CIVIL AVIATION—OCTOBER, 1919, TO MARCH, 1920

IN our issue of July 8 we gave some extracts from the half-yearly report of the Controller-General of Civil Aviation, dealing with progress at home and abroad, but pressure on our space due to the Olympia Show prevented publication at full length at the time. We are now able to supplement this with some further notes.

It is pointed out when the Air Navigation Act is passed, the existing regulations will be replaced by new ones issued by Order in Council. The Report goes on to state that advantage will be taken of this opportunity to modify those details in the existing Regulations which experience has shown to be defective, and to incorporate in the new Regulations such alterations as have been effected during the past twelve months.

These alterations may be summed up as follows :—

Prohibited Areas—The number of these has been largely reduced and partial prohibition—restricting the height at which flying over these areas may take place—has been substituted for complete prohibition.

Customs Examination—All aircraft—and not solely those carrying goods or passengers—are now required to obtain Customs clearance before leaving the United Kingdom.

Fixed Balloons—The special restrictions in regard to these are now only applied at localities within five miles of an aerodrome.

Parachutes—The safety regulations affecting the dropping of articles from the air have been amended to permit of packages being dropped by parachute under certain conditions.

In addition to the incorporation of these modifications the new regulations include clauses to regulate aerial light-houses and prevent confusion with neighbouring lights when night-flying develops, and to provide for pilots' log-books. The obligation of possessing a certificate of airworthiness will also be extended to all except experimental aircraft. Separate regulations will be issued in regard to the investigation of accidents.

The crystallisation of the detailed procedure for administering the regulations has continued satisfactorily, and with the assistance of the Industry the work of laying down a sound technical basis for the regulations concerning the safety of aircraft has attained a considerable measure of success. A definite step forward has been gained as a result of the recommendations of a Sub-Committee of the Advisory Committee for Aeronautics appointed to report as to the load factors to be used in the design of civil aircraft, and agreement has been reached on the tests to be undergone by engines for use in civil aircraft. It is anticipated that the Report on Load Factors and the Schedule of Engine Tests will not only prove of value to those concerned in Great Britain and the Dominions, but will also serve as a basis for discussion as a result of which international agreement on the subject may eventually be secured.

Arrangements have been made with a view to simplifying the procedure for the attendance of the members of the crew of an aircraft for the purpose of medical examination, and a pamphlet has been published detailing the methods and standards now in use for the medical examination of pilots.

In first examinations it is necessary to secure a type of individual most likely to withstand the stress of daily flying. Re-examinations are necessary in order to ensure that the original physical condition has not dangerously deteriorated, either as a direct result of flying, or in consequence of debilitating illnesses. The special tests that have been devised to estimate flying stress and air fatigue are yielding useful and satisfactory information of the effects of civil flying upon the individual.

Since these tests require considerable technical skill, both in their application and interpretation, it has been decided that they should be carried out as far as possible by the same individual. The medical examinations are also useful in that they help to increase the confidence of the public in the efficiency of the pilot, while the confidence of the pilot in himself is materially assisted by the knowledge of his own physical fitness.

Ground Organisation—The State has assumed the task of providing and organising key aerodromes, assisting navigation by various methods, and instituting a wireless system for the distribution of meteorological and other information. In these directions a considerable advance has been made during the past six months.

Numerous sites for Emergency Landing Grounds throughout the country have been inspected, and 114 have been found suitable. Enquiries are in progress to ascertain whether tenants are prepared to conclude agreements permitting the use of their land for this purpose.

In view of the anticipated development of the seaplane and flying boat for commercial use, especially for traffic across the North Sea, arrangements have been made to take over one slipway, office accommodation and a number of mooring buoys and sheds at the permanent R.A.F. seaplane station at Felixstowe.

Considerable loss of time is entailed in transit to and from aerodromes, which are at present necessarily situated some miles outside large towns. Where a river passes through a town, this waste of time can be obviated by the provision for seaplanes of an alighting area on the river as near the centre of the town as possible. A scheme drawn up after careful investigation for the utilisation of certain stretches of the Thames in the London Area by this type of aircraft is now being discussed by the various Government and municipal authorities concerned.

A considerable amount of work has been done in assisting navigation. Names have been marked on the roofs of the railway stations at Ashford, Hitchin, Redhill and Tonbridge ; and a preliminary survey has been made for the purposes of marking by other inexpensive methods the names of important towns on air routes where the marking of stations is not feasible.

Experiments have accordingly been carried out at Andover on aerial lighthouses, flares and landing lights for the purpose of deciding upon the best methods of assisting navigation at night.

Another important step towards facilitating navigation has been the compilation of text-books, maps and charts, including the first edition of an " Aerodrome Book," which, with its maps, will form a comprehensive guide to the situation and organisation of all aerodromes and landing grounds in the British Isles. A gazetteer, with maps of the world's aerodromes and aerial routes, and an official text-book on air navigation are also in preparation, and proposals for a standard equipment of charts for navigation by direction-finding wireless telegraph are being considered. Arrangements have been concluded with the War Office and Admiralty for all charts and maps to be executed by the Geographical Section of the General Staff.

All available information, embracing methods of navigation, the use of navigating instruments and the routes to be followed, has been collated for the assistance of pilots undertaking long-distance flights from England to India, Australia, Cape Town and various foreign countries, and from Holland to Java.

A complete W/T network for the assistance of meteorology and aviation, both service and civil, is being organised in the United Kingdom. As part of this system, W/T stations are being erected at the civil aerodromes at Croydon, Castle Bromwich, Didsbury and Renfrew.

In co-operation with the authorities concerned, arrangements have been made for the improvement of W/T communication on the civil routes between this country, France and Belgium. The transmission and receipt by wireless of Meteorological Office reports to and from other countries have been facilitated.

With regard to radio telephony, five stations in the United Kingdom have been fitted with R/T apparatus for the use of civil aircraft, and arrangements with France are near completion for the erection of R/T stations for the air services between that country and England.

It is also proposed to assist aerial navigation by means of wireless direction-finding, especially for the purpose of overcoming the difficulties presented by fog, mist and clouds, and equipment for this purpose has been installed at Croydon. Arrangements are being made for a similar system in Paris and Brussels.

A difficult and intricate problem is that of systematising the wave-lengths in use throughout the world, but proposals have now been put forward by the Department of Civil Aviation to the Government Departmental Committee sitting at the G.P.O. for the purpose of formulating a British draft " International Radio Convention " ; these proposals, which are still under consideration, while accepting the principles of the International Commission lately held in Paris, have set out a definite world-wide scheme of wave-lengths on which the future policy of world wireless would depend.

The Signals Branch of the Department is reorganising the R.A.F. wireless and land line equipment and personnel according to peace establishment, and is reducing the number