



DIRECTORATE GENERAL OF LIGHTHOUSES AND LIGHTSHIPS

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AN OVERVIEW

THE DIRECTORATE GENERAL OF LIGHTHOUSES AND LIGHTSHIPS is headed by the Director General for the purpose of administration and management of Lighthouses. The coastline is divided into 09 lighthouse Districts Headquarterd at Jamnagar, Mumbai, Cochin, Chennai, Vishakhapatnam, Kolkata, Port Blair, Gandhidham and Goa Directorate. Each lighthouse district is headed by a Director, who have under them officers belonging to various engineering disciplines and VTS Directorate at Gandhidham is headed by Dy. Director General. They are assisted by Technical and Ministerial staff.

The Directorate General of Lighthouses and Lightships establishes and maintains general Aids to Marine Navigation along the coastline of India as per Lighthouse Act, 1927. In accordance with the Lighthouse Act 1927, the Director General of Lighthouses and Lightships is responsible for Superintendence and Management of all General Lighthouses along the Indian Coast. The new marine Aids to Navigation Bill 2021 was passed in parliament on 31 July 2021 to repeal and replace the Lighthouse act 1927.

According to the SOLAS (Safety of Life at Sea) 1974, Chapter V published by the IMO (International Maritime Organization), the Contracting Governments to:

- Provide appropriate Aids to Navigation
- Take into account international recommendations and guidelines
- Arrange for information on Aids to Navigation to be made available

For the safe voyage in Indian waters, the Directorate is providing aids to marine navigation. They can be categorized as visual and radio Aids. The visual aids are lighthouses, Light Vessels, Buoys, Beacons or any mark, Sign or apparatus. Radio aids like Radar Beacons (Racons), Differential Global Positioning System (DGPS), Vessel Traffic Services, AIS, Navtex, etc. used for the guidance and safe passage of ship.

There are two categories of AtoN viz 'General' and 'Local'. The superintendence and management of 'General' aids to Navigation is vested with the Directorate General of Lighthouses and Lightships. The management of Local Lighthouses is the responsibility of the State Maritime Board, Port Trusts, etc. In case the local lights are not maintained to the international standard due to financial constraints and lack of proper technical personnel, the Directorate on acceptance of the local bodies is taking over the those local lights.

The Directorate General of Lighthouses and Lightships is at present, maintaining a number of Aids to Marine Navigation, details of which are appended hereunder:

S. N.	Aid to Navigation	Nos.
1.	Lighthouse	204
2.	Lightship	01
3.	DGNSS Stations	23
4.	Racons	64
5.	Deep Sea Lighted Buoys	21
6.	National Automatic Identification System (AIS) Physical Shore stations (PSS)	87
7.	Virtual AIS	10
8.	Vessel Traffic Service- Gulf of Kachachh (9 Radar + 6 VT 6 Stations & 2 Direction Finder)	01
9.	Lighthouse Tender Vessels	03
10.	National Navtex Chain (7 Monitoring Stations & Navtex Control Centre at Mumbai & Vizeg.)	01



LIGHTHOUSE

A Lighthouse is a structure on land, close to the shore line or in the water. The Lighthouse tower serve as a day mark with its colour scheme, and a powerful light with a specific character serve the mariners during the night.

A lighthouse may be used to indicate dangerous Shoals, Sand Bank, Rock etc to obtain a Line of Position and to indicate Landfalls, Headlands, entrance to estuaries/ports etc.



LIGHTSHIP

A Lightship is a floating AtoN, serves the same purpose as lighthouse and is positioned in the sea, where it is not feasible to construct a lighthouse. DGLL maintains a lightship "PERIGEE" off the Bhavnagar coast, in Gujarat.



RECAPITALIZATION OF DGPS.

DGLL has established a chain of 23 DGPS Stations, a satellite derived positioning system for providing better than 5m accuracy to the mariners.

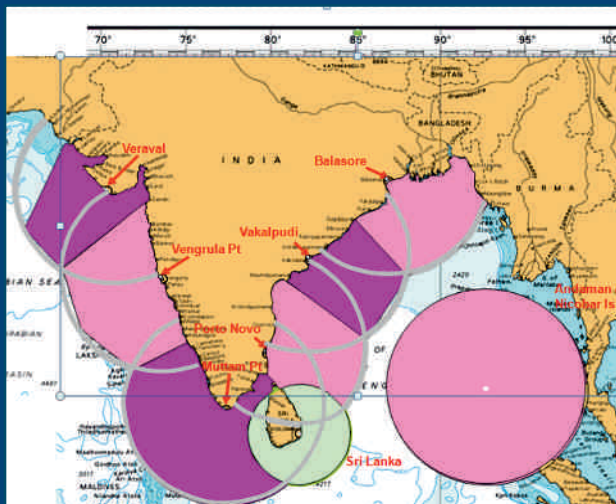
Existing DGPS provides correction only for one satellite constellation i.e. Navstar. However, in present scenario other satellite constellation for positioning viz. GLONASS, GALELLIO, BEDIEU and regional constellation GNSS and NavIC of India are operational.

Under recapitalization of DGPS the equipment have been upgraded to receive and process signals from all the constellations including NavIC and work as DGNSS.



NATIONAL NAVTEX NETWORK

DGLL has established National Navtex Network to broadcast Maritime Safety Information through 7 transmitting stations along the coast line of India at Veraval, Vengurla Point, Muttom Point, Portnovo, Valakpudi, Balasore, Keating Point to provide seamless coverage. Maritime Safety Information includes Navigational warning, weather forecast, weather warnings and Search & Rescue messages received from NHO, IMD, ICG and DG Shipping related to NavArea VIII.



LIGHTHOUSE TENDER VESSELS

To cater to the need of maintenance of Lighthouses in the islands and for maintaining the channel marking buoys in the Gulf of Kachchh and Gulf of Khambat, the Directorate is maintaining three ocean-going vessels, M.V. Sagardeep-II, M.V. Deepstambh-II and Indira Point.



RACON (RADAR BEACON)

Racon operates on Microwave frequency (S & X band). It responds to a Radar pulse by sending a characteristic pulse thereby indicating range, bearing and identification information on Radar Screen of the vessel. It is an all weather Aid to Navigation. It does not need any additional equipment on board and is a versatile aid, during Coastal Phase of Navigation. Racon along with display of its Character on a Radar screen



DEEP SEA LIGHTED BUOYS

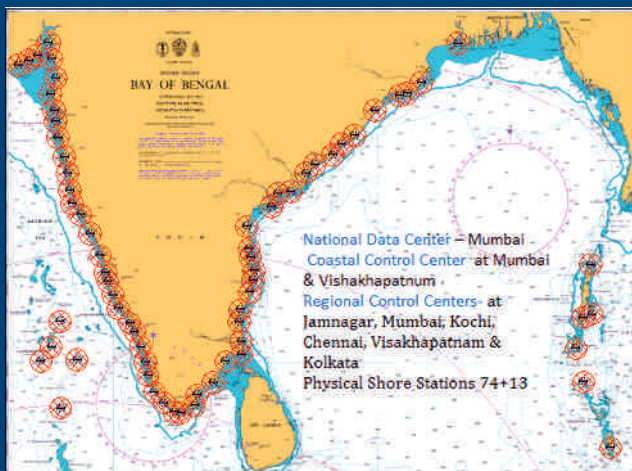
Buoys are floating aids used for marking of channel in the deep sea with its day mark and character of light. Colour scheme of the buoy serves as a day mark to the mariners. Buoys are used to indicate dangerous shoals, sand bank, submerged rock etc to obtain a line of position, to indicate Landfalls, Headlands, entrance to estuaries/ports etc.



NATIONAL AIS NETWORK

Automatic Identification System (AIS) is a ship to ship, Shore to Ship and ship to shore based data broadcast system, for maritime safety and collision avoidance.

DGLL has established National AIS Network with 87 Physical Shore Stations (PSS), which seamlessly provides radio coverage up to a minimum distance of 25 Nautical Miles from the coast including Islands of Andaman & Nicobar and Lakshadweep.



The vessels equipped with AIS Transponders are being tracked with its regional control center of all Directorates. Two Coastal Control Centers at Mumbai and Vishakhapatnam have been established, in addition, to a National Data Centre at Mumbai. For coastal safety and security, terminals are also provided at Directorate General of Shipping, Joint Operation Centre (JOC) Mumbai, Joint Operation Centre (JOC) Vishakhapatnam, Indian Navy Delhi and Indian Coast Guard Delhi.

VESSEL TRAFFIC SERVICE - GULF OF KACHCHH



A VTS is a service implemented by a Competent Authority, designed to improve safety and efficiency of vessel traffic and to protect the environment. The service should have the capability to interact with the traffic and to respond to traffic situations developing in the VTS area.

VTS-Gulf of Kachchh has been established in February, 2013. In terms area of coverage, VTS-GoK is one of the largest VTS systems of the world with a set up of 9 Radars, 4 AIS Base stations, 2 Direction

Finders in addition to Hydro and Meteorological Sensors at suitable locations with Master Control Station at Kandla. It is catering to requirement of 6 Ports, with the capability of extension to 10 Ports.

VTS Monitoring System have also been provided to the Indian Navy at Okha and Indian Coast Guard at Okha & Jakhau for monitoring the movements of vessels, plying in Gok waters, to enhance maritime security in the Gulf of Kachchh.

LIGHTDUES

The Directorate collects light dues for providing Aids to Navigation. The light dues are levied on the foreign going vessels on the basis of their Net Registered Tonnage (NRT) or on Twenty Feet Equivalent Unit (TEU) basis. The present rate of the light dues is Rs. 8 per NRT or Rs. 92 Per TEU for Container vessels. There has been no increase in Lightdues since 1993.

MARINE NAVIGATION TRAINING INSTITUTE (MNTI)

ADGLL also established departmental Training center at Kolkata & upgraded to Marine Navigation Training Institute to conduct training on Aids to marine navigation and VTS as per International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) World Wide Academy (IALA-WWA). It will cater to the training needs of National maritime fraternity, NIOR/SAARC countries. VTS simulator has been established for training on VTS operation. Training are being conducted every year. DGLL has been declared as competent Authority on training of AToN and VTS Training.



NEW HORIZONS OF DGLL

(A) COASTAL SECURITY NETWORK

Under CSN Phase-I Radars at 44 Lighthouses have been established for which an MoU was signed between ICG and DGLL on 18/12/2008. In CSN Phase-II, ICG shall establish 20 radars in LH premises. A revised MoU between DGLL and ICG has been signed on 08/09/2017.

For installation of monitoring equipment by Integrated Services Headquarters at select lighthouses on temporary basis, a MoU has been signed after approval of MoS.

(B) DEVELOPMENT OF INDIGENOUS SOFTWARE SOLUTION FOR VTS AND VTMS

DGLL joined hands with NTCPWC, IIT Madras to develop Indigenous Software solution for VTS and VTMS for Port sector on a collaborative mode.

(C) DEVELOPMENT OF INFRASTRUCTURE FOR OPERATIONALIZATION OF THE WATER AERODROME AND SEAPLANE SERVICES IN INDIA

As per the request from IWA and AAI, this Directorate has provided Marking Buoys for First Seaplane Services between the statue of Unity in Kevadia and Sabarmati River Front in Ahmedabad, Gujarat. The work was taken up by the Directorate in a very short period and the work was completed on war scale. The services of Seaplane was inaugurated by Hon'ble Prime Minister of India Shri Narendra Modi on 31st October, 2020.

Overview on Promotion of Tourism at Lighthouses

In line with vision of Hon'ble Prime Minister Shri. Narendra Modi, 75 Lighthouses have been earmarked for Development of Tourism.

Out of 75 Lighthouses 67 Lighthouses to be developed on PPP mode comprising of envisaged project components like resorts , cafeteria, spa, landscaping ,fountains , visitors amenities etc. An investment to the tune of Rs 315.82 Cr. Is anticipated against this project.

For remaining 08 lighthouses in house development is proposed for promotion of tourism at an estimated cost of Rs 12.50 Cr. Out of 08 Lighthouses at 03 Lighthouses Viz Gopnath , Veraval and Dwarka in the state of Gujarat work is underway. For remaining 05 Lighthouses project components are under finalization.





GOVERNMENT OF INDIA

MINISTRY OF PORTS, SHIPPING AND WATERWAYS

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