GCC Alert Bay situé à 50° 35,200'N 126° 55,467'W sur 309 kHz fonctionne à puissance réduite à partir du 201726 UTC juil. 17. [FR]

NAVWARN System Architecture

- 2 systems running simultaneously from 2 locations

- 2 systems with own database, synchronized (real time)

- 1 server on "OpNET DMZ", hosts database servicing the website publication (independent of NAVWARN system)

- Internal links to CCG AtoN database and CHS Chart Index web service; synchronized every 24 hours.