

Regulation EU 965/2012 Annex V Subpart E

Please complete the form electronically. Complete the sections of the form relevant to the approvals required.

Please read the "Notes for Completion" before completing the form.

This form is designed to elicit all the required information from those operators wishing to gain operational approval to operate to:

- Low Visibility Take-Off (LVTO) operation
- SA CAT I
- Standard Category II (CAT II);
- SA CAT II; or
- Standard Category III (CAT III) operation
- Approach operation utilizing Enhanced Flight Vision System (EFVS)

The completed form and supporting documentation shall be submitted to ICETRA Flight Operations

Section. This form consists of the following sections:

Section I	Operator / airframe details	Completion mandatory
Section II	Notes for completion	For reference
Section III	Signature block	Completion mandatory
Section IV	LVO submission Matrix	Completion mandatory

	Section I: Operator / Airframe Details				
Operator:		AOC No:			
	Aircraft type		Variant / SN		



Application form

Regulation EU 965/2012 Annex V Subpart E

SECTION II LVO NOTES FOR COMPLETION

1) Regulation and reference material

EU Commission EU 965/2012 Annex V SUBPART E lays downs the regulations the procedures, minima and training requirements for conducting LVO approaches and LVTO:

Reference material:

- ICAO Annex 2 Rules of the Air;
- ICAO Annex 6 Operation of Aircraft;
- ICAO Annex 10 Aeronautical Telecommunications (Volume I Radio Navigation Aids);
- ICAO Annex 14 Aerodromes (Volume I Aerodrome Design and Operations);
- ICAO Doc 8168 PANS Procedures for Air Navigation Services Aircraft Operations;
- ICAO Doc 9365 Manual I of All-Weather Operations;
- ICAO Doc 9476 Manual of surface movement guidance and control systems (SMGCS);
- ICAO Doc 9157 Aerodrome Design Manual;
- ICAO Doc 9328 Manual of RVR Observing and Reporting Practices;
- ICAO EUR Doc 013: European Guidance Material on All Weather Operations at Aerodromes
- ECAC Doc 17, Issue 3; and
- CS-AWO Issue 2 All-weather operations

2) Operators LVO Submission Matrix

Section IV of this application form is the Operators LVO Submission Matrix. Column 5 of this Matrix shall be completed in full.

Failure to complete the LVO Submission Matrix may result in a delay in processing your application.

3) Documents to be included with the application

Copies of all documents referred to in Column 5 of the Operator's LVO Submissions Matrix shall be included when returning the completed application form to Icetra. Original documents should not be sent, photocopies are sufficient. Do not send complete manuals, only the relevant sections/pages will be required.

Failure to include all relevant documentation may result in a delay in processing your application.

Disclaimer:

This document is meant as an aid for operators to demonstrate compliance with the applicable rules as part of the Application process. If any differences or discrepancies exist between this document and the applicable EU regulations and EASA AMC/GM, the latter prevail and must always be consulted.



	Section III: Signa Confirming correctness and co		
Name:	Signature:	Designation:	Date:

For Icetra use only			
Application is	Inspectors name, signature and date:		
Accepted			
Application is	Inspectors name, signature and date:		
Rejected			
If rejected write reason in comments box below.			
Icetra Inspector Comments:			



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
		GENERAL			
ALL	Low Visibility Operations SPA.LVO.105	Your submission should be based on current up-to- date regulatory material. You should state exactly what type of LVO approval you are applying for, e.g. CAT II or III, low visibility take-off, etc. Any references or statements to other options in any document must be avoided unless the option has been already approved. Content of the application package: Completed application form FOR-0009 Aircraft certification evidence, if applicable FC training programme (OM-D amdt) Operating procedures (OM-A/B amdt) MEL amendment, if applicable - Maintenance programme amendment, if applicable Procedure for the determination of the suitability of aerodromes (OM-A amdt) Procedure for monitoring of LVO operations/maintenance of performance indicators Safety assessment Change management implementation evidence.	GM1 SPA.LVO.120(b)		
ALL	ORO.GEN.200(a)(3)	 Check that the hazard identification process of the operator captured the risks associated with the new type of operation (LVO). Check the adequate subsequent risk analysis and definition of mitigations. Check that this was completed in the frame of the operator's management of change process. 	GM1 SPA.LVO.120(b)		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
	SAFETY ASSE	ESSMENT – MONITORING, DATA COLLECTION AND PE	RFORMANCE IN	DICATORS	
ALL	SPA.LVO.105(g) AMC2. SPA.LVO.105(g)	 Minimum number of approaches/time period Sufficient to collect enough data to support the safety assessment May be reduced in case of multiple application (LVO or operational credit) based on the following similarities: Type of technology Operational procedures Handling characteristics 	GM1 SPA.LVO.120(b)		
ALL	SPA.LVO.105(g) AMC2. SPA.LVO.105(g)	Safety assessment: Prior to commencing LVOs or operations with operational credits, an operator should demonstrate to the competent authority that such operations will achieve an acceptable level of safety. This requires the operator to gather data from operations using the relevant systems and procedures and conduct safety assessments taking that data into account.	GM2.SPA.LVO.105(g) GM3.SPA.LVO.105(g)		
ALL	SPA.LVO.105(g) AMC1 SPA.LVO.105(g) AMC2 SPA.LVO.105(g)	Use of data related to another LVO application: State if application is for more than one LVO approval or an approval for operation with operational credits for a particular aircraft type. If YES; then data gathered from operations using the systems and procedures designed for one classification of operations or operation with operational credits may be used to support the application for another classification of operations or operation with operational credits provided the following elements are similar: - Type of technology; - Operational procedures; and - handling characteristics. Provide evidence of the above.	GM1.SPA.LVO.105(g) GM2.SPA.LVO.105(g) GM3.SPA.LVO.105(g)		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	SPA.LVO.105(g) (AMC1 SPA.LVO.105(g)) (AMC2 SPA.LVO.105(g)	Use of data from another aircraft type: An operator holding approval for low-visibility approach operations or operations with operational credits may use data gathered from approaches conducted using one aircraft type to support an application for approval for a different aircraft type or variants provided the following elements are similar: - Type of technology; - Operational procedures; and - handling characteristics.	GM1.SPA.LVO.105(g)		
		Monitoring, data collection - Aeroplanes			
ALL	SPA.LVO.105(g)	Monitoring The operator should monitor LVOs and operations with operational credits in order to validate the effectiveness of the applicable aircraft flight guidance systems, training, flight crew procedures, and aircraft maintenance programme, and to identify hazards	GM2.SPA.LVO.105(g)		
ALL	SPA.LVO.105(g)	 Data collection: type of data/collection rate: Data collected whenever an LVO or an operation with an operational credit is attempted regardless of whether the approach is abandoned, is unsatisfactory, or is concluded successfully. The data should include records of the following: occasions when it was not possible to commence an approach due to deficiencies or unserviceability of related airborne equipment; occasions when approaches were discontinued, including the reasons for discontinuing the approach and the height above the runway at which the approach was discontinued; occasions when system abnormalities required pilot intervention to ensure a continued approach or safe landing; 	GM1.SPA.LVO.105(g) GM2.SPA.LVO.105(g) GM3.SPA.LVO.105(g)		



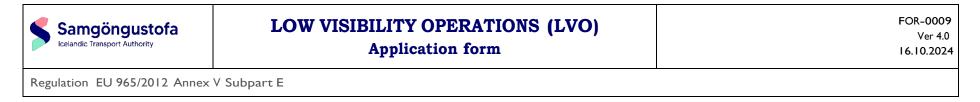
Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
ALL	SPA.LVO.105(g)	4) landing performance, whether or not the aircraft landed satisfactorily within the desired touchdown area with acceptable lateral velocity or cross-track error. The approximate lateral and longitudinal position of the actual touchdown point in relation to the runway center line and the runway threshold, respectively, should be recorded.	GM2 and GM3 SPA.LVO.105(g)		
ALL	SPA.LVO.105(g)	Data collection means: Data about LVOs should be collected using the operator's flight data monitoring programme supplemented by other means including reports submitted by flight crew. Operators that do not have a flight data monitoring programme should use reports submitted by flight crew as the primary means of gathering data.			
		Performance Indicators	I	I I	
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	SPA.LVO.105(g)	 Performance indicators should include the following: the rate of unsuccessful low-visibility approaches, i.e. the number of attempted approaches terminating in discontinued approaches, approaches where pilot intervention was required to ensure a continued approach or safe landing or where landing performance was unsatisfactory, compared to the number of low visibility approaches attempted; measures of performance of the airborne equipment for low-visibility approaches or operations with operational credits; safety performance indicators related to other specific risks associated with LVOs. 	GM2 SPA.LVO.105(g)		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		Records			
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	SPA.LVO.105(g)	 The following information should be retained for at least 5 years: the total number of low-visibility approaches or operations with an operational approval attempted or completed, including practice approaches, by aircraft type; and reports of unsatisfactory approaches and/or landings, by runway and aircraft registration, in the following categories: airborne equipment faults; ground facility difficulties; missed approaches because of air traffic control (ATC) instructions; or other reasons.	GM2 SPA.LVO.105(g)		

	ongustofa port Authority	LOW VISIBILITY OPERATIONS (LVO) Application form			FOR-0009 Ver 4.0 16.10.2024	
Link (EASA OPS requirements and AMC) reference or Document reference Ref Operating Minima AMC) Utro SPA.LVO.100(a) AMC1 SPA.LVO.100(a) For multi-engined aeroplanes which, in the event of a critical engine failure at any point during take-off, can either stop or continue the take-off to a height of 1 500 ft above the aerodrome while clearing obstacles by the required margins, table 1 of (a) applies. GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a) For the other multi-engined aeroplanes, there may be a need to land immediately and to see and avoid obstacles. Such aeroplanes may be operated to the take-off minima shown in Table 2 of (a) and the marking and lighting criteria shown in Table 1 of AMC1 SPA.LVO.100(a) GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a) GM2 SPA.LVO.100(a) GM2 SPA.LVO.100(a) For the other multi-engined aeroplanes, there may be a need to land immediately and to see and avoid obstacles. Such aeroplanes may be operated to the take-off minima shown in Table 2 of (a) and the marking and lighting criteria shown in Table 1 of AMC1 SPA.LVO.100(a), provided that they can comply with the applicable obstacle clearance criteria, assuming engine failure at the height GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a) For the other criteria, assuming engine failure at the height GM1 SPA.LVO.100(a) For the other criteria, assuming engine failure at the height For the height<						
Applicability	(EASA OPS requirements and	Further Remarks	Guidance Material	reference or Document	ICETRA Remarks	
			1	· · · · · · · · · · · · · · · · · · ·		
LVTO	AMC1	point during take-off, can either stop or continue the take-off to a height of 1 500 ft above the aerodrome while clearing obstacles by the required margins, table 1 of				
LVTO	AMC1	and to see and avoid obstacles. Such aeroplanes may be operated to the take-off minima shown in Table 2 of (a) and the marking and lighting criteria shown in Table 1 of AMC1 SPA.LVO.100(a), provided that they can comply with the				
LVTO	SPA.LVO.100(a) AMC1 SPA.LVO.100(a)	The reported RVR value representative of the initial part of the take-off run can be replaced by pilot assessment.	GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a)			
LVTO	SPA.LVO.100(a) AMC1 SPA.LVO.100(a)	The minimum RVR value specified in Table 1 or 2 of AMC1 SPA.LVO.100(a) should be achieved for all reporting points representative of the parts of the runway from the point at which the aircraft commences the take-off until the calculated accelerate-stop distance from that point.	GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a)			
LVTO	SPA.LVO.100(a) AMC1 SPA.LVO.100(a)	 RVR of less than 125 m The following additional elements should apply: 1) The runway has center line lights spaced at intervals of 15 m or less; 2) If an ILS signal is used for lateral guidance, the ILS localizer signal meets the requirements for category III operations, unless otherwise stated in the AFM; 3) If an ILS signal is to be used, low-visibility procedures (LVPs) include protection of the runway and, where an ILS localizer signal is used, it should 	GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a			

Page **9** of **47**



 include protection of the ILS-sensitive area unless otherwise stated in the AFM; and 4) If a GLS signal is used for lateral guidance, the GLS performance type meets the requirements for category III operations (GAST D and to GBAS point to which guidance is required), unless otherwise stated in the AFM. 		
which guidance is required), unless otherwise stated in the AFM.		

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
LVTO	SPA.LVO.100(a) AMC1 SPA.LVO.100(a)	RVR of less than 125 m: The reported RVR should be not less than the minimum specified in the AFM or, if no such minimum is specified, not less than 75 m.	GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a)		
LVTO	SPA.LVO.100(a) AMC1 SPA.LVO.100(a)	RVR of less than 125 m: The minimum required RVR should be achieved for all reporting points representative of the parts of the runway from the point at which the aircraft commences the takeoff until the greater of the calculated take-off distance or accelerate-stop distance from that point.	GM1 SPA.LVO.100(a) GM2 SPA.LVO.100(a)		
		Instrument Approach Operations in LVO		11	
CAT II	SPA.LVO.100(b) AMC1.SPA.LVO.100(b)	 The following should apply for CAT II: a) The DH should be determined by the use of a radio altimeter or other device capable of providing equivalent performance and be not lower than the highest of: (1) the minimum DH specified in the AFM, if stated; (2) the applicable obstacle clearance height (OCH) for the category of aircraft; (3) the DH to which the flight crew is qualified to operate; or (4) 100 ft. (b) The lowest RVR minima to be used are specified in Table 4 of AMC1 SPA.LVO.100(b). 	GM2 SPA.LVO.100(b) GM3 SPA.LVO.100(b) GM4 SPA.LVO.100(b)		
CAT III	SPA.LVO.100(b) AMC1.SPA.LVO.100(b)	The following should apply for CAT III:	GM1 SPA.LVO.100(b) GM2 SPA.LVO.100(b) GM3 SPA.LVO.100(b)		

Page **10** of **47**



FOR-0009 Ver 4.0 16.10.2024

(2 b) (2 (2	 of a radio altimeter or other device capable of providing equivalent performance and be not lower than: (1) the minimum DH specified in the AFM, if stated; (2) the DH to which the flight crew is qualified to operate. 		
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Applicability	Main Heading (EASA OPS requirements and	Further Remarks	Guidance Material	Operators OM reference or Document	ICETRA Remarks
	AMC)			reference.	
CAT II, CAT III	SPA.LVO.100(b) AMC1 SPA.LVO.100(b)	 Effect on landing minima of temporarily failed or downgraded equipment for approach operations with a DH below 200 ft: Only those facilities mentioned in Table 6 of AMC3 SPA.LVO.100(b). should be acceptable to be used to determine the effect of temporarily failed of downgraded equipment on the required RVR for CAT II/III approach operations. The following conditions should be applied to Table 6: multiple failures of runway/FATO lights other than those indicated in Table 6 are not acceptable; deficiencies of both the approach and runway/FATO lights are acceptable at the same time and the most demanding consequence should be applied; for approach operations with a DH below 200 ft, a combination of deficiencies in runway/FATO lights and RVR assessment equipment are not permitted; and failures other than ILS, GLS and MLS affect the RVR only and not the DH. 	GM2 SPA.LVO.100(b) GM3 SPA.LVO.100(b) GM4 SPA.LVO.100(b)		



Regulation EU 965/2012 Annex V Subpart E

	Operations with operational credits						
SA CAT I, SA CAT II, EFVS	SPA.LVO.100(c) AMC1 SPA.LVO.100(b)	Effect on landing minima of temporarily failed or downgraded equipment for approach operations with a DH below 200 ft: Table 7 of AMC1 SPA.LVO.100(b) applies.	GM2 SPA.LVO.100(b) GM3 SPA.LVO.100(b) GM4 SPA.LVO.100(b)				
SA CAT I	Operating Minima (SPA.LVO.100(c)) (AMC1 SPA.LVO.100(c))	 a) The DH of an SA CAT I operation should not be lower than the highest of: (1) the minimum DH specified in the AFM, if stated; (2) the applicable OCH for the category of the aeroplane; (3) the DH to which the flight crew is qualified to operate; or (4) 150 ft. Cont. next page	GM1 SPA.LVO.100(c) GM2 SPA.LVO.100(c)				

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
SA CAT I	Operating Minima (SPA.LVO.100(c)) (AMC1 SPA.LVO.100(c))	 b) Where the DH for an SA CAT I operation is less than 200 ft, it should be determined by the use of a radio altimeter or other device capable of providing equivalent performance. c) The following visual aids should be available: (1) approach lights as specified in Table 8 of AMC1 SPA.LVO.100(c); (2) precision approach (PA) runway markings; (3) category I runway lights. d) The lowest RVR should not be lower than the higher of: (1) the minimum RVR specified in Table 8. 	GM1 SPA.LVO.100(c) GM2 SPA.LVO.100(c)		
SA CAT II	SPA.LVO.100(c) AMC2 SPA.LVO.100(c)	 The following should apply: a) The DH should be determined by the use of a radio altimeter or other device capable of providing equivalent performance, if so determined by the aircraft certification process, and be not lower than the highest of: the minimum DH specified in the AFM, if stated; the applicable OCH for the category of aeroplane; the DH to which the flight crew is qualified to operate; or 100 ft. 	GM1 SPA.LVO.100(c) GM3 SPA.LVO.100(c)		



LOW VISIBILITY OPERATIONS (LVO)

Application form

Regulation EU 965/2012 Annex V Subpart E

		 b) The following visual aids should be available: (1) approach lights as specified in Table 9 of AMC2 SPA.LVO.100(c); (2) precision approach runway markings; (3) category I runway lights. c) The lowest RVR minima to be used are specified in Table 9. 		
EFVS	SPA.LVO.100(c) AMC3 SPA.LVO.100(b)	 When conducting EFVS operations to a runway: a) the DA/H used should be the same as for operations without EFVS; b) the lowest RVR minima to be used should be determined: (1) in accordance with criteria specified in the AFM for the expected weather conditions; or (2) if no such criteria are specified, by reducing the RVR determined for operation without the use of EFVS/CVS in accordance with Table 10 of AMC3 SPA.LVO.100(c); 	GM1 SPA.LVO.100(c) GM2 SPA.LVO.100(c)	
EFVS	SPA.LVO.100(c) AMC3 SPA.LVO.100(b)	 c) where the lowest RVR to be used, determined in accordance with (b), is less than 550 m, then this should be increased to 550 m unless LVPs are established at the aerodrome of intended landing; d) where the EFVS is part of a CVS, it is only the EFVS element that should provide the operational credits. The other part of the CVS, the synthetic vision system (SVS), should not provide operational credits. 	GM1 SPA.LVO.100(c) GM4 SPA.LVO.100(c) GM5 SPA.LVO.100(c)	
		Aircraft Certification	<u>н</u>	
LVTO	SPA.LVO.105(a) AMC1.SPA.LVO.105(a)	Aircraft used for LVTO in an RVR of less than 125 m should be equipped with a system certified for the purpose.	GM2 SPA.LVO.100(b)	
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	SPA.LVO.105(a) AMC1.SPA.LVO.105(a)	 Aircraft used for low-visibility approach operations should be equipped in accordance with the applicable airworthiness requirements and certified as follows: (1) For CAT II operations, the aircraft should be certified for CAT II operations. (2) For CAT III operations, the aircraft should be certified for CAT III operations. (3) For SA CAT I, the aircraft should be certified for SA CAT I operations. (4) For SA CAT II, the aircraft should be certified for CAT II operations and be equipped with HUDLS or fail-passive autoland or better. (5) For EFVS operations, the aircraft should be equipped with a certified EFVS-A or EFVS-L. 	GM2 SPA.LVO.100(b)	



		Flight Crew Competency		
ALL	SPA.LVO.120(a) (AMC 1 SPA.LVO.120)	Risk assessment: To ensure that the flight crew is competent to conduct the intended operations, the operator should assess the risks associated with the conduct of low-visibility approach operations by pilots new to the aircraft type or class and take the necessary mitigations. Where such mitigations include an increment to the visibility or RVR for LVOs, this should be stated in the operations manual.	GM1 SPA.LVO.120	
		Recent Experience		
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Recent experience for SA CAT I, CAT II, SA CAT II and CAT III: At least two approaches using the operator's procedures for low-visibility approach operations or operations with operational credits, during the validity period of each OPC or periodic demonstration of competence, unless credits related to recent experience when operating more than one type are defined in the OSD. 	GM1SPA.LVO.120(b)	
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Recent experience for SA CAT I, CAT II, SA CAT II and CAT III: For operators approved for more than one piece of aircraft equipment used (e.g. autoland, HUD, auto-coupled approach with manual landing, SVGS, etc.): at least one additional approach in the lowest approved RVR (either to goaround or landing) for each piece of aircraft equipment used during the validity period of each OPC or periodic demonstration of competence (e.g. two approaches CAT II with autoland and one CAT II with auto-coupled to below DH with manual landing, two CAT II autoland and one CAT II HUD to below DH with manual landing or vice versa) unless credits related to recent experience when operating more than one type are defined in the OSD. 	GM1SPA.LVO.120(b)	



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SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Recent experience for SA CAT I, CAT II, SA CAT II and CAT III: Pilots authorised to conduct low-visibility approach operations or operations with operational credits using HUDLS or equivalent display systems to touchdown: two approaches (e.g. an operator approved for CAT II/III HUDLS will do two CAT III HUDLS; other examples would be two CAT III autoland and two CAT III HUDLS to touchdown, two SA CAT II autoland and two SA CAT III HUDLS, or when combining several LVOs and equipment, two CAT III autoland and one CAT III auto-coupled to below DH with manual landing and two CAT III HUDLS to touchdown) using the operator's procedures for low-visibility approach operations or operations with operational credits using HUDLS, during the validity period of each OPC or periodic demonstration of competence unless credits related to recent experience when operating more than one type are defined in the OSD. 	GM1 SPA.LVO.120		
EFVS	SPA.LVO.120(b)	Recent experience for EFVS: Pilots should complete a minimum of two approaches on each type of aircraft operated using the operator's procedures for EFVS operations during the validity period of each OPC or periodic demonstration of competence unless credits related to recent experience when operating more than one type are defined in the OSD. When the operator is approved for both EFVS-L and EFVS-A, a minimum of one approach in each EFVS operation should be completed.	GM1SPA.LVO.120 (b)		
ALL	SPA.LVO.120(a)	PM and PNF If a flight crew member is authorised to operate as pilot flying and pilot monitoring, the flight crew member should complete the required number of approaches in each operating capacity.			



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		Initial Training and Checking			
LVTO	SPA.LVO.120(b)	 LVTO: The operator should ensure that the flight crew members have completed: a ground training course a course of FSTD/flight training covering system failures and engine failures resulting in continued as well as rejected take-offs unless credits related to training and checking for previous experience in LVTOs on similar aircraft types are defined in the operational suitability data established in accordance with Regulation (EU) No 748/2012- 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III, EFVS	SPA.LVO.120(b)	 SA CAT I, CAT II, SA CAT II and CAT III: The operator should ensure that the flight crew members have completed: a ground training course a course of FSTD and/or flight training a check, if applicable practice approaches during LIFUS, if applicable. unless credits related to training and checking for previous experience on similar aircraft types are defined in the OSD. 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		LVTO Initial Training and Checking			
LVTO	SPA.LVO.120(b)	 LVTO ground course: The ground training course should include at least the following: characteristics of fog; effects of precipitation, ice accretion, low-level wind shear and turbulence; the effect of specific aircraft/system malfunctions; the use and limitations of RVR assessment systems; procedures to be followed and precautions to be taken with regard to surface movement during operations when the RVR is 400 m or less and any additional procedures required for take-off in conditions below 150 m; qualification requirements for pilots to obtain and retain approval to conduct LVOs; and the importance of correct seating and eye position 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
LVTO	SPA.LVO.120(b)	 LVTO FSTD/flight training: The FSTD/flight training should include at least the following: (1) normal take-off in minimum approved RVR conditions; (2) take-off in minimum approved RVR conditions with an engine failure: i. for aeroplanes, between V1 and V2 (take-off safety speed) or as soon as safety considerations permit; ii. for helicopters, at or after the take-off decision point (TDP); and (3) take-off in minimum approved RVR conditions with an engine failure: i. for aeroplanes, before V1 resulting in a rejected take-off; and ii. for helicopters, before the TDP. 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
LVTO	SPA.LVO.120(b)	LVTO with an RVR below 150 m: The operator approved for LVTOs with an RVR below 150m should ensure that the FSTD/flight training is carried out in an FSTD. This training should include the use of any special procedures and equipment.	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b		



Applicability	Main Heading (EASA OPS	Further Remarks	Guidance Material	Operators OM reference or	ICETRA Remarks
	requirements and			Document	
	AMC)			reference.	
	SA CAT I, CA	T II AND CAT III Initial Training and Checking (FC with no previous LVO ex	perience with an EU C	perator)	
SA CAT I, CAT II, SA CAT II, CAT III	(SPA.LVO.120(b))	 Ground training: The ground training should include at least the following: characteristics and limitations of different types of approach aids; characteristics of the visual aids; characteristics of fog; characteristics of fog; operational capabilities and limitations of airborne systems to include symbology used on HUD/HUDLS or equivalent display systems, if appropriate; effects of precipitation, ice accretion, low-level wind shear and turbulence; the effect of specific aircraft/system malfunctions; 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
		 vii. the use and limitations of RVR assessment systems; viii. principles of obstacle clearance requirements; ix. the recognition of failure of ground equipment or in satellite approaches, the loss of signal in space and the action to be taken in the event of such failures; x. procedures to be followed and precautions to be taken with regard to surface movement during operations when the RVR is 400 m or less and any additional procedures required for take-off in conditions below 150 m; xi. the significance of DHs based upon radio altimeters and the effect of terrain profile in the approach area on radio altimeter readings and on automatic approach/landing systems. This applies also to other devices capable of providing equivalent information; (xii) the effect of the pre-threshold terrain and LSAA on airborne landing systems; xii. the significance of alert height, if applicable, and action in the event of any failure above and below the alert height; xiii. qualification requirements for pilots to obtain and retain approval to conduct LVOs; xiv. the importance of correct seating and eye position; and 			
		xv. the significance of LVPs or equivalent procedures.			



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Phase one of FSTD training and/or flight training: The training should include at least the following: approaches with engine failures at various stages of the approach; approaches with critical equipment failures, such as electrical systems, autoflight systems, ground or airborne approach aids and status monitors; approaches where failures of auto-flight or flight guidance systems, including HUDLS or equivalent display systems, require either: a) reversion to manual control for landing or go-around; or b) reversion to manual control or a downgraded automatic mode control for go-around from the DH or below, including those which may result in contact with the runway. This should include aircraft handling if, during a CAT III fail-passive approach, a fault causes autopilot to disconnect at or below the DH when the last reported RVR is 300 m or less; failures of systems that will result in excessive lateral or vertical deviation both above and below the DH in the minimum visual conditions for the operation; incapacitation procedures applicable to the specific aircraft type. 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III	(SPA.LVO.120(b))	 Phase two of FSTD training and/or flight training: The training should include at least the following: 1) the required checks for satisfactory functioning of equipment, both on the ground and in flight; 2) the use of HUD/HUDLS or equivalent display systems during all phases of flight, if applicable; 3) approach using the appropriate flight guidance, autopilots, and control systems installed on the aircraft to the appropriate DH and transition to visual flight and landing; Cont. next page 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 approach with all engines operating using the appropriate flight guidance, autopilots and control systems installed on the aircraft, including HUD/HUDLS or equivalent display systems, down to the appropriate DH followed by a missed approach, all without external visual reference; where appropriate, approaches using autopilot to provide automatic flare, hover, landing and roll-out; and where appropriate, approaches using approved HUD/HUDLS or equivalent display system to touchdown. 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 FSTD training and/or flight: FSTD training should include: 1) for approaches flown using HUDLS or equivalent display systems, a minimum of eight approaches; 2) otherwise, a minimum of six approaches. 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	FSTD training and/or flight training: For aircraft for which no FSTDs representing the specific aircraft are available, operators should ensure that the flight training phase specific to the visual scenarios of low visibility approach operations is conducted in a specifically approved FSTD. Such training should include a minimum of four approaches. Thereafter, type-specific training should be conducted in the aircraft.	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Check: The check should comprise the completion of the following exercises in an aircraft or FSTD: Low-visibility approaches in simulated instrument flight conditions down to the applicable DH, using the flight guidance system. Standard procedures of crew coordination (task sharing, call-out procedures, mutual surveillance, information exchange and support) should be observed. For CAT III operations, the operator should use an FSTD approved for this purpose; ii. Go-around after approaches as in the FSTD/aircraft training at any point between 500 ft. above ground level (AGL) and on reaching the DH; and 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		



FOR-0009 Ver 4.0 16.10.2024

Regulation EU 965/2012 Annex V Subpart E

 (iii) Landing(s) with visual reference established at the DH following an instrument approach. Depending on the specific flight guidance system, an automatic landing should be performed. 		

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
SA CAT I,	SPA.LVO.120(b)	LIFUS (when applicable):	GM1 SPA.LVO.120(b)		
CAT II,		The check should comprise the completion of the following exercises in an aircraft	GM3 SPA.LVO.120(b)		
SA CAT II,		or FSTD:			
CAT III		 For low-visibility approach operations using a manual landing: if a HUDLS or equivalent display system is used to touchdown, four landings, or if the required FSTD training was conducted in an FSTD qualified for zero flight-time training (ZFTT), two landings; b) otherwise, three landings, or if the required FSTD training was conducted in an FSTD qualified for ZFTT, one landing; For low-visibility operations using autoland: a) if the required FSTD training was conducted in an FSTD qualified for ZFTT, one landing; c) For low-visibility operations using autoland: a) if the required FSTD training was conducted in an FSTD qualified for ZFTT, one landing, or none if the fight crew member successfully completed a type rating based on ZFTT; b) otherwise, two landings. 			
SA CAT I,	CAT II, SACAT II, SA	A CAT III Initial Training & Checking (FC with previous LVO experien		ator, when chan	ging to an
		aircraft for which a new class or type rating is required, within the s	same operator).		
SA CAT I,	SPA.LVO.120(b)	Ground training:	GM1 SPA.LVO.120(b)		
CAT II,		The content of the ground course should cover all the elements of the ground	GM3 SPA.LVO.120(b)		
SA CAT II,		course for FC with no LVO experience, taking into account the flight crew member's			
CAT III		existing knowledge of low-visibility approach operations.			

Page **21** of **47**



Regulation EU 965/2012 Annex V Subpart E

SA CAT I,	SPA.LVO.120(b)	FSTD and/or flight training:	GM1 SPA.LVO.120(b)	
CAT II, SA CAT II,		The content of the FSTD and/or flight training should cover all the elements of the related course for FC with no LVO experience. If the FC's previous experience of	GM3 SPA.LVO.120(b)	
CAT III		low-visibility approach operations is on a type where the following were the same or similar:		
		 a) the technology used in the flight guidance and flight control system; b) operating procedures; c) handling characteristics; and d) the use of HUD/HUDLS or equivalent display systems, then the flight crew member may complete an abbreviated course of FSTD and/or flight training. 		

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Abbreviated course of FSTD and/or flight training: Such an abbreviated course should: meet the objectives of the related course for FC with no experience and include at least the following number of landings: if a HUDLS or an equivalent display system is utilized to touchdown, four approaches including a landing at the lowest approved RVR and a go-around; or otherwise, two approaches including a landing at the lowest approved RVR and a go-around. 	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	LIFUS: Practice in approaches during LIFUS as required for FC with no experience unless the flight crew member's previous experience of low-visibility approach operations is on the same aircraft type and variant.	GM1 SPA.LVO.120(b) GM3 SPA.LVO.120(b)		

Page **22** of **47**



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
	EFVS	Initial Training and Checking (for FC with no previous experience	with an EU operator	<i>'</i>)	
EFVS	SPA.LVO.120(b)	 Ground training: The ground training should include at least the following: characteristics and limitations of HUDs/HUDLSs or equivalent display systems including information presentation and symbology; EFVS sensor performance, sensor limitations, scene interpretation, visual anomalies and other visual effects; EFVS display, control, modes, features, symbology, annunciations and associated systems and components; the interpretation of EFVS imagery; the interpretation of approach and runway lighting systems and display characteristics when using EFVS; weather associated with low-visibility conditions and its effect on EFVS performance; principles of obstacle clearance requirements; the use and limitations of RVR assessment systems; normal, abnormal and emergency procedures for EFVS operations; the effect of specific aircraft/system malfunctions; procedures to be followed and precautions to be taken if such surface movement during operations when the RVR is 400 m or less; for EFVS-L, the effect of the pre-threshold terrain and LSAA on airborne landing systems; wi. human factors aspects of EFVS operations; wi. human factors aspects of EFVS operations; wi. the significance of LVPs or equivalent procedures when operating below RVR 550 m. 	GM1 SPA.LVO.120(b)		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
EFVS	SPA.LVO.120(b)	 Phase one of FSTD and/or flight training: Phase one of the training should include the following exercises: 1) the required checks for satisfactory functioning of equipment, both on the ground and in flight; 2) the use of HUD/HUDLS or equivalent display systems during all phases of flight; 3) approach using the EFVSs installed on the aircraft to the appropriate DH and transition to visual flight and landing; 4) approach with all engines operating using the EFVS, down to the appropriate DH followed by a missed approach, all without external visual reference; 5) where appropriate, approaches using approved EFVS to touchdown. 	GM1 SPA.LVO.120(b)		
EFVS	SPA.LVO.120(b)	 Phase two of FSTD and/or flight training: Phase two of the training should include the following exercises: 1) approaches with engine failures at various stages of the approach; 2) approaches with failures of the EFVS at various stages of the approach, including failures between the DH and the height below which an approach should not be continued if natural visual reference is not acquired, requiring either: a) reversion to head-down displays to control missed approach; or b) reversion to flight with no, or downgraded, guidance to control missed approaches from the DH or below, including those which may result in a touchdown on the runway; 3) incapacitation procedures appropriate to EFVS operations; and 4) failures and procedures applicable to the specific EFVS installation and aircraft type. 	GM1 SPA.LVO.120(b)		
EFVS	SPA.LVO.120(b)	FSTD and/or flight training: FSTD training should include a minimum of eight approaches. If a flight crew member is to be authorised to operate as pilot flying and pilot monitoring during EFVS operations, then the flight crew member should complete the required FSTD training for each operating capacity.	GM1 SPA.LVO.120(b)		

Samgöngustofa Icelandic Transport Authority	LOW VISIBILITY OPERATIONS (LVO) Application form	FOR-0009 Ver 4.0 16.10.2024
Regulation EU 965/2012 Annex	V Subpart E	

EFVS	SPA.LVO.120(b)	LIFUS (if applicable):	GM1 SPA.LVO.120(b)	
		LIFUS should include practice in approaches as follows:		
		a) if EFVS is used to touchdown, four landings; or		
		b) otherwise, three landings.		

Applicability EFVS Initial	Main Heading (EASA OPS requirements and AMC) Training and Chec	Further Remarks king (FC with previous LVO experience with an EU operator, when c type rating is required, within the same operator)	Guidance Material hanging to an aircra	Operators OM reference or Document reference. aft for which a n	ICETRA Remarks ew class or
EFVS	SPA.LVO.120(b)	Ground training: The content of the ground course should cover all the elements of the ground course for FC with no EFVS experience, taking into account the flight crew member's existing knowledge of low-visibility approach operations.	GM1 SPA.LVO.120(b)		
EFVS	SPA.LVO.120(b)	 FSTD and/or flight training: The content of the FSTD and/or flight training should cover all the elements of the related course for FC with no EFVS experience. If the FC's previous experience of low-visibility approach operations is on a type where the following were the same or similar: (i) the technology used in the EFVS sensor, flight guidance and flight control system; (ii) operating procedures; and (iii) handling characteristics; and (iv) then the flight crew member may complete an abbreviated course of FSTD and/or flight training. 	GM1 SPA.LVO.120(b)		
EFVS	SPA.LVO.120(b)	 Abbreviated course of FSTD and/or flight training: Such an abbreviated course should: meet the objectives of the related course for FC with no EFVS experience and - include at least the following number of landings: a) for EFVS to touchdown, four approaches including a landing at the lowest approved RVR and a go-around; or b) otherwise, two approaches including a landing at the lowest approved RVR and a go-around. 	GM1 SPA.LVO.120(b)		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		g and Checking (FC with previous LVO experience with an EU opera		lother operator)	
EFVS	SPA.LVO.120(b)	Ground training: The content of the ground course should cover all the elements of the ground course for FC with no EFVS experience, taking into account the flight crew member's existing knowledge of low-visibility approach operations.	GM1 SPA.LVO.120(b)		
EFVS	SPA.LVO.120(b)	 FSTD and/or flight training: The content of the FSTD and/or flight training should cover all the elements of the related course for FC with no EFVS experience. If the FC's previous experience of low-visibility approach is on the same aircraft type and variant with the same EFVS or on a different type or different EFVS where the following were the same or similar: i. the technology used in the EFVS sensor, flight guidance and flight control system; ii. operating procedures; and iii. handling characteristics; and then the flight crew member may complete an abbreviated course of FSTD and/or flight training. 	GM1 SPA.LVO.120(b)		
EFVS	SPA.LVO.120(b)	 Abbreviated course of FSTD and/or flight training: Such an abbreviated course should: meet the objectives of the related course for FC with no EFVS experience and - include at least the following number of landings: 	GM1 SPA.LVO.120(b)		



Regulation EU 965/2012 Annex V Subpart E

EFVS	SPA.LVO.120(b)	LIFUS: LIFUS should include practice in approaches as follows: i. if EFVS is used to touchdown, four landings; or ii. otherwise, three landings; unless the flight crew member's previous experience of low-visibility approach operations is on the same aircraft type and variant.	GM1 SPA.LVO.120(b)		
Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
		Recurrent Checking / Differences Training	•		
LVTO	SPA.LVO.120(b)	Recurrent checking for LVTO:The operator should ensure that the pilots' competence to perform LVTOs for whichthey are authorised is checked by completing at least the following exercises:(1) One or more low-visibility rejected take-off at minimum approved RVR at leastonce over the period between two operator proficiency checks or once at everyperiodic demonstration of competence or, for an ATQP operator, at each requiredoperator proficiency check or alternatively at each required LOE.(2) Pilots authorised for LVTO operations in an RVR of less than 150 m shouldadditionally conduct at least one LVTO in the minimum approved visibility at eachrequired operator proficiency check or periodic demonstration of competence.	GM1 SPA.LVO.120(b)		
SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Recurrent checking for SA CAT I, CAT II, SA CAT II, CAT III : The operator should ensure that the pilots' competence to perform LVOs for which they are authorised is checked by completing at least the following exercises: 1) One or more low-visibility approaches in simulated instrument flight conditions down to a point between 500 ft AGL and the threshold (e.g. applicable DH), followed by go-around, at each required operator proficiency check or periodic demonstration of competence; and 2) One or more low-visibility approach and landings with visual reference established at the DH at each required operator proficiency check or periodic demonstration of competence. 	GM1 SPA.LVO.120(b)		

Page **27** of **47**



Regulation EU 965/2012 Annex V Subpart E

CAT III	SPA.LVO.120(b)	Recurrent checking for CAT III: Pilots authorised to conduct CAT III operations on aircraft with a fail-passive autoland system, or HUDLS or equivalent, should complete a missed approach at least once over the period of three consecutive OPCs or demonstrations of competence as the result of an equipment failure at or below the DH when the last reported RVR was less than 300 m. For ATQP operators, pilots authorised to conduct CAT III operations on aircraft with a fail-passive autoland system, or HUDLS or equivalent, should complete a missed approach at least once every two OPCs or LOE (a period of about 2 years).	GM1 SPA.LVO.120(b)	
EFVS	SPA.LVO.120(b)	Use of FSTD for recurrent checking I: CAT III approach operations should be conducted in an FSTD. Other exercises may be conducted in an FSTD or aircraft.	GM1 SPA.LVO.120(b)	

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
LVTO, SA CAT I, CAT II, SA CAT II, CAT III	SPA.LVO.120(b)	 Differences training for LVTO, SA CAT I, CAT II, SA CAT II, CAT III: A differences training or familiarisation should be provided to FC when not already authorized for the related LVO, or whenever there is a change to any of the following: 1) he technology used in the flight guidance and flight control system; 2) the operating procedures including: i. fail-passive/fail-operational; ii. alert height; iii. manual landing or automatic landing; (iv) operations with DH or no DH operations; 3) the handling characteristics; 4) the use of HUD/HUDLS or equivalent display systems; 	GM1 SPA.LVO.120(b)		

Page **28** of **47**



EFVS	SPA.LVO.120(b)	Recurrent checking for EFVS: The operator should ensure that the pilots' competence to perform EFVS operations is checked at each required demonstration of competence or OPC by performing at least two approaches of which one should be flown without natural vision, to the height below which an approach should not be continued if natural visual reference is not acquired.	GM1 SPA.LVO.120(b)	
CAT III	SPA.LVO.120(b)	Recurrent checking for CAT III : Pilots authorised to conduct CAT III operations on aircraft with a fail-passive autoland system, or HUDLS or equivalent, should complete a missed approach at least once over the period of three consecutive OPCs or demonstrations of competence as the result of an equipment failure at or below the DH when the last reported RVR was less than 300 m. For ATQP operators, pilots authorised to conduct CAT III operations on aircraft with a fail-passive autoland system, or HUDLS or equivalent, should complete a missed approach at least once every two OPCs or LOE (a period of about 2 years).	GM1 SPA.LVO.120(b)	

Samgi Icelandic Trans	ongustofa port Authority	LOW VISIBILITY OPERATIONS (LVO) Application form			FOR-0009 Ver 4.0 16.10.2024			
Regulation EU 965/2012 Annex V Subpart E								
Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks			
EFVS	SPA.LVO.120(b)	Recurrent checking for EFVS : If a flight crew member is authorised to operate as pilot flying and pilot monitoring during EFVS operations, then the flight crew member should complete the required number of approaches in each operating capacity.	GM1 SPA.LVO.120(b)					
EFVS	SPA.LVO.120(b)	 Differences training for EFVS : A differences training or familiarisation should be provided to FC whenever there is a change to any of the following: a) the technology used in the EFVS sensor, flight guidance and flight control system; b) the operating procedures; c) the handling characteristics; 2) The differences training should: a) meet the objectives of the appropriate initial training course; b) take into account the flight crew members' previous experience; and c) take into account the operational suitability data established in accordance with Regulation (EU) No 748/2012. 	GM1 SPA.LVO.120(b)					



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		Operating Procedures			
		General			
ALL	SPA.LVO.105(c) AMC1.SPA.LVO.105(c) AMC2.SPA.LVO.105(c) AMC3.SPA.LVO.105(c) AMC4.SPA.LVO.105(c) AMC5.SPA.LVO.105(c) AMC6.SPA.LVO.105(c) AMC7.SPA.LVO.105(c)	 Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that: a) the status of visual and non-visual facilities is as required; b) if LVPs are required for such operations, LVPs are in effect; and c) the flight crew members are appropriately qualified. 	GM1 SPA.LVO.105(c)		
ALL	SPA.LVO.105(c) AMC2 SPA.LVO.105(c)	 Operating procedures should be established for all types of LVOs and operations with operational credits for which an operator is seeking approval. The operating procedures should: 1) be consistent with the AFM; 2) be appropriate to the technology and equipment to be used; 3) specify the duties and responsibilities of each flight crew member in each relevant phase of flight; 4) ensure that flight crew workload is managed to facilitate effective decision-making and monitoring of the aircraft; and 5) minimise, as much as practical, the deviation from normal procedures used for routine operations (non LVOs). 	GM1 SPA.LVO.105(c)		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
ALL	SPA.LVO.105(c) AMC2 SPA.LVO.105(c)	 Operating procedures should include: the required checks for the satisfactory functioning of the aircraft equipment, both before departure and in flight; the correct seating and eye position; determination of aerodrome operating minima; the increment to be added to minima for use by pilots incommand/commanders who are new to the aircraft type, if applicable; the effect on aerodrome operating minima of temporarily failed or downgraded ground equipment; the effect on aerodrome operating minima of the failure or change of the status of any aircraft systems; when the LVPs at the aerodrome are required. LVPs are required: for low-visibility flight approach operations; for LVTOs with RVR less than 400 m. a requirement for an 'approaching minima' call-out to prevent inadvertent descent below the DA/H; the required to require capable of providing equivalent performance, if applicable; the action to be taken in the event of loss of the required visual references; and 12) the maximum allowable flight path deviations and action to be taken in the event that such deviations occur. 	GM1 SPA.LVO.105(c)		
ALL	SPA.LVO.105(c) AMC2 SPA.LVO.105(c)	Operation procedures should be included in the operator's operation manuals	GM1 SPA.LVO.105(c)		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		CAT II	·		
CAT II	SPA.LVO.105(c) AMC3 SPA.LVO.105(c)	 The following should apply: a) The flight crew should consist of at least two pilots. b) The approach should be flown using a certified system as identified in the AFM. c) If the approach is flown using autopilot, for a manual landing the autopilot should remain engaged until after the pilot has achieved visual reference. d) All height call-outs below 200 ft above the runway threshold elevation should be determined by the use of a radio altimeter or other device capable of providing equivalent performance. e) The DH should be determined by the use of a radio altimeter or other device capable of providing equivalent performance, if so determined by the aircraft certification process. f) At DH, the following visual references should be distinctly visible and identifiable to the pilot: 	GM1 SPA.LVO.105(c)		
		 a segment of at least three consecutive lights, which are the centreline of the approach lights, TDZ lights, runway centre line lights, edge lights or a combination of these; and a visual reference that should include a lateral element of the ground pattern, such as an approach lighting crossbar, the landing threshold, or a barrette of the TDZ lighting unless the operation is conducted using a HUD or an equivalent system to touchdown. 			



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		CAT III			
CAT III	SPA.LVO.105(c) AMC4 SPA.LVO.105(c)	 The following should apply: a) The flight crew should consist of at least two pilots. b) The approach should be flown using a certified system as identified in the AFM. c) All height call-outs below 200 ft. above the runway threshold elevation should be determined by the use of a radio altimeter or other device capable of providing equivalent performance. d) For operations in which a DH is used, the DH should be determined by the use of a radio altimeter or other device capable of providing equivalent performance. e) At DH, the following visual references should be distinctly visible and identifiable to the pilot: 1) for operations conducted either with fail-passive flight control systems or with the use of an approved HUD or equivalent display system: a segment of at least three consecutive lights, which are the centre line of the approach lights, or TDZ lights, or runway centre line lights, or runway edge lights, or a combination of these; and 2) for operations conducted either with fail-operational flight control systems or with a fail-operational hybrid landing system using a DH: at least one centre line light to be attained and maintained by the pilot. f) For operations with no DH, there is no specification for visual reference with the runway prior to touchdown. 	GM1 SPA.LVO.105(c)		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		SA CAT I			
SA CAT I	SPA.LVO.105(c) AMC5 SPA.LVO.105(c)	 The following should apply: a) The approach should be flown using a certified system as identified in the AFM. b) All height call-outs below 200 ft. above the runway threshold elevation should be determined by using a radio altimeter or other device capable of providing equivalent performance. c) The DH should be determined by the use of a radio altimeter or other a device capable of providing equivalent performance, if so determined by the aircraft certification process. d) At DH the following visual references should be visible to the pilot: a segment of at least three consecutive lights, which are the centre line of the approach lights, or TDZ lights, or runway centre line lights, or runway edge lights, or a combination of these; and a visual reference that should include a lateral element of the ground patterns, such as an approach lighting crossbar, the landing threshold, or a barrette of the TDZ lighting unless the operation is conducted utilizing an approved HUD or an equivalent system usable down to 120 ft. above the runway threshold. 	GM1 SPA.LVO.105(c)		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		SA CAT II			
SA CAT II	SPA.LVO.105(c) AMC6 SPA.LVO.105(c)	 The following should apply: a) The flight crew should consist of at least two pilots. b) The approach should be flown using a certified HUDLS or autoland system as identified in the AFM. c) All height call-outs below 200 ft. above the runway threshold elevation should be determined by the use of a radio altimeter or other device capable of providing equivalent performance. d) The DH should be determined by the use of a radio altimeter or other device capable of providing equivalent performance, if so determined by the aircraft certification process. e) At DH the visual references should be distinctly visible and identifiable to the pilot: a segment of at least three consecutive lights, which are the centre line of the approach lights or TDZ lights, or runway centre line lights, or runway edge lights or a combination of these; a visual reference that should include a lateral element of the ground patterns, such as an approach lighting crossbar, the landing threshold, or a barrette of the TDZ lighting. 	GM1 SPA.LVO.105(c)		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
		EFVS			
EFVS	SPA.LVO.105(c) AMC7 SPA.LVO.105(c)	 For EFVS operations to a runway, the following should apply: a) The approach should be flown using a certified EFVS-A or EFVS-L as identified in the AFM. b) The pilot flying should use the EFVS throughout the approach. c) In multi-pilot operations, the pilot monitoring should monitor the EFVS-derived information. d) The approach between the final approach fix (FAF) and the DA/H should be flown using vertical flight path guidance mode (e.g. flight director) e) The approach may be continued below the DA/H provided that the pilot can identify on the EFVS image either: 	GM1 SPA.LVO.105(c)		
		 the approach light system; or both of the following: the runway threshold identified by the beginning of the runway landing surface, the threshold lights or the runway end identifier lights, and The TDZ is identified by the TDZ lights, the TDZ runway markings, or the runway edge lights. Unless the aircraft is equipped with a certified EFVS-L, a missed approach should be executed promptly if the required visual reference is not distinctly visible and identifiable to the pilot without reliance on the EFVS by the following height above the threshold: the height below which an approach should not be continued if natural visual reference is not acquired by the crew as stated in the AFM; or if the AFM does not specify such a height, 100 ft. 			



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference	ICETRA Remarks
		MEL AMENDMENT			
ALL	SPA.LVO.105(D)	The MEL should be amended, if applicable, to reflect the related intended LVO operations	GM1 SPA.LVO.105(c)		
		MAINTENANCE PROGRAMME			
ALL	SPA.LVO.105(e)	The maintenance programme should be amended, if applicable.			
		SUITABILITY OF AERODROMES			
ALL	SPA.LVO.110	A copy of the relevant AFM entry showing the aircraft certification standard for LVO operations should be attached to your application.			
ALL	SPA.LVO.110 AMC1 SPA.LVO.110	 Assessment of the suitability of aerodromes: The assessment should cover the assessment of the availability of: 1) suitable navigation facilities and associated instrument flight approach procedures; 2) suitable aerodrome operating procedures, including LVPs, and the compatibility with the intended aircraft operations; and 3) suitable runway and runway environment characteristics and facilities. 	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110		
ALL	SPA.LVO.110	 Methodology for the assessment of the suitability of aerodromes: Assessment to be made using one or a combination of the following methods: Assessment of previous operational data for the particular aerodrome Desktop assessment of the: Aerodrome data Instrument flight procedure Aircraft data and capability Operational assessment: This is to be used if the suitability of the aerodrome for the intended operations cannot be positively assessed using the other methods. 	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM5 SPA.LVO.110 GM6 SPA.LVO.110		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		Assessment of previous operational data			
ALL	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110) (AMC4 SPA.LVO.110)	 Source of the data: The data should come from: the operator itself, or when not available; the following entities: the State of the aerodrome or the competent authority issuing the operator's LVO approval; the type certificate holder of the aircraft; or other operators. 	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110		
ALL	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	 Use of previous operational data: Previous operational data should only be used if: 1) it concerns the same runway and there were no relevant changes to the runway and runway environment; 2) it is derived in accordance with Table 14 of AMC1 SPA.LVO.110 for the intended operation; and 3) there is no safety concern for such an operation. 	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM5 SPA.LVO.110		
ALL	SPA.LVO.110	 Crediting of previous operational data: Previous operational data may be credited to an aircraft if it is from: 1) the same aircraft make and model, unless the credit is from the same aircraft make and model is restricted by any of the following entities: iv. the State of the aerodrome or the competent authority issuing the operator's LVO approval; v. the type certificate holder of the aircraft; or vi. other operators. or 2) another aircraft model, if stated in the AFM or additional data from the TC/STC holder. 	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM5 SPA.LVO.110		



Regulation EU 965/2012 Annex V Subpart E

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
	Desktop ass	essment – aerodrome data, instrument flight procedures and airc	craft data and capab	oilities	
ALL	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	General: The desktop assessment should correspond to the nature and complexity of the the operation intended to be carried out and should take into account the and associated risks inherent in these operations.	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM7 SPA.LVO.110 GM8 SPA.LVO.110 GM9 SPA.LVO.110		
ALL	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	Data to be included:The assessment should include the AFM or additional TC/STC holder data,instrument flight procedures and aerodrome data. Additional elements mayneed to be included in the assessment if stated by:(1) the AFM, or additional data from the TC/STC holder; or(2) the State of the aerodrome or AIP data; or(3) the competent authority issuing the operator's LVO approval.	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM6 SPA.LVO.110 GM10 SPA.LVO.110		
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	Data to be included: For landing systems, the runway or airport conditions should include as a minimum: (1) the approach path slope; (2) the runway elevation; (3) the type of xLS navigation means intended to be used; (4) the average slope of the LSAA; and (5) the ground profile under the approach path (pre-threshold terrain). The distance should be calculated from the published threshold. It should be 300 meters, unless otherwise stated by the AFM or additional data from the TC/STC holder, the State of the aerodrome or AIP data, or the competent authority issuing the operator's LVO approval.	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM11 SPA.LVO.110		



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	If the system used to perform an EFVS operation contains a flare cue, each aircraft type/equipment/runway combination should be verified before authorising the use of EFVS-L, on any runway with irregular pre-threshold terrain (not within the certification assumption for pre-threshold terrain), if the LSAA presents significant slope change.	GM1 SPA.LVO.110 GM2 SPA.LVO.110 GM3 SPA.LVO.110 GM4 SPA.LVO.110 GM12 SPA.LVO.110		
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	General operating requirements (SPA.LVO.110) (AMC2 SPA.LVO.110)	 Suitable instrument flight approach procedures: a) CAT II instrument approach operations should only be conducted using a CAT II IAP. b) CAT III instrument approach operations should only be conducted using a CAT III IAP. c) SA CAT I operations should only be conducted using a SA CAT I IAP or, if not available, a CAT I IAP that includes an OCH based on radio altimeter. d) SA CAT II operations should only be conducted using a SA CAT II IAP or, if unavailable, a CAT II IAP. e) EFVS operations should only be conducted using an IAP, which is offset by a maximum of 3 degrees unless a different approach offset is stated in the AFM. 	GM11 SPA.LVO.110		
CAT II	General operating requirements (SPA.LVO.110) (AMC3 SPA.LVO.110)	Suitable aerodrome: runway and runway environment – navigations facilities:For CAT II instrument approach operations, a PA runway category II or categoryIII should be used. The following visual aids should be available:1)category II approach lights;2)standard runway markings;3)category II runway lights.			
CAT III	General operating requirements (SPA.LVO.110) (AMC3 SPA.LVO.110)	 Suitable aerodrome : runway and runway environment - navigations facilities: For CAT III instrument approach operations, a PA runway category III should be used. The following visual aids should be available: 1) category III approach lights; 2) standard runway markings; 3) category III runway lights. 			



Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
SA CAT I	General operating requirements	Suitable aerodrome : runway and runway environment - navigations facilities: For SA CAT I operations:	GM11 SPA.LVO.110		
	(SPA.LVO.110) (AMC3 SPA.LVO.110)	 where an ILS or MLS or GLS is used, it should not be promulgated with any restrictions affecting its usability and should not be offset by the extended center line; where an ILS or GLS is used, it should be at least the minimum ILS or GLS classification stated in the AFM and meet any of the required minimum performance parameters stated in the AFM; the glide path angle is 3.00; a steeper glide path, not exceeding 3.5 o and not exceeding the limits stated in the AFM, can be approved provided that an equivalent level of safety is achieved and runway markings, category I approach lights, runway edge lights, runway threshold lights, and runway end lights should be available. 			
SA CAT II	General operating	Suitable aerodrome : runway and runway environment - navigation facilities:	GM6 SPA.LVO.110		
	requirements (SPA.LVO.110)	For SA CAT II operations: 1) where an ILS or MLS or GLS is used, it should not be promulgated with any	GM11 SPA.LVO.110		
	(AMC3 SPA.LVO.110)	 restrictions affecting its usability and should not be offset by the extended centre line; 2) where an ILS or GLS is used, the following applies: i. if the AFM provides such data, the minimum ILS or GLS classification stated in the AFM; or ii. when such data is not provided: a) where an GLS is used, it should be certified to at least GAST-C and to the GBAS point D; b) where an ILS is used, it should be certified to at least class II/D/2; 3) the glide path angle is 3.0°; a steeper glide path, not exceeding 3.2°, can be approved, provided that the operator demonstrates an equivalent level of safety and 4) the following visual aids should be available: 			



	standard runway markings, category I approach lights as well as runway edge lights, runway threshold lights and runway end lights; and		
ii. For	operations with an RVR of less than 400 m, centre line lights are		

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
		Operational assessment			
CAT II, CAT III, SA CAT I, SA CAT II, EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	 Number of approaches and landings: The process to determine the number of approaches and landings should be based on identified risks and agreed with the competent authority, and comprise the following steps: I) Identify the risks related to the landing system (based on the AFM or additional data from the TC/STC holder) which may include limitations in the conditions during the operational assessment (e.g., performing the assessment on a non-commercial flight). 2) Determine the complexity of the runway based on: a set of criteria based on the CC/STC holder; availability and quality of runway data supporting the risk assessment; other known factors identified. 	GM8 SPA.LVO.110		
CAT II, CAT III, SA CAT I, SA CAT II, EFVS CAT II, CAT III, SA CAT I, SA CAT II, EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110) General operating requirements (SPA.LVO.110)	Operational assessment: When performing an operational assessment, the operator should verify each aircraft type and runway combination by successfully completing the determined number of approaches and landings according to the process in point (I) below and the conditions determined in Table 15 of AMC1 SPA.LVO.110. Use of different variants of an aircraft type: If the operator has different variants of the same type of aircraft utilising the same landing systems, the operator should show that the variants have			

Page **43** of **47**



FOR-0009 Ver 4.0 16.10.2024

Regulation EU 965/2012 Annex V Subpart E

(AMC1 SPA.LVO.110)	satisfactory operational performance, but conducting a full operational assessment for each variant/runway combination is unnecessary.		
General operating	Use of manufacturers simulation/verification if FSTD:	GM9 SPA.LVO.110	
requirements (SPA.LVO.110)	The operator may replace partially or completely the approaches and landings to a particular runway, if approved by the competent authority, with:		
(AMC1 SPA.LVO.110)	 simulations made by the aircraft manufacturer or approved design organisations, if the terrain is properly modeled in the simulation; a verification using an FSTD, if the FSTD is suitable for the operational assessment. 		

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	Additional verification of the suitability of runways for EFVS o The assessment of the suitability of the aerodrome should include whether the approach and runway lights installed (notably incandescent or LED lights) are adequate for the EFVS equipment used by the operator.	perations		
EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	 Additionally, the operator should assess obstacles for the following operations: NPA procedures; APV; category I PA procedures on runways where an OFZ is not provided and approach procedures not designed in accordance with PANS-OPS or equivalent criteria. This assessment is conducted to determine whether: obstacle protection can be ensured in the visual segment from DA/H to landing without reliance on visual identification of obstacles or in the event of a balked landing and obstacle lights installed (notably incandescent or LED lights) are adequate for the EFVS equipment used by the operator. 			

Page **44** of **47**

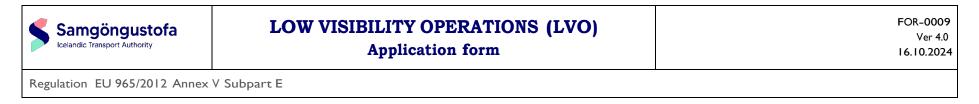


Regulation EU 965/2012 Annex V Subpart E

EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	If the assessment determines that obstacle clearance cannot be ensured in the visual segment without reliance on visual identification of obstacles, the operator should not authorise EFVS operations to that runway or restrict the operation to the type and/or category of instrument approach operations where obstacle protection is ensured.		
EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	If the assessment determines that obstacle clearance cannot be ensured in the visual segment without reliance on visual identification of obstacles, the operator should not authorise EFVS operations to that runway or restrict the operation to the type and/or category of instrument approach operations where obstacle protection is ensured.		

Applicability	Main Heading (EASA OPS requirements and AMC)	Further Remarks	Guidance Material	Operators OM reference or Document reference.	ICETRA Remarks
EFVS	General operating requirements (SPA.LVO.110) (AMC1 SPA.LVO.110)	If the AFM stipulates specific requirements for approach procedures, the operational assessment should include a determination of whether these requirements can be met.			
ALL	Operating procedures (SPA.LVO.125)	Supplementary procedures under Low Visibility Operations shall be included in the Operations Manual, taking into account the normal, abnormal and emergency procedures.			
		REPORTING EVENTS OF LVO			
ALL	Aerodrome related requirements (ORO.GEN.160) (AMC1 ORO.GEN.160)	 A reportable event should include: significant deviations from the flight path not caused by the flight crew input; misleading information without flight deck alerts; loss of airborne navigation equipment functions necessary for the operation; loss of functions or facilities at the aerodrome necessary for the the operation, including aerodrome operating procedures, ATC operation, navigation facilities, visual aids and electrical power supply; 			

Page **45** of **47**



5)	loss of other functions related to external infrastructure necessary for		
	the operation; and		
6)	any other event causing the approach or landing to be abandoned if		
	occurring repeatedly.		
	ne reports should be submitted to the aerodrome involved when relevant nd in addition to the recipients prescribed in ORO.GEN.160(b)		

Applicability	Main Heading (EASA OPS requirements and	Further Remarks	Guidance Material	Operators OM reference or Document	ICETRA Remarks			
	AMC) reference. reference.							
ALL	Minimum equipment (SPA.LVO.130)	The operator should include the Minimum Equipment in the MEL in accordance to the limitations of the AFM						

Page **46** of **47**

Samgöngustofa Icelandic Transport Authority	LOW VISIBILITY OPERATIONS (LVO) Application form	FOR-0009 Ver 4.0 16.10.2024
Regulation EU 965/2012 Annex V Subpart E		

Any further Comments to Support Your Application: