AIR TRAFFIC
BULLETIN
PROCEDURES

A communication from the Director of Policy, Mission Support Services
Federal Aviation Administration, U.S. Department of Transportation.

Issue # January 2025-1

***In this Issue**:*
Line Up and Wait (LUAW), Expectation Bias, Mandatory Occurrence Report (MOR)

*T: Line Up and Wait (LUAW)

In Focus: Line Up and Wait

Line up and wait (LUAW) is one of the most important tools used by air traffic control to increase runway capacity and enable more efficient runway utilization. Numerous operational scenarios call for a controller to use LUAW procedures to expedite traffic. More commonly, LUAW procedures allow controllers to position an aircraft on a runway for an imminent departure while ensuring sufficient spacing with a previous departure or awaiting the preceding arriving aircraft to clear the runway. While the use of LUAW is acceptably safe today (as defined in the Safety Management System [SMS] Manual, safety is the state where the risk of harm to persons or property damage is acceptable), situational awareness must remain paramount when conducting LUAW operations. This article will focus on *maintaining situational awareness* when conducting LUAW Operations.

LUAW Background

Many of the procedures in place today for LUAW operations resulted from a safety risk assessment conducted on the following publications from 2006 to 2007:

- FAA Order JO 7110.65, Air Traffic Control, Paragraphs 3–9–4 and 3–10–5
- FAA Order JO 7210.3, Facility Operation and Administration, Paragraph 10–3–8

- LUAW information in the Aeronautical Information Manual (AIM) and Aeronautical Information Publication (AIP)

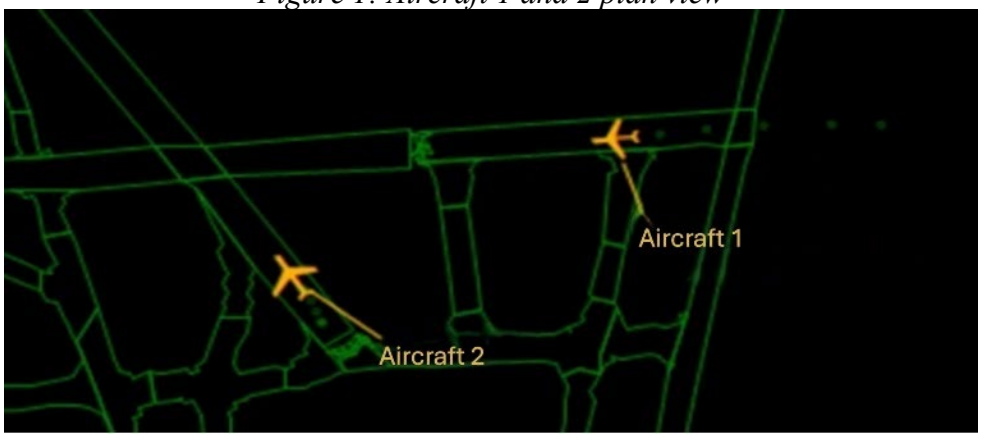
When the safety risk assessment was conducted, numerous runway incursions were associated with taxi into position and hold (TIPH) procedures, the previous nomenclature for LUAW. Incremental procedural changes were considered and/or implemented, including the adoption of the International Civil Aviation Organization (ICAO) nomenclature for phraseology standardization. However, despite those changes, LUAW events continued to occur. A Safety Risk Management Panel (SRMP) convened to fully assess the hazards and risks associated with LUAW and develop mitigations to target identified hazards.

Pilot Failed to Maintain Situational Awareness, Failed to Comply With, or Misinterpreted (LUAW) Instruction/Procedures (Hazard TIPH-2)

There have been several safety events associated with one of the hazards documented in that SRMD: pilot loss of situational awareness. In early 2023, the following event occurred:

> Aircraft 1 was cleared to land on a runway while Aircraft 2 was instructed to LUAW on an intersecting runway and was advised of traffic landing on the intersecting runway. The pilot of Aircraft 2 read back the LUAW instructions, entered the runway, and departed without a clearance. As Aircraft 1 approached the displaced threshold for landing, the controllers quickly responded and sent Aircraft 1 around as Aircraft 2 went through the intersection as indicated in Figure 1. The ASDE-X alerted, and the runway status lights displayed red on the runway where Aircraft 2 began a departure roll. The closest estimated proximity was less than 400 feet laterally.

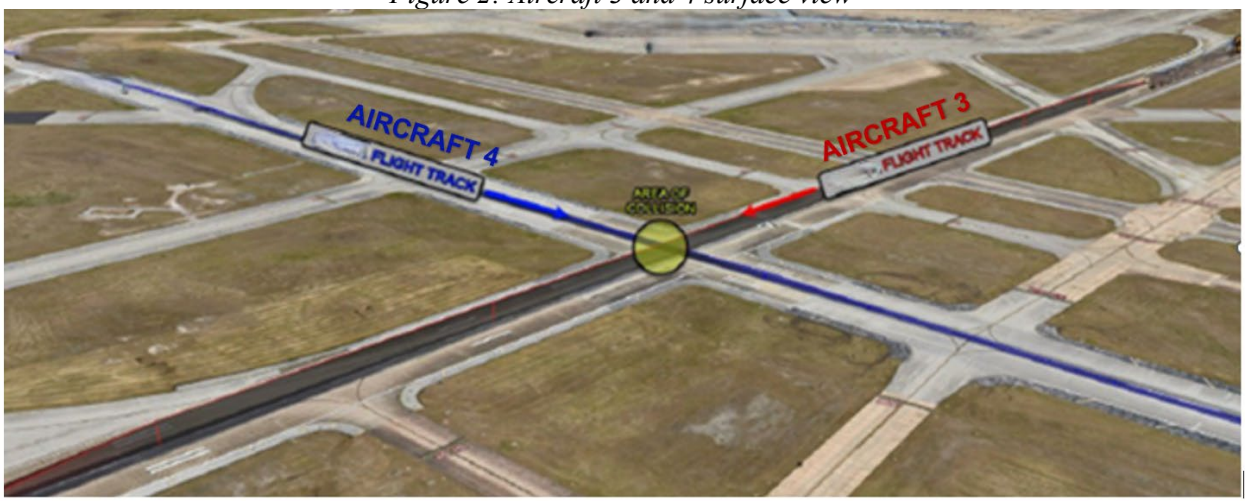
Figure 1: Aircraft 1 and 2 plan view



At a different airport in 2023, a collision occurred when an aircraft was instructed to LUAW but departed without a clearance while another aircraft was cleared to land on an intersecting runway. While attempts were made to stop the LUAW aircraft, Aircraft 3, from taking off, a

collision occurred with the arrival, Aircraft 4, at the runway intersection as indicated in Figure 2. Both aircraft were damaged but, fortunately, there were no fatalities.

Figure 2: Aircraft 3 and 4 surface view



How Prevalent is This Issue?

From 2022 to 2023, a total of 100 events were reported where an aircraft was instructed to LUAW and departed without a clearance (became airborne) or attempted to depart (started takeoff roll) but was stopped by ATC intervention. Using the SMS severity scale, the vast majority of these events were categorized as either Minor or Minimal.

SMS Categories	
SMS Risk Matrix Severity	**Occurrences**
Hazardous	**1**
Major	**1**
Minor	**28**
Minimal	**59**
Unknown	**11**
Grand Total	**100**

In those 100 events, we also noted the following:

- A correct readback was received 77% of the time.
- Traffic was exchanged 61% of the time.
- Air carrier operations were involved 45% of the time.

Although the events referenced in this article were categorized as pilot deviations, they serve as excellent examples of the importance of sharing this information to heighten controller awareness of the frequency of these events. Flight Standards has taken steps to communicate to the pilot community the need to remain vigilant while conducting LUAW operations.

What Matters Now?

On August 15, 2023, a joint memo entitled "Line Up and Wait Review" was disseminated by Air Traffic Services (AJT), ATO Safety and Technical Training (AJI), and the National Air Traffic Controllers Association (NATCA) highlighting the need for facilities to review their LUAW procedures to ensure compliance with existing FAA policy. In alignment with maintaining a positive safety culture, the focus of this article is to highlight the hazards associated with LUAW and to remind operational personnel that adherence to air traffic policies and procedures is paramount to maintaining the safety of our National Airspace System (NAS).

Numerous safeguards are in use (e.g., James Reason's *Defensive in Depth Model: the Swiss Cheese Model*) to help minimize the inevitability of human errors. Air traffic procedures, safety systems such as ASDE-X, Runway Status Lights (RWSL) where available, and air traffic controller intervention are all important parts of that model. Adhere to the restrictions regarding combining positions. Listen to every readback, issue traffic information, use proper phraseology, continuously scan, and *always* remain vigilant.

Submitted by AJV-P

***T, *E, *R, *F: Expectation Bias**

Expectation bias occurs when an individual's expectations or assumptions about a particular outcome influence their perception or behavior, potentially leading to errors and diminished situational awareness. For example, a controller may develop expectation bias based on routine communications and typical traffic patterns, which can lead to critical misinterpretations if the actual situation deviates from the norm. This may include failing to see aircraft or hearback/readback communication issues. Furthermore, expectation bias can cause a controller's incorrect belief or assessment of a situation to persist despite available contradictory evidence, leading to poor decision-making and improper or inadequate subsequent actions. Expectation bias may also be experienced by pilots, during any phase of flight, and vehicle operators on the airport surface.

The FAA Safety Team has analyzed runway incursion data and data from the Air Traffic Safety Action Program (ATSAP) and has determined expectation bias is a major causal factor in pilot deviations. In addition, the tendency for expectation bias is increased during peak traffic situations or when controllers are fatigued or distracted.

Methods to mitigate expectation bias include training that reinforces active questioning of factors in the operational environment, recognizing the presence of conflicting cues, and clear,

unambiguous communication protocols that support building and maintaining accurate and shared situational awareness.

For more information on how biases impact behavior, please contact the ATO Human Performance Team (9-AJI-Human-Performance@faa.gov).

Submitted by AJI-342 ATO Human Performance Team

*T, *E, *R: Mandatory Occurrence Report (MOR) Information Collection

An essential component of the FAA's oversight in maintaining the safety and efficiency of the National Airspace System is the Mandatory Occurrence Report (MOR). This reporting architecture is designed to collect, analyze, and respond to safety-related incidents and other notable occurrences within the NAS. Air traffic controllers play a vital role in this program by providing the critical information associated with an operational event. Recent interaction and feedback from industry highlighted that some MOR event triggers occur during high pilot workload scenarios where the focus of the flight crew is the safety of flight and ATC communication may be limited. This article will provide a background of the MOR process, examine a high pilot workload event, and present considerations on balancing high workload situations and MOR information collection.

MOR Reporting Background

ATO safety occurrence reporting requirements are primarily intended to ensure safety data of benefit to the NAS is collected. When a MOR does not include enough information about circumstances involved in a suspected unsafe occurrence, it is difficult for the ATO and others to effectively analyze pertinent safety risks and implement appropriate mitigations as necessary. To support a just safety culture, ATO safety occurrence reporting and safety assurance processes changed in January 2012 with the implementation of new quality control, quality assurance, and occurrence reporting procedures and the initial use of the Comprehensive Electronic Data Analysis and Reporting (CEDAR) tool. In late 2015, while continuing to mature the ATO safety management system and better support a just safety culture, the ATO revised FAA Order JO 7210.3, paragraph 4-6-5, to clarify that MORs should include sufficient detail to provide an understanding of circumstances that initiated the report.

For all MORs, details of the events leading up to the occurrence, pilot action, controller/facility action or response, and operational impact details are intended to provide those who review the report with adequate information for classification, safety assessment, and upward reporting. Occurrence reporting supports FAA compliance with FAA and International Civil Aviation Organization (ICAO) mandatory and voluntary reporting requirements to help mitigate future and similar accidents and incidents at the national and international levels.

When is a MOR Required?

A MOR is required when there is an event involving air traffic services or technical operations services that are of interest to the FAA's safety assurance program and just safety culture. FAA Order JO 7210.632, Air Traffic Organization Occurrence Reporting, Chapter 2, and Appendix A address these mandatory reporting events and any associated requirements. Suspected loss of separation, aborted takeoff, turbojet go around (within ½ mile of the runway), possible pilot deviation, navigation aid (NAVAID) malfunction, and Traffic Collision and Avoidance System (TCAS) Resolution Advisory (RA) occurrences are among the triggers that require a MOR or Air Traffic Safety Action Program (ATSAP) report be submitted. Per FAA Order JO 7210.3, Facility Operation and Administration, MORs should include enough details to provide an understanding of the events that initiated the reportable occurrence.

High Pilot Workload Events

Reportable occurrences that occur during periods of high pilot workload include go-arounds, wind shear escape maneuvers, TCAS RA responses, and rejected takeoffs. While the need to collect the required MOR data may seem forefront to the controller and operation, to prevent loss-of-control accidents, pilots focus on three cardinal principles: Aviate, Navigate, and Communicate.

Using the go-around as an example, several commercial operators permit any flight deck crewmember to initiate a go-around, at any time, in the interest of safety of flight. The pilot communicating with ATC may not be the pilot operating the aircraft, and at the time of notification, if not obvious or made aware, may not know the reason for the go-around. In keeping with the three principles above, as soon as the decision to go-around is made, the primary focus of the flight crew becomes actions needed to safely fly the aircraft. Flight deck communications may focus on configuring the aircraft from the approach and landing phase to climb out and return for landing or diversion. Input from the aviation industry has indicated communication with ATC may be limited during this event. While ATC may need to provide immediate control instructions to prevent collision with another aircraft or terrain/obstructions, additional ATC transmissions may cause a distraction or simply may not be heard.

Should a pilot encounter wind shear, a NAVAID issue (for example, glideslope and/or localizer loss, GPS anomaly) or observe an unsafe condition on the runway that compromises the ability to make a safe landing, pilots are expected to advise ATC of the condition as soon as practical. Per 14 CFR part 121 and 135 for commercial operators, the pilot in command has a requirement to report any encounter with a meteorological condition or an irregularity of a ground facility/navigation aid, that would be considered essential to the safety of flight. Similar guidance for 14 CFR part 91 operators is located in the AIM for reporting

meteorological and safety of flight-related information. As always, should an emergency situation initiate the go-around, the pilot must keep ATC informed of the emergency.

If the reason for the go-around is not apparent or included with the pilot's notification, unless a safety concern requires immediate additional information or instructions, it may be appropriate for ATC to request the reason after the climb out and/or the high workload environment has subsided. It is important to note that the controller and/or facility working the aircraft at the time of the event is not required to be the collector of MOR information. The Operations Supervisor/Controller-In-Charge (OS/CIC) may coordinate to have a ground, departure, or arrival position collect this information. Similar to pilots/crews, departure and arrival controllers may also encounter high-workload/traffic situations resulting from a go-around, TCAS response, or a windshear escape maneuver. OS/CICs and controllers should be mindful of the traffic situation at the position/sector and the subject aircraft's phase of flight when requesting event triggers or additional details.

For additional information on this topic, the September 2023 Confidential Information Sharing Program (CISP) Safety Awareness for Excellence (SAFE) Discussion Sheet, Task Saturation: Understanding What to Say and When, includes excerpts from pilot reports about the impacts of ATC transmissions toward pilot/crew task saturation and facility discussion items about this issue. The August 2023 CISP SAFE Discussion Sheet, Go-Arounds, is another resource that covers pilot-reported task saturation during go-arounds with facility discussion questions about soliciting the reason for a go-around and the best time to introduce new information to the flight crew during a go-around.

REFERENCES

14 CFR, section 121.321, Reporting potentially hazardous meteorological conditions and irregularities of ground and navigation facilities.
14 CFR, section 135.67, 135.67 Reporting potentially hazardous meteorological conditions and irregularities of ground facilities or navigation aids
AIM, Chapter 7, Safety of Flight
AIM, Para 5-3-3, Additional Reports.

Submitted by AJV-P and AJI-1

The Air Traffic Procedures Bulletin (ATPB) is a means for headquarters to remind field facilities of the proper application of procedures and other instructions. It is published and distributed on an as-needed basis.

Articles must be submitted electronically in Microsoft® Word by the office of primary responsibility with approval at the group level or above. Articles may be submitted throughout the year.

*In this publication, the option(s) for which a briefing is required, is indicated by an asterisk followed by one or more letter designators, i. e., *T-Tower, *E-ARTCC, *R-TRACON, or *F-FSS.*

For additional information concerning the ATPB, reference FAA Order JO 7210.3, Facility Operation and Administration, paragraph 2-2-9.

Archived ATPB issues are available online: https://www.faa.gov/air_traffic/publications/