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GENERAL

LEGISLATION MATTERS

PUBLICATION IN TERMS OF REGULATION 11.04.4(2) OF THE FULL PARTICULARS OF AN EXEMPTION GRANTED BY THE COMMISSIONER FOR CIVIL AVIATION FROM THE REQUIREMENTS OF REGULATIONS 121.08.1 (2) (c), 121.08.27 (1), 135.08.1 (2) (c) AND 135.08.17 (1) OF THE CIVIL AVIATION REGULATIONS 1997.

☞ Indicates changes.

☞ This AIC replaces AIC 18x8 dated 02-09-15.

1. **APPLICANT**

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2. **DETAILS OF EXEMPTION**

The Commissioner for Civil Aviation has granted an exemption to all operators of Class D aeroplanes from the provisions of regulations 121.08.1(2) (c), 121.08.27 (1), 135.08.1 (2) (c) and 135.08.17 (1) in so far as the aforementioned regulations stipulate certain operational requirements for Class D aeroplanes.

This exemption will nullify the requirements of the aforementioned regulations and temporarily replace the requirements of these regulations with other more practical and less ambiguous requirements.

3. **BACKGROUND**

The requirements of the regulations referred to in paragraph 2 above, could not be implemented in a practical fashion, which negatively impacted on the CAA's ability to regulate certain operational aspects pertaining to Class D aeroplanes.

Certain amendments to regulations 121.08.1(2) (c), 121.08.27 (1), 135.08.1 (2) (c) and 135.08.17 (1) were promulgated with effect from 22 June 2001, reflecting the recommendations made by CARCOM during December 2000. The proposal submitted to CARCOM to amend the above-mentioned regulations was submitted by the Single-engine Aircraft Operators Committee as many industry stake holders believed that the regulations introduced in 1997 were not suitable to South African conditions. The amendments, instead of clarifying matters, created ambiguities. Furthermore, the amended regulations were promulgated before the relevant technical standards containing specific operational requirements, had been put in place. This lack of technical standards created difficulties in interpreting and implementing the amended regulations. Finally, although required by CARCOM at the time, the CAA refrained from taking a position on whether reciprocating engine-powered aircraft should also be included in the ambit of the amendments. This issue was therefore not addressed in the amendments, but is addressed in the conditions contained in paragraph 6 of this document.

A great deal of uncertainty has existed amongst air service operators as to what the regulatory requirements are with respect to the operation of this class of aeroplane. The granting of this exemption is intended to clarify the operational requirements for Class D aeroplanes. The issue regarding the operation of single-engine aircraft at night and in adverse weather conditions has always been the subject of much debate. It was therefore necessary for the CAA to research this topic to find the optimum solution for South African circumstances and conditions. The CAA found the

approach followed by the Federal Aviation Administration on this issue, as being most suitable for South African aviation. The FAA has promulgated regulations that permit passenger-carrying single-engine IFR (SEIFR) operations in terms of Part 135 'Operating Requirements: Commuter and On-demand Operations'.

The following are the main arguments on which the FAA based its decision:

Rather than engine failure, inadvertent flight into IMC and collision with terrain, have been far more significant causes of single-engine aircraft accidents.

By allowing IFR operations:

- ** flights are better planned, flights are conducted at higher altitudes, providing better VHF communication and guaranteed clearance of obstacles
- ** flights are ATC monitored, providing earlier response to emergency situations
- ** engine reliability has dramatically improved over the years

As most commercial IFR operations require more than one pilot, the level of experience of the flight crew is higher, as the PIC needs to hold an APTL. If only one pilot is allowed, an autopilot must be installed as well as additional navigation and weather equipment.

In the case of single-engine operations, the operator is required to provide additional IFR training.

As the "health" of the single engine is most important, the FAA introduced the requirement for an engine health monitoring programme.

The FAA also insists on additional equipment, to ensure continuous energy supply.

The FAA is of the opinion that by allowing Single Engine IFR (SEIFR) operations, operators will be less inclined to conduct low-altitude operations under marginal weather conditions and at the same time they will meet more stringent requirements for such flights, including additional equipment. Furthermore, by allowing SEIFR operations, areas that may not be able to accommodate multi-engine aeroplanes will be made more accessible.

The CAA is of the opinion that the same arguments are applicable to the South(ern) Africa region and conditions. The principle of SEIFR operation has already been accepted in the case of turbine-powered aeroplanes. Furthermore, certain safeguards that were put in place by the FAA, have not been included in the South African regulations, such as the minimum hour requirement for the PIC.

The CAA therefore motivated the granting of this exemption as an interim measure to allow further research to be conducted into what requirements should ultimately be inserted into the regulations, when the regulations mentioned in paragraph 2 above are amended. Prior to the permanent introduction of any regulatory amendments, the CAA will conduct proper consultations with the relevant stakeholders. The granting of this exemption with its associated terms and conditions, will remain in force until such time as the aforementioned research and consultations are complete and one or all of the regulations referred to in paragraph 2 above have been amended or repealed. The terms and conditions contained in this document, will therefore only serve as an interim measure.

4. SAFETY IMPLICATIONS

The CAA applied for this exemption to render ineffective those regulations relating to Class D aeroplane operations which cannot practically be implemented and simultaneously introduce other requirements which are possible to implement. The CAA has advised the Commissioner that the granting of this exemption will not in any way compromise aviation safety. The proposed conditions are based on requirements promulgated by the FAA, which have ensured acceptable levels of operational safety over a significant period of time in the United States.

It should especially be noted that in terms of the conditions stipulated hereunder, the operation of a Class D commercial air transport aeroplane for the conveyance of passengers in terms of a Class I, type S, air service license, is permissible, if a Class B or Class C aeroplane is available as a back up service and the prescribed weather minima requirements are met.

5. PERIOD OF EXEMPTION

The Commissioner for Civil Aviation has granted this exemption from the requirements of the regulations referred to in paragraph 2, until such time as one or all of regulations 121.08.1 (2) (c), 121.08.27 (1), 135.08.1 (2) (c) and 135.08.17 (1) have been amended or repealed.

6. OPERATION OF CLASS D AEROPLANES IN TERMS OF EITHER PART 121 OR PART 135: TERMS AND CONDITIONS

The Commissioner granted the exemption sought, subject to the following terms and conditions:

- (1) *For operations under IFR or by night in a commercial air transport aeroplane, an operator shall ensure that the minimum flight crew includes a properly rated second pilot: Provided that Class D aeroplane operations with a single-pilot are allowed in the case of:-*
- (a) *all-cargo operations in terms of Part 121; and*
 - (b) *any operation in terms of Part 135;*
- provided that the provisions of sub-paragraph (2) are met.*
- (2) *The single-pilot Class D aeroplane operations, referred to in sub-paragraph (1)(a) and (b), are allowed, provided:-*
- (a) *the aeroplane has been certificated and is equipped for single-pilot IFR operation, as prescribed by Regulations 121.05.3 or 135.05.3, as the case may be;*
 - (b) *the aeroplane has been fitted with a power-failure warning device or vacuum indicator to show the power available for gyroscopic instruments from either power source;*
 - (c) *the operator has included in the operations manual, referred to in Regulations 121.04.2, or 135.04.2, as the case may be, an approved conversion and recurrent training programme for pilots, which includes the additional requirements for a single-pilot operation, as prescribed by Regulations 121.03.3 or 135.03.3, as the case may be; and*
 - (d) *the pilot-in-command shall have completed in aeroplanes not less than 1 500 hours of flight time, of which –*
 - (i) *250 hours shall be as pilot-in-command, or not less than 100 hours as pilot-in-command and the necessary additional flight time as co-pilot performing, under the supervision of the pilot-in-command, the duties and functions of a pilot-in-command;*
 - (ii) *200 hours shall be cross-country flight time, of which not less than 100 hours shall be as pilot-in-command or as co-pilot performing, under the supervision of the pilot-in-command, the duties and functions of a pilot-in-command;*
 - (iii) *75 hours shall be instrument time, of which not more than 30 hours may be acquired in a simulator;*
 - (iv) *100 hours shall be night flight time as pilot-in-command or as co-pilot; and*
 - (v) *not more than 100 hours may be acquired in a simulator, of which not more than 25 hours shall have been acquired in a flight procedure trainer or a basic instrument flight trainer.*
- (3) *Notwithstanding the proviso to sub-paragraph (1), no person may operate an aeroplane in a Category II or Category III operation unless the flight crew includes a properly rated second pilot.*
- (4) *The operator of a commercial air transport Class D aeroplane shall not operate the aeroplane in accordance with IFR when carrying passengers, unless such aeroplane is equipped with –*
- (a) *(i) two independent electrical power-generating sources, each of which is able to supply all probable combinations of continuous in-flight electrical loads for required instruments or equipment; or*
 - (ii) *in addition to the primary electrical power-generating source, a stand-by battery or an alternate source of electrical power that is capable of supplying 150% of the electrical loads of all required instruments and equipment necessary for safe emergency operation of the aeroplane for at least one hour; and*
 - (b) *an approved operative auto-pilot system, capable of operating the aeroplane controls to maintain flight and manoeuvre it about the three axis; and*
 - (c) *IFR-approved area navigation equipment that provides immediate identification and heading to the nearest suitable aerodrome; and*
 - (d) *if the aeroplane is fitted with a turbo engine:-*

- (i) *an auto-ignition system or use of continuous ignition during take-off, landing and flight during heavy precipitation; and*
- (ii) *a manual throttle that bypasses the governing section of the fuel control unit, and permits continued unrestricted operation of the engine in the event of a fuel control unit failure; and*
- (e) *if a non-pressurised aeroplane, and notwithstanding the provisions of Regulation 121.05.6, either airborne weather radar equipment, or other by the Commissioner approved equipment capable of detecting thunderstorms and other potentially hazardous weather conditions.*

For the purpose of sub-paragraph (a)(i), a continuous in-flight electrical load includes one that draws current continuously during flight, such as radio equipment, electrically driven instruments, and lights, but does not include occasional intermittent loads.

(5) *The operator of a Class D commercial air transport aeroplane :-*

- (a) *shall ensure that, for determining compliance with the requirements prescribed in this document, the approved performance data in the aeroplane flight manual, referred to in Regulations 121.04.4 or 135.04.4, as the case may be, is supplemented, as necessary, with other approved data if the approved performance data in such aeroplane flight manual are insufficient;*
- (b) *shall not use such aeroplane for the provision of any scheduled public air transport service, unless a Class B or Class C aeroplane is available as a back-up in case the provisions of sub-paragraph (5)(c) cannot be met;*
- (c) *when carrying passengers, shall not operate such aeroplane under IMC or above more than three eighths of clouds within a radius of five nautical miles of the aeroplane, unless –*
 - (i) *the latest weather reports or forecasts, or any combination of them, indicate that the weather along the planned route (including take-off and landing), with due regard for the provisions of Division Three of Subpart 8 of Part 135, as they apply mutatis mutandis, allows flight under VFR under the ceiling (if a ceiling exists) and that the weather is forecast to remain so until at least one hour after the estimated time of arrival at the destination; and*
 - (ii) *a descent can be made under VFR if the aeroplane's engine fails;*
- (d) *when carrying passengers under IFR, shall include in the aeroplane maintenance schedule –*
 - (i) *either the manufacturer's recommended engine trend monitoring programme, which includes an oil analysis, if appropriate; or*
 - (ii) *an engine trend monitoring programme, approved by the Commissioner, that includes an oil analysis at each 100 hours interval or at the manufacturer's suggested interval, whichever is more frequent.*

(6) *The results of each test, observation, and inspection, required by the applicable engine trend monitoring programme prescribed by sub-paragraph (5)(d) shall be recorded and maintained in the engine maintenance records.*

(7) *The aeroplane maintenance schedule shall contain, in respect of any aeroplane referred to in sub-paragraph (5)(d), written maintenance instructions containing the methods, techniques, and practices necessary to maintain the equipment specified in sub-regulation 121.05.3 or 135.05.3, as the case may be.*

- (8) (a) *When an operator intends to carry out single-pilot operations under IFR in terms of sub-paragraph 1(a) or (b), he or she shall ensure that the following additional training is provided to the pilot-in-command of such aeroplane:*
 - (i) *auto-pilot training and testing, specific to the aeroplane; and*
 - (ii) *aeroplane-specific training and proficiency in normal and emergency procedures.*
- (b) *The proficiency must be demonstrated on the make and model of the aeroplane to be operated, or on a type-specific simulator, approved for the purpose.*

(c) *A pilot proficiency check shall be completed annually.*

8. *In terms of regulation 11.04.2(1), the Commissioner for Civil Aviation exempted the applicant from the publication for comment in an AIC, of the exemption application.*

COMMISSIONER FOR CIVIL AVIATION