U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

National Policy

ORDER 8000.94A

Effective Date:
08/26/2020

SUBJ: Procedures for Establishing Airport Low-Visibility Operations and Acceptance of Low-Visibility Operations/Surface Movement Guidance and Control System Operations

1. Purpose of This Order. This order provides policy to standardize Low-Visibility Operations/Surface Movement Guidance and Control System (LVO/SMGCS) operations at Title 14 of the Code of Federal Regulations (14 CFR) part 139 U.S. airports. It establishes the necessary Federal Aviation Administration (FAA) headquarters (HQ) and operating services roles, responsibilities, and activities for LVO at Runway Visual Range (RVR) values of less than 1,200 ft for each runway at an airport. It provides guidance to help airport operators who seek new or continued FAA LVO/SMGCS authorization [defined herein as an "FAA-Approved LVO/SMGCS Operation"] to reach such approval.

2. Audience. This order applies to the Office of Airports (ARP) including appropriate regional and district offices, the Air Traffic Organization (ATO) to include appropriate service center and district offices, and Flight Standards Service (FS) to include district, division, and other appropriate offices, as well as any interested aviation stakeholders.

3. Where You Can Find This Order. You can find this order on the FAA's website.

4. Scope. This order establishes an FAA inter-service agreement that provides for consistent low-visibility (less than RVR 1200) airport operations; establishes requirements for uniform low-visibility airport equipment and enhancements; and implements uniform air traffic control (ATC) and airport operator practices and expectations.

Note: For the purposes of this order, LVO means those airport operations conducted at visibilities of less than RVR 1200.

5. Background. LVO/SMGCS has been demonstrated to be an effective tool for improved safety through the increased control of aircraft and ground vehicles during low-visibility conditions. Because of the proven difficulty of operating in low-visibility conditions, improved controls and directions for aircraft and ground vehicle movement during LVO/SMGCS conditions are essential to protecting the runway from incursions during high-speed LVO. AC 120-57, Surface Movement Guidance and Control System, or its Airports 150-series replacement, provides recommendations for improved safety procedures to accomplish low-visibility ground operations. Although some airports have voluntarily adopted AC 120-57, not all U.S. part 139 airports have attained full operational approval commensurate with their previously authorized landing and/or takeoff minimums. The potential significance of a ground-movement error by a vehicle or aircraft during LVO is an increasing concern as more airports and multiple runway configurations are planned for the National Airspace System (NAS).

a. LVO/SMGCS operations less than RVR 1200. When the LVO/SMGCS plan designated authority reports the RVR for any runway is less than RVR 1200, the FAA considers that the conditions may exist to require LVO/SMGCS operations. Each airport operator's LVO/SMGCS plan establishes that airport's specific weather triggers from which ATCT (or Terminal Operations) initiates LVO/SMGCS airport operations for all of or for a portion of the airport. Those weather triggers are based upon the results of examining local weather phenomena to determine what conditions most consistently result in needing to launch LVO/SMGCS operations. The FAA and the International Civil Aviation Organization (ICAO) consider the recommended LVO/SMGCS operational practices outlined in AC 120-57 necessary for safe all weather operations. The FAA already requires part 139 airport operators to obtain an "FAA-Approved LVO/SMGCS Operation" in the planning for commissioning of all new Category III ILS supported runways. When a new runway becomes operational under that requirement those part 139 airports will then have an "FAA-Approved LVO/SMGCS Operation" to protect their low-visibility takeoffs and landings program.

b. Standardized plans and procedures for LVO. The recommendations, nondirective policies, and procedures in AC 120-57 have led to inconsistent LVO/SMGCS plans, operations, and procedures as the number of LVO/SMGCS airports has increased. Since many more airports are beginning to need LVO, this order provides the FAA/regional LVO/SMGCS team with FAA requirements that will standardize Aviation Safety (AVS-), ARP-, and ATO-coordinated oversight of the process for developing LVO/SMGCS plans, training, and procedures. It also defines the key steps in the LVO/SMGCS operations approval process. Those actions will enable AVS, ARP, and ATO to better support all airports that need LVO.

c. Definition of an FAA-approved LVO/SMGCS operation. The FAA determines an airport operator to have an "FAA-Approved LVO/SMGCS Operation" for LVO for taxi, takeoff, and/or landing when the airport operator has finished the following steps:

(1) Completed an LVO/SMGCS plan, approved by the FAA/regional LVO/SMGCS team. The airport operator will incorporate portions of the LVO/SMGCS Plan, including the Letter of Agreement (LOA) between the Airport operator and the ATCT, the low-visibility taxi chart (s), and/or other items as determined by the FAA regional LVO/SMGCS team into its Airport Certification Manual (ACM).

(2) Completed all required equipment installation, personnel training to include qualification/certification, and other elements that the approved LVO/SMGCS plan specifies. That includes also submitting equipage, marking, and signage to Aeronautical Information Services in compliance with AC 120-57 or its Airports 150-series replacement.

(3) Successfully completed an LVO/SMGCS inspection performed by the FAA/regional LVO/SMGCS team, including confirmation of accurate and complete LVO/SMGCS taxi chart(s). The airport operator will also contract with a commercial vendor or make other appropriate arrangements to create a low-visibility taxi chart(s).

(4) Received final approval documentation from the FAA/regional LVO/SMGCS team. The FAA will issue the approval documentation (the LVO/SMGCS operational approval letter) once the steps required by this order are successfully completed and a commercial vendor or

other appropriate source make an LVO/SMGCS taxi chart(s) publicly available. The airport operator should keep the approval document as a permanent record with the ACM. The approval signatory level is at the discretion of the LVO/SMGCS team member's line of business (LOB). Below are examples of typical signatories for final airport LVO/SMGCS operational approval:

(a) Regional Airports Division 620 office, Safety and Standards Branch, LVO/SMGCS Coordinator,

(b) ATCT Manager, or

(c) Flight Technologies and Procedures Division Manager or designated representative.

6. Other LVO/SMGCS Requirements for Takeoff or Landing Operations Less Than RVR 1200.

a. Overview. Each certificated part 139 airport with FAA authorized takeoff or landing operations for runways below RVR 1200 is to provide appropriate low-visibility (less than RVR 1200) surface enhancements and ground-movement procedures. The members of the FAA/regional LVO/SMGCS team will sign the required LVO/SMGCS operational approval letter, or an appropriate representative as determined by the particular FAA LOB. Paragraph 5(c)(4) lists typical signatories. Details of the distribution channels and location of national approval record are specified in the Airports 150-series advisory circular.

b. Approval letter, ACM, and other documents. The approval letter lists each runway approved for LVO/SMGCS operations, the runway/runways' specific authorized RVR for takeoff and/or landing, and the RVR-approved for ground operations. The airport operator will keep the letter on file with their FAA-approved ACM. The ACM will also contains key portions of the LVO/SMGCS plan, including the LOA between the Airport operator and the ATCT, the low-visibility taxi chart(s), and/or other items as determined by the FAA regional LVO/SMGCS team. The FAA Aeronautical Information Services Supplement book and the U.S. Aeronautical Information Manual/Aeronautical Information Publication (AIM/AIP) will have appropriate LVO/SMGCS information. The Chart Supplement will state the attained RVR level for operational ground movement and any restrictions.

7. Display of Qualifying Airports and Operational Minimums. The FAA uses the Flight Procedures and Airspace Group's website to display the LVO/SMGCS qualifying airports and their authorized level of operational minimums. Flight Procedures and Airspace Group's designated representatives are responsible for providing any updates and/or changes to the LVO/SMGCS status list ensuring the list accurately represents current LVO/SMGCS airport equipage and status.

8. FAA HQ Roles and Responsibilities. FAA HQ components of ATO, AVS, and ARP provide policy and training support for the Service Center/appropriate ATO district office, along with necessary field and service area structures for the implementation, approval, and oversight of airport LVO and the LVO/SMGCS program. They ensure that the required FAA/regional LVO/SMGCS team will have at a minimum an appropriate Flight Procedures and Airspace

Group representative as the team lead, an Airport Certification Safety Inspector (ACSI), a Terminal Service Area representative, and an ATCT representative, if possible.

a. ARP. ARP provides the needed Airports LVO/SMGCS equipage engineering specifications and installation requirements at the national and regional level. It also directs airport certification policy and guidance for input to the LVO/SMGCS planning, approval, and inspection process. ARP includes AC 120-57, or its Airports 150-series replacement, in the Appendix 4 – AC 150/5210-22, Airport Certification Manual, listing of pertinent ACs. These all apply to a part 139 airport compliance program.

b. ATO.

(1) ATO provides necessary changes to applicable orders to outline the responsibilities and procedures followed by ATC towers or other facilities (where applicable) that support the LVO/SMGCS program.

(2) Aeronautical Information Services provides the conduit through which LVO/SMGCS information [such as airport markings, equipage, and procedures] is publicly disseminated and made available to chart procedures.

c. AVS. AVS provides the overall LVO/SMGCS program lead at the national and regional levels and carries out this oversight specifically through two of its principal services:

(1) The Air Traffic Safety Oversight Service (AOV) provides oversight and assurance that ATO facilities adhere to national policies for LVO and LVO/SMGCS operations.

(2) FS carries out the primary AVS LVO/SMGCS program oversight, which includes providing necessary guidance and training for the designated Flight Technologies and Procedures inspectors to support the implementation, technical evaluation, and inspection of the operational safety of an airport's LVO/SMGCS plan and operational approval. FS supplies guidance for Principal Operations Inspectors (POIs) on their air carrier LVO/SMGCS oversight responsibilities. FS also provides requirements and recommendations for charting low-visibility taxi chart(s) and LVO/SMGCS' inputs to the AIM/AIP and the FAA Aeronautical Information Services Chart Supplement. Additionally, FS provides guidance to air operators and oversight of their approved LVO/SMGCS training and qualification/certification programs in support of LVO/SMGCS operations.

9. Region, FS Appropriate Offices, and Service Area Roles and Responsibilities.

a. FS Flight Procedures and Airspace Group offices. Designated Flight Procedures and Airspace Group offices, with the cooperation of the ATO service centers or district offices and regional ARP offices, will establish an FAA regional LVO/SMGCS team for each air carrier (part 139) airport with existing or proposed LVO. The FAA, through coordination by Flight Procedures and Airspace Group offices, will conduct periodic LVO/SMGCS inspections of "FAA-Approved LVO/SMGCS Operations" every 12 to 18 months with the same level of service participation, if possible, as for an initial LVO/SMGCS inspection.

b. Regional ARP divisions. Regional ARP divisions support FAA regional LVO/SMGCS teams through the AIP and grant funding programs when suitable. They support periodic LVO/SMGCS inspections led by the FAA Regional LVO/SMGCS team's Flight Procedures and Airspace inspector and helps the ACSI on the team with review and approval of LVO/SMGCS plans. They also give advice and guidance to the LVO/SMGCS airport working groups and LVO/SMGCS teams when needed. LVO/SMGCS lighting, signs, and markings may be inspected during the normal course of a part 139 inspection. If necessary, a separate LVO/SMGCS inspection, or an LVO/SMGCS extension of the part 139 inspection, may be accomplished in coordination with the LVO/SMGCS team.

c. Service Area Managers/District Managers. Service area or district managers, through respective ATCT managers at each airport, will follow national policies and procedures for an airport attaining an FAA-approved LVO/SMGCS operation. That responsibility includes both the circumstances of when an airport is seeking LVO/SMGCS approval and/or any addition/change to an FAA-approved LVO/SMGCS operation. Follow-on activities include supporting periodic inspections and developing procedures for the addition of new low-visibility runways/operations. Service area or district managers ensure that local standard operating procedures (SOP) are developed to support LVO/SMGCS operations. Those procedures include, but are not limited to, an LOA with the airport authority to delineate LVO/SMGCS responsibilities and specifics for the operation of airport-owned LVO/SMGCS lighting (e.g., controlled and uncontrolled stop bars and runway guard lights). There will also be procedures to commence LVO/SMGCS operations and procedures to end LVO/SMGCS operations.

d. Flight Procedures and Airspace Group Managers/Inspectors, The designated Flight Procedures and Airspace Group manager, through respective inspectors, provides the operational safety perspective for reviewing proposed LVO/SMGCS plans and operational concepts. The Flight Procedures and Airspace Group inspector leads the initial and periodic LVO/SMGCS inspections to enable low-visibility takeoff and landing operations. The team lead (qualified Flight Procedures and Airspace Group specialist) is also responsible for coordinating an airport's initial and continuing compliance with both national policies and individual plan requirements. The FAA/regional LVO/SMGCS team members (as specified in paragraph 8) evaluate, inspect, and approve each airport's proposed LVO/SMGCS plan and LVO/SMGCS operation. At a minimum (where non-FAA contract tower personnel operate the tower), LVO/SMGCS team participants will include an ACSI, a Flight Procedures and Airspace Group inspector, and a participant from the terminal service area.

e. ACSI. The ACSI provides the FAA ARP technical perspective. Before the team grants operational approval, the assigned ACSI will ensure that airport operators integrate the FAA-approved LVO/SMGCS plan key policy sections (or such plan items as determined by the LVO/SGMCS team) into their ACM.

10. Implementation.

a. Transfer previous LVO/SMGCS operational approval and items specified below to ACM. This order recognizes the previous approvals granted under AC 120-57. Each airport with an LVO/SMGCS operation previously approved by FS, while continuing their currently approved LVO/SMGCS program, will need to update its previously approved LVO/SMGCS

plans to comply with any new requirements. No time restriction is applied to this requirement. The airport operator will submit the revised LVO/SMGCS plan to the FAA/regional LVO/SMGCS team for updated approval. Upon approval, the airport operator will submit portions of the LVO/SMGCS plan, including the LOA between the Airport operator and the ATCT, and the low-visibility taxi chart(s) and/or such items as determined by the FAA regional LVO/SMGCS team for inclusion in the ACM.

b. Mandatory FAA-approved LVO/SMGCS operation. Under all circumstances, FAA authorization, for low-visibility minimums at less than RVR 1200 for takeoff or landings, requires an airport operator to complete the following according to a time-period that is negotiated with the FAA/regional LVO/SMGCS team.

(1) Create an approved LVO/SMGCS plan, with portions of the LVO/SMGCS plan including the LOA between the Airport operator and the ATCT, the low-visibility taxi chart(s), and/or other items as determined by the FAA/regional LVO/SMGCS team, incorporated into the airport operator's ACM.

(2) Comply with equipment installations and needed marking and signage as determined by the FAA/regional LVO/SMGCS team. Submit equipage, marking, and signage to Aeronautical Information Services in compliance with AC 120-57 or its Airports 150-series replacement. Carry out the personnel training and qualification/certification required and other obligatory elements for the individual level of operations sought.

(3) Accomplish a successful inspection by the LVO/SMGCS team including compliance with the LVO/SMGCS taxi chart(s) requirement.

(4) Attain LVO/SMGCS operational approval and approval documentation once the LVO/SMGCS taxi chart(s) has been made publicly available by appropriate means. The approval signatory level is at the discretion of the LVO/SMGCS team member's LOB. Below are examples of typical signatories for final airport LVO/SMGCS operational approval:

(a) Regional Airports Division 620 office, Safety and Standards Branch, LVO/SMGCS Coordinator,

(b) ATCT Manager, or

(c) Flight Technologies and Procedures Division Manager or designated representative.

c. LVO/SMGCS Airfield Data Source Collection. An LVO/SMGCS data source collection process will be put in place for every airport pursuing LVO/SMGCS operational approval prior to granting an FAA-approved LVO/SMGCS operation. The process will include the collection, maintenance, and public dissemination of accurate, up-to-date LVO/SMGCS equipage positional data, low-visibility routing, and taxi procedures for each such airport. All process details, including airport operator, FS, ARP, and Aeronautical Information Services responsibilities, will be specified in the Airports 150-series AC replacement for AC 120-57. LVO/SMGCS operational approval is contingent upon airport operator compliance with AC 120-57 or the Airports 150-series AC replacement.

11. Policy on Approval Process.

a. Provide the FAA with an initial acceptable LVO/SMGCS plan. To be eligible for landing minimums or takeoff minimums of less than RVR 1200, each public airport certificated under part 139 must provide the FAA with an acceptable LVO/SMGCS plan. The FAA/regional LVO/SMGCS team will evaluate the airport operator's operational concept during an onsite inspection. The team will conduct a portion of the inspection in the hours of darkness to determine the adequacy of visual aids, lighting, signage, and marking required for LVO/SMGCS operations at the airport operator's approved level of LVO/SMGCS visibility. The ATO representative observes the ATCT control and monitoring functions. ATO also evaluates procedures and equipment specific to the LVO/SMGCS operation for consistency with national standards and local SOP. A successful LVO/SMGCS inspection results in an FAA-approved LVO/SMGCS operation once the airport operator has made the low-visibility LVO/SMGCS taxi chart(s) publicly available. Approval documentation will state the lowest RVR level(s) of operational takeoff and landing minimums supported by the airport's FAA-approved LVO/SMGCS operation. That documentation will also specify each approved runway and lowest approved ground operations RVR.

b. Approval of temporary alternative to full LVO/SMGCS plan. When significant changes to the LVO/SMGCS plan or approved taxi routings are required due to airport construction or other changes/modifications to standards, the airport will request FAA review and approval of any temporary alternative to the full LVO/SMGCS plan. That process may include temporary charting of amended or adjusted taxi routings and/or Notices to Airmen (NOTAMs). It also may have temporary procedures not normally used by the airport (e.g., follow-me vehicle) to substitute for the absence of or for incomplete guidance requirements during the temporary condition. FAA approval of the temporary condition, and any potential resultant change(s) to the approved LVO/SMGCS operation, requires concurrence by all LVO/SMGCS team service representatives (i.e., individuals specified in paragraph 8), and documentation in an LOA.

c. Two levels of approved LVO/SMGCS operation. AC 120-57 specifies two levels of authorization. An FAA requirement for the lowest level of operations is an operating surface detection system (e.g., airport surface detection equipment such as ASDE or ASDE-X). The FAA will not grant any operational approvals at the region/service area level for LVO/SMGCS initial approval or contingency operations less than RVR 500 without the airport having surface detection capabilities or a suitable substitute. Any use of emerging technologies as a suitable substitute for established LVO/SMGCS requirements will undergo a specific HQ review and approval to determine whether the technologies meet an FAA-determined Equivalent Level of Safety (ELoS). For unique situations regarding detection capabilities for LVO/SMGCS, the FAA/regional LVO/SMGCS team is to forward recommendations through the designated Flight Technologies and Procedures Division office for consultation with and concurrence of ARP, AVS, and ATO.

d. Prescribed equipment recommendations. Airports seeking to have an approved LVO/SMGCS operation should follow the equipment installation recommendations of AC 120-57. When AC 120-57 becomes a 150-series AC, airports seeking to have a FAA-approved LVO/SMGCS operation must follow the equipment installation requirements of

the replacement AC unless otherwise modified by agreement from the FAA/regional LVO/SMGCS team and appropriate regional or HQ office when necessary.

e. Final operational Approval. Achieving a finalized, FAA-approved LVO/SMGCS operation occurs after all required LVO/SMGCS infrastructure requirements have been met, a low-visibility taxi chart(s) is published, and the FAA LVO/SMGCS team conducts a successful inspection and completes all the requirements listed in paragraph 10b, including proper documentation.

f. Entering/Existing LVO/SMGCS operations and criteria for lowest approved LVO/SMGCS level. Each airport's LVO/SMGCS plan may have varying criteria for entering/exciting LVO/SMGCS operations and for determining when the lowest approved LVO/SMGCS level is reached, but each airport's FAA-approved LVO/SMGCS plan must specify those criteria (see paragraph 5a). Based on those criteria, ATCT or other appointed Air Traffic facility specified in the LVO/SMGCS plan will determine when the airport is to enter into or exit from LVO/SMGCS operations. When the LVO/SMGCS limit visibility drops below the lowest approved level for taxi, no aircraft will begin taxi for takeoff. Aircraft that have commenced taxi for takeoff (if the pilot has sufficient visibility to taxi) may proceed to the specified runway and takeoff, provided the RVR is at or above the requirement for that operator on that runway. Aircraft on final approach, when the visibility is below the LVO/SMGCS authorized limit, may continue the approach, and if the pilot sees the required environment, may land. If aircraft can land, reasonable efforts, such as a follow-me vehicle, will be used to recover the aircraft to parking.

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Rick Domingo
Executive Director, Flight Standards Service

Directive Feedback Information

Please submit any written comments or recommendation for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject:

To: Flight Technologies and Procedures Division, AFS-400 Coordination Mailbox (9-AWA-AFS400-COORD@faa.gov)

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph on page .

☐ Recommend paragraph on page be changed as follows: *(attach separate sheet if necessary)*

☐ In a future change to this order, please cover the following subject: *(briefly describe what you want added)*

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted on by:

Telephone Number:

FAA Form 1320-19 (10-98)