ABSTRACT SUBMISSION

**Topic No.: 7 Visual aids - Advances in light technology and Maintenance of modern Aids to Navigation**

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ABSTRACT / RESUME:

**Consolidation of Offshore Lighthouses the Benefits and Challenges.**

In recent years the Commissioners of Irish Lights has been moving towards completion of a programme of station consolidation of offshore lighthouses. This involves moving from diesel and solar /diesel power to solar/battery power with the most modern LED or other energy efficient light sources. The objective is improved AtoN performance and reliability coupled with a reduction of maintenance to no more than 1 day per year. A typical station before consolidation would have multiple diesel generators, large fuel storage facility, significant accommodation buildings for maintenance teams, fresh water tanks for maintenance teams and facilities for ship or aircraft to deliver fuel and water. This type of station requires between 14 and 20 days annual maintenance. The footprint of the consolidated station will typically reduce to only the tower structure with other property available for alternative use or responsible withdrawal. Environmentally the station will improve with the removal of mercury baths, diesel generation and diesel delivery/storage. Large First Order Lenses with 1kW lamps are replaced by low energy LED light sources. The paper will consider the challenges of carrying out a typical consolidation, the equipment used, the process for responsible withdrawal, the heritage, public relations and community issues that can arise, and the significant benefits in terms of cost, reliability and performance.

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