CIVIL AVIATION REQUIREMENTS
SECTION 2 - AIRWORTHINESS
SERIES 'O', PART IX
29TH OCTOBER, 1999 **EFFECTIVE : FORTHWITH**

SUBJECT : REQUIREMENTS FOR OPERATION OF AIRCRAFT IN MNPS AIRSPACE

1. INTRODUCTION

1.1 Sub rule 3 of Rule 9 and Rule 57 of the Aircraft Rules, 1937 stipulate that every airplane shall be fitted with instrument and equipment, including radio apparatus and special equipment, as may be specified according to the use and circumstances under which the flight is to be conducted.

1.2 The concept of Minimum Navigation Performance Specification(MNPS) was introduced on a world wide basis in 1977 after establishing criteria for MNPS in the North Atlantic Air Navigation Meeting. The objective of MNPS Airspace is to enable operators to derive maximum economic benefit from the improvement in the capabilities of latest navigation equipment while ensuring safety of operations.

1.3 The CAR lays down the requirements concerning operations and airworthiness approval of navigation equipment in MNPS activities. The requirements stipulated in this CAR must be complied with by operators intending to operate their airplanes in MNPS airspace.

1.4 The CAR is issued under the provisions of Rule 133A of the Aircraft Rules, 1937 for information, guidance and compliance by the concerned operators operating air transport services to, through and within the MNPS airspace. The contents of this CAR are consistent with the provisions of ICAO Annex 6 and Doc 7030 on the subject.

2. DEFINITIONS :

NAT MNPS (North Atlantic Minimum Navigation Performance Specification)

The vertical dimensions of the MNPSA is between FL 285 and FL 420 (i.e. in terms of normally used cruising levels from FL 290 to FL 410 inclusive)

The lateral dimension include the following control areas:

REYKJAVIK(to the North Pole)
SHANWICK AND GANDER OCEANIC
SANTA MARIA OCEANIC North of 27 degree N
NEW YORK OCEANIC North of 27 degrees N but excluding the area West of 60 degrees W and south of 38 degrees 30 minutes N

NAT Doc 001T13.5N/6 --- ICAO Guidance and information material concerning Air Navigation in NAT region refers.

3. REQUIREMENTS:

3.1 No person shall operate Indian registered aircraft in air space designated as Minimum Navigation Performance Specifications (MNPS) air space unless:

a) The operator is authorised by DGCA to perform such operations.

b) The aircraft has approved navigation performance capability to improve MNPS in the horizontal plain through the mandatory carriage and use of navigation equipment as per requirements set forth in NAT Doc 001/T13.5 N/6 and North Atlantic Air Space Operations Manual.

3.2 Presently MNPS requirements are applicable in the North Atlantic Airspace (NAT). However, MNPS requirements may be imposed in any other airspace by the ATS providers. Specifications may not be exactly similar to that of NAT-MNPS. To meet, the accuracy requirements for navigation in the particular MNPS Airspace, appropriate equipment shall be installed for such operations. Individual approval is required for each aircraft and the operator to operate in each MNPS airspace as and when such areas are notified and operator wishes to operate in such airspace.

4. AIRCRAFT SYSTEM/EQUIPMENT REQUIREMENTS:

4.1 In order to consider each aircraft for DGCA approval for unrestricted operation in the MNPSA, an aircraft shall be equipped with the following types of Long Range Navigation System (LRNS)

a) Two Inertial Navigation Systems (INS)
or
Two navigation systems using the inputs from one or more Inertial Reference Systems (IRS) or any sensor system complying with MNPS

b) Each LRNS must be capable of providing a continuous indication to the flight crew of the aircraft position relative to track

c) It is essential that the navigation system employed for the provision of steering guidance is capable of being coupled to the auto-pilot.

Note: ***Current Inertial Navigation Systems have demonstrated the capability of meeting NAT MNPS. Dual Navigation Systems which have been installed, operated and maintained in accordance with Appendix C of FAR 121 or JAR specifications or any other specifications acceptable to DGCA can be approved for operation in NAT MNPS airspace.***

d) In case RVSM operations are required to be conducted in MNPS airspace, the following additional equipment shall also be installed.

i) Two fully serviceable independent primary altitude measurement systems;
ii) One automatic altitude-control system;
iii) One altitude-alerting device; and
iv) A functioning Mode-C SSR Transponder.

e) Carriage of standby navigation equipment shall be governed by ICAO Annex 6 Part I and Part II - Chapter 7

f) Any other equipment which meets MNPSA accuracy criteria and is acceptable to DGCA may be installed.

5. OPERATIONAL REQUIREMENT :

5.1 Each operator shall develop MNPSA operational procedures. The crew training guidance information may be taken from the North Atlantic MNPS Airspace Operations Manual published by UK National Air Traffic Services.

5.2 The operating crew shall be adequately trained and kept proficient for operation of aircraft in MNPS airspace and shall be fully aware of the procedures to be followed. During operations in MNPS airspace if there is any failure, the pilot shall inform the concerned ATC immediately and comply with their instructions.

5.3 Each operator shall have a system of evaluation and recording Inertial Navigation System radial errors and ensure that such defects when reported are duly rectified.

6. MAINTENANCE REQUIREMENTS :

6.1 All equipment/systems as mentioned in paragraph 4 shall be maintained in accordance with the manufacturers approved maintenance program.

6.2 Aircraft Maintenance Engineers(AME) shall scrutinize the Flight Reports for pilot reported Inertial Navigation System radial errors or failures and ensure that such defects are promptly rectified.

7. MINIMUM EQUIPMENT LIST (MEL)

Each operator shall reflect requirements of minimum navigation systems for MNPSA as indicated in para 4 above in their MEL.

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