

THE NAVAL HYDROGRAPHIC SERVICE OF INDIA

HISTORY, ORGANIZATION AND WORK

Historical background

Since sailing ship days, the trade route to India has attracted the pioneers of all maritime nations. Until about the seventeenth century, the charts of the Indian coast continued to be based on the interpretation of verbal descriptions by the adventurous master navigators who piloted their ships to India using legendary knowledge. With the advent of steam-ships, the East India Company became alive to the necessity of introducing reliable charts of the Indian coast and its surrounding waters. Captain John RITCHIE, hydrographic surveyor of the East India Company, did some pioneer work in the Bay of Bengal and the outlets of the Ganges between 1770 and 1785. At about the same time, Lieutenant Archibald BLAIR made his name surveying around the Andaman Islands (Port Blair takes its name from this officer). Captain John McCLUER surveyed the West Coast of India from 1790 to 1793 in the ships *Endeavour* and *Panther*.

By the beginning of the nineteenth century, hydrography of the Indian seas assumed sufficient importance to warrant the appointment of a Marine Surveyor General at Calcutta. Captain COURT was appointed the first Surveyor General, which post he held until 1823. Captain Daniel Ross succeeded him, with *Research* (300 tons) and *Investigator* (450 tons) to assist him in exploring the Indian Ocean. During these years, the results of original surveys were sent to London for engraving and publication after a few copies had been struck off at Calcutta by lithography. Captain Ross resigned his appointment in 1883, and was succeeded by his assistant, Captain LLOYD.

In 1832, the Bombay Marine was converted into the Indian Navy. Sir Charles MALCOLM was appointed its first Commander-in-Chief. Unfortunately his successor, Captain Robert OLIVER, suspended surveying between 1839 and 1844. Irreparable loss of many valuable documents occurred during these years in their destruction by white ants and cockroaches in the sail loft of the Dockyard in Bombay. The record office was then shifted to Colaba observatory where the charts were compiled, drawn and occasionally lithographed. With the retirement of Captain LLOYD in 1940, the office of Marine Surveyor General at Calcutta was abolished. It is to the credit of Captain LUSHINGTON, who succeeded Sir Robert OLIVER in 1849, that he systematized the work of marine survey and restored the Surveying Service to its justified importance.

The first War of Independence in 1857 apparently brought all progress to a standstill and it was decided that the Royal Navy would henceforth be responsible for surveying the Indian coast. However, after a long period of inactivity, the Marine Survey Department was organized in 1875 under Commander A. D. TAYLOR, Superintendent of Marine Surveys. During this year, the Chart Depot was established at Calcutta to promulgate information about all new charts and ancillary publications. In 1882, the Marine Survey of India Office was moved from Calcutta to Bombay.

The first Indian List of Lights covering the coast of British India, the Red Sea and Arabia was published by the Marine Survey of India in 1876. The List was revised annually, with the exception of the years 1883-86, 1891 and 1904, until the publication was discontinued in 1916.

The List of Lights is being revived in 1961 with coverage from Aden the Singapore.

From 1885, the surveying officers moved to Poona for about four months in the middle of May each year, for fair-drawing the season's work. In 1900, arrangements were made at Coonoor (Nilgiris) for the accommodation of surveying personnel during the ship's refit period, to prepare the fair-sheets and compile ancillary data from results of surveys.

The Surveyor-in-Charge held a sea appointment until 1954, when the Naval Hydrographic Office was established at Dehra Dun.

But for the period taken up by the two World Wars, Marine Survey of India had continued to survey the Indian coast to meet the needs of mariners. On cessation of hostilities in 1945, Marine Survey of India was reconstituted under Captain G. P. RANSON, R.I.N., with I.N. Surveying Ship *Investigator*, and entrusted with the work of progressing with the hydrographic surveys around the coast of India.

In 1954, the Marine Survey of India was redesignated as the Naval Hydrographic Branch, with the Chief Hydrographer as its head.

The survey of the coasts and the surrounding waters of India remains a matter of vital importance to navigators, and from its early days, the work of the Marine Survey of India continues to be known for its reliability.

Organization

Hydrographic surveys are the basis for the preparation of navigational charts and ancillary publications, which are indispensable to all maritime enterprises such as navigation, fishery, harbour construction, exploitation of marine resources, etc. Hydrographic surveys fall into the following main categories :

- (a) Large scale harbour surveys and plans;
- (b) Coastal series;
- (c) Oceanic surveys;
- (d) Project surveys;
- (e) Magnetic observations.

To undertake this task, the Naval Hydrographic Service has been organized as follows :

Surveying ships. — The Surveying Group of the Indian Navy now consists of four ships, I.N.S. *Investigator* (1947), *Sutlej* (1953), *Jumna* (1956), and *Darshak*. These ships are equipped to undertake coastal as well as harbour surveys. The *Darshak* will have a helicopter to assist in surveying operations and will carry five sounding units.

Naval Hydrographic Office, Dehra Dun. — Hydrographic work ashore is performed by a special department of the Navy under the Chief Hydrographer, assisted by naval and civilian specialist staff.

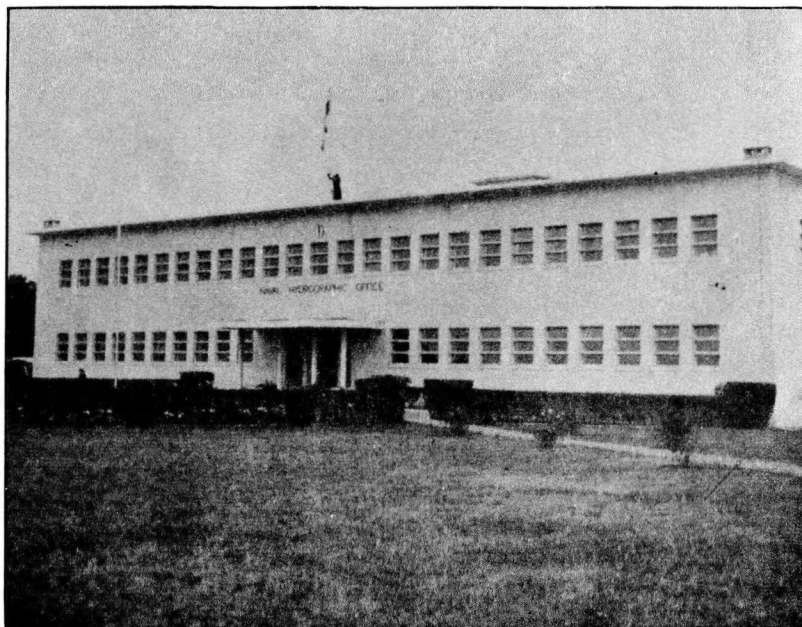


FIG. 1. — View of Hydrographic Office building.

The Naval Hydrographic Office, which is the headquarters of the Naval Hydrographic Service, was established on 1 June 1954, in Dehra Dun. It was originally located in temporary accommodation at Birpur, Dehra Dun Cantonment, and was shifted to the new and permanent buildings at Rajpur Road, Dehra Dun, in March 1957. This office is responsible for the production of charts and other ancillary publications.

The printing of charts is undertaken at the Hathibarkala Litho Press while navigational publications, e.g. Sailing Directions, List of Lights, Notices to Mariners, etc., are printed at the Photo-Zinco Office, Letter Press of the Survey of India.

Naval Chart Depot, Bombay. — The Naval Chart Depot which was established in Bombay in 1882 is responsible for the promulgation of important messages by radio concerning the safety of navigation, and for the issue and sale of charts and navigational publications. These charts are maintained up-to-date using the latest hydrographic information, available up to the day of issue.

Naval Hydrographic Drawing Office, Coonoor. — The Drawing Office, situated in Dunmore House, Coonoor, has been functioning since 1900 and is occupied by surveying personnel during the ship's lie-up period to prepare fair charts and compile ancillary data from results of surveys.

A second Drawing Office is now being established in Bombay.

Naval Hydrographic School, Bombay. — The Hydrographic School, which is responsible for the training of officers and sailors and civilian hydrographic assistants of the Naval Hydrographic Branch, was established in 1959. The School would also be able to undertake the training of hydrographic officers from maritime states and major ports.

The attached diagram outlines the organization of the Naval Hydrographic Service.

Outline of work

The main functions of the Naval Hydrographic Service are given below:

- (a) Operation of surveying ships and craft;
- (b) Direction and supervision of hydrographic surveys;
- (c) Compilation and publication of navigational charts of Indian waters;
- (d) Compilation and publication of miscellaneous charts and diagrams;
- (e) Preparation and publication of Sailing Directions, Light lists, etc.;
- (f) Maintenance and correction of the publication referred to in (c), (d) and (e);
- (g) Maritime safety, which includes promulgation by Indian Notices to Mariners and radio warnings of all information pertaining to dangers to navigation and important changes affecting navigation;
- (h) Supply of specialized instruments and equipment for the execution of hydrographic surveys.

It is intended to produce a complete series of about 150 Indian charts and ancillary publications covering the entire Indian coast including the Laccadive, Andaman and Nicobar Islands, within the next 10 to 15 years.

General

The Chief Hydrographer is a member of the following national committees :

- (a) National Harbour Board — Hydrographic Survey Sub-Committee;
- (b) Indian Standards Institution;
- (c) Central Advisory Committee for Lighthouses;
- (d) National Committee for Oceanic Research.

India became a member of the International Hydrographic Bureau in April 1956 and is represented at the conferences of this Bureau by the Chief Hydrographer.

Charts and publications

The promulgation of Notices to Mariners in printed form on a regular basis for maritime safety was commenced with effect from 15 January 1958.

The first Indian chart of Elphinstone Harbour and Approaches (Andaman Islands) was published on 15 January 1959.

