



Chapter 06: Safety and Compliance

14. Runway Incursion Prevention Training

Provide runway incursion prevention training to maintain situational awareness and prevent runway safety incidents.

Roles and Responsibilities

Operations Leader:

- Oversee daily operations and coordinate between departments
- Authorize emergency response procedures and resource allocation
- Monitor safety compliance and operational excellence
- Coordinate scheduling across departments for operational coverage
- Review billing disputes and approve service adjustments
- Ensure regulatory compliance across all operations

Process Steps

Runway Safety Training Development Phase

- **Assess training needs** - Identify runway safety training requirements based on job duties and airport operations
- **Develop training content** - Create training materials covering runway markings, signs, lighting, and safety procedures
- **Design practical exercises** - Develop hands-on training scenarios and situational awareness exercises
- **Create assessment methods** - Establish testing and evaluation procedures to verify training effectiveness
- **Prepare training materials** - Produce training presentations, handouts, and reference materials
- **Qualify instructors** - Ensure training instructors have appropriate knowledge and teaching skills

Initial Training Phase

- **Provide orientation training** - Introduce all personnel to basic runway safety concepts and terminology
- **Teach runway markings** - Train personnel to recognize and understand runway markings, signs, and lighting systems

- **Cover communication procedures** - Provide training on radio communication requirements and phraseology
- **Practice situational awareness** - Conduct exercises to develop and maintain situational awareness skills
- **Review safety procedures** - Cover specific procedures for runway access, vehicle operations, and emergency situations
- **Test knowledge and skills** - Assess personnel understanding through written tests and practical evaluations

Communication Training Phase

- **Teach radio procedures** - Train personnel on proper radio communication techniques and phraseology
- **Practice standard phraseology** - Ensure consistent use of standard aviation communication terminology
- **Cover emergency communications** - Provide training on emergency communication procedures and protocols
- **Test communication skills** - Evaluate personnel ability to communicate clearly and effectively with air traffic control
- **Provide feedback** - Give constructive feedback to improve communication skills and confidence
- **Document competency** - Record successful completion of communication training and assessment

Situational Awareness Training Phase

- **Develop awareness skills** - Train personnel to maintain awareness of aircraft movements and ground operations
- **Practice hazard recognition** - Conduct exercises to identify potential runway incursion situations
- **Use scenario-based training** - Present realistic scenarios to test decision-making and response skills
- **Emphasize threat assessment** - Train personnel to assess and respond to potential safety threats
- **Encourage proactive reporting** - Foster culture of reporting safety concerns and near-miss incidents
- **Reinforce safety mindset** - Emphasize personal responsibility for runway safety and accident prevention

Recurrent Training Phase

- **Schedule refresher training** - Provide periodic refresher training to maintain knowledge and skills
- **Update training content** - Revise training materials based on regulatory changes and incident lessons learned
- **Address performance issues** - Provide additional training for personnel with runway safety performance deficiencies

- **Incorporate new procedures** - Train personnel on new runway safety procedures and equipment
- **Review incident trends** - Discuss recent runway incursion incidents and prevention strategies
- **Renew certifications** - Update training certifications based on recurrent training completion

Performance Monitoring Phase

- **Monitor safety performance** - Track runway safety incidents, near-misses, and performance indicators
- **Conduct safety observations** - Observe ground operations to identify training needs and performance issues
- **Analyze incident data** - Review runway incursion incidents to identify training gaps and improvement opportunities
- **Gather feedback** - Collect feedback from personnel on training effectiveness and additional needs
- **Update training programs** - Modify training based on performance data and feedback
- **Report safety metrics** - Provide regular reports on runway safety performance and training effectiveness

Tools and Resources

Training Materials:

- Runway safety training presentations and videos
- Airport diagram and runway marking reference guides
- Radio communication training aids and simulators
- Situational awareness exercises and scenario materials

Communication Equipment:

- Two-way radios and communication training systems
- Airport ground communication frequencies and procedures
- Emergency communication protocols and contact information
- Standard phraseology reference cards and guides

Assessment Tools:

- Written examinations and competency tests
- Practical evaluation checklists and scenarios
- Training effectiveness surveys and feedback forms
- Performance monitoring and tracking systems

Common Issues and Solutions

- **Issue:** Personnel difficulty understanding complex runway layouts and markings
- **Solution:** Use visual aids and hands-on training at actual runway locations; provide simplified reference materials

Issue: Communication problems due to language barriers or inexperience

Solution: Provide additional communication training; use experienced personnel as mentors; practice standard phraseology

Issue: Complacency and reduced situational awareness over time

Solution: Conduct regular refresher training; use real incident examples; encourage safety reporting and discussion

Regulatory References

- **14 CFR Part 139.329** - Pedestrians and Ground Vehicles
- **FAA Advisory Circular AC 150/5210-5** - Painting, Marking, and Lighting of Vehicles Used on an Airport
- **FAA Advisory Circular AC 150/5210-20** - Ground Vehicle Operations to include Taxiway and Runway Signage
- **Aeronautical Information Manual (AIM)** - Ground vehicle operation procedures
- **Airport Ground Vehicle Operations Manual** - Local airport-specific procedures
- **FAA Runway Safety Office** - Runway incursion prevention resources and guidance