EUROSHIP INSTALLS GPS BACKUP TECHNOLOGY

Ship management company, EuroShip Services Ltd, has installed eLoran as a back up to GPS to ensure the safety of its vessels operating off the coast of the UK. The installation is on a trial basis with a view to implementing it across the entire fleet of vessels managed by Euroship.

eLoran is a land based radio navigation system, proven to seamlessly take over in the event of a GPS outage. During its initial trial, EuroShip plans to simulate GPS outages allowing the eLoran system to take over the provision of positioning, navigation and timing (PNT) data automatically.

Much of the equipment in a modern day vessel’s bridge relies on data from the GPS. However, GPS signals travel large distances from space, meaning that they are weak by the time that they reach Earth. As such, the signals are easily disrupted by solar flares and space weather, as well as GPS jammers which are available cheaply online and are capable of causing complete outages.

Loss of GPS can affect not only a vessel’s navigation systems but also the AIS, radar and communications systems, all of which rely on GPS data. This could severely hamper the ability of the mariner to sail safely and efficiently.

To counter this risk, the General Lighthouse Authorities of the UK and Ireland (GLAs viz: Trinity House, London; the Commissioners of Irish Lights and the Northern Lighthouse Board in Edinburgh), who are responsible for safety of marine navigation off the coast of the UK and Ireland, last year announced the rollout of eLoran stations to bolster navigational safety at seven of the UK’s busiest ports: Dover, Harwich, Thames, Humber, Middlesbrough, Firth of Forth, and Aberdeen. eLoran technology is based on longwave radio signals and is independent and complementary to GPS. It is understood that the UK is the first in the world to deploy this technology for shipping companies operating both passenger and cargo services.

Frank Davies, Managing Director, EuroShip Services Limited, commented: ‘Mariners assume that GPS will always work and as such have become almost entirely reliant on GPS for position, navigation and timing data, to the extent that there are next to no options for navigating without it.

He added: ‘We are looking at eLoran as a preventative measure, to avoid our vessels being vulnerable to GPS outage. To have a backup such as eLoran would be a huge advantage as it would not disrupt the signal to the equipment at all, so we could just carry on safely. If the trials prove successful, and eLoran runs as we expect it to, we will consider rolling receivers out to our
entire fleet of sixteen managed vessels as a safeguard. We have our clients’ full support with these trials.’

Martin Bransby, Research and Radionavigation manager at the General Lighthouse Authorities of the UK and Ireland, reflected: ‘Shipping lanes are becoming busier and more perilous than ever, whilst mariners are becoming increasingly reliant on one, fallible, source of PNT data. This presents a significant risk to the safety and efficiency of vessels, particularly in congested areas like ports. eLoran reduces the vulnerability of vessels by ensuring the uninterrupted provision of position, navigation and timing data even when GPS is down. As a terrestrial system, eLoran signals are much stronger when received than GPS, making it exceptionally difficult to interrupt.’

EuroShip is a Ship Management firm based within the Port of London and primarily working on routes in Northern Europe. It provides full technical and crew management for large roll-on roll-off vessels. It currently operates a fleet of sixteen vessels.

eLoran receivers are now commercially available, and the service is free to use. Full operational capability covering all major UK ports is expected by 2019.

Picture caption
Pauline and Yasmine managed by Euroship.