

Airside Safety Management Best Practices in Relation to Aerodrome Management Oversight, Competence, and Regulatory Obligations

Sofema Aviation Services (SAS) www.sassofia.com considers the key elements related to the management and oversight of Aerodromes following EASA regulations.

Introduction

Effective airside safety management requires adherence to EASA regulatory frameworks, which itself is harmonised with ICAO standards, together with strong oversight and continuous competence development.

Airside safety management is a critical aspect of aerodrome operations, ensuring the safe and efficient conduct of activities on runways, taxiways, aprons, and other aircraft-accessible areas.

The complex nature of airside operations requires rigorous oversight, a high degree of competence, and adherence to both international and regional regulatory frameworks, set by the International Civil Aviation Organization (ICAO) and the European Union Aviation Safety Agency (EASA).

Airside Safety Management in aerodrome operations typically covers the following areas:

- **Runways:**
 - Management of aircraft takeoff and landing operations.
 - Prevention of runway incursions.
 - Maintenance of runway surface conditions (e.g., friction, debris management).
- **Taxiways:**
 - Safe movement of aircraft between runways, aprons, and gates.
 - Control of taxiing operations to avoid collisions.
 - Maintenance of taxiway markings and lighting.
- **Aprons:**
 - Management of aircraft parking, loading, and unloading.
 - Coordination of ground support equipment and vehicles.
 - Ensuring safe movement of personnel and equipment around aircraft.
 - Prevention of Foreign Object Debris (FOD).
- **Aircraft-Accessible Areas:**
 - General airside areas accessible to aircraft, such as stands, maintenance areas, and holding bays.
 - Ensuring proper lighting and signage.
 - Security management to prevent unauthorized access.
- **Ground Handling Operations:**

- Coordination of ground crew activities to avoid accidents.
- Management of refueling, catering, and baggage handling operations.
- **Emergency Response Management:**
 - Preparedness and response planning for incidents on runways, taxiways, aprons, and other airside areas.
 - Coordination with fire and rescue services.
- **Communication and Coordination:**
 - Effective communication between air traffic control, ground handlers, and pilots.
 - Coordination of airside activities to ensure smooth operations.

Regulatory Compliance and Standards

Aerodrome management must ensure full compliance with both international and regional regulations to maintain airside safety. These regulations provide a framework for operational safety and infrastructure management.

- **ICAO and EASA Standards:** Aerodrome management must align airside safety systems with ICAO's Annex 14, which outlines global standards for aerodrome design and operations. Additionally, aerodromes in the European Union are required to comply with EASA Regulation (EU) No 139/2014.
 - This regulation outlines essential certification requirements and safety management obligations, ensuring a consistent level of safety across EU member states.
- **EASA Certification Requirements:** Aerodrome operators must obtain and maintain certification as mandated by EASA, which involves meeting stringent safety and infrastructure standards.
- **Audits and Inspections:** Regular internal and external safety audits are necessary to identify potential gaps in safety compliance. Both ICAO and EASA recommend regular audits, with EASA requiring external inspections to ensure ongoing adherence to its safety requirements.

Competence and Training of Personnel

The competence of personnel involved in airside operations is fundamental to maintaining safety. Both ICAO and EASA emphasize the importance of continuous professional development and training to meet safety standards.

Aerodrome operators need to ensure that their staff not only obtain initial certification but also undergo regular re-certification to stay compliant.

- This requires a system to manage certifications, renewals, and any needed remedial training.
- Training programs must be continuously updated to stay relevant, incorporating new technologies, regulations, and safety risks.

Note - maintaining continuous professional development is challenging, requiring substantial investment in time, money, and resources. Operators must balance these training needs with operational demands, making it difficult to release personnel for extended training without impacting operations.

- **Structured Training Programs:** Aerodrome management should implement comprehensive training programs covering all aspects of airside operations, such as vehicle operation, wildlife hazard management, emergency response, and communication procedures.
 - These programs should meet both ICAO and EASA standards, with specific training requirements outlined by EASA's Acceptable Means of Compliance (AMC) and Guidance Material (GM).
- **Continuous Professional Development:** Ongoing education and revalidation of qualifications are essential to keep personnel updated on the latest safety practices, technological advancements, and regulatory changes. Regular revalidation of personnel competence is required under EASA regulations to ensure the highest safety standards.

Effective Safety Management Systems (SMS)

In line with ICAO Annex 19, the European rules for aerodromes require that aerodrome operators put into place and maintain a management system, which contains a system to manage safety (SMS). This reflects the need to integrate the various sub-systems used for the management of the different activities of an aerodrome organization (e.g. management of aeronautical data and related activities).

The relevant provisions on the management system of aerodrome operators may be found in the management requirements contained in Subpart D of Annex III of Regulation (EU) No 139/ 2014 (Part ADR.OR), as well as in the related acceptable means of compliance and guidance material.

An effective Safety Management System (SMS) is integral to identifying, managing, and mitigating risks in airside operations.

Both ICAO and EASA regulations highlight the necessity of a robust SMS for aerodrome operators.

- **Compliance with EASA SMS Requirements:** EASA mandates that all aerodromes implement an SMS in accordance with Regulation (EU) No 139/2014.
 - The SMS must include risk management processes, safety assurance programs, and safety promotion activities to foster a strong safety culture.
- **Risk Management:** Aerodromes must conduct comprehensive risk assessments to identify hazards and implement mitigation measures.
 - These assessments should be revisited regularly, especially following operational or infrastructural changes, to comply with both ICAO and EASA standards.
- **Safety Assurance:** Monitoring safety performance through data collection, audits, and safety indicators is essential for continuous improvement.
 - EASA mandates regular reporting of safety performance indicators (SPIs) to identify trends and implement corrective measures.

Coordination and Communication

Effective coordination and communication are essential for maintaining airside safety. This includes establishing clear communication protocols and ensuring close collaboration with all relevant stakeholders, including Air Traffic Control (ATC).

- **Clear Communication Protocols:** Both ICAO and EASA stress the importance of establishing and maintaining clear communication channels to manage airside operations safely.
 - Procedures should ensure that all personnel understand their roles and responsibilities, facilitating smooth coordination.
- **Coordination with ATC:** Coordination between aerodrome management and ATC is crucial for ensuring the safe movement of aircraft on the ground.
 - EASA regulations mandate regular coordination meetings and clear procedures to enhance safety.
- **Stakeholder Engagement:** Engaging with all stakeholders, such as airlines, ground handling agencies, and emergency services, ensures that safety objectives are aligned. EASA promotes a collaborative approach to airside safety management, fostering shared responsibility among all parties.

Incident and Emergency Response Management

Emergency response preparedness is a key area of focus under both ICAO and EASA regulations.

Effective incident and emergency response management can significantly mitigate the impact of accidents on the airside.

- **Emergency Response Plans (ERP):** Aerodrome operators must develop comprehensive ERPs, in line with EASA regulations, that detail responses to incidents such as aircraft accidents, fires, or hazardous material spills.
- **Regular Drills and Simulations:** EASA requires regular drills and simulations to ensure that personnel are familiar with ERP procedures. These drills help test the effectiveness of the ERP and identify areas for improvement.
- **Post-Incident Review:** Post-incident analysis is critical for identifying root causes and implementing corrective actions. Both ICAO and EASA emphasize the importance of documenting these reviews and incorporating lessons learned into safety protocols.

Oversight and Continuous Improvement

Continuous improvement of safety practices through strong management oversight is key to maintaining airside safety. EASA's regulatory framework encourages aerodromes to evaluate and enhance their safety practices continuously.

- **Safety Committees:** Establishing safety committees to regularly review performance, address concerns, and recommend improvements is essential for continuous oversight. EASA promotes the involvement of safety committees in safety management processes.
- **Feedback Mechanisms:** Systems should be in place for collecting feedback from personnel and stakeholders to identify potential safety improvements. Both ICAO and EASA recommend using feedback as a driver for continuous improvement.

Conclusion

By implementing best practices in regulatory compliance, personnel training, SMS management, stakeholder coordination, emergency preparedness, technology adoption, and continuous improvement, aerodrome operators can maintain a safe and efficient environment.

Next Steps

Sofema Aviation Services Provides Regulatory Training covering Airside Safety please see the following <https://sassofia.com/course/airside-safety-training-3-days/> for questions and comments please email team@sassofia.com