flying tests or technical examination, when applying for such licences or for extensions of such licences, may be made by any person authorised by the Minister to conduct flying tests or technical examinations (Regulations 89 and 93);

(*d*) holders of commercial pilot's licences (flying machines) may fly public transport aircraft up to 12,500 lb. maximum authorised weight on scheduled as well as other journeys, if their licences include an instrument rating (Regulation 97);

(*e*) passengers may be flown by holders of senior commercial pilot's licences (flying machines) in public transport flying machines up to 30,000 lb. maximum authorised weight instead of up to 15,000 lb. (Regulation 108); an amendment is made to the requirements as to previous flying experience for applicants for these licences (Regulation 110);

(*f*) revised medical requirements are prescribed for Physical Standards Nos. 1 to 3 and Visual Standards Nos. 1 to 3 (Regulations 199 to 205); the physical standard required for applicants for commercial pilot's licences (flying machines) has been raised to No. 1 (Regulation 197).

1954 No. 900

The Air Navigation (Radio) Regulations, 1954

Made - - - - 1*st July*, 1954
Coming into Operation 1*st August*, 1954

ARRANGEMENT OF REGULATIONS

		Regulation
PART I	General	1 to 5
PART II	Installation and compulsory carriage of radio apparatus	6 to 9
PART III	Maintenance and overhaul of radio apparatus	10 to 14
PART IV	Operation of radio apparatus	15 to 22
PART V	Licensing of flight radio operators and aircraft radio maintenance engineers	23 to 44

The Minister of Transport and Civil Aviation, in exercise of the powers conferred upon him by the Air Navigation Order, 1954(**a**), and of all other powers enabling him in that behalf, hereby makes the following Regulations.

PART I

GENERAL

1.—(1) These Regulations may be cited as the Air Navigation (Radio) Regulations, 1954.

(2) These Regulations shall come into operation on the first day of August, 1954.

2.—(1) In these Regulations, unless the context otherwise requires—

"Aeronautical station" means a radiocommunication land station which performs a service with aircraft stations; if, however, it also performs other services, it shall be deemed to be an aeronautical station only during the period of its service with aircraft stations;

"Aircraft station" means a radio station on board an aircraft;

(**a**) S.I. 1954/829, p. 259 above.

"British Civil Airworthiness Requirements" means the requirements relating to radio apparatus which are incorporated in the "British Civil Airworthiness Requirements," as amended, published by the Air Registration Board, Brettenham House, Lancaster Place, Strand, London, W.C.2;

"Civil Aviation Communications Handbook" means the "Civil Aviation Communications Handbook" (C.A.P.5), Second Edition, as amended, published by Her Majesty's Stationery Office;

"Designated international airport" means an airport designated by a Contracting State as available for use by international air services;

"Flight radio operator's licence" means a licence granted by the Minister under Article 23 of the Order to operate radio apparatus in aircraft registered in the United Kingdom;

"Licensed operator" means the holder of a flight radio operator's licence;

"Radio navigation apparatus" means radio apparatus designed to assist the navigation of the aircraft;

"The Order" means the Air Navigation Order, 1954, as from time to time amended.

(2) The Interpretation Act, 1889(a), applies for the purposes of the interpretation of these Regulations as it applies for the purpose of the interpretation of an Act of Parliament.

(3) Subject and without prejudice to the foregoing provisions of this Regulation, expressions used in these Regulations shall, unless the contrary intention otherwise requires, have the same respective meanings as in the Order.

3. Unless the context otherwise requires, these Regulations apply only to and in relation to aircraft registered in the United Kingdom.

4. No person shall cause a Type B electromagnetic wave to be emitted from an aircraft station.

5. For the purposes of these Regulations, frequencies shall be measured by the standard of measurement for the time being in use by the Postmaster General.

PART II

Installation and Compulsory Carriage of Radio Apparatus

6.—(1) Except as provided in this Regulation, radio apparatus shall not be installed in any aircraft unless the apparatus and the installation thereof comply with the following requirements:—

(*a*) the apparatus shall be of a type approved in writing by the Minister as satisfying "British Civil Airworthiness Requirements" and as being suitable for the purpose for which it is intended to be used;

(*b*) the apparatus shall have been constructed, tested and inspected in accordance with all relevant requirements of "British Civil Airworthiness Requirements" in a manner approved in writing by the Minister; and

(*c*) the apparatus shall be installed in the aircraft in a manner approved in writing by the Minister as complying with all relevant requirements of the "British Civil Airworthiness Requirements". Any such approval given for the purpose of this requirement shall remain in force for such period, not exceeding twelve months, as may be shown therein, but may be renewed from time to time on application to the Minister:

(a) 52 & 53 Vict. c. 63.

Provided that the requirements of this paragraph shall not be deemed to apply to self-contained portable receivers which are not attached physically or connected electrically to the aircraft or its electrical system.

(2) Where radio apparatus manufactured elsewhere than in the United Kingdom is installed in an aircraft and in respect of such apparatus a document has been issued by the competent authorities of the State in which it was manufactured certifying that the apparatus is of a type approved by them, the Minister may, if he is satisfied that the apparatus has been designed and constructed to standards not lower than those required in respect of similar types of apparatus manufactured in the United Kingdom, and subject to such conditions as he thinks fit, confer on such document the same validity as if it had been issued in accordance with the provisions of paragraph (1) (*a*) of this Regulation.

(3) The provisions of paragraph (1) (*c*) of this Regulation shall apply to such apparatus and to the installation of such apparatus in the aircraft.

7.—(1) Subject to the provisions of paragraph (3) of this Regulation and to the provisions of Regulation 8:—

A. No aircraft shall carry out a flight—

(i) in circumstances which require it to communicate by radio with Air Traffic Control in order to comply with the Rules of the Air and Air Traffic Control in Schedule II to the Order unless it is equipped with radio apparatus capable of maintaining two-way communication with the appropriate aeronautical stations at any time during the flight; or

(ii) under Instrument Flight Rules within a control area or a control zone unless it is equipped with radio navigation apparatus capable of enabling the aircraft to be navigated in accordance with the flight plan submitted to the appropriate Air Traffic Control and with any instructions received from Control.

B. No public transport aircraft, except a public transport aircraft which is being used solely for the purpose of training any persons carried therein, in addition to the personnel thereof, to perform duties in an aircraft, shall carry out a flight—

(i) under Instrument Flight Rules outside control areas and control zones unless it is equipped with radio apparatus capable of maintaining two-way communication with at least one aeronautical station at any time during the flight and of enabling the aircraft to be navigated in accordance with the plan for the flight;

(ii) under Visual Flight Rules over a route where navigation is not or cannot be effected by visual reference to landmarks unless it is equipped with radio apparatus capable of maintaining two-way communication with at least one aeronautical station at any time during the flight and of enabling the aircraft to be navigated in accordance with the plan for the flight;

(iii) under Visual Flight Rules or Instrument Flight Rules unless it is equipped with radio apparatus capable of maintaining two-way communication with the appropriate aeronautical station for purposes of aerodrome control or approach control when arriving at or departing fom a designated international airport or an aerodrome in the United Kingdom which has been notified for the purposes of this requirement;

(iv) under Visual Flight Rules over water beyond gliding distance from the nearest shore unless it is equipped with radio apparatus capable of maintaining continuous communication with an aeronautical station;

(v) under Instrument Flight Rules unless it is equipped with radio apparatus capable of receiving messages containing meteorological information transmitted by aeronautical stations for the assistance of aircraft; provided that, if the said messages can be received by means of the radio apparatus carried in the aircraft in accordance with sub-paragraph B (i) of paragraph (1) of this Regulation additional apparatus for the purpose of this sub-paragraph need not be provided; or

(vi) in the course of which it may have to land at an aerodrome in IFR weather conditions unless it is equipped with radio apparatus capable of receiving signals transmitted by an aeronautical station for the purpose of guiding the aircraft to a point above the aerodrome from which a visual landing can be effected.

(2) Radio apparatus carried in aircraft in accordance with the requirements of this Regulation shall be in working order and shall be as notified in respect of the type of apparatus and the radio frequency employed, or, if no such notification is made, shall be suitable for satisfactory operation at the altitude or altitudes at which the flight is planned to be carried out and in the conditions obtaining on the route to be flown.

(3) In exceptional circumstances exemption from compliance with all or any of the requirements of this Regulation and of Regulation 8 may be granted by the Minister in respect of any aircraft or type of aircraft and subject to any conditions he may think fit. In particular, the Minister may grant such exemption in any case where, owing to the absence of radio facilities available for air navigation, it appears to him that the carriage in the aircraft of radio navigation apparatus would serve no useful purpose.

8. Subject to the provisions of paragraph (3) of Regulation 7, the following requirements of this Regulation relating to the carriage of licensed flight radio operators shall apply in respect of aircraft required to be equipped with radio apparatus in accordance with the provisions of Regulation 7:—

(*a*) the aircraft shall carry at least one licensed flight radio operator qualified under the terms of his licence to operate, for the sending and receiving of morse or spoken messages, the radio apparatus with which the aircraft is equipped;

(*b*) if the aircraft carries out two-way communication by means of morse code and is flown under Instrument Flight Rules within a control area or a control zone, the flight radiotelegraphy operator shall be a separate person from any other member of the operating crew and, while on duty as a flight radiotelegraphy operator, shall not carry out any duties in the aircraft other than those of a flight radiotelegraphy operator;

(*c*) if the aircraft carries out two-way communication by means of morse code as distinct from spoken messages, the flight radio operator (if he is the holder of the appropriate pilot's licence) shall not act in the capacity of pilot of the aircraft except in case of emergency and as a temporary measure;

(*d*) if the aircraft is employed on a scheduled journey the Minister may, at his discretion, require further conditions to be complied with in respect of the flight radio operators and the radio apparatus to be carried in the aircraft, according to the particular circumstances of the case.

9. The following provisions of this Regulation shall apply to flights on which the requirements specified in Regulations 7 and 8 are required to be complied with:—

(*a*) before commencing any such flight, the person in command of the aircraft shall satisfy himself that the aircraft is equipped with radio apparatus in accordance with the requirements of Regulation 7, and that such apparatus is fit in every way for the flight, and in the case of a public transport aircraft, that a certificate of serviceability has been issued in accordance with the provisions of paragraph (2) of Regulation 11 and is in force. If a flight radiotelegraphy operator other than the pilot is to be carried on such flight, he shall be responsible for furnishing such information to the person in command as will enable him so to satisfy himself;

(*b*) if the radio apparatus becomes defective during the flight the aircraft shall comply with such of the Rules of the Air in Schedule II to the Order as may be appropriate in the circumstances of the case.

PART III

Maintenance and Overhaul of Radio Apparatus

10.—(1) The provisions of this Regulation shall apply to aircraft stations installed in public transport aircraft.

(2) The aircraft station shall be examined at intervals in accordance with a maintenance schedule approved by the Minister, and for this purpose there shall be provided by the operator of the aircraft, for the use of persons employed on the maintenance of the aircraft station, data in the form of manuals or other suitable publications, giving essential information as to the operation and procedures necessary for the servicing and maintenance of the aircraft station. The examination shall extend to all accessories on board the aircraft installed to ensure the efficient working of the aircraft station and its correct tuning and shall include the bonding of the aircraft station.

(3) The place and date of every such examination and of any other examination and of any action taken to rectify defects shall be recorded and certified in a suitable book by the holder of an aircraft radio maintenance engineer's licence granted or rendered valid by the Minister.

11.—(1) The provisions of this Regulation shall apply to flights by public transport aircraft in circumstances in which the carriage of radio equipment is prescribed by Regulation 7.

(2) Except as provided by paragraph (6) of this Regulation, no such flight shall be commenced unless the aircraft station is fully serviceable and has been examined and found to have been maintained in accordance with the maintenance schedule prescribed in paragraph (2) of Regulation 10 and a certificate of serviceability in the following form, or in such other form as may be approved by the Minister as suitable for the purpose, is in force:—

Aircraft Radio Station Certificate of Serviceability

Aircraft Type ..... Registration Marks .....

I hereby certify that, with the exception of the items listed below, the radio station in the above aircraft is fully serviceable and that all maintenance and examination in accordance with the approved maintenance schedule for that station has been carried out and that all adjustments and rectifications found necessary have been made and examined to my satisfaction.

(Give details, in the space below, of any unserviceable apparatus. If none write " no items unserviceable ".)

Signed .....

Aircraft Radio Maintenance Engineer: Licence No. .....

Time of issue .....

Dated at ..... this ..... day of ....., 19.....

(3) (i) Prior to the issue of a certificate of serviceability the operator of the aircraft shall furnish such information as may be necessary to enable the aircraft radio maintenance engineer, who is to sign the certificate, to be satisfied that up to the time of issue of such certificate all maintenance and examination required to be carried out in accordance with the approved maintenance schedule for the aircraft station has been so carried out;

(ii) a certificate of serviceability, which shall be prepared in ink or indelible pencil, shall be issued at such periods as may be laid down in the maintenance schedule for the aircraft station;

(iii) a certificate of serviceability shall be issued by the holder of an aircraft radio maintenance engineer's licence granted or rendered valid by the Minister, shall be made out in the prescribed manner and signed in duplicate, and shall come into force immediately after it has been issued;

(iv) one duplicate copy of a certificate of serviceability shall be carried in the aircraft and shall be kept with the journey log book of the aircraft, whenever such log book is required to be carried in the aircraft, until a further certificate is issued. The other duplicate copy of the certificate shall be retained by the operator of the aircraft and preserved by him for a minimum period of six months.

(4) A certificate of serviceability shall cease to be in force at a time when a new certificate is required to be issued in accordance with the terms of the approved maintenance schedule for the aircraft station to which it relates:

Provided that, if the aircraft station sustains a serious defect, the certificate of serviceability shall cease to be in force at the time at which such a defect occurs.

(5) For the purpose of paragraph (4) of this Regulation the expression " serious defect " means such a defect as would not, in accordance with ordinary aeronautical practice, be remedied by the operating crew.

(6) (i) If any of the radio apparatus comprising an aircraft station is unserviceable, details of the defective apparatus shall be recorded in the certificate of serviceability and the aircraft may then fly provided that the circumstances of the flight are such that carriage in the aircraft of radio apparatus of that type is not compulsory under the provisions of Regulation 7;

(ii) exceptionally, when an aircraft is located away from its operating base and, through unforeseen circumstances, a certificate of serviceability relating to the aircraft station installed therein ceases to be in force and facilities for complying with the provisions of paragraphs (2) and (3) of this Regulation are not available, the aircraft may continue to fly without a further certificate having been issued until it arrives at a place where such facilities are available, provided that the person in command thereof is satisfied that the aircraft station, or such of the radio apparatus thereof as is required to be carried under the provisions of Regulation 7, is functioning satisfactorily.

(7) On the completion of every flight a flight radio operator carried on that flight shall record whether the aircraft station was functioning satisfactorily during the flight, and, in the event of any defect having been disclosed, shall record the nature of the defect. The record shall be handed by the person in command of the aircraft to the operator of the aircraft and shall be preserved by him for a minimum period of six months.

12.—(1) The provisions of this Regulation shall apply to radio apparatus installed or intended to be installed in public transport aircraft.

(2) Except as provided by paragraph (6) of this Regulation the overhaul, repair, replacement or modification of such apparatus, excluding such minor repairs as would in accordance with ordinary aeronautical practice be carried out by the operating crew, shall only be undertaken by, or under the supervision of, the holder of an aircraft radio maintenance engineer's licence granted or rendered valid by the Minister, or by a person or firm approved for this purpose by the Minister (hereinafter in this Regulation called an " approved person or firm ").

(3) The work shall be carried out in all essential respects in accordance with the design approved by the Minister in conformity with which the apparatus was constructed, including such modifications as have been so approved for embodiment therein, or, alternatively shall be undertaken in accordance with any requirements made by the Minister.

(4) All materials used shall be as approved by the Minister for the design in conformity with which the apparatus was constructed or as otherwise so approved.

(5) Particulars of any overhaul, repair, replacement or modification shall be recorded and certified in a suitable book by the holder of an aircraft radio maintenance engineer's licence granted or rendered valid by the Minister, or by or on behalf of an approved person or firm. This certification shall be in the following form, or in such other form as may be approved by the Minister as suitable for the purpose:—

Aircraft Radio Station or Aircraft Radio Apparatus
Certificate of Overhaul or Repair

Aircraft Type..... Registration Marks.....

or

Details of Aircraft Radio Apparatus.....

.....

.....

I hereby certify that in carrying out the overhaul, repair, replacement or modification specified below, all the conditions and requirements of the Air Navigation (Radio) Regulations for the time being in force which are applicable thereto have been complied with.

(Give details in the space below)

Signed.....

Dated at ..... this ..... day of .....19.....

Number of Aircraft Radio Maintenance Engineer's Licence .....

If the person certifying does not hold a valid Aircraft Radio Maintenance Engineer's Licence, but is authorised by an approved person or firm to sign the certificate on their behalf, the following additional details shall be given:—

(i) Name of approved person or firm .....

(ii) Address of approved person or firm.....

.....

(6) (i) Exceptionally, when an aircraft is located away from its operating base, the person in command of the aircraft may, in emergency only, authorise the temporary repair of the aircraft station installed therein to be undertaken by a person other than as specified in paragraph (2) of this Regulation;

(ii) in such cases particulars of the occurrence and of the work carried out shall be recorded in a suitable book by a flight radio operator carried in the aircraft and this book shall be handed by the person in command of the aircraft to the operator of the aircraft at the earliest opportunity. The operator of the aircraft shall cause the aircraft station to be examined by a person in possession of an aircraft radio maintenance engineer's licence granted or rendered valid by the Minister, or by an approved person or firm, as soon as possible after such an occurrence.

(7) All records relating to overhaul, repair, replacement or modification shall be retained by the operator of the aircraft in which the apparatus is installed, or intended to be installed, and shall be preserved by him for a minimum period of two years.

13. The operator of an aircraft registered in the United Kingdom shall, on demand made by persons authorised in writing for this purpose by the Minister, produce or cause to be produced any record or certificate made or given in accordance with the requirements prescribed in Regulations 10, 11 and 12.

14. Any aircraft station (other than an aircraft station comprising only the radio apparatus specified in the proviso to paragraph (1) of Regulation 5) may be inspected by persons authorised in writing for this purpose by the Minister in order to ensure that its nature, installation and condition are such that it can be employed without prejudice to the safety of the aircraft or to the efficiency of the radio services. In addition, any aircraft station may be inspected by persons authorised by the Postmaster General in accordance with the terms of the aircraft station licence.

PART IV

Operation of Radio Apparatus

15. Except as otherwise provided in this Part, radio apparatus in aircraft shall be operated in compliance with these Regulations and in conformity with—

(*a*) the conditions contained in the licence issued by the Postmaster General in respect of the use of radio apparatus in the aircraft; and

(*b*) the instructions contained in Chapters III, IV, IX, XI, XVI to XX inclusive and XXIII to XXVIII inclusive, of the "Civil Aviation Communications Handbook":

Provided that nothing in these Regulations shall exempt an aircraft, when flying outside the United Kingdom, from complying with any regulations in force in the country flown over.

16. Except that watch may be discontinued for reasons of safety (e.g., danger of lightning or danger arising from a defect in the aircraft station as mentioned in Regulation 18) and subject to the provisions of Regulation 19—

(*a*) every aircraft required by Section III of these Regulations to be equipped with radio apparatus ; and

(*b*) every aircraft, whether registered in the United Kingdom or elsewhere, flying in circumstances which require it to communicate with Air Traffic Control in order to comply with the Rules of the Air in Schedule II to the Order—

shall carry out a continuous watch on the calling frequency in use in the area flown over, unless it has been exempted therefrom by the aeronautical station with which it is in communication.

17. No aircraft, whether registered in the United Kingdom or elsewhere, or unregistered, shall send radio messages or signals while flying within the United Kingdom except in accordance with the conditions of the aircraft station licence and in the following circumstances:—

(*a*) when sending is necessary to ensure the safety of any aircraft or of persons on board aircraft ;

(*b*) when sending is necessary in order to comply with the instructions contained in Chapters III, IX, XI, XVI, XIX, XX and XXIII to XXVIII inclusive, of the " Civil Aviation Communications Handbook " ;

(*c*) when sending is required by the procedure prevailing on the route on which the aircraft is flying ; or

(*d*) in accordance with a special permission in writing given by the Minister.

18. An aircraft which is equipped with an aircraft station having a defect such as to impair the safety of the aircraft shall not undertake any flight until the aircraft station has been rendered safe, or, if such defect occurs during flight, shall land as soon as possible unless the aircraft station can be and is speedily rendered safe during flight.

19. An aircraft station which is in such a condition that it cannot be employed without causing interference to the efficiency of the radiocommunication service of air navigation shall not be used (*a*) in an aircraft registered in the United Kingdom wherever the aircraft may be, or (*b*) in an aircraft registered elsewhere than in the United Kingdom, or in an unregistered aircraft, when such aircraft is flying within the United Kingdom.

20. No person shall send any message or signal from an aircraft station on a frequency which is not notified for use by aircraft stations.

21. Radio apparatus installed in an aircraft shall not be operated for the purpose of sending morse or spoken messages otherwise than by a licensed flight radio operator and in accordance with the privileges attaching to his licence:

Provided that—

(i) if a licensed flight radio operator has become incapacitated during a flight the person in command of the aircraft may, as a temporary

measure, authorise a person not licensed for the purpose to work the apparatus for sending and receiving distress, urgency and safety messages, messages relating thereto and messages or signals regarding the navigation of the aircraft;

(ii) the Minister may, at his discretion, grant permission to particular persons, or to persons of such classes or description as he may specify, not being licensed flight radio operators, to operate radio apparatus in aircraft for sending spoken messages to aeronautical stations in the United Kingdom, or to aircraft flying within the United Kingdom, on frequencies above 60 mc/s. that are not regarded internationally as frequencies to be used by aircraft on international flights. Any such apparatus worked by unlicensed operators shall be incapable of easy adjustment for changing frequencies to any other than those for which the apparatus is licensed, and shall be worked in accordance with such conditions as may be attached to the permission.

22. With reference to Article 27 (3) of the Order, telecommunication log books shall be kept by the persons and entries in such books shall include the particulars and be made and signed in the form and manner specified in Chapter III of the "Civil Aviation Communications Handbook".

PART V

Licensing of Flight Radio Operators and Aircraft Radio Maintenance Engineers

23. With reference to Article 23 of the Order, application for the grant or renewal of a licence to act in the capacity of flight radio operator, or for an extension of a rating included in such a licence, should be made to the Secretary, Ministry of Transport and Civil Aviation, London, on a form which will be supplied by him on request.

Minimum Ages

24. Licences may be granted only to applicants who have reached the minimum ages indicated below:—

(i) for a flight radiotelephony operator's restricted licence ...	17 years
(ii) for a general flight radiotelephony operator's licence ...	18 years
(iii) for a first class flight radiotelegraphy operator's licence (temporary)	18 years
(iv) for a first class flight radiotelegraphy operator's licence	20 years

Requirements for Grant of Licence

25. An applicant for the grant of a flight radio operator's licence shall be required to satisfy the following conditions:—

(i) be a natural-born British subject, citizen of the Republic of Ireland, or a British protected person, whose father or mother is (or was at death) a British subject, citizen of the Republic of Ireland, or a British protected person, or, irrespective of parents' nationality, a British subject, citizen of the Republic of Ireland, or a British protected person (natural-born or naturalised) who has been either resident in the British dominions or employed in the service of the Crown for five of the preceding eight years, or has in some other way satisfactorily demonstrated his close connection with the British Commonwealth;

(ii) satisfy the requirements in respect of technical competency specified in Regulation 28;

(iii) in the case of an applicant for a first class flight radiotelegraphy operator's licence (temporary) or a flight radiotelegraphy operator's licence, pass a medical examination in accordance with Regulations 30 to 35 ;

(iv) in the case of an applicant for a first class flight radiotelegraphy operator's licence, produce evidence of radio experience in accordance with Regulation 36 ; and

(v) give a written undertaking to preserve the secrecy of correspondence.

Radio Apparatus Rating

26. The aircraft radio apparatus for the operation of which a flight radio operator's licence is valid shall be as specified in the certificate of competency.

Privileges attaching to Licences

27.—(1) A flight radiotelephony operator's restricted licence entitles the holder to operate, in accordance with the terms of the licence, radiotelephony apparatus on board any aircraft :

Provided that—

(i) the power delivered to the aerial by the transmitter in the absence of modulation does not exceed 50 watts ; or

(ii) the power delivered to the aerial by the transmitter in the absence of modulation does not exceed 250 watts, and

(*a*) the operation of the transmitter requires only the use of simple external switching devices ;

(*b*) frequencies cannot be adjusted manually by the operator ; and

(*c*) the stability of the frequencies must be maintained automatically by the transmitter.

(2) A general flight radiotelephony operator's licence entitles the holder to operate, in accordance with the terms of the licence, radiotelephony apparatus on board any aircraft.

(3) A first class flight radiotelegraphy operator's licence (temporary) entitles the holder to operate, in accordance with the terms of the licence, radiotelegraphy or radiotelephony apparatus on board any aircraft but only under the supervison of a person who is the holder of a first class flight radiotelegraphy operator's licence.

(4) A first class flight radiotelegraphy operator's licence entitles the holder to operate, in accordance with the terms of the licence, radio apparatus on board any aircraft.

Technical Competency

28.—(1) *General Flight Radiotelephony Operator.*—The applicant shall be required to satisfy the Minister, by examination or otherwise, of his technical competency in the following matters :—

(*a*) knowledge of the elementary principles of radiotelephony ;

(*b*) detailed knowledge of the practical operation and adjustment of radiotelephone apparatus ;

(*c*) ability to send correctly and to receive correctly messages by radiotelephony ;

(*d*) knowledge of the Radio Regulations annexed to the International Telecommunication Convention applying to radiotelephony communications and particularly of that part of those Regulations relating to

the safety of life, and of the special instructions and operating procedures applying to radiotelephony communications in the radiocommunication service in air navigation, as contained in the handbook "Radiotelephony Procedure" (C.A.P.46) published by Her Majesty's Stationery Office.

(2) *Restricted Flight Radiotelephony Operator.*—The applicant shall be required to satisfy the Minister, by examination or otherwise, of his competancy in the following matters:—

(*a*) practical knowledge of radiotelephony operation and procedure;

(*b*) ability to send correctly and to receive correctly messages by radiotelephony; and

(*c*) knowledge of the Radio Regulations annexed to the International Telecommunication Convention applying to radiotelephony communications and particularly of that part of those Regulations relating to the safety of life, and of the special instructions and operating procedures applying to radiotelephony communications in the radiocommunication service in air navigation, as contained in the handbook "Radiotelephony Procedure" (C.A.P.46) published by Her Majesty's Stationery Office.

(3) *First Class Flight Radiotelegraphy Operator (Temporary).*—The applicant shall be required to satisfy the Minister, by examination or otherwise, of his technical competency in the following matters:—

(*a*) theoretical and practical knowledge of the general principles of electricity, of the theory of radio in relation to the sending and receiving of morse and spoken messages and air navigation, and of the adjustment of and practical working of the principal radio apparatus used in aircraft stations including apparatus for direction finding and the taking of direction finding bearings;

(*b*) theoretical and practical knowledge of the accessory apparatus, such as motor-generators, accumulators, etc., used in the operation and adjustment of the apparatus specified in (*a*) of this paragraph;

(*c*) practical knowledge necessary to effect during flight with the means available on board, the repair of damage which may occur to the radio apparatus;

(*d*) ability to send correctly and to receive correctly by ear, code groups (mixed letters, figures and punctuation marks) at a speed of 20 groups per minute, and of a plain language passage in English at a speed of 25 words per minute. Each code group must comprise five characters, each figure or punctuation mark counting as two characters. The passage in plain language must average five characters to the word. The duration of each test of sending and receiving will as a rule be five minutes;

(*e*) ability to transmit correctly and to receive correctly telephonic communications;

(*f*) knowledge of the Radio Regulations annexed to the International Telecommunication Convention applying to radiocommunications and particularly of that part of those Regulations relating to the safety of life; knowledge of the documents relating to charges for radiotelegraphy communications*; knowledge of the special intructions and operating procedures applying to the radiocommunication service in air navigation, as contained in Chapters III, IV, IX, XI, XVI to XX inclusive and XXIII to XXVIII inclusive, of the "Civil Aviation Communications Handbook";

* This knowledge is required only in the case of operators handling public correspondence.

(*g*) knowledge of the general geography of the world, of the principal air navigation routes, and of the most important telecommunication routes.

(4) *First Class Flight Radiotelegraphy Operator.*—The applicant must be the holder of a first class flight radiotelegraphy operator's licence (temporary).

(5) *Certificate of Competency.*—A certificate of competency will be issued to an applicant who satisfies the Minister as to his technical competency in the foregoing matters.

(6) *Extension of Radio Apparatus Rating.*—An applicant may be examined in special radiocommunication or radio navigation systems not covered by the basic examination and, if successful, an appropriate entry will be made in the certificate of competency. For the purpose of obtaining such an entry in respect of particular radio navigation systems an applicant may be required to satisfy the Minister that he has an elementary knowledge of air navigation.

29. Syllabuses and particulars of the examination referred to in Regulation 28 are published in the handbook entitled "Flight Radio Operators' Licences" (C.A.P. 90), as from time to time amended, obtainable at Her Majesty's Stationery Office.

Medical Requirements

30.—(*a*) A person applying for the grant or renewal of a first class flight radiotelegraphy operator's licence (temporary) or a first class flight radiotelegraphy operator's licence shall be required to undergo a medical examination to ascertain whether his physical condition conforms with the standard of fitness, i.e., physical, visual, colour perception and hearing, specified in Regulation 35:

Provided that an applicant who does not satisfy the specified medical requirements may, at the discretion of the Minister, be accepted as eligible for the grant or renewal of a licence so far as medical requirements are concerned. Any licence granted or renewed in accordance with this proviso may be made subject to such conditions and restrictions as the Minister may consider appropriate in the particular case.

(*b*) The medical examination shall be conducted by specially qualified medical officers appointed by or acting under the authority of the Minister. Applications for examination should be made to the Secretary, Ministry of Transport and Civil Aviation, London.

31. Every applicant who presents himself for medical examination for the grant or renewal of a licence shall be required to furnish to the medical examiner a declaration signed by him stating whether he has previously undergone such medical examination and, if so, where, when and with what result. A false declaration may entail the cancellation of any licence granted or renewed as a result of the examination.

32. If the holder of a licence is aware, or has reasonable grounds to suspect, that his physical, aural or eye condition has deteriorated in any respect, even if only temporarily as a result of a common minor ailment, so that it may be below the standard of medical fitness required for the grant of such a licence, he shall not act in any capacity for which he is so licensed until he is satisfied that his condition has been restored to the required standard.

33.—(1) If the holder of a licence—

(*a*) suffers any personal injury as the result of an accident occurring while he is acting in any capacity for which he is licensed;

(*b*) suffers any personal injury involving incapacity for work as the result of an accident occurring otherwise than while he is acting in any capacity for which he is licensed ; or

(*c*) suffers from any illness involving incapacity for work during twenty days or more ;

he shall send notification of the occurrence, in writing, to the Secretary, Ministry of Transport and Civil Aviation, London, as soon as possible in the case of accident, and, in the case of illness, as soon as the said period of twenty days has elapsed.

(2) The holder of a licence may, after suffering any such personal injury or illness as aforesaid, be required to undergo a full or partial medical examination. He shall not, therefore, resume acting in any capacity for which he is licensed until he has either been examined and pronounced fit or notified that an examination is not required.

(3) Pregnancy shall be regarded as incapacitating the holder of a licence from carrying out flying duties. As soon as the condition has been diagnosed the holder of a licence shall cease flying and shall not again fly until she has, in due course, been examined and pronounced fit.

(4) Whenever the holder of a licence has performed a total of 125 hours' flying in the capacity of a member of the operating crew of a flying machine or glider within any period of thirty consecutive days since his last medical examination under these Regulations, he shall not continue to act in that capacity until he has been re-examined and pronounced fit:

Provided that in exceptional circumstances relaxations of the requirements of this paragraph may be made at the discretion of the Minister.

(5) The medical examinations required for the purpose of this Regulation shall be in accordance with the same conditions and standards as for the grant or renewal of a licence, except, however, as provided by Regulation 34.

34. If an applicant for the renewal of a licence is for the time being acting as a member of the operating crew of an aircraft in a region distant from official medical centres the medical examination which he should normally pass to obtain renewal of the licence may exceptionally, at the discretion of the Minister—

(*a*) be deferred once for a period of six months in the case of a member of the operating crew of a private aircraft ; or

(*b*) be deferred for two consecutive periods of three months each in the case of a member of the operating crew of a public transport or aerial work aircraft, on condition that the applicant obtains locally on each occasion a satisfactory medical certificate after having been examined by a qualified medical officer.

35. The medical examination and assessment will be based on the following requirements of mental and physical fitness:—

A. *Physical Standard*

(*a*) *General*

(i) The applicant shall be required to be free from such active or latent, acute, or chronic, physical disability, as would entail a degree of a functional incapacity which is likely to interfere with the safe performance of the duties at any altitude throughout a prolonged or difficult flight ;

(ii) the medical examination will include a full inquiry into the family and personal history of the applicant. The information obtained

shall be given in a statement made and signed by him and will be taken into consideration by the medical examiner.

(*b*) *Examination of the nervous system*

The applicant shall have no history of significant mental or nervous trouble. He shall be required to be free from any mental impairment, or presumptive evidence of latent epilepsy. He shall be required to be free from any progressive disease of the nervous system and from any non-progressive disease of that system, the effects of which are likely to interfere with the safe performance of the duties. Cases of past or present insanity and cases in which syphilis, past or present, has affected the central nervous system will be assessed as permanently unfit.

(*c*) *Injuries of the head*

(i) Cases of simple concussion, or simple fracture of the skull without associated intracranial injury will be assessed as temporarily unfit until such time as the medical examiner is satisfied that the effects of the concussion or fracture are no longer likely to jeopardise safety in flight. If the applicant has been incapacitated for a period in excess of one month the licence if renewed will be valid only for a period of two months in the first instance, thereafter its validity will be restricted to consecutive periods of two months until the medical examiner is satisfied that the after-effects of the concussion or fracture are no longer likely to cause a sudden incapacity in flight;

(ii) cases of head injury associated with intracranial injuries will be assessed as permanently unfit if a local lesion of the brain or meninges persists;

(iii) cases of head injury in which there has been an operation on the skull with loss of bony substance involving the two tables of the cranial vault will be assessed as permanently unfit.

(*d*) *General surgical examination*

The applicant shall be required to be completely free from hernia.

Cases of active disease of the bones, joints, muscles or tendons and all serious functional sequelae of congenital or acquired disease will be assessed as unfit. Cases of functional after effects of lesions affecting the bones, joints, muscles or tendons and certain anatomical defects compatible with the safe performance of the duties may be assessed as fit.

Cases of sequelae of disease or surgical intervention on any part of the digestive tract and its adnexae, liable to cause sudden incapacity in flight, in particular any obstructions due to stricture or compression will be assessed as unfit.

Cases of extensive mutilation of the chest wall with collapse of the thoracic cage and sequelae of surgical procedures resulting in decreased respiratory efficiency at altitude will be assessed as unfit.

Cases of sequelae of disease or surgical procedures on the kidneys and the urinary tracts liable to cause sudden incapacity, in particular any obstructions due to stricture or compression will be assessed as unfit. Cases of compensated nephrectomy without hypertension or uraemia may be assessed as fit.

An applicant who has undergone a major surgical operation on the bilary passages or the digestive tract or its adnexae, or the urinary system, which has involved a total or partial excision or a diversion of any of these organs will be assessed as unfit until such time as the medical examiner having access to the details of the operation concerned considers that the effects of the operation are not liable to cause sudden incapacity in the air.

(*e*) *General medical examination*

The heart shall not possess any abnormality, congenital or acquired, which is likely to interfere with the safe performance of the duties. Respiratory arrhythmia, occasional extra systoles which disappear on exercise, increase of pulse rate from excitement or exercise, or a slow pulse not associated with auriculoventricular dissociation may be regarded as coming within " normal " limits.

The systolic and diastolic blood pressures shall be within normal limits.

There shall be no significant functional nor structural abnormality of the circulatory tree.

There shall be no acute disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleura. In the case of an examination for the first grant of a licence, radiography will form a part of the chest examination, and similar radiographic examinations will be carried out as necessary thereafter.

Cases of pulmonary emphysema will not be assessed as unfit unless the condition is causing symptoms.

Cases of active pulmonary tuberculosis will be assessed as unfit. Cases of quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit. Cases of doubt about the activity of a lesion, where symptoms of activity of the disease are lacking, clinically, will be assessed as temporarily unfit for a period of not less than three months from the date of the medical examination. At the end of the three months' period, a further radiographic record will be made and compared carefully with the original. If there is no sign of extension of the disease and there are no general symptoms nor symptoms referable to the chest, the applicant may be assessed as fit for a period of three months. Thereafter, provided there continues to be no sign of extension of the disease as shown by radiographic examinations carried out at the end of each three months' period, the validity of the licence will be restricted to consecutive periods of three months. When the applicant has been under observation under this scheme for a total period of at least two years and comparison of all the radiographic records shows no changes or only retrogression of the lesion, the lesion will be regarded as " quiescent " or " healed ".

Cases of disabling disease with important impairment of the functioning of the gastro-intestinal tract and its adnexae will be assessed as unfit.

Cases of significant metabolic, nutritional or endocrine disorders will be assessed as unfit. Proven cases of diabetes mellitus will be assessed as permanently unfit; doubtful cases will be assessed as unfit until the condition is proven to be non-diabetic.

Cases of severe and moderate enlargement of the spleen persistently below the costal margin will be assessed as unfit.

Cases of significant localized and general enlargement of the lymphatic glands and of diseases of the blood will be assessed as unfit ; those due to a transient condition may be assessed as temporarily unfit.

Cases presenting any signs of organic disease of the kidneys will be assessed as unfit ; those due to a transient condition may be assessed as temporarily unfit. The urine shall contain no abnormal element considered by the medical examiner to be pathological. Cases of affections of the urinary passages and of the genital organs will be assessed as unfit ; those due to transient conditions may be assessed as temporarily unfit.

An applicant who has a personal history of syphilis shall be required to furnish evidence, satisfactory to the medical examiner, that he has undergone adequate treatment. An applicant showing any clinical signs of active syphilis will be assessed as temporarily unfit for a period of not less than three months from the date of the medical examination. At the end of the three months' period, provided the applicant furnishes proof, satisfactory to the medical examiner, that he has undergone adequate treatment in the interim and that the serological reaction for syphilis is negative, he may be assessed as fit but where a licence is granted or renewed in these circumstances it will be valid only for a period of three months in the first instance. Thereafter, provided serological reactions for syphilis continue to be negative at the end of each three months' period, the validity of the licence will be restricted to consecutive periods of three months. When the applicant has been under observation under this scheme for a total period of at least three years and the serological reactions have continued to be negative, the restriction on the period of validity of the licence may be removed. In cases where the serological reaction for syphilis remains persistently positive, examinations of the cerebro-spinal fluid at the end of each period of six months with negative results may be accepted in lieu of negative serological reactions at the end of each period of three months.

Applicants of the female sex who have a history of severe menstrual disturbances that have proven unamenable to treatment and that are likely to interfere with the safe performance of the duties will be assessed as unfit.

In the event of pregnancy the applicant will be assessed as temporarily unfit until, at least, after the pregnancy has been terminated. After confinement or miscarriage the applicant will not be permitted to exercise the privileges of the licence until she has undergone a medical examination and been assessed as fit. Cases of applicants of the female sex who have undergone gynaecological operations will be considered individually.

(f) Eye examination

The functions of the eye and its adnexae shall be normal. There shall be no active pathological condition, acute or chronic, of either eye or adnexae which is likely to interfere with its proper function to an extent that would jeopardize safety in flight.

(*Note :* The details of the Visual Standard are specified in paragraph B and those for Colour Perception in paragraph C of this Regulation.)

(*g*) *Ear examination*

There shall be:—

(i) no active pathological process, acute or chronic, of the internal ear or middle ear cleft;

(ii) no unhealed (unclosed) perforation of the tympanic membranes except that a dry perforation of non-infectious origin need not render the applicant unfit;

(iii) no permanent obstruction of the Eustachian tubes;

(iv) no permanent disturbances of the vestibular apparatus.

(*Note:* The details of the Hearing Standard are specified in paragraph D of this Regulation.)

(*h*) *Nose, throat and mouth examination*

There shall be free nasal air entry on both sides. There shall be no serious malformation nor serious, acute or chronic, affection of the buccal cavity or upper respiratory tract. Applicants with significant defects of speech will be assessed as unfit.

B. *Visual Standard*

The measurement of visual acuity will be made by means of a series of optotypes of Landholt, or similar optotypes, illuminated at not less than sixty lux and placed at a distance of twenty feet from the applicant.

The applicant shall be required to have:

(*a*) a distant visual acuity of at least 6/60 in each eye separately without correction: provided that one eye is capable of correction to 6/6 and the other to 6/18 and if the uncorrected vision in one eye or both eyes is less than 6/12 glasses giving an acuity of at least 6/6 in one eye and at least 6/18 in the other eye shall be worn whilst exercising the privileges of the licence;

(*b*) a near visual acuity of Jaeger I in the better eye and Jaeger 8 in the other eye with correcting glasses if necessary;

(*c*) accommodation within $\pm$ 3 dioptres of the average for the age;

(*d*) normal fields of vision.

C. *Colour Perception Standard*

The measurement of colour perception will be made by means of pseudo-isochromatic plates or a suitable lantern. When a lantern is used it will present the light, transmitted by coloured screens lighted at five lux, for one second and seen at a distance of twenty feet in an angle of three minutes.

The applicant shall be required to be able to distinguish easily signal red, signal green and white.

D. *Hearing Standard*

The applicant shall be required not to have a loss in either ear of more than twenty decibels at any one of the four frequencies, 500, 1,000, 2,000 and 3,000 cycles per second as measured by means of a standard pure tone audiometer in a quiet room that is, a room in which the intensity level of the background noise is less than fifty decibels as measured by a sound level meter. Alternative means of testing which the Minister considers are the equivalent of those detailed will be accepted.

Radio Experience

36.—(1) An applicant for the grant of a flight radiotelephony operator's restricted licence or a general flight radiotelephony operator's licence shall not be required to furnish evidence of radio experience.

(2) An applicant for the grant of a first class flight radiotelegraphy operator's licence (temporary) shall not be required to furnish evidence of radio experience.

(3) An applicant for the grant of a first class flight radiotelegraphy operator's licence shall be required to furnish the following evidence of radio experience:—

(i) (*a*) a minimum of one year's manual radiotelegraphy operating experience, of a kind approved by the Minister, in the aeronautical or maritime mobile services. Such experience must have been acquired during a period reasonably recent in relation to the application and at least four months of it should normally have been obtained during the twelve months immediately preceding the date of the application; and

(*b*) satisfactory evidence that he has performed the duties of a temporary flight radiotelegraphy operator in flight under the provisions of his temporary licence for a minimum period of twenty-five hours during the twelve months immediately preceding the date of the application; or

(ii) satisfactory evidence of such other experience which in the opinion of the Minister is of at least the equivalent value to that prescribed in sub-paragraph (i) above.

Period for which Licence may remain in force and Renewal of Licence

37.—(1) The period for which a flight radio operator's licence may remain in force, following either the grant or any renewal thereof, shall not exceed twelve months.

(2) An applicant for the renewal of a licence shall be required to undergo a medical examination in accordance with Regulations 30 to 35, except in the case of an applicant for the renewal of a flight radiotelephony operator's restricted licence or a general flight radiotelephony operator's licence, and may, at the discretion of the Minister, be required to undergo all or any part of the technical examination specified for the grant of a licence of the class to which the application relates.

(3) An applicant for the renewal of a flight radiotelephony operator's restricted licence or a general flight radiotelephony operator's licence shall be required to furnish evidence of having satisfactorily carried out radio communication, under the provisions of his licence, during the six months immediately preceding the date of the application.

(4) An applicant for the renewal of a first class flight radiotelegraphy operator's licence shall be required to furnish satisfactory evidence of having been actively employed in the performance of appropriate radio operating duties in the aeronautical service for a period of not less than two months during the twelve months immediately preceding the date of the application:

Provided that applications from persons unable to satisfy these requirements may be dealt with at the discretion of the Minister.

38. With reference to Article 34 (3) of the Order, application for the grant or renewal of a licence to act in the capacity of aircraft radio maintenance engineer, or for an extension of a rating included in such a licence, should

be made to the Secretary, Ministry of Transport and Civil Aviation, London, on a form which will be supplied by him on request.

Requirements for Grant of Licence

39. An applicant for the grant of an aircraft radio maintenance engineer's licence—

(*a*) must be not less than 21 years of age;

(*b*) must satisfy the Minister, by examination or otherwise, that his theoretical and practical knowledge of aircraft radio apparatus is in accordance with the relevant standards notified by the Minister; and

(*c*) must produce satisfactory evidence of having had not less than three years' practical experience of a kind notified and approved by the Minister; such experience shall have been acquired during a period reasonably recent in relation to the application.

Certificate of Competency

40. A certificate of competency will be issued to an applicant who satisfies the Minister as to his technical competency in the foregoing matters.

Radio Apparatus Rating

41. The aircraft radio apparatus for the maintenance, examination and certification in working order of which an aircraft radio maintenance engineer's licence is valid shall be as specified in the certificate of competency.

Extension of Radio Apparatus Rating

42. An applicant may be examined in respect of special radiocommunication apparatus or radio navigation apparatus not covered by the basic examination and, if successful, an appropriate entry will be made in the certificate of competency.

43. Syllabuses and particulars of the examination referred to in Regulations 39 and 42 are published in the handbook entitled "Aircraft Radio Maintenance Engineers' Licences" (C.A.P. 101), as from time to time amended, obtainable at Her Majesty's Stationery Office.

Period for which Licence may remain in force and Renewal of Licence

44.—(1) The period for which an aircraft radio maintenance engineer's licence may remain in force, following either the grant or any renewal thereof, shall not exceed twelve months.

(2) An applicant for the renewal of such a licence—

(*a*) shall be required to furnish satisfactory evidence of having been actively employed in the performance of appropriate radio duties for a period of not less than two months during the twelve months immediately preceding the date of the application:

Provided that applications from persons unable to satisfy this requirement may be dealt with at the discretion of the Minister;

(*b*) may, at the discretion of the Minister, be required to undergo all or any part of the technical examination specified for the grant of a licence.

Signed by order of the Minister of Transport and Civil Aviation this first day of July, 1954.

Gilmour Jenkins,
Secretary of the Ministry of Transport and Civil Aviation.

EXPLANATORY NOTE

(This Note is not part of the Regulations, but is intended to indicate their general purport.)

These regulations are made under the Air Navigation Order, 1954 (S.I. 1954/829), which revoked the Air Navigation Order, 1949; they replace the Air Navigation (Radio) Regulations, 1949, as amended, which were made under the Order of 1949.

The only important change from the provisions previously in operation is that revised medical requirements are prescribed for the Physical and Visual Standards.

AIR REGISTRATION BOARD

1954 No. 983

The Civil Aviation (Air Registration Board) (Amendment) Order, 1954

Made - - - -	*22nd July*, 1954
Coming into Operation	*1st August*, 1954

The Minister of Transport and Civil Aviation, in exercise of the power conferred upon him by sections 7 and 63 of the Civil Aviation Act, 1949(a), and of all other powers enabling him in that behalf, hereby makes the following Order:—

1. The Civil Aviation (Air Registration Board) Order, 1951(b), shall be amended in accordance with the following provisions:—

(1) In paragraph (*k*) of Article 1 for the figures "14", "31" and "1949" there shall be substituted the figures "15", "34" and "1954" respectively.

(2) For the reference "(b) S.I. 1949 (No. 349) I, p. 165." on page 2 there shall be substituted "(b) S.I. 1954 (No. 829)".

(3) In Article 4 for the figure "1949" where it first occurs there shall be substituted the figure "1954".

2. This Order may be cited as the Civil Aviation (Air Registration Board) (Amendment) Order, 1954, and shall come into operation on the first day of August, 1954.

Dated this twenty-second day of July, 1954.

Alan Lennox-Boyd,
Minister of Transport and Civil Aviation.

EXPLANATORY NOTE

(This Note is not part of the Order, but is intended to indicate its general purport.)

This Order amends the Civil Aviation (Air Registration Board) Order, 1951, by substituting therein references to the Air Navigation Order, 1954, (S.I. 1954/829), which revokes and re-enacts the Air Navigation Order, 1949, in place of the Order's existing references to the latter.

(a) 12, 13 & 14 Geo. 6. c. 67. (b) S.I. 1951/812 (1951 I, p. 224).