

eLoran Briefing – October 2010 (rev 1)

Introduction

This briefing gives an update on the Business Case for Resilient PNT prepared for the UK Department for Transport (DfT) as well as developments relevant to eLoran in national regional and international bodies over the last few months.

Business Case

The Business Case for the decision to continue the UK trial of eLoran has now been provided to the UK DfT. The Case presents a number of scenarios and indicates costs and benefits over the projected life of the system up to 2028.

It provides a baseline “do minimum” option and potential alternative solutions in addition to eLoran. The return on eLoran is projected as £25m (NPV) compared with negative returns for all other options.

The solutions postulated to mitigate the vulnerability of GNSS and allow the rationalisation of physical AtoNs, were: enhanced provision of physical and radar aids to navigation, “hardening” of GNSS, or eLoran as a complementary electronic navigation system.

The eLoran option is the only one that has been demonstrated and would provide security against the vulnerability of GNSS, allowing the full realisation of the benefits of e-Navigation.

The economic case for retaining the eLoran option is quite clear, but there are also very strong political and commercial arguments:

- safe and efficient trade by sea is vital to the country's economy and this option is the best way of securing that trade;
- adopting eLoran across many sectors, including security and timing, will have major impacts in mitigating the vulnerabilities of GNSS and so helping to safeguard UK critical infrastructure;
- a single systemic back-up to GNSS for all sectors will drive down equipment costs and ensure security of supply for all users.

IMO NAV 56

An eLoran Update was presented in plenary at IMO NAV 56 by the UK, receiving support from several countries. It was agreed that the report should be considered in the Gap Analysis for e-Navigation together with other potential solutions.

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The concern about GNSS vulnerability and the need for alternatives was raised and it was proposed that a report be prepared in time for submission to IMO NAV 57 (June 2011) setting out the options for reducing the risk of reliance on a single system for position-fixing.

These options would include not only terrestrial systems, such as eLoran, but also measures for reducing the vulnerability of GNSS, radar position-fixing and inertial systems. IALA Members would be encouraged to contribute information and results of trials and studies that could be used in the preparation of such a report, to be collated at e-NAV 9 in March 2011.

UK National meetings

A number of meetings have taken place over the same period between different UK Government departments and agencies, concerned with vulnerability of infra-structure. The case for eLoran as a complementary system to mitigate GNSS vulnerability has in general been supported.

eLoran in Europe

Norway, France and the UK are working together with the Russian Federation to develop a common approach to eLoran in Europe. Other European countries following these developments would be likely to join in, if there was an agreed European policy and there are signs that the European Radio Navigation Plan may be revived, incorporating eLoran. There has also been interest from the EC GNSS Supervisory Authority in providing support, as well as an encouraging response to proposals for European Regional Development Funding of infra-structure and/or operation of eLoran.