

LOW VISIBILITY OPERATIONS/SURFACE MOVEMENT GUIDANCE & CONTROL SYSTEM PLAN

St. Louis Lambert International Airport

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1.0 INTRODUCTION

- 1.1 This Low Visibility Operations/Surface Movement Guidance and Control System (LVO/SMGCS) Plan describes enhancements, procedures and actions at St.Louis-Lambert International Airport (STL) that are applicable to the airport operator, air traffic control (ATC), airlines, and other tenants of the Airport during low visibility conditions.
- 1.2 These enhancements, procedures, and actions are in accordance with the guidance set out in Federal Aviation Administration (FAA) Advisory Circular 120-57A, Surface Movement Guidance and Control System, current edition. A LVO/SMGCS Plan is necessary for airports where scheduled air carriers conduct takeoff or landing operations in visibility conditions of less than 1,200 feet Runway Visual Range (RVR).
- 1.3 The procedures contained in this Plan were developed by the LVO/SMGCS Working Group which consisted of representatives from: Airport staff involved with airfield operations, lighting, aircraft rescue and firefighting (ARFF), security/traffic control, and airport consultants; FAA Air Traffic Control (local and/or regional); FAA Airports District or Regional office; FAA Flight Standards (local and/or regional); FAA Airway Facilities Sector office, appropriate scheduled airlines; appropriate Air Transport Association representative; Air Line Pilots Association (ALPA) or other appropriate pilot groups; appropriate cargo/package operators; military aviation tenants; appropriate operators under Title 14 Code of Federal Regulation part 91, and service corporation (includes general aviation and corporate operators).
- 1.4 This document does not supersede established policies, procedures, rules or guidelines for airports, aircraft or vehicle operators, or air traffic control. It does prescribe certain airfield lighting and marking improvements and operating procedures that have been designed to enhance the safety and efficiency of aircraft and vehicle movements.
- 1.5 To enhance the safety of low visibility operations, part 91 operators should follow the guidance in this Plan to the maximum extent possible and expect follow-me assistance to and from the runway environment.
- 1.6 This Plan addressed both current and future enhancements to support low visibility takeoff, landing, and taxiing operations at the Airport. LVO/SMGCS issues will be addressed in the airport customer service meetings sponsored by the ATC on an annual basis.

2.0 DEFINITIONS

Definitions pertaining to LVO/SMGCS procedures are listed below and when available, the source document from which the definition was derived, such as the Code of Federal Regulations (CFR), Aeronautical Information Manual (AIM), or related Advisory Circulars (AC's).

- 2.1 **AA** – St. Louis Airport Authority, owner/operator of St. Louis-Lambert International Airport.
- 2.2 **ACR** – Airfield Condition Report, located at www.flystl.com/acr lists current impacts, advisories and NOTAM conditions to the St. Louis-Lambert Airport.
- 2.3 **AOA** – Air Operations Area: The part of the airport where aircraft operate, land, unload and/or are serviced.
- 2.4 **ARFF** – Aircraft Rescue and Fire Fighting: A service provided by the AA.
- 2.5 **ASDE-X** – Airport Surface Detection Equipment: A ground surveillance radar operated by the FAA ATC.
- 2.6 **ATC** – Air Traffic Control: A serviced provided by the FAA.
- 2.7 **ATIS** – Automatic Terminal Information Service: Weather and airport information updated routinely and broadcast by ATC.
- 2.8 **Apron (Ramp)** – A defined area on an airport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. The apron area includes the following components: (Reference AIM and AC 150/5340-1, current edition).
 - (a) **Aircraft Parking Positions** – Intended for parking aircraft to enplane/deplane passengers, load or unload cargo.
 - (b) **Aircraft Service Areas** – On or adjacent to an aircraft parking position. Intended for use by personnel/equipment or servicing aircraft and staging of equipment to facilitate loading and unloading of aircraft.
 - (c) **Taxilanes** – Apron areas which provide taxiing aircraft access to and from parking positions.
 - (d) **Vehicle Roadway Markings-** Identified rights of way on the apron area designated for service and Aircraft Rescue and Fire Fighting (ARFF) vehicles.

- 2.9 ***Air Carrier*** – An aircraft owner/operator serving St. Louis in compliance with FAR Part 121 or 135.
- 2.10 ***Clearance Bar*** – A clearance bar consists of three in-pavement steady-burning yellow lights. (Reference AIM)
- 2.11 ***Controlling Region*** – Refers to the FAA geographic region in which an airport is located. The controlling region for STL is the Central Region.
- 2.12 ***Gate Designator Markings*** – Pavement markings used to identify an aircraft parking position/gate(s).
- 2.13 ***Geographic Position Markings*** – Pavement markings used to identify the location of aircraft or vehicles during low visibility conditions.
- 2.14 ***Judgmental Over-Steering*** – When the taxiway centerline does not provide an adequate turn radius, the pilot may intentionally over-steer the aircraft nose wheel to keep the aircraft’s main gear within the defined edges of the taxiway.
- 2.15 ***LOA*** – Letter of Agreement: Document outlining services, policies and/or procedures agreed upon by two or more parties.
- 2.16 ***LVR*** – Low Visibility Route: A fixed course of travel for aircraft during low visibility conditions (below 1,200 ft. RVR) when taxiing on the AOA.
- 2.17 ***Mixed Operations*** – The ability to use a runway for both take-offs and landings.
- 2.18 ***Movement Area*** – Area utilized for taxiing, takeoff, and landing of aircraft where all surface movement is directly controlled by ATC.
- 2.19 ***Non-Movement Area*** – Area located on the AOA not directly controlled by ATC.
- 2.20 ***OPS*** – Airport Operations/Communications Center: A serviced provided by the AA.
- 2.21 ***Pads*** – Areas on the AOA used for parking, holding, and/or deicing of aircraft.
- 2.22 ***Runway Guard Lights – Elevated*** – Fixture consists of a pair of elevated flashing yellow lights installed on both sides of a taxiway at the runway hold position marking. Their function is to confirm the presence of an active runway, and assist in preventing runway incursions. (Reference AIM)

- 2.23 **Runway Guard Lights – In-Pavement** – Fixture consists of a row of in-pavement flashing yellow lights installed across the entire taxiway at the runway hold position marking. Their function is to confirm the presence of an active runway, and assist in preventing runway incursions. (Reference AIM)
- 2.24 **Runway Visual Range (RVR)** – An instrumentally derived value based upon standard calibrations that represent the horizontal distance a pilot will see down the runway from the approach end. (Reference AC 97-1, current edition)
- (a) **Touchdown RVR** – The RVR visibility readout values obtained from RVR equipment serving the runway touchdown zone.
- (b) **Mid-RVR** – The RVR visibility readout values obtained from RVR equipment located midfield of the runway.
- (c) **Rollout RVR** – The RVR visibility readout values obtained from RVR equipment located nearest the rollout end of the runway.
- 2.25 **Stop Bar** – Stop bar lights consist of elevated and in-pavement red fixtures that are installed at the runway holding position or instrument landing system (ILS) critical area holding position marking. Stop bars may be controllable by ATC, and will include a system of in-pavement green taxiway centerline/lead-on lights at locations where aircraft will enter or cross a runway.
- 2.26 **Surface Movement Guidance and Control System (SMGCS)** – A SMGCS system consists of the provision of guidance to, and control or regulation of, all aircraft, ground vehicles, and personnel on the movement area of an aerodrome. Guidance related to facilities, information, and advice necessary to enable the pilots of aircraft or the drivers of ground vehicle to find their way on the aerodrome, and to keep the aircraft or vehicles on the surfaces or within the areas intended for their use. Control or regulation means the measures necessary to prevent collisions, and to ensure that the traffic flows smooth and freely. (Reference ICAO SMC GS Manual Doc 9476-AN/927)
- 2.27 **Spots** – Markings located at various points of the ramp to stage aircraft and facilitate the transition from non-movement to movement areas.
- 2.28 **Surface Painted Holding Position Sign** – Pavement marking which is used to identify a specific runway. These markings are configured the same as the associated sign. (Reference AC 150/5340, current edition).
- 2.29 **Surface Painted Direction Sign** – Pavement markings that are configured the same as the associated sign and provided when it is not possible to provide taxiway direction signs at intersections. (Reference AC 150/5340, current edition).

- 2.30 **Surface Painted Location Sign** – Pavement markings that are configured the same as the associated sign, and are used to supplement the signs located along side of the taxiway and assist the pilot in confirming the designation of the taxiway on which the aircraft is located. (Reference AC 150/5340, current edition).
- 2.31 **Taxi Route** – In this document, a specific sequence of lighted taxiways used by aircraft during low visibility operations.
- 2.32 **Taxiline** – A painted yellow line, outlined in black, to provide guidance to aircraft taxiing on the ramp. It should be noted that this guidance is not to be considered as a designated taxilane or apron taxiway as defined in current FAA Advisory Circulars.

3.0 **FACILITIES, SERVICES AND EQUIPMENT**

- 3.1 **Runways** – The airport has three southeast-northwest parallel runways.
- (a) Runway 11 is available for takeoff operations below 1,200 feet RVR down to 500 feet RVR and landing operations below 1,200 feet RVR down to 600 feet RVR. This runway is 9,000 feet long and served by Category III instrument landing systems; touchdown, midpoint, and rollout RVR equipment; runway instrument markings; ALSF-2 approach lighting systems with sequence flashers; touchdown zone and centerline lighting and high intensity edge lighting.
- (b) Runway 29 is available for takeoff operations only, below 1,200 feet RVR down to 500 feet RVR.
- (c) Runway 12L-30R is available for takeoff operations below 1,200 feet RVR down to 500 feet RVR and landing operations below 1,200 feet RVR down to 600 feet RVR. This runway is 9,000 feet long and served by Category III instrument landing systems; touchdown, midpoint, and rollout RVR equipment; runway instrument markings; ALSF-2 approach lighting systems with sequence flashers; touchdown zone and centerline lighting and high intensity edge lighting.
- (d) Runway 12R-30L is available for takeoff operations below 1,200 feet down to 500 feet RVR and landing operations down to 1,800 feet RVR for Runway 12R and 2,400 feet RVR for Runway 30L. The runway is 11,000 feet long and served by Category I instrument landing systems; runway instrument markings, MALSR approach lighting systems; centerline lighting, and high intensity edge lighting.

- 3.2 ***Taxiway Lighting*** – Taxi routes and procedures are described in Section 6, Air Traffic Control Procedures.
- 3.3 ***Runway Guard Lights*** – Elevated and in-pavement runway guard lights are located at all runway/taxiway intersections and may be illuminated at all times to prevent runway incursions.
- 3.4 ***Stop Bars*** – N/A
- 3.5 ***Taxiway Clearance Bars*** – N/A
- 3.6 ***Taxiway Guidance Signing and Marking Inspections*** – Taxiway guidance signing and marking are inspected routinely as part of the Airport Operations Airfield Inspection Program. Electronic monitoring is provided for all signs and lights associated with Low Visibility Taxi Routes. This monitoring alerts ATC whenever threshold outage levels are exceeded. Airport Operations will also make a visual inspection of all LVO/SMGCS routes every 2 – 4 hours during LVO/SMGCS conditions.
- 3.7 ***Non-Movement Area Control*** – Control of the non-movement area between and around the concourses is administered by the airlines. Other non-movement areas are controlled by the tenants of those respective areas. Appropriate movement/non-movement area markings are installed on apron edges.
- 3.8 ***Surface Movement Surveillance*** – The airport has airport surface detection equipment (ASDE-X). FAA utilizes this equipment to monitor the geographical position of aircraft and vehicles during reduced visibility conditions and at night.
- 3.9 ***Follow-Me Service*** – The Airport Operations Department will provide follow-me service for air carrier aircraft & Part 91 operators upon request.
- 3.10 ***Aircraft Docking*** – The airline assumes control of the aircraft in the vicinity of the gate, as directed by the airport apron controller, and provides aircraft docking by the use of wing walkers, airline follow-me vehicles, tugs, or other appropriate means as set out in the airline’s operations manual.
- 4.0 **AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF)**
- 4.1 **ARFF** - Each of the ARFF stations provide coverage during low visibility operations, depending on the runway use configuration. The North ARFF station is located off Taxiway F-7, and provides primary coverage to runways 12L-30R, 12R-30L, and 6-24. The West ARFF Station is located off Taxiway Bravo at the midpoint of Runway 11-29,

and provides primary coverage to Runways 11-29, 6-24, and 12R-30L. Equipment and personnel will be alerted and remain at stand by status at these stations when low visibility operations are in progress.

- 4.2 **ARFF Coverage** – Coordination between ATC and ARFF is accomplished annually to ensure effectiveness of ARFF services. This coordination is accomplished as part of the annual airport emergency plan review required by Part 139.

5.0 **VEHICLE CONTROL**

- 5.1 **Vehicle Access-** Vehicle access to STL Airport is controlled by perimeter fencing, gates, and an automated access control system. All airport, tenant, and contractor vehicles entering the AOA are identified by markings, and/or license plates on the vehicles. Vehicles not authorized to enter the AOA unescorted are required to be escorted by authorized, properly badged, personnel in accordance with current Airport Security Procedures. Regular surveillance of the AOA by Airport Operations, and Airport Police personnel, provide adequate means to ensure compliance with security and safety regulations.

- 5.2 **Non-Movement Area Boundary** - Appropriate demarcation between movement and non-movement areas is provided by the installation of a surface painted Non-Movement Area Boundary Line in accordance with current Advisory Circular guidelines. A vehicle roadway with posted speed limits is provided for ground service vehicles requiring access to the ramp and gate areas.

- 5.3 **Driver Training** - Airport Authority (AA) personnel are provided driver's training, including LVO/SMGCS specific training, by Airport Operation or AA AE Interactive Video Training. The AA sponsored driver's training course is offered to tenants and vendors on a limited basis. Tenants are required to provide driver's training to their company personnel and support services personnel sponsored by their company. Rules and regulations concerning vehicular movement is enforced by AA Police personnel under St. Louis County Ordinance No. 8778, 7-24-78, aka "The Airport Code".

- 5.4 **Access Restrictions** - No vehicles are allowed onto the movement area without being in radio contact with the ATC.

- (a) During low visibility operations, all access to the movement areas will be restricted to:
 - 1) Airport Authority vehicles directly involved in airfield operations and maintenance in support of LVO/SMGCS.
 - 2) STL ARFF vehicles responding to an emergency.

- 3) FAA Technical Operations vehicles in support of LVO/SMGCS or a component required for the National Airspace System, with advance approval by Airport Operations.
- 4) Only snow removal vehicles in a snow emergency or other vehicles in direct support of LVO/SMGCS are allowed in the Movement Area during LVO/SMGCS conditions.
- 5) All other access will be coordinated and approved by the AA Operations on a case by case basis.

6.0 AIR TRAFFIC CONTROL PROCEDURES

- 6.1 ***Background and Operating Concept*** – The LVO/SMGCS Plan provides guidance and control of aircraft between various apron locations and the runways in a safe and efficient manner during low visibility conditions. The coordinated efforts of ATC and Airport Operations are all focused on assuring safe movement and avoiding inadvertent or unauthorized entry onto the movement area during low visibility conditions. When one portion of the Airport is in a low visibility conditions, i.e., visibility less than 1,200 feet RVR, the entire airport is considered to be in low visibility conditions and LVO/SMGCS procedures and restrictions are placed in effect. Runway usage is determined by the RVR value for that specific Runway in accordance with Section 3.1
- 6.2 ***Visibility Reporting*** – ATC will coordinate with Airport Operations when lowering ceiling and visibility conditions indicate that visibility less than 1,200 feet RVR is imminent and LVO/SMGCS procedures are going into effect. Airport Operations will in turn advise all Airport Authority departments, the airlines, service companies, other airport tenants, and air cargo operators via Everbridge and by use of the Airfield Condition Report (ACR). Individual airlines will notify service companies or vendors which are not notified by Airport Operations that the LVO/SMGCS Plan is in effect.

The Airport Operations Department shall make an amendment to the Airfield Condition Report indicating “STL SMGCS Plan / Low Visibility Procedures are in effect.” The ACR is located at www.flystl.com/acr.

These procedures are terminated by ATC when no longer deemed necessary due to prevailing weather conditions. ATC will also advise Airport Operations when the LVO/SMGCS Plan is no longer required, and Airport Operations will advise all Airport Authority departments, the airport tenants and other organizations noted above that the LVO/SMGCS plan is no longer in effect. Airport Operations will amend the ACR indicating that LVO/SMGCS are no longer in effect. The airlines will make appropriate notifications when the LVO/SMGCS Plan has been terminated.

6.3 **Departures** – Each airline or aircraft operator is responsible for positioning aircraft at the Ramp Holding Spot Marking. This may be accomplished with a tug, signalman, follow-me vehicle, or other appropriate means, including unassisted taxi, if visibility on the apron permits. When established at the Ramp Holding Spot Marking, the aircraft will contact ATC ground control for taxi instructions. ATC may provide RVR readings to pilots prior to taxiing in the movement area.

When visibility is less than 1,200 feet RVR, down to and including 500 feet RVR, all taxiway lighting may be illuminated. Taxiways without centerline lighting may be illuminated at various times for snow removal or other operations reasons.

All pilots shall advise Ground Control Meter when ready to push from the gates. Ground Control Meter shall approve the push based on other traffic pushing from other gates. Southwest Airlines pilots will continue to push using Southwest operations/ramp personnel. Pilots shall advise Ground Control Meter when ready to taxi. Meter will assign a spot, and advise the pilot when to contact St. Louis Ground Control. Ground Control will issue a preferred taxi route as indicated on the appropriate taxi chart for the appropriate departure runway (11, 12L, 12R, 29, 30L, or 30R) when able. Ground Control will ensure all conflicts are resolved via pilot position reports or ASDE in the movement area only.

St. Louis Tower will advertise Low Visibility Advisory is in effect on the ATIS.

6.4 **Departure Routings** – Aircraft departure routings will vary depending on the initial location of the aircraft and whether deicing is required prior to departure. Off-gate deicing, when required, will be performed in the non-movement area. An ATC clearance is required prior to joining the movement area. ATC may require periodic position reports along the taxi route to confirm or supplement ASDE information.

(a) **Runway 12L Departures:**

(1) Aircraft departing Runway 12L from the Air Carrier Terminals will exit the non-movement area from the assigned Ground Meter spot, join Taxiway C or Taxiway D, and taxi west to Taxiway R or Taxiway S. Aircraft will hold short of Runway 12R until receiving crossing clearance from ground control. Upon receipt of crossing clearance, aircraft will taxi either via Taxiway S or Taxiway R and join Taxiway S to reach Runway 12L.

(2) Aircraft departing Runway 12L from the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the non-movement area to join Taxiway F. Aircraft proceed west on Taxiway F to Taxiway S to reach Runway 12L.

(3) Aircraft departing Runway 12L from the ATS Ramp may use a follow-me vehicle in accordance with Section 3.9 of this Plan or receive progressive taxi instructions from ATC.

(b) **Runway 30R Departures:**

(1) Aircraft departing Runway 30R from the air carrier terminals will exit the non-movement area from the assigned ground meter spot, join Taxiway C or Taxiway D, and taxi east to Taxiway H, or Taxiway G. Aircraft will hold short of Runway 30L until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft will turn right on Taxiway E to reach Runway 30R.

(2) Aircraft departing Runway 30R from the Signature Ramp, St. Louis Cargo Ramp will exit the non-movement area to join Taxiway F. Aircraft proceed east on Taxiway F to Taxiway H and hold short of Runway 30R until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft will turn left on Taxiway E to reach Runway 30R.

(3) Aircraft departing Runway 30R from the ATS Ramp may use a follow-me vehicle in accordance with Section 3.9 of this Plan or receive progressive taxi instructions from ATC.

(c) **Runway 11 Departures:**

(1) Aircraft departing Runway 11 from the air carrier terminals will exit the non-movement area from the assigned ground meter spot, join Taxiway D and taxi west to Taxiway T, turn left on Taxiway T to Taxiway B, turn right on Taxiway B and taxi to reach Runway 11.

(2) Aircraft departing Runway 11 from the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the non-movement area to join Taxiway F. Aircraft proceed west on Taxiway F to Taxiway P and hold short of Runway 12L until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed south on Taxiway P and hold short of Runway 12R until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft will follow the same routing to reach Runway 11 as described in 6.4.(c)(1) above.

(3) Aircraft departing Runway 11 from the ATS Ramp may use a follow-me vehicle in accordance with Section 3.9 of this Plan or receive progressive taxi instructions from ATC.

(d) **Runway 29 Departures:**

(1) Aircraft departing Runway 29 from the air carrier terminals will exit the non-movement area from the assigned ground meter spot, join Taxiway D and taxi west to Taxiway T, and turn left on Taxiway T to reach Runway 29.

(2) Aircraft departing Runway 29 from the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the non-movement area to join Taxiway F. Aircraft proceed west on Taxiway F to Taxiway P and hold short of Runway 30R until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed south on Taxiway P and hold short of Runway 30L until

receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft will follow the same routing to reach Runway 29 as described in 6.4.(d)(1) above.

(3) Aircraft departing Runway 29 from the ATS Ramp may use a follow-me vehicle in accordance with Section 3.9 of this Plan or receive progressive taxi instructions from ATC.

(e) **Runway 12R Departures:**

(1) Aircraft departing Runway 12R from the air carrier terminals will exit the non-movement area from the assigned ground meter spot; join Taxiway D or Taxiway C and proceed west to reach Runway 12R.

(2) Aircraft departing Runway 12R from the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the non-movement area to join Taxiway F. Aircraft proceed west on Taxiway F and hold short of Runway 6/24 until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed west across Runway 6/24 on Taxiway F to join Taxiway V. Proceed northwest then southwest on Taxiway V to reach Runway 12R.

(3) Aircraft departing Runway 12R from the ATS Ramp exit the non-movement area and turn right on Taxiway V to reach Runway 12R.

(f) **Runway 30L Departures:**

(1) Aircraft departing Runway 30L from the air carrier terminals will exit the non-movement area from the assigned ground meter spot, join Taxiway D or Taxiway C and proceed east to reach Runway 30L.

(2) Aircraft departing Runway 30L from the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the non-movement area to join Taxiway F. Aircraft proceed east on Taxiway F to Taxiway H and hold short of Runway 30R until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft will turn left on Taxiway E then turn right on Taxiway G to reach Runway 30L.

(3) Aircraft departing Runway 30L from the ATS Ramp may use a follow-me vehicle in accordance with Section 3.9 of this Plan or receive progressive taxi instructions from ATC.

6.5 ***Arrivals*** – Landings down to 2,400 feet RVR may be conducted on Runway 30L and down to 1,800 feet RVR on Runway 12R. Landings down to and including 600 feet RVR, may be conducted on Runways 11, 12L, and 30R only.

When visibility is less than 1,200 feet RVR, down to and including 500 feet RVR, all taxiway lighting may be illuminated. Taxiways without centerline lighting may be illuminated at various times for snow removal or other operations reasons. At various times, ATC may ask arriving aircraft to report “clear” of the runway and/or ILS critical area.

6.6 **Arrival Routings** – Aircraft arrival routings will vary depending on the particular runway used for arrival, the airfield operating configuration, and the destination of the aircraft on the airport. The airline or ground services provider shall assume the control of the aircraft once the aircraft has exited the movement area and shall establish operations procedures to provide adequate means to do so.

(a) **Runway 12L Arrivals:**

(1) Aircraft arriving on Runway 12L and taxiing to the air carrier terminals will exit the runway at either Taxiways E1 or H, turn right on Taxiway H and hold short of Runway 12R until receiving crossing clearance from ground control. Upon receipt of crossing clearance, aircraft will turn right on Taxiway D. Aircraft will exit the movement area and taxi to the terminal as directed by ground control.

(2) Aircraft arriving on Runway 12L and taxiing to the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the runway to the North at Taxiway H. Aircraft will taxi west on Taxiway F and exit the movement area as directed by ground control.

(3) Aircraft arriving Runway 12L and taxiing to the ATS Ramp will exit the runway to the North at Taxiway H. Aircraft will taxi west on Taxiway F and hold short of Runway 6/24 until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed west across Runway 6/24 on Taxiway F to join Taxiway V. Aircraft will proceed northwest then southwest on Taxiway V and exit the movement area as directed by ground control.

(b) **Runway 30R Arrivals:**

(1) Aircraft arriving on Runway 30R and taxiing to the air carrier terminals will exit the runway at either Taxiways E2, P or S. If aircraft exits at Taxiway S, turn left on taxiway E and proceed east. Join Taxiway P and hold short of Runway 30L until receiving crossing clearance from ground control. Upon receipt of crossing clearance, aircraft will be instructed to taxi right or left on Taxiway D or Taxiway C. Aircraft will exit the movement area as directed by ground control.

(2) Aircraft arriving on Runway 30R and taxiing to the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the runway to the north at Taxiways L, P or S, proceed east on Taxiway F and exit the movement area as directed by ground control.

(3) Aircraft arriving Runway 30R and taxiing to the ATS Ramp will exit the runway to the north at Taxiways L, P or S, proceed west on Taxiway F to join Taxiway V. Aircraft will proceed northwest then southwest on Taxiway V and exit the movement area as directed by ground control.

(c) **Runway 11 Arrivals:**

(1) Aircraft arriving on Runway 11 and taxiing to the air carrier terminals will exit the runway at Taxiway A3 or Taxiway A2, then taxi east on Taxiway A. Turn left on Taxiway T, then turn right on Taxiway B. Turn left on Taxiway S, then turn right on Taxiway C to exit the movement area.

(2) Aircraft arriving on Runway 11 and taxiing to the Signature Ramp, St. Louis Cargo Ramp, and the Boeing Ramp will exit the runway at Taxiway A3 or Taxiway A2, then taxi east on Taxiway A. Turn left on Taxiway T, then turn right on Taxiway B. Turn left on Taxiway S and hold short of Runway 12R. Upon receipt of crossing clearance, proceed northeast on Taxiway S and hold short of Runway 12L. Upon receipt of crossing clearance, turn right on Taxiway F and exit the movement area as directed by ground control.

(3) Aircraft arriving on Runway 11 and taxiing to the ATS Ramp will exit the runway at Taxiway A3 or Taxiway A2, then taxi east on Taxiway A. Turn left on Taxiway T, then turn right on Taxiway B. Turn left on Taxiway S and hold short of Runway 12R. Upon receipt of crossing clearance, proceed northeast on Taxiway S and hold short of Runway 12L. Upon receipt of crossing clearance, turn left on Taxiway F and hold short of Runway 6/24 until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed west across Runway 6/24 on Taxiway F and join Taxiway V. Aircraft will proceed northwest then southwest on Taxiway V and exit the movement area as directed by ground control.

(d) **Runway 12R Arrivals:**

(1) Aircraft arriving on Runway 12R and taxiing to the air carrier terminals will exit the runway at either Taxiways L or H, turn right or left on Taxiway D or Taxiway C. Aircraft will exit the movement area as directed by ground control.

(2) Aircraft arriving on Runway 12R and taxiing to the Signature Ramp, St. Louis Cargo Ramp, or the Boeing Ramp will exit the runway at Taxiway H proceed northeast on Taxiway H and hold short of Runway 12L. Upon receipt of crossing clearance, turn left on Taxiway F and exit the movement area as directed by ground control.

(3) Aircraft arriving on Runway 12R and taxiing to the ATS Ramp will exit the runway at Taxiway H proceed northeast on Taxiway H and hold short of Runway 12L. Upon receipt of crossing clearance, turn left on Taxiway F, proceed west on Taxiway F and hold short of Runway 6/24 until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed west across Runway 6/24 on Taxiway F and join Taxiway V. Aircraft will proceed northwest then southwest on Taxiway V and exit the movement area as directed by ground control.

(e) **Runway 30L Arrivals:**

(1) Aircraft arriving on Runway 30L and taxiing to the air carrier terminals will exit the runway at either Taxiways R or Q, turn right or left on Taxiway D or Taxiway C. Aircraft will exit the movement area as directed by ground control.

(2) Aircraft arriving on Runway 30L and taxiing to the Signature Ramp, St. Louis Cargo Ramp, or the Boeing Ramp will exit the runway at Taxiway P, Taxiway R, or Taxiway S and hold short of Runway 30R. Upon receipt of crossing clearance, turn right on Taxiway F and exit the movement area as directed by ground control.

(3) Aircraft arriving on Runway 30L and taxiing to the ATS Ramp will exit the runway at Taxiway P, Taxiway R, or Taxiway S and hold short of Runway 30R. Upon receipt of crossing clearance, turn left on Taxiway F and hold short of Runway 6/24 until receiving crossing clearance from Ground Control. Upon receipt of crossing clearance, aircraft proceed west across Runway 6/24 on Taxiway F and join Taxiway V. Aircraft will proceed northwest then southwest on Taxiway V and exit the movement area as directed by ground control.

6.7 ***Mixed Operations (Arrivals and Departures to the same Runway)*** – Effective air traffic management coordination is essential when conducting departures on Runway 11 in mixed operations. ATC should ensure that arrivals and departures are managed to prevent congestion (i.e., “nose to nose situation”) on Taxiways T, C and D. ATC may require taxiing aircraft to hold at various taxiway-to-taxiway intersections.

When mixed operations are being conducted to Runway 11, aircraft arriving or departing will use the routing described in Sections 6.4(c) and 6.6(c).

7.0 **AIR CARRIER PROCEDURES**

7.1 **General** - Pilots conducting low visibility operations at St. Louis Lambert International Airport are required to have a copy of the Low Visibility Taxi Route Chart. Low Visibility Taxi Routes are depicted on the appropriate NOS and Jeppesen charts. Air carrier maintenance and ramp personnel will be advised by company when LVO/SMGCS

procedures are anticipated, when they go into effect, and when they are terminated. Air carriers will control vehicle traffic in accordance with company policy in their respective gate areas to protect aircraft arriving and departing their gates.

- 7.2 ***Departures*** – Each airline or aircraft operator is responsible for positioning aircraft at the ramp holding spot marking by contacting Ground Metering. Departing aircraft will follow company procedures for pushback, engine start and initial taxi to the movement area boundary. This may be accomplished with a tug, signalman, follow-me vehicle, or other appropriate means including unassisted taxi if visibility on the apron permits. When established at the movement area boundary, the aircraft will contact Ground Control for taxi instructions. ATC may provide RVR readings and additional traffic advisories to pilots prior to taxiing in the movement area. The airline will coordinate all aircraft activity in the non-movement area with ATC to facilitate the flow of traffic and maintain a situational awareness of the flow.
- 7.3 ***Arrivals*** – Arriving aircraft will follow company procedures for taxi to the gate or other parking areas on the apron as appropriate. The airline and/or aircraft owner assumes control and is responsible for the safe movement of the aircraft once it enters the non-movement area. This may be accomplished with tug, signalman, follow-me vehicle or other appropriate means, including unassisted taxi if visibility on the apron permits. The airline will coordinate all aircraft activity in the non-movement area with ATC to facilitate the flow of traffic and maintain a situational awareness of the flow.

8.0 **RESPONSIBILITIES**

8.1 ***Airport Operator***

- (a) Serve as the point of contact for the LVO/SMGCS Plan, hold meetings of the LVO/SMGCS Working Group, and maintain documentation of proceedings.
- (b) Coordinate a review of the LVO/SMGCS Plan and airfield activities on at least an annual basis, and amend, publish, and distribute the initial revised LVO/SMGCS Plan.
- (c) Monitor adherence to the Sections of the LVO/SMGCS Plan that are under the Airport's control and take action to correct deficiencies.
- (d) **AIRFIELD INSPECTIONS (LVO/SMGCS "LIGHTING & MARKING" INSPECTIONS)**

For operations below 1,200 ft RVR Airport Operations will conduct an initial inspection of LVR Markings, Runway Hold Position Signs, Runway Guard Lights, Taxiway Centerline Lights, Taxiway Edge Lights, Runway Hold Position Markings and other LVO/SMGCS associated facilities installed on low visibility routes or taxiways that intersect the low visibility runway prior to the

implementation of LVO/SMGCS Procedures. The visual inspection is conducted to ensure that the lighting systems and markings are serviceable as described, and that lighting system status indicated on any associated electronic monitoring systems reflects the actual operating condition of the lights. Inspections shall continue every 2 – 4 hours while in LVO/SMGCS conditions.

Airport Operations will inspect for the following visual aids for deficiencies in conjunction with and above any deficiencies and requirements noted during the daily FAR Part 139 inspection:

- Taxiway Edge Lights, Taxiway Centerline Lights, Lead off lights, along low visibility routes cannot have two adjacent lights or reflectors unserviceable.
- Elevated Runway Guard Lights cannot have more than one light in a fixture unserviceable or two adjacent.

When any of the lighting aids do not meet the objectives above:

- Traffic should be rerouted to areas where the visual aids are operating normally; or
- Alternative procedures should be implemented to accommodate the operations; or
- Low visibility operations should be terminated until the lighting aids are returned to normal service.

Lighting aids along with low visibility routes that are inoperative should be repaired with minimal disruption of service. Procedures already outlined in the STL ACM for timely commencement of repairs and the notification procedures, to include NOTAMs and Airfield Condition Reports, if determined necessary by the Airport Operations Department.

- (e) Coordinate changes to the geometry or LVR with Jeppesen at document.control.denver@jeppesen.com so the Jeppesen Low Visibility Taxi Route chart can be updated.

8.2 *Air Traffic Control Tower*

- (a) Initiate and terminate the LVO/SMGCS procedures specified in Section 6, air traffic control procedures.
- (b) Coordinate with the Airport Operations Department prior to implementing the LVO/SMGCS Plan.
- (c) Provide directional assistance to ARFF units and other emergency equipment responding during an emergency in low visibility conditions.
- (d) Monitor and control aircraft and vehicles in the movement areas.

- (e) Develop and coordinate the Low Visibility Taxi Route(s) Chart(s) with the regional Air Traffic Division and FAA Headquarters, Air Traffic Rules and Procedures Service, Terminal Procedures Branch, ATP-120.

8.3 *Airport Tenants*

- (a) Participate in the LVO/SMGCS Working Group and disseminate low visibility procedures to company employees.
- (b) Train personnel in low visibility procedures.
- (c) Enforce LVO/SMGCS Plan driving procedures and, if authorized, conduct driver training.
- (d) Assure adherence to the Sections of the LVO/SMGCS Plan that are under airport tenant control, and take action to correct deficiencies.

- 8.4 *Military, Tenants, Air Cargo Operators, and General Aviation* – If required, request follow-me service from Airport Operations when the LVO/SMGCS Plan has been implemented.

9.0 **PLANS AND MILESTONES**

9.1 *Near Term*

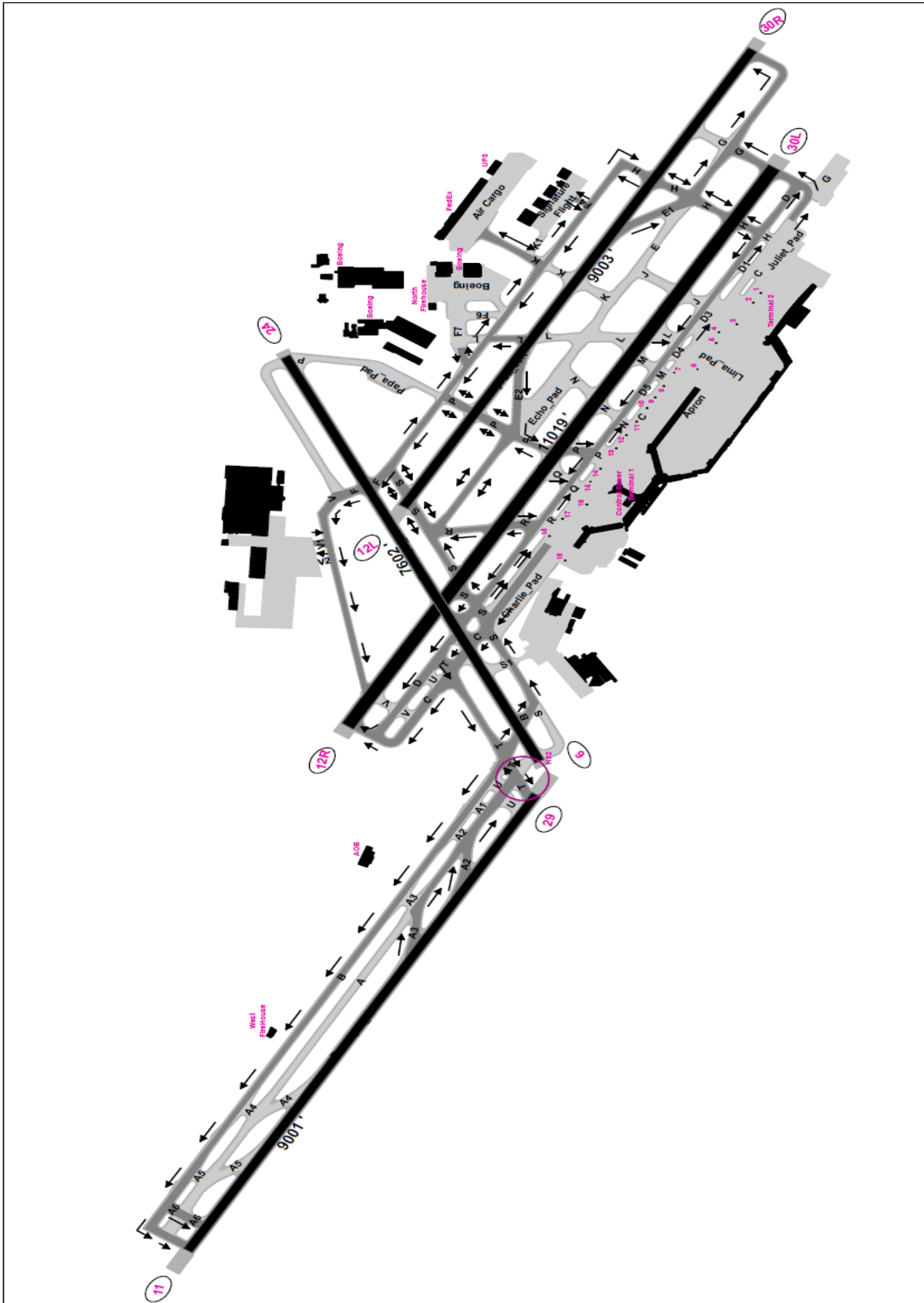
- (a) Perform periodic review of LVO/SMGCS Plan after implementation to ensure operations safely, efficiency and airport capacity are adequate to the needs of the users.
- (b) Install additional LED visual enhancements as necessary to improve low visibility operations when able. Strongly request the use of LED to the maximum extent possible on all FAA funded projects.
- (c) Ensure that distribution of the LVO/SMGCS Plan is made and that proper training of all personnel involved with the Plan is accomplished.
- (d) Coordinate the publication of the Low Visibility Taxi Route Chart.
- (e) Test LED guard lights versus LED signs to determine which system provides greater conspicuity of the runway hold position location.
- (f) Coordinate with FAA, Airlines and Airport Authority to transition to a 500' RVR minimum instead of the current 500' minimum, in compliance with ICAO standards.

9.2 ***Long Term***

- (a) Coordinate with the FAA, in accordance with the Airport Master Plan and Capital Improvements Program, all necessary airfield improvements required to meet FAR Part 139 requirements.
- (b) Place recommended high-costs enhancements to the existing LVO/SMGCS Plan in the Airport Capital Improvements Program.
- (c) As taxiway intersections are rehabilitated, install in pavement runway guard lights.

DISTRIBUTION LIST

<i>Name</i>	<i>Address</i>	<i>Organization</i>	<i>Phone/Fax</i>



November 8, 2018: Revision # 7

<p>STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT</p>	<p>SMGCS</p>	<p>Coordinate System: State Plane Coordinate, Missouri East Zone North American Datum 1983 Survey Feet</p>	<p>Prepared By: _____ Date: November 2018 Revision No: _____ Date: _____</p>	<p>Review and Approval By: _____ Date: _____ Drawing Name: _____ Date: _____</p>
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