

### ELECTROMAGNETIC INTERFERENCE (EMI) EFFECTS OF LIGHT EMITTING DIODES (LED) LIGHTING SYSTEMS

ALL SAMSA PERSONNEL, SHIP AGENTS, PORT AUTHORITIES, SHIP OWNERS, SHIP MANAGERS, SEAFARERS AND OTHER INTERESTED AND AFFECTED PARTIES

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#### Marine Safety Flash's and/or Marine Notice's and/or Marine Information Notice's affected

<i>Cancelled or superseded:</i>	None	<i>Read in conjunction with:</i>	(Not Applicable)
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#### SUMMARY

The purpose of this Marine Notice is to inform the maritime industry of possible electromagnetic interference (EMI) caused by light emitting diode (LED) lighting systems and the impacts on maritime safety.

LED lighting systems installed on marine vessels can cause EMI to marine radios which are part of the Global Maritime Distress and Safety System (GMDSS) and Automatic Identification System (AIS).

EMI generated by LED lighting systems represents a possible hazard to navigation and search and rescue, particularly when LED lighting systems are placed in the near vicinity of communications and navigation antennas. This problem has been reported to pose a major widespread marine safety hazard in terms of the GMDSS, safety of life, search and rescue and safety of navigation because it essentially blinds the receivers in the AIS and the marine radios used for GMDSS.

Certain equipment, uses power supplies employing similar technical characteristics (switch-mode power supply) to those used in LED lighting systems, which may cause the same problems.

There are currently no maritime EMI standards which adequately address this problem. Recognizing that the current standards do not address the problem, discussions at the International Maritime Organization/International Telecommunications Union working groups/parties are focused on identifying possible means to address the issue.

SAMSA GMDSS and AIS radio inspection checklists have been updated to include a check for very high frequency (VHF) interference from LED lighting.

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