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AVIATION SERVICES

Assessing & Managing Risks within EASA-Compliant Aerodromes

Sofema Online (SOL) www.sofemaonline.com considers key elements to be found within an Aerodrome Risk Management Process.

Introduction

Assessing and managing risks within the airport environment under the EASA Aerodrome regulations is a complex and ongoing process. The management of competence is crucial, with a focus on continuous training, performance monitoring, and fostering a strong safety culture.

Key issues include:

- Regulatory compliance,
- Operational complexity, and
- The dynamic nature of airport environments.

Best practices involve:

- Implementing a robust Safety Management System,
- Adopting a risk-based approach,
- Proactive hazard identification, and
- Fostering stakeholder collaboration.

Managing risks within the airport environment is critical to ensuring safety, operational efficiency, and compliance with regulations, especially within the framework of the European Union Aviation Safety Agency (EASA) Aerodromes Regulation (Regulation (EU) No 139/2014).

- Regulation 139/2014 sets out the requirements for the certification, operation, and safety management of aerodromes in Europe.
- The assessment and management of risks within this framework involve several key issues and best practices, including the management of competence.

Key Issues in Risk Assessment and Management

Regulatory Compliance:

- EASA mandates strict compliance with safety standards for aerodromes, which means that risk assessment must be thorough and continuously updated to ensure all safety-related hazards are identified and mitigated.

- Aerodromes must implement a Safety Management System (SMS) as per EASA requirements, ensuring risks are systematically identified, assessed, and controlled.

Operational Complexity:

- Airports are complex environments with multiple stakeholders (airlines, ground handlers, air traffic control, maintenance services, etc.). Each of these entities introduces specific risks that need to be managed in an integrated manner.
- Coordinating risk management across different operations (e.g., runway safety, airside operations, and passenger handling) is essential.

Dynamic Environment:

- The airport environment is dynamic, with changing traffic levels, weather conditions, and infrastructure upgrades.
    - Risk assessments need to be adaptive and continuous to address evolving risks.

Human Factors:

- Human Performance & Human Error remains a leading cause of incidents and accidents. Risk assessments must consider human factors, including fatigue, communication breakdowns, and decision-making errors.
- The management of competence, including continuous training and performance monitoring, is critical in mitigating human-related risks.

Security Threats:

- In addition to safety risks, airports face security threats such as terrorism and cyberattacks. Risk assessments must integrate both safety and security considerations.
    - The alignment of security measures with safety management processes is crucial to avoid conflicts and ensure comprehensive risk management.

Best Practices in Risk Management

Implementation of a Robust Safety Management System (SMS):

- EASA requires that aerodromes implement a comprehensive SMS, which should include hazard identification, risk assessment, risk mitigation, and performance monitoring.

- The SMS should be embedded within the airport's overall management system, ensuring that safety considerations are integrated into all aspects of airport operations.

Risk-Based Approach:

- Airports should adopt a risk-based approach to decision-making. This means prioritizing resources and efforts on the most significant risks, rather than applying a one-size-fits-all approach.
- Regular risk assessments, using both qualitative and quantitative methods, should be conducted to identify and prioritize risks.

Proactive Hazard Identification:

- Airports should use proactive methods, such as safety reporting systems and safety audits, to identify potential hazards before they result in incidents.
- Encouraging a culture of safety reporting without fear of reprisal is key to uncovering latent hazards.

Stakeholder Collaboration:

- Effective risk management requires collaboration among all airport stakeholders. Regular safety meetings and communication channels should be established to ensure that all parties are aware of risks and mitigation measures.
- Cross-functional teams involving representatives from different stakeholders can be formed to address specific risk areas.

Emergency Preparedness and Response:

- Aerodromes should have comprehensive emergency response plans in place, regularly tested through drills and exercises.
- Coordination with local emergency services (e.g., fire, police, medical) is essential to ensure a quick and effective response to incidents.

Continuous Improvement:

- Risk management should not be static. Airports should continuously monitor safety performance, review incidents, and update risk assessments.
- Lessons learned from incidents, both within the airport and from industry-wide occurrences, should be incorporated into risk management practices.

Management of Competence - Competence Framework:

- EASA emphasizes the need for aerodromes to manage competence effectively. This involves establishing a clear framework for the qualifications, training, and performance of all personnel involved in safety-critical operations.
- Competence management should include initial training, regular refresher courses, and assessments to ensure that all staff remain capable of performing their duties safely.

Continuous Training and Development:

- Continuous professional development is vital in a dynamic environment like an airport.
- Training programs should be regularly updated to reflect new technologies, procedures, and regulations.

Performance Monitoring:

- Regular performance evaluations and audits should be conducted to ensure that staff maintain the required competence levels.
- Feedback mechanisms should be in place to address any identified deficiencies, with retraining provided where necessary.

Safety Culture:

- Cultivating a strong safety culture is fundamental to managing competence. Staff should be encouraged to take ownership of safety, participate in safety initiatives, and report safety concerns.
- Leadership commitment to safety and competence management sets the tone for the entire organization.

Example Hazards - Here is a simplified list of potential hazards within the aerodrome environment, categorized by area:

Airside Hazards:

- Runway Incursions
- Foreign Object Debris (FOD)
- Aircraft Ground Movement (collision risks)
- Ground Vehicle Operations (vehicle collisions/incursions)
- Wildlife Strikes
- Adverse Weather Conditions (reduced visibility, wind shear, ice)
- Jet Blast/Propeller Wash
- Fuel Spills
- Inadequate Runway Conditions (surface issues, contamination)

- Communication Failures (miscommunication)
- Inadequate Lighting/Markings
- Construction Activities
- Aircraft Refueling Operations (fire, explosion risks)
- Poor Signage/Wayfinding (navigation errors)

Landside Hazards:

- Passenger Congestion
- Slips, Trips, and Falls
- Baggage Handling Operations (injuries)
- Security Breaches
- Electrical Hazards (exposed wiring, faulty equipment)
- Fire Hazards
- Elevator/Escalator Malfunctions
- Inadequate Emergency Exits
- Terrorist Attacks/Acts of Violence
- Public Health Hazards (infectious diseases, unsanitary conditions)

General Hazards:

- Fatigue and Human Error
- Insufficient Training/Competence
- Poor Coordination/Communication
- Environmental Hazards (pollution, noise)
- Power Outages
- Cybersecurity Threats

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