|  |  |
| --- | --- |
|  **REFERENCES** | **TITLES** |
| **MCAR Airworthiness** | **Mauritius Civil Airworthiness Requirements - MCAR AIRWORTHINESS** |
| **MCAR PART SPA** | **Organisation Requirement for Air Operations – Specialised Operations** |
| **MCAR PART-M** | **Continuing Airworthiness** |

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|  |
| **Approval to conduct LVO will be performed in 3 phases (an additional Phase 4 refers to Continuous monitoring by Operator/DCA of Low Visibility Operations:** |
| **Phase 1:** | Begins when the operator formally submits a CAT II and/or CAT III application for DCA evaluation. |
| **Phase 2:** | DCA evaluates the formal submission for compliance and approves necessary CAT II/III training, manual revisions, etc; |
| **Phase 3:** | Phase Three is referred to as the Operator ability to conduct CAT II/III operations in accordance with the application evaluated in Phase Two and is the line with operational evaluation of the operator’s application including Trainings/Demonstration Flights/ Checks and periodic reviews etc Ends with DCA approval |
| **Phase 4:** | Continuous monitoring by Operator/DCA of low visibility operations (AMC3 SPA.LVO.105 LVO approval (a)-(b)-(c)). |
| **1. Applicant / Operator** |
| **Name** |  |
| **Address** |  |
| **Telephone No.** |  |
| **Email** |  |
| **Contact person** |  |
|  |
| **Date of Submission** |  |
| **2. Aircraft** |
| **Aircraft Type** |  |
| **Aircraft S/N** |  |
| **Aircraft Registration** |  |
| **3. Applicant request for (\*)** |
| LTS CAT IRequested DH: …………. RVR: …………. | YES  | **SPA.LVO.110(a)****AMC3 SPA.LVO.100 (a)** |
| Approval for CAT IIRequested DH: …………. RVR: …………. | YES | **SPA.LVO.110(b)****AMC4 SPA.LVO.100 (a)** |
| OTS CAT II SPA.LVO.110Requested DH: …………. RVR: …………. | YES | **SPA.LVO.110(b)****AMC4 SPA.LVO.100 (b)** |
| Approval for CAT IIIRequested DH: …………. RVR: …………. | YES | **SPA.LVO.110(b)****AMC5 SPA.LVO.100 (a-b-c)** |
|  |
| **LVTO** |  |  |
| Approval for LVTOLower than 400m RVR to 150m RVR | YES | **AMC1 SPA.LVO.100 (a)** |
| Approval for LVTOBetween than 150m RVR to 125m RVR | YES | **AMC1 SPA.LVO.100 (b)** |
| Approval for LVTOBetween than 125m RVR to 75m RVR | YES | **AMC1 SPA.LVO.100 (c)** |
| Αpproach operations utilising an EVS | YES | **SPA.LVO.100 (c)** |
| **4. Applicant previous experience in CAT II or CAT III (\*)** |
| 4.1 Operators with no previous CAT II or CAT III experience should demonstrate to DCA that it has gained a minimum experience of 6 months of CAT I operations on the aircraft |
| Operator to refer experience gained in months : …………. | **AMC4 SPA.LVO.105 LVO approval** |
|  |
| 4.2 Applicant has to refer to previous experience gained with the requested aircraft type mentioning number of Approaches performed. |
| CAT II Approaches: …………... | YES | NO |
| CAT III Approaches: ………….. |
| 4**.**3 Applicant has to refer to proposed number of approached that will be performed during the Demonstration Flights (Phase 3) |
| Proposed number of Approaches: …………. | YES NO N/A |
| 4.4 The operator should establish a reporting system to enable checks and periodic reviews to be made during the operational evaluation period before the operator is approved to conduct CAT II or III operations. |
|  | **AMC2. SPA.LVO.105 LVO(b)(1) approval** |
| 4.5 The operator should establish a reporting system to enable checks and periodic reviews to be made during the operational evaluation period before the operator is approved to conduct CAT II or III operations. |
|  | **AMC2 SPA.LVO.105 (b) (2) LVO approval** |
|  |  |
| **PART 1 Airworthiness** |
| **SPA.LVO.110 General operating requirements****(b) The operator shall only conduct CAT II, OTS CAT II or CAT III operations if:** **(1) each aircraft concerned is certified for operations with a decision height (DH) below 200 ft, or no DH, and equipped in accordance with the applicable airworthiness requirements;** |
|  |
| **5. Type Design Approval (\*)** |
| ***5.1 The AWO type design approval is reflected in: (\*)*** |
| **Type Certificate** | YES | NO |  |
| **Type Certificate Data sheet** | YES | NO |  |
| **AFM** | YES | NO |  |
| **Supplement Type Certificate** | YES | NO |  |
| **AFM supplement** | YES | NO |  |
| **Service Bulletin** | YES | NO |  |
| **Service Letter** | YES | NO |  |
| **Other (specify)** | YES | NO |  |
|  | DCA Note: Applicant to attach the evidence |
| **Aircraft flight control system is certified as:** |
| Fail-passive flight control system: |  |  |
| YesFail – |  |  |
| Operational : | YES |  |
|  | DCA Note: Applicant to attach the evidence |
| ***5.2 Maintenance program (\*)*** |
| **Applicant has to submit sections of the approved Maintenance Program (AMP) related to LVO systems for the aeroplane** |
|  |  | YES |
| Maintenance instructions for the Category II or III autoland equipment must be incorporated by the operator and included in the Approved Maintenance Program (AMP) for the aeroplane. |
|  | **AMC5 SPA.LVO.105 LVO approval** |
| ***5.3 MEL (\*)*** |
| **Applicant has to submit sections of the approved MEL related to LVO systems for the aeroplane** |
|  |  | YES |
| Minimum Equipment List (MEL) must be clearly identify the equipments/systems that must be installed and serviceable at the commencement of a Low Visibility Take Off or a Category II or III.(a) The operator shall include the minimum equipment that has to be serviceable at the commencement of an LVO in accordance with the aircraft flight manual (AFM) or other approved document in the operations manual or procedures manual, as applicable.(b) The pilot-in-command/commander shall be satisfied that the status of the aircraft and of the relevant airborne systems is appropriate for the specific operation to be conducted. |
|  | **SPA.LVO.130 Minimum equipment** |
| ***5.4 Periodic operational sampling (\*\*)*** |
| **Procedures for periodic maintenance of systems ground check, and systems flight check, as applicable. For example, following a heavy maintenance, suitable checks may need to be performed prior to return to service** |
| ***5.5 Defects Monitoring (\*\*)*** |
| **Action for non-compliant aeroplane (downgrading, technical log entries, corrective actions, placarding, upgrading, release to service procedures, monitoring and reporting of repetitive defects, reliability reporting, reporting to the NAA, etc.).** |
| ***5.6 Continuous Monitoring of LVO Operations/Reliability of LVO systems (\*\*)*** |
| **Applicant has to refer to the related procedure on how the LVO operations is continuously monitored to detect any undesirable trend.** |
| The data to be collected and utilised is:1. The total number of approaches, by aeroplane type where a Category II or III approach/landing was made satisfactorily whether or not it was an actual or practice approach.
2. Reports of unsatisfactory approaches/landings by aerodrome and aeroplane registration and categorised into
3. airborne equipment fault,
4. ground facility problem
5. missed approach due to ATC instruction and
6. other reasons.
 |
|  | **AMC3 SPA.LVO.105 LVO approval (b) 1-2** |
| * **A suitable system for recording approach and/or automatic landing success and failure is established and maintained to monitor the overall safety of the operations;**
 |
| **SPA.LVO.110 (b) (2) General operating requirements** |
|  |
| **PART 2 Operation** |
| **SPA.LVO.105 LVO approval****To obtain an LVO approval from the competent authority, the operator shall demonstrate compliance with the requirements of this Subpart. (SUBPART E: LOW VISIBILITY OPERATIONS).** |
|  |
| **6.1 Operation Manual procedures and instructions to be used for LVOs . (\*\*)** |
| The operator shall establish procedures and instructions to be used for LVOs. These procedures and instructions shall be included in the operations manual or procedures manual and contain the duties of flight crew members during taxiing, take-off, approach, flare, landing, rollout and missed approach operations, as appropriate. |
|  | **SPA.LVO.125 Operating procedures AMC1** |
|  | **SPA.LVO.125 Operating procedures (b)(1)** |
| The instructions should be compatible with the limitations and mandatory procedures contained in the AFM and cover the following items in particular: |
| 1. checks for the satisfactory functioning of the aircraft equipment, both before departure and in flight;
2. effect on minima caused by changes in the status of the ground installations and airborne equipment;
3. procedures for the take-off, approach, flare, hover, landing, rollout and missed approach;
4. procedures to be followed in the event of failures, warnings to include HUD/HUDLS/EVS and other non- normal situations;
5. the minimum visual reference required;
6. the importance of correct seating and eye position;
7. action that may be necessary arising from a deterioration of the visual reference;
8. allocation of crew duties in the carrying out of the procedures according to (b)(2)(i) to (iv) and (vi), to allow the pilot-in-command/commander to devote himself/herself mainly to supervision and decision making;
9. the rule for all height calls below 200 ft to be based on the radio altimeter and for one pilot to continue to monitor the aircraft instruments until the landing is completed
10. the rule for the localiser sensitive area to be protected;
11. the use of information relating to wind velocity, wind shear, turbulence, runway contamination and use of multiple RVR assessments;
12. procedures to be used for:
13. LTS CAT I;
14. OTS CAT II;
15. approach operations utilising EVS; and
16. practice approaches and landing on runways at which the full CAT II or CAT III aerodrome procedures are not in force;
17. operating limitations resulting from airworthiness certification; and
18. information on the maximum deviation allowed from the ILS glide path and/or localiser.
 |
|  | **AMC1 SPA.LVO.125 Operating procedures (b)(2)** |
| OM – B Chapter 2 “Normal Procedures” |
| LVO Abnormal procedures |
| LVO Aerodrome considerations |
| **6.2 Flight Crew qualifications (\*\*)** |
| The operator shall ensure that, prior to conducting an LVO each flight crew member:1. complies with the training and checking requirements prescribed in the operations manual,
2. is qualified in accordance with the standards prescribed in the operations manual;
3. the training and checking is conducted in accordance with a detailed syllabus.
 |
|  | YES | NO |
| **SPA.LVO.120 Flight crew training and qualifications** |
| **6.3 Training (O.M. Part D) (\*\*)** |
| The Operation Manual (O.M. Part D) to contain the following topics |
| * General
 | **(as per AMC1 SPA.LVO.120 (a))** |
| * Ground training
 | **(as per AMC1 SPA.LVO.120 (b))** |
| * Flight simulator training and/or flight training
 | **(as per AMC1 SPA.LVO.120 (c))** |
| * Conversion training
 | **(as per AMC1 SPA.LVO.120 (c))** |
| * Type and command experience
 | **(as per AMC1 SPA.LVO.120 (e))** |
| * Low visibility take-off RVR lower than 400m
 | **(as per AMC1 SPA.LVO.120 (g))** |
| * Recurrent training and checking
 | **(as per AMC1 SPA.LVO.120 (f))** |
| * Additional training
 | **(as per AMC1 SPA.LVO.120 (h))** |
| **6.4 Operational Demonstration (\*\*)** |
| Applicant to define: |
| * Number of approaches and landings as defined in AMC1 SPA.LVO.105 LVO approval (a) and (b)
* The Transitional Periods for operators without previous CAT II/III experience (AMC4 SPA.LVO.105 LVO approval)
* Data collection and data analysis for operational demonstrations as defined in AMC1 SPA.LVO.105 LVO approval (c) and (d) and the form used to collect approaches data.
 |
|  | **SPA.LVO.105 LVO approval** |
| **6.5 Continuous Monitoring of all aircraft (\*\*)** |
| Applicant to define how the requirement for continuous monitoring of LVO to detect any undesirable trends before they become hazardous is accomplished . |
| **AMC3 SPA.LVO.105 LVO (a) (b) approval** |
| **6.6 Reporting (\*\*)** |
| Does the applicant implemented procedures as per **Regulation 128 of the Civil Aviation Regulations** |
|  | YES | NO |
|  |
| **7. Documents to be submitted** |
| The applicant has to refer to the attachments submitted with this application.: |
| 1) Part of AFM/TCDS/SB (\*)2) Parts of Maintenance Program (\*)3) Parts of MEL (\*)4) The procedures for Operational Sampling (\*\*)5) Part of Operation Manual (\*\*)6) Reliability of LVO systems (\*\*)7) Flight Crew qualifications (\*\*)8) Training requirements (\*\*)9) Procedures/Analysis/Forms used during operational demonstration phase (\*\*)10) LVO continuous Monitoring system (\*\*)11) Reporting procedures (\*\*) |
|  | DCA note: Operator to refer the parts submitted |
| **8. Items marked with (\*) or (\*\*)** |
| **Note 1:** | (\*) Items marked with one asterisk the required evidence must be submitted for each aircraft applying for LVO approval. |
| **Note 2:** | (\*\*) Items marked with two asterisks may not be submitted provided that the evidences required have been submitted to DCA in a previous application for approval of the same type and have not been modified. |
| **9. Applicant Compliance statement** |
| **I hereby declare that all documentation and information submitted have been verified and found in compliance with MCAR-Airworthiness, MCAR PART-SPA, MCAR PART-M and all other applicable requirements / procedures.** |
| **Continuing Airworthiness Manager** | **(Signature)** |
| **(name)** | **Date** |
| **CAMO Compliance Manager****(name)** | **(Signature)****Date** |
| **Nominated Flight Operation Manager** | **(Signature)** |
| **(name)** | **Date** |
| **Flight Training Manager** | **(Signature)** |
| **(name)** | **Date** |

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| --- |
| **For Department of Civil Aviation use only** |
| **Airworthiness Inspectorate** | **Flight Operations Inspectorate** |
| **Conformity with MCAR-Airworthiness, MCAR PART-SPA and MCAR PART-M:**  | **Conformity with operational criteria as contained in MCAR PART SPA, and all relevant provisions have been covered by operator’s application.** |
| **Satisfactory**  | YES | NO | **Satisfactory**  | YES | NO |
| **Name:** | **Name:** |
| **Signature:****Date:** | **Signature:****Date:** |

**NOTES**

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| **LVTO OPERATIONS TRAINING AMC1 SPA.LVO.120 (g)** |
| The description in the Chapter “Introduction” must contain the information/value concerning Low Visibility Operation:* Approved approach minima and the relevant RVR limits must be listed.
 |

**INTRODUCTION:**

**Abbreviations**

**A)**

“Decision Height (DH)”. Decision height is the wheel height above the runway elevation by which a go-around must be initiated unless adequate visual reference has been established and the aeroplane position and approach path have been assessed as satisfactory to continue the approach and landing in safety. In this manual, it refers to Height Above Threshold (HAT) which is defined as the theoretical height above the runway threshold elevation.

“Alert Height (AH)”. The alert height is a specified radio height, based on the characteristics of the aeroplane and its fail-operational landing system.

“Fail-Passive flight control system”. A flight control system is fail-passive if, in the event of a failure, there is no significant out-of-trim condition or deviation of flight path or attitude but the landing is not completed automatically. For a fail-passive automatic flight control system the pilot assumes control of the aeroplane after a failure.

“Fail-Operational flight control system”. A flight control system is fail-operational if, in the event of a failure below alert height, the approach, flare and landing, can be completed automatically. In the event of a failure, the automatic landing system will operate as a fail- passive system.

“Lower than Standard Category I Operation”. A Category I Instrument Approach and Landing Operation using Category I DH, with an RVR lower than would normally be associated with the applicable DH.

“Other than Standard Category II Operation”. A Category II Instrument Approach and Landing Operation to a runway where some or all of the elements of the ICAO Annex 14 Precision Approach Category II lighting system are not available.

**- LIFUS :** Line Flying under Supervision

**B) Phases to Approve applicant for LVO**

**B.1: Phase One:**

Begins when the operator formally submits a CAT II and/or CAT III application for DCA evaluation

**B.2: Phase Two:**

* DCA evaluates the formal submission for compliance with the direction provided in this document, other safety-related documents and safe operating practices;
* When results of DCA evaluation are unsatisfactory, return submission to the operator for correction and/or terminate the phase;
* Begin planning Phase Three;

DCA approves necessary CAT II/III training, manual revisions, etc;

When results of DCA evaluation are satisfactory, proceed with Phase Three .

**B.3: Phase Three :**

Phase Three is referred to as the Operator ability to conduct CAT II/III operations in accordance with the application evaluated in Phase Two and is the line with operational evaluation of the operator’s application.

**B.4: Phase 4:**

In Phase Four DCA approves the operator’s LVO program proposal. If the proposal is not approved or accepted, the operator is notified in Phase Two or Three. Approval is granted by issuance of operations specifications (to be incorporated together with the AOC “Ops Specs”) and an Approval for LVO as applicable.

**C. Applicant request Tables DH/RVR (AMC1 SPA.LVO.105 LVO approval)**

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**D. OPERATIONAL DEMONSTRATION – AEROPLANES**

|  |
| --- |
| **Operator without previous CAT II/ III experience** |
| **Type / DH** | **New airplane or new operator** |
| **Cat I** | 6 months \* |
| **Cat II** | 30 app. |
| **Cat III - <100ft but >= 50ft** | 30 app. |
| **Operator with previous CAT II/III experience** |
| **Type / DH** | **New airplane and/or new to DCA** | **New variant / new****flight control /display sys.** | **New airplane and known DCA** | **Cat II to Cat III** |
| **Cat I** | n/a | n/a | n/a | n/a |
| **Cat II** | 30 app. | 15 app. | 20 app. | n/a |
| **Cat III- <100ft but****>= 50ft** | 30 app. | 15 app. | 20 app. | 15 app. |

1. **OPERATIONAL DATA COLLECTION (SAMPLE)**

**AMC1 SPA.LVO.105 LVO ( c ) Data collection**

