



19th IALA Conference 2018

Incheon, Republic of Korea

ABSTRACT SUBMISSION – March 27, 2017

The Implementation of a Resilient Position, Navigation and Timing Solution in Canada

Topic: 6. Resilient PNT

PRINCIPAL AUTHOR: Mr. André Châteauvert, ing.

Position: Manager, Land-Based Electronics

IALA member organisation: Canadian Coast Guard (CCG)

Postal address:

200 Kent Street
Ottawa, Canada
K1A 0E6



Telephone (including country and area codes)

Office: 1 (613) 612-6934

Mobile: (same)

Email: andre.chateauvert@dfo-mpo.gc.ca

CO-AUTHOR: Mr. Jean Delisle, ing.

Organization: Valcom Consulting Group Inc.

ABSTRACT:

Mariners around the world use Global Navigation Satellite Systems (GNSS) as their primary electronic source of position, navigation and timing (PNT) information to navigate safely and efficiently. Today, many shipborne devices such as the Automatic Identification System (AIS), ECDIS (Electronic Chart Display and Information System), ARPA (Automatic Radar Plotting Aid) and many other navigational aids onboard vessels are using PNT data based on GNSS. On the shore-side, ports and national authorities depend on GNSS for a wide range of maritime applications, such as: aids to navigation; vessel traffic services; surveillance; search and rescue; fishing; marine engineering; oceanography; port operations; and oil and gas exploitation.

In this context, the Canadian Coast Guard is currently performing a national review involving other government departments, stakeholder organizations, the community of users, technical analysis and engineering studies to determine Canada's technical and operational requirements for a GNSS back-up system and to evaluate the future of its current Differential GPS. This review, which also includes the requirements for a GNSS back-up system in the Canadian Arctic, will evaluate potential solutions, such as the use of robust receivers, other space alternatives, ground technology such as e-Loran, Radar Absolute Positioning, inertial navigation and the R-Mode technology, which will be field tested in Canadian waters, in partnership with the Federal Waterways and Shipping Administration (Germany).

This paper will outline the key findings of the national review currently being performed. The Canadian Coast Guard wishes to share the results of its work with other national authorities in order to stimulate the dialogue and debate, as many other authorities may have similar concerns and interests with regards to GNSS back-up solutions.

SUBMITTED TO contact@iala-aism.org