

CHANGE**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION****ORDER 7050.1B
CHG 2**Effective Date:
10/20/2021

National Policy

SUBJ: Runway Safety – Implementation of Aviation Risk Identification and Assessment (ARIA) for Surface Operations

1. Purpose. This change revises information in Federal Aviation Administration (FAA) Order 7050.1B, *Runway Safety Program*, paragraph 1-7, Definitions, providing definitions for Aviation Risk Identification and Assessment (ARIA), Barrier Analysis Review (BAR), Corrective Action Plan (CAP), Mandatory Occurrence Report (MOR), Occurrence, Quality Assurance Group (QAG), Quality Control Group (QCG), Preliminary ARIA Report (PAR), and Surface Referred ARIA Report. It corrects the use of legacy organizational name change from ATO Terminal Services to ATO Air Traffic Services. The change removes all mention of the Runway Safety Maturity Model. The change also removes references to the Surface Risk Assessment Process from Appendix B; deletes Appendix C, paragraph C-3.d.(3); and adds Appendix C, paragraph C-5, Aviation Risk Identification and Assessment (ARIA) Pertaining to the Surface Environment.

PAGE CHANGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
i through ii	11/07/13	i through iii	10/20/21
1 through 18	11/07/13	1 through 20	10/20/21
A-1	02/08/21	A-1 and A-2	10/20/21
B-1 through B-5	11/07/13	B-1 through B-5	10/20/21
C-1 and C-2	11/07/13	C-1 and C-2	10/20/21
D-1 and D-2	11/07/13	D-1 and D-2	10/20/21
E-1 and E-2	11/07/13	E-1 and E-2	10/20/21

2. Administrative Information. Due to other minor editorial changes affecting pagination, all pages of the order should be replaced, including the Table of Contents.


Steve Dickson
Administrator

CHANGE

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

**ORDER 7050.1B
CHG 1**

National Policy

Effective Date:
02/08/2021

SUBJ: Runway Safety–Revised Pilot Deviation and Vehicle or Pedestrian Deviation Information

- 1. Purpose.** This change revises information in Federal Aviation Administration (FAA) Order 7050.1B, *Runway Safety Program*, Appendix A, section A-3, Types of Surface Events, about a pilot deviation (PD) and vehicle or pedestrian deviation (V/PD), and removes reference to FAA Order 8020.11, *Aircraft Accident and Incident Notification, Investigation, and Reporting*, cited in section A-3.
- 2. Who This Change Affects.** Anyone who uses FAA Order 7050.1B or is involved in recording and classifying runway safety surface events.
- 3. Disposition of Transmittal Paragraph.**

PAGE CHANGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
A-1	11/07/13	A-1	02/08/21

- 4. Administrative Information.** Please replace the existing Appendix A with the attached new Appendix A.



Steve Dickson
Administrator



**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

**ORDER
7050.1B**

Effective date:
11/07/2013

SUBJ: Runway Safety Program

1. This order prescribes the FAA Runway Safety Program. This directive establishes policy, assigns responsibility, and delegates authority for ensuring compliance with this order within each organization.
2. The Air Traffic Organization (ATO) expanded the scope of the Runway Safety Program to include the prevention of runway excursions.
3. The ATO Vice President for Safety and Technical Training may periodically evaluate national and regional runway safety programs. Evaluations will focus on compliance with this order and the effectiveness of the programs in meeting objectives, strategies, and initiatives outlined in the FAA's Strategic Plan and the National Runway Safety Plan.
4. Our long-term goal is to improve runway safety by decreasing the number and severity of runway incursions, excursions, and other surface incidents.


Michael P. Huerta
Administrator

Table of Contents

<i>Paragraph</i>	<i>Page</i>
Chapter 1. General Information.....	1
1-1. Purpose of This Order.....	1
1-2. Audience.	1
1-3. Where Can I Find This Order?.....	1
1-4. Cancellation of the Previous Order.....	1
1-5. Distribution.	1
1-6. Explanation of Policy Changes.....	1
1-7. Definitions.....	1
Chapter 2. Roles and Responsibilities	5
2-1. ATO Safety and Technical Training.....	5
2-2. Runway Safety Group (Runway Safety).....	5
2-3. Service Area Runway Safety Team Managers.	6
2-4. Regional Runway Safety Program Managers (RRSPMs).	7
2-5. ATO Safety and Technical Training Quality Assurance Group (QAG).....	8
2-6. ATO Air Traffic Services.	8
2-7. ATO Technical Operations Services.	10
2-8. Office of Airports.....	11
2-9. Flight Standards Service.	12
2-10. Regions and Center Operations.	13
Chapter 3. National and Regional Runway Safety Plans	15
3-1. National Runway Safety Plan.	15
3-2. Regional Runway Safety Plans.....	15
Chapter 4. Runway Safety Action Plans and Runway Safety Action Teams	17
4-1. Overview.....	17
4-2. RSAT Meetings.	17
4-3. Runway Safety Action Plans.	18
Appendix A. Runway Incursion and Surface Incident Determinations	A-1
A-1. Purpose.....	A-1
A-2. Guidelines for the Determination of Runway Incursions and Surface Incidents..	A-1

- A-3. Types of Surface Events. A-1
- A-4. Determination Process. A-1
- Appendix B. Runway Incursion Severity Classification..... B-1**
 - B-1. Purpose..... B-1
 - B-2. Severity Classifications..... B-1
 - B-3. Severity Examples. B-1
 - B-4. Factors Affecting Severity Classification. B-2
 - B-5. Data Collection for Severity Classification. B-3
 - B-6. Data Required for Severity Classifications..... B-3
 - B-7. Runway Incursion Assessment Team. B-4
 - B-8. Surface Event Classification. B-4
 - B-9. Recording Final Assessment Ratings..... B-5
 - B-10. Distribution of Severity Classification Results..... B-5
- Appendix C. Surface Event Hazard Identification and Risk Analysis..... C-1**
 - C-1. Purpose..... C-1
 - C-2. Background..... C-1
 - C-3. Individual Surface Event Investigation and Analysis..... C-1
 - C-4. Surface Event Trend Analysis and Mitigation..... C-2
 - C-5. ARIA for Surface Events (a.k.a. Surface ARIA)..... C-2
- Appendix D. Incorporation of Runway Excursions into the Runway Safety Program..... D-1**
 - D-1. Purpose..... D-1
 - D-2. Background..... D-1
 - D-3. Approach..... D-1
 - D-4. Individual Event Data Collection..... D-1
 - D-5. Classification of Runway Excursions. D-1
 - D-6. Periodic Data Review. D-1
 - D-7. Best Practices..... D-1
 - D-8. Runway Excursions and RSATs..... D-1
- Appendix E. Airport Construction Advisory Council..... E-1**
 - E-1. Purpose.....E-1

E-2. BackgroundE-1
E-3. Objectives and Scope.....E-1
E-4. Council Structure.E-1
E-5. Resources and Support.....E-2

Chapter 1. General Information

1-1. Purpose of This Order. This order establishes policy, assigns responsibility, and delegates authority for the Federal Aviation Administration's (FAA's) Runway Safety Program. The Runway Safety Program is intended to improve runway safety by decreasing the number and severity of runway incursions, runway excursions, and other surface incidents.

1-2. Audience. This order applies to the Air Traffic Organization (ATO), the Office of Airports, Aviation Safety, and Regions and Center Operations.

1-3. Where Can I Find This Order? The order is available on the MyFAA employee website at https://employees.faa.gov/tools_resources/orders_notices/.

1-4. Cancellation of the Previous Order. This order cancels FAA Order 7050.1A, *Runway Safety Program*, dated September 16, 2010.

1-5. Distribution. This order will be distributed to selected headquarters offices and to all headquarters, regions and/or service area offices in Regions and Center Operations, Flight Standards, Air Traffic Safety Oversight, the Office of Airports, the ATO, and to all airport traffic control towers (ATCTs) and flight standards district offices.

1-6. Explanation of Policy Changes. The purpose of the change is to incorporate the implementation of Aviation Risk Identification and Assessment (ARIA) for facilities that have a ground surveillance system. ARIA is an automated system that will help facilitate the ATO's transition to Risk-Based Safety Management (RBSM). RBSM is the next step in the evolution of the ATO's safety culture by transitioning to risk-based, data-driven decisions. RBSM expands beyond compliance to include a universal view of all components that may contribute to or mitigate potential risk. ARIA facilitates this transition by allowing better insight into the potential risk in the National Airspace System (NAS). Surface ARIA allows a broader view by looking at surface operations, regardless of compliance. ARIA identifies and measures potential risk between aircraft and/or vehicle encounters, which allows safety experts to prioritize validated risk, and focus resources on mitigation.

1-7. Definitions. These definitions are applicable to this order only:

a. Aircraft. A device that is used or intended to be used for flight in the air.

b. Airport. An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any; also known as an aerodrome (international term).

c. Airport Construction Advisory Council. A group composed of terminal field facility managers and representatives from Runway Safety, Airports, and Flight Standards who are available to help other ATCT managers and support specialists mitigate safety risks related to airport construction.

d. Airport Traffic Control Tower (ATCT). ATCT refers only to FAA-operated control towers, including those operated under contract through the FAA Contract Tower (FCT)

program. Control towers operated by other organizations are not covered by this order.

e. Aviation Risk Identification and Assessment (ARIA). An automated system that helps employ risk-based, data-driven decision-making, facilitating better insight into potential risk in the NAS.

f. Barrier Analysis Review (BAR). The process used to assess severity, likelihood, and barrier effectiveness in Referred ARIA Reports. Barrier analysis is also used to identify and assess factors (mitigating, aggravating, or observed) for air traffic operations where at least one aircraft is receiving Air Traffic Control services. (See FAA Order JO 7210.633, *Air Traffic Organization (ATO) Quality Assurance (QA)*, for more information.)

g. Closest Proximity. The closest unintended distance between two aircraft or an aircraft, vehicle, and/or pedestrian involved in a runway incursion. Use the horizontal distance if all parties are on the ground. Use the vertical distance only in the case of a direct overflight.

h. Comprehensive Electronic Data Analysis and Reporting Tool (CEDAR). CEDAR is the tool the ATO uses to report occurrences in the NAS.

i. Corrective Action Plan (CAP). CAPs are collaborative activities enacted to correct non-compliance and areas of risk that have been properly identified, validated, and understood through data collection and analysis. A CAP contains a description of the mitigation actions, the scope of the CAP, a timeframe for completion, a defined monitoring plan, and a defined effectiveness target. (See FAA Order JO 7210.634, *Air Traffic Organization (ATO) Quality Control*, for more information.)

j. Days. Time periods specified in days in this order refer to calendar days.

k. Hot Spot. An airport surface hotspot is a location on an airport movement area with a history of potential risk of collision or runway incursion, and where heightened attention by pilots/drivers/controllers is necessary.

l. Incorrect Presence. Presence inside the movement or protected area caused by non-compliance with a requirement or instruction.

m. Mandatory Occurrence Report (MOR). An occurrence involving ATO services for which the collection of associated safety-related data and conditions is mandatory. See FAA Order JO 7210.632, *Air Traffic Organization Occurrence Reporting*, Appendix A, for a full listing of MORs. (See FAA Order JO 7210.633 for more information.)

n. Movement Area. The runways, taxiways, and other areas of an airport/heliport which utilized for taxiing/hover taxiing, air taxiing, and/or takeoff and landing of aircraft, exclusive of lading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC. The movement area is typically defined in a local letter of agreement between the ATCT and the airport operator.

o. Occurrence. Any observed or suspected event that meets the definition of an MOR. (See FAA Order JO 7210.633 for more information.)

p. Occurrence Report. Refers to mandatory or electronic occurrence reports, as defined and required by FAA JO Order 7210.632. Occurrence reports are filed in CEDAR and are the vehicle by which Runway Safety receives reports of surface events.

q. Overrun. A runway excursion in which the aircraft departs the end of a runway.

r. Preliminary ARIA Report (PAR). An initial report of an air traffic operation identified by ARIA for further review by QA personnel. (See FAA Order JO 7210.633 for more information.)

s. Probable ARIA Risk Event (PARE). A surface event identified by ARIA for further review by Runway Safety personnel.

t. Protected Area. The protected area of a surface intended for landing or takeoff includes the area inside the runway hold position markings (e.g., hold line) on paved taxiways or ramps and the designated runway safety area.

u. Quality Assurance Group (QAG). The office in each service area responsible for conducting occurrence classification, identifying and categorizing air traffic incidents, identifying reports for barrier analysis, and conducting barrier analysis reviews in support of the ATO Top 5 and other safety processes. The mission of the QAGs may encompass other duties, including but not limited to, identifying significant safety risk trends, and identifying potential significant events. (See FAA Order JO 7210.634 for more information.)

v. Quality Control Group (QCG). The office in each service center responsible for conducting data-driven external compliance verifications, identifying and delivering service delivery point (SDP) non-compliance/risk data to the Directors of Operation and SDPs, assessing the effectiveness of SDP corrective action, facilitating the significant event process, and monitoring and ensuring SDP Quality Control programs are in compliance and completed in accordance with directives. (See FAA Order JO 7210.634 for more information.)

w. Regional Runway Safety Governance Council. Chaired by the Regional Administrator or designee, and composed of the RRSPM and executives or designees from Airports, Flight Standards, and ATO Air Traffic Services. Each region may choose whether to establish such a council, based on the needs of the region and the judgment of the Regional Administrator. If established, the council is responsible for ensuring that regional initiatives and actions are accomplished in the appropriate manner and timeframe.

x. Regional Runway Safety Team (RRST). The RRST is a team composed of Runway Safety staff and at least one designated representative of Service Area Air Traffic Services, Service Area Technical Operations, and the Flight Standards, and Airports regional divisions. Designated representatives must assist the Regional Runway Safety Program Manager (RRSPM) in executing the Runway Safety Program.

y. Runway Confusion. Landing, departing or attempting to land or depart from the wrong runway or taxiway. This represents a subcategory of either a runway incursion or surface incident.

z. Runway Edge. The area inside and including the painted runway side stripes, or to the

edge of the useable runway pavement if no side stripes are used. See FAA Advisory Circular 150/5340-1, Standards for Airport Markings, for more information on runway markings.

aa. Runway Excursion. A veer-off or overrun off the runway surface.

bb. Runway Incursion. Any occurrence at an airport involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.

cc. Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. The dimensions of the runway safety area are determined by guidance found in FAA Advisory Circular 150/5300-13A, Airport Design.

dd. Runway Safety Action Team (RSAT). An RSAT convenes to discuss surface movement issues and concerns at a particular airport and formulate a Runway Safety Action Plan (RSAP) to address those concerns. Regional and local RSATs must include personnel from the ATCT and airport operator and may include personnel from various FAA Lines of Business (LOBs) (including Runway Safety) and interested users of the airport. The composition of special focus teams may vary. All attendees at the RSAT meeting are considered to be part of the RSAT. A Regional RSAT is led by Runway Safety, and a local RSAT is led by the ATCT manager.

ee. Surface Event. An occurrence at an airport involving a pedestrian, vehicle, or aircraft on the defined airport movement area that involves either a runway excursion or an incorrect presence, unauthorized movement, or occurrence that affects or could affect the safety of flight of an aircraft.

ff. Surface Incident. Unauthorized or unapproved movement within the designated movement area (excluding runway incursions) or an occurrence in that same area associated with the operation of an aircraft that affects or could affect the safety of flight.

gg. Surface Referred ARIA Report. A PAR referred for further review to the Runway Safety Group.

hh. Undershoot. An event in which an aircraft touches down prior to the designated landing threshold.

ii. Veer-Off. A runway excursion in which an aircraft departs the side of a runway.

jj. Vehicle. Any motorized or powered device designed to move on the surface of the ground, including but not limited to cars, trucks, and tugs towing aircraft.

Chapter 2. Roles and Responsibilities

2-1. ATO Safety and Technical Training.

- a.** Serves as the focal point for all FAA runway safety efforts and as the agency's primary representative to industry, national, and international aviation bodies on runway safety.
- b.** Develops, coordinates, maintains, and executes a National Runway Safety Plan (NRSP), which describes a comprehensive and cohesive runway safety strategy.
- c.** Allocates and manages resources as necessary to achieve program objectives.
- d.** Provides executive level oversight and direction for the Runway Safety Program.
- e.** Provides for the integration of surface events into the ATO Quality Assurance Program.
- f.** Sponsors the Airport Construction Advisory Council and provides contract and travel funding support as defined in Appendix 4 of this order.

2-2. Runway Safety Group (Runway Safety).

- a.** Works with other FAA organizations and the aviation community to improve runway safety.
- b.** Develops policy on the proper classification and risk assessment of surface events, maintains appropriate metrics, and collects and classifies official data on surface events for the FAA.
- c.** Determines whether surface events are runway incursions, runway excursions, or surface incidents, and classifies the severity of runway incursions.
- d.** Conducts periodic reviews of the Runway Incursion Assessment Team results.
- e.** Conducts analysis of individual surface events and overall runway incursion and excursion statistics and documents and publishes information on trends, risk factors, and lessons learned.
- f.** Identifies runway incursion and excursion risks and influences their reduction.
- g.** Researches, develops, and distributes products associated with safe surface operations on runways and taxiways.
- h.** Collects and publishes information on runway safety best practices for airport operators, pilots, and air traffic controllers.
- i.** Periodically reviews the effectiveness and impact of procedures, policies, and practices on surface safety.
- j.** Determines locations for regional and special focus RSAT meetings in cooperation with

the Service Area Runway Safety Team Manager, the RRSPM, and the RRST(s).

- k. Establishes and maintains standard procedures for regional and special focus RSATs.
- l. Provides recommended standards and practices for the conduct of local RSATs.
- m. Provides at least one member of the Airport Construction Advisory Council.
- n. Participates in the Regional Runway Safety Governance Council.
- o. Ensures that Service Area Runway Safety Teams are executing national priorities and initiatives, and that a level of standardization across service areas and regions is maintained.
- p. Ensures that the Runway Safety Web page is updated with current information and that any links are valid.
- q. Coordinates requests for data on surface events from person(s), operator(s), certificate holder(s), or any related organization(s) which may be the subject of an investigation surrounding the surface event with the organization that has investigative authority for the subject event. Refrains from contacting such personnel directly unless the investigative authority grants permission for direct contact.

2-3. Service Area Runway Safety Team Managers. The Runway Safety Team Manager in each service area:

- a. Manages and allocates all ATO resources as required to execute the Runway Safety Program in the service area.
- b. Provides a single point of contact for the Runway Safety Program for ATO organizations within the service area.
- c. Ensures that Runway Safety initiatives involving ATO organizations are common throughout the regions comprising the service area.
- d. Identifies key initiatives included in the NRSP for possible inclusion into the Regional Runway Safety Plans within the service area.
- e. Reviews and approves Regional Runway Safety Plans and submits them to the Runway Safety Group Manager for final approval.
- f. Manages the process of determining whether events reported as MORs are determined to be runway incursions, runway excursions, or surface incidents, and supports entry of the incursion data into the national database.
- g. Represents the Runway Safety Group in all matters involving surface safety at the service area level.
- h. Monitors and participates in the National and Regional Runway Safety Governance Councils.
- i. Analyzes individual surface events and identifies and forwards appropriate follow-up

actions to the appropriate FAA LOB.

j. Analyzes data on surface events to identify service area and regional runway safety trends and issues, best practices, and lessons learned.

k. Works with RRSPMs within the service area to determine appropriate locations for regional and special-focus RSATs.

l. Provides support for local RSATs whenever possible.

m. Identifies, coordinates, and initiates activities to improve runway safety that involve ATO organizations.

n. Tracks the status of action items assigned in RSAP for all airports within the Service Area.

o. Supports the execution of the Surface Risk Assessment Program and the Air Traffic Safety Action Program in the ATO Safety and Technical Training Service Area Office.

p. Informs the Runway Safety Group Manager of all matters involving systemic surface safety issues occurring within the service area.

2-4. Regional Runway Safety Program Managers (RRSPM). The RRSPM in each region:

a. Represents the Runway Safety Group in activities within the region.

b. Coordinates all runway safety activities, issues, and objectives with the Regional Administrator and regional LOB team members.

c. Leads the RRST. (Note: The RRSPM leads those key members assigned to the team on a collateral basis only when they are performing runway safety duties.)

d. Develops and implements the Regional Runway Safety Plan to support the surface event reduction initiatives and strategies in the NRSP.

e. Initiates and implements runway safety outreach programs and activities, and conducts and participates in activities such as:

(1) Pilot seminars, flight instructor refresher clinics, flight schools, and Aviation College programs.

(2) Air shows and fly-ins.

(3) Meetings with the aviation community.

(4) RSAT meetings.

(5) Aviation Maintenance Technician Workshops and Certified Flight Instructor/Designated Pilot Examiners Workshops/Conferences.

(6) State aviation conferences.

(7) Regional airport conferences and safety expos.

(8) Outreach visits to airports, ATCTs, and other locations.

f. Works with the RRST to submit proposed regional RSAT locations to the Runway Safety Service Area Team Manager.

g. Schedules and accomplishes regional RSATs at airports within and occasionally outside the region.

h. Participates in and/or supports local RSAT meetings.

i. Determines whether RSAPs meet the requirements of this order, provides feedback to RSAT chairpersons on compliance, and accepts all RSAPs within their region.

j. Approves RSAPs for regional RSATs.

k. Identifies, coordinates, and initiates activities to improve runway safety, including those that cross the responsibilities of two or more FAA organizations within the region.

l. Measures the effectiveness of implemented recommendations (primarily resulting from RSAP) intended to reduce surface events.

m. Participates in Safety Risk Management (SRM) panels when possible and reviews SRM documents for surface movement risks. Support requests from SRM panels for data or input when participation is not possible.

n. Collects data on surface events when necessary to support severity classification and/or analysis of individual events or trends.

o. Participates in the Regional Runway Safety Governance Council (if applicable).

2-5. ATO Safety and Technical Training Quality Assurance Group (QAG).

a. Shares data and trend information collected in the review of reported surface events with the Runway Safety Group.

b. Supports the execution of the Runway Safety Program in the service area by providing high-level liaison with senior service area management.

2-6. ATO Air Traffic Services.

a. Ensures that every airport with an operational FAA ATCT or FCT has an RSAT meeting at least once per fiscal year.

b. Communicates annually the status of all RSAPs during Regional and National Runway Safety Governance Council meetings.

c. Conducts local RSAT meetings, coordinates local RSAT schedules with the appropriate RRSPM, and develops/updates RSAPs. Coordinates actions assigned in local RSAPs with the organizations assigned those actions.

- d.** Approves RSAPs resulting from local RSATs and provides approved copy to RRSPM within 45 days of the RSAT meeting.
- e.** Accepts and accomplishes action items assigned in RSAPs, as appropriate.
- f.** Details staff to work on a full-time basis in Runway Safety whenever possible.
- g.** Designates service area staff to work with each RRSPM on a collateral basis or, in some cases, on a full-time detail. Those designated individuals will be part of the RRST and should participate in all regional and special focus RSAT meetings.
- h.** Reports and investigates surface events in accordance with agency directives, makes recommendations toward prevention of such incidents, and communicates lessons learned from investigations to runway safety.
- i.** Designates a management official to assist each Runway Safety Service Area Team Manager in resolving runway safety issues.
- j.** Provides for the participation of Runway Safety personnel in onsite surface event investigations when requested.
- k.** As appropriate and in accordance with agency policy, provides Runway Safety personnel full and unrestricted access to information collected during investigations of surface events, and communicates lessons learned from investigations to Runway Safety.
- l.** Provides data such as voice recordings, ground surveillance system playback, and other data to Runway Safety upon request.
- m.** Supports Runway Safety in identifying and reducing surface event risks and developing runway safety strategies and initiatives to be included in the FAA Strategic Plan and/or NRSP. Identifies and executes action items in support of these plans.
- n.** Provides timely response (normally within 30 days) and gives due consideration to recommendations from Runway Safety for changes to agency standards that could help to reduce runway incursion risks.
- o.** Forwards system-wide concerns or hazards identified during the investigation and analysis of individual surface events to Runway Safety.
- p.** Makes recommendations to reduce the number and severity of runway incursions and other surface incidents.
- q.** Publishes an analysis of trends for Surface Events and an action plan to address common hazards at least annually.
- r.** Provides for ATCT staff participation in every RSAT meeting.
- s.** Whenever possible, provides a team member for regional RSATs who comes from the service area level or from another air traffic district.
- t.** Provides primary and alternate members of the runway incursion assessment team.

u. Ensures that management and the field workforce are briefed periodically on runway safety best practices and requirements. The use of RRST members to conduct such briefings is encouraged.

v. Supports the RRSPM in the development and accomplishment of regional plans and initiatives to reduce the risk of surface incidents and runway incursions.

w. Invites Runway Safety personnel to participate in all SRM panels that evaluate changes in airport or air traffic procedures resulting from physical changes to airport runways, taxiways or the Airport Operations Area. Provides copies of any SRM documents or Decision Memoranda for such changes to Runway Safety for review prior to final approval.

x. Participates in Regional Runway Safety Governance Councils (if applicable).

2-7. ATO Technical Operations Services.

a. Details staff to work on a full-time basis in Runway Safety when the number of Vehicle or Pedestrian Deviations (VPD) involving Technical Operations employees increases more than 100 percent over the previous year and the Runway Safety Group Manager makes a request for assistance.

b. Provides Runway Safety and Office of Airports personnel full access to information collected during investigations of surface events involving Technical Operations personnel or personnel contracted by Technical Operations, as appropriate and in accordance with agency policy.

c. Supports Runway Safety in identifying and reducing runway incursion risks and developing runway safety strategies and initiatives to be included in the FAA Strategic Plan and/or NRSP. Identifies and executes action items in support of these plans.

d. Provides timely response (normally within 30 days) and due consideration to recommendations from Runway Safety for changes to agency standards that could help to reduce surface event risk.

e. Supports the RRSPM in the development of regional plans to reduce the risk of surface events.

f. Designates staff within the service area to work with the RRSPM on a collateral basis or, in some cases, on a full-time detail. These individuals will be part of the regional runway safety team.

g. Designates a management official within the service area office to assist the Service Area Team Manager in resolving runway safety issues.

h. Provides at least one team member for RSAT activities at the local and regional level. Accepts and executes action items in RSAPs, as appropriate.

i. Provides feedback to Runway Safety on surface events involving Technical Operations personnel to help document possible lessons learned.

j. Analyzes, tracks, and makes recommendations to improve NAS facilities and services that have an impact on safe surface movement, including communications, navigation, and surveillance systems. Assesses recommendations through identified SRM procedures.

k. Ensures that the field workforce is briefed periodically on runway safety best practices and requirements. The use of RRST members to conduct such briefings is encouraged.

l. Reviews regional runway safety plans annually, when requested by the RRSPM.

2-8. Office of Airports.

a. Details one staff specialist to work on a full-time basis in Runway Safety when the number of VPDs increases more than 20 percent over the previous year and the Runway Safety Group Manager makes a request for assistance.

b. Provides Runway Safety personnel full and unrestricted access to information collected in investigations of surface events, as appropriate and in accordance with agency policy.

c. Supports Runway Safety in identifying and reducing surface event risks and developing runway safety strategies and initiatives to be included in the FAA Strategic Plan and/or NRSP. Identifies and executes action items in support of these plans.

d. Provides timely response (normally within 30 days) and due consideration to recommendations from Runway Safety for changes to agency airport standards that could help reduce runway incursion risks.

e. Supports the RRSPMs in the development of regional plans to reduce the risk of surface events.

f. Designates regional staff to work with the RRSPMs on a collateral basis. These individuals will be part of the RRST.

g. Designates a regional management official to assist the Runway Safety Service Area Team Manager in resolving runway safety issues.

h. Provides at least one team member for regional RSAT meetings.

i. Considers and analyzes action items in RSAPs as appropriate. Oversees and facilitates completion of action items assigned to organizations over which regulatory authority (Part 139) is exercised.

j. Participates in local RSAT meetings when possible.

k. Tracks and analyzes overall VPD statistics, identifies trends and common risk factors, and makes recommendations to reduce the number and severity of runway incursions and other surface incidents.

l. Publishes an analysis of trends for surface events involving VPDs and an action plan to address common hazards at least annually.

m. Provides primary and alternate members to the runway incursion assessment team.

n. Collects information on runway incursions from airport owners and operators when requested by Runway Safety. This may include incursions that are not VPDs. These requests will be coordinated with the Office of Airport Safety and Standards or the appropriate regional airports division.

o. Coordinates all changes to runways and taxiways at towered airports with the RRSPM at an appropriate point in the planning and design process. This specifically includes airport master plan studies and airport layout plan changes/updates.

p. Ensures that management and the field workforce are briefed periodically on runway safety best practices and requirements. The use of RRST members to conduct such briefings is encouraged.

q. Reviews Regional Runway Safety Plans annually.

r. Participates in the Regional Runway Safety Governance Councils (if applicable).

s. Provides a representative for the Airport Construction Advisory Council (ACAC) as defined in Appendix E of this order.

t. Provides feedback and insight to the Runway Safety Group as defined by policy and guidance by the Office of Airports.

2-9. Flight Standards Service.

a. Details staff to work on a full-time basis in Runway Safety.

b. Provides Runway Safety personnel full and unrestricted access to information collected in investigations of surface events, as appropriate and in accordance with agency policy.

c. Supports Runway Safety in identifying and reducing surface event risk and developing runway safety strategies and initiatives to be included in the FAA Strategic Plan and/or NRSP. Identifies and executes action items in support of these plans.

d. Provides timely response (normally within 30 days) and gives due consideration to recommendations from Runway Safety for changes to agency standards that could reduce surface event risks.

e. Supports the RRSPMs in the development of regional plans to reduce the risk of surface events.

f. Designates regional staff to work with the RRSPM on a collateral basis or, in some cases, on a full-time detail. These individuals will be part of the RRST and participate in regional RSAT meetings.

g. Regional Division Managers will work to assist the Runway Safety Service Area Team Manager in resolving runway safety issues that involve the division and ensure that Flight Standards resolves appropriate action items in RSAPs.

h. Provides at least one team member for regional and local RSAT meetings and other

activities at airports with an ATCT.

i. Tracks and analyzes statistics for pilot deviations (PD) and incidents involving non-pilots taxiing aircraft, identifies trends and common risk factors and makes recommendations to reduce the number and severity of surface events.

j. Publishes an analysis of trends for surface events involving PDs and incidents involving non-pilots taxiing aircraft and produces an action plan to address common hazards at least annually.

k. Publicizes local runway safety issues by posting hot spot charts, runway safety bulletins, runway safety event notices, and other material on the FAA Safety Team (FAAST) website and other distribution channels when requested by Runway Safety.

l. Schedules, facilitates, supports, and holds runway safety outreach meetings with pilot groups, flight schools, and other aviation organizations or companies, as appropriate, in cooperation with Runway Safety.

m. Provides primary and alternate members to the runway incursion severity classification team.

n. Collects information on surface events from pilots and other aviation personnel when requested by Runway Safety. This may include getting pilot statements for incursions that are not pilot deviations.

o. Ensures that management and the field workforce are briefed periodically on runway safety best practices and requirements. The use of RRST members to conduct such briefings is encouraged.

p. Reviews regional runway safety plans annually.

q. Considers and analyzes action items in RSAPs as appropriate. Oversees and facilitates completion of action items assigned to organizations over which regulatory authority is exercised.

r. Participates in the National and Regional Runway Safety Governance Councils.

s. Provides a representative for the ACAC as defined in Appendix E of this order.

2-10. Regions and Center Operations.

a. Serves as an advocate and spokesperson for the runway safety program within the regions and fosters collaboration and support among the regional divisions and service area offices.

b. Facilitates and supports collaboration and partnership between the RRSPMs and aviation departments of state and local governments on runway safety matters.

c. Determines the need for and, if appropriate, chairs the Regional Runway Safety Governance Council.

d. Supports outreach efforts to the aviation community on runway safety.

- e.** Provides input to the RRSPMs in development of regional runway safety plans, and supports initiatives identified in the regional plans.
- f.** Provides input to the Manager, Runway Safety Group, during periodic evaluations on the effectiveness of the regional and national runway safety programs.
- g.** Provides real time information to the RRSPMs on surface events through the Regional Operations Centers.
- h.** Reviews regional runway safety plans annually.

Chapter 3. National and Regional Runway Safety Plans

3-1. National Runway Safety Plan. ATO Safety and Technical Training developed the National Runway Safety Plan (NRSP) as a single national strategy for the reduction of runway incursions and surface incidents. The plan is coordinated across FAA organizations, and involves airport operators and airspace system users. The plan identifies and prioritizes activities and objectives the FAA will undertake to improve runway safety. The NRSP does not replace or supersede the FAA Strategic Plan or the various organizations' business plans. The purpose of the national plan is to provide an overall strategy and ensure that all organizations are working together in a coordinated manner towards common goals and objectives. When developing the plan, Runway Safety will:

- a. Coordinate with affected FAA organizations at the national level during its development and subsequent revisions.
- b. Seek input from representative organizations in the aviation community.
- c. Identify activities designed to improve runway safety. In addition to the activity description, the plan will include the following information:
 - (1) The organization(s) responsible for the task.
 - (2) Resources (staffing and funding) necessary to accomplish the task.
 - (3) Source(s) of the resources (e.g., FAA organizations, outside organizations).
 - (4) A time frame for accomplishing the work.
 - (5) Proposed metrics for measuring the effectiveness of the activities.
- d. Disseminate the plan whenever updated. All updates will be posted on the national website.

3-2. Regional Runway Safety Plans. Regional Runway Safety Plans are developed by the RRSPM, with input from the Regional Administrator, the Runway Safety Service Area Team Manager, and the Regional Runway Safety Team (RRST). The plan presents a regional strategy for the reduction of runway incursions and surface incidents. The regional plan will execute the priorities and activities identified in the NRSP. The plan will include activities and objectives that affect or involve multiple FAA organizations, and is the primary vehicle for regional LOBs to make commitments to execute specific activities supporting the Regional Runway Safety Program. When developing and coordinating the plan, the RRSPM will:

- a. Identify various activities designed to improve runway safety. In addition to the activity, the plan will identify:
 - (1) The organization(s) responsible for the task.
 - (2) Resources (staffing and funding) necessary to accomplish the task.

- (3) Source(s) of the resources (e.g., FAA organizations, outside organizations).
- (4) A timeframe for accomplishing the task.
- (5) Proposed metrics for measuring the effectiveness of the activities.

b. Work with the Runway Safety Service Area Team Manager to identify initiatives that will involve ATO organizations. The Service Area Team Manager will ensure ATO initiatives are common among the regions in the service area, and be responsible for securing commitments for those activities from the appropriate service area director.

c. Collaborate with the Service Area Team Manager and fellow RRSPMs within the service area to determine the level of support available for initiatives that require Runway Safety resources.

d. Coordinate the plan with all members of the RRST and the Regional Administrator, and get concurrence from the regional Airports and Flight Standards Division Managers. Identify the duties and time commitments expected from their representatives participating on the RRST that are included in the plan. Submit the completed plan to the Runway Safety Service Area Team Manager for approval.

e. Submit the plan to the Runway Safety Service Area Team Manager, who will coordinate all regional plans with appropriate ATO Service Area managers and secure their signatures before forwarding the plans to the Manager, Runway Safety Group, for final approval.

f. Prepare plans on an annual basis as determined by the Manager, Runway Safety Group. The plans will be finalized prior to the start of each fiscal year. The RRST will reevaluate the plan six months after initial approval, identify whether changes are needed, and submit a revision to Runway Safety Service Area Team Manager if necessary. The Service Area Team Manager will coordinate changes that affect the ATO with appropriate service area management, and forward them to the Manager, Runway Safety Group, for approval.

g. Ensure that resource requirements for execution of the plan are incorporated into the Runway Safety budget.

Chapter 4. Runway Safety Action Plans and Runway Safety Action Teams

4-1. Overview. The purpose of the Runway Safety Action Team (RSAT) program is to identify and mitigate hazards and risks that lead to human errors that result in runway incursions and/or excursions. The success of the RSAT is based on air traffic controllers, airport operators, and airport users working together effectively. The outcome of a Runway Safety Action Team meeting is a Runway Safety Action Plan (RSAP) in which organizations voluntarily agree to take specific actions to mitigate risks or hazards which might lead to a runway incursion or excursion, or which represent an improvement in surface safety. RSAT meetings can be regional and led by Runway Safety, or local and led by the ATCT manager or designee. ATO Air Traffic Services is responsible for ensuring the RSAT meetings are convened at least once per fiscal year and that RSAPs are submitted and accepted by Runway Safety for entry into a national database used to track action item accomplishment.

4-2. RSAT Meetings.

a. Types of RSAT Meetings. There are three types of RSAT meetings. The meetings are led by different parties as appropriate, and that party is defined to be the RSAT meeting chairperson. The chairperson is responsible for meeting all the requirements of this section.

(1) Local RSAT. The airport traffic control tower manager or designee leads a local RSAT, and the attendees are primarily at the local level.

(2) Regional RSAT. The Regional Runway Safety Program Manager or designee leads a regional RSAT. Team members for a regional RSAT include local attendees and regional or service area personnel representing ATO Air Traffic Services, Flight Standards, and the Office of Airports. The RRSPM will notify the Regional Runway Safety Team, the Airport Traffic Control Tower Manager, and airport operator of scheduled regional RSATs no later than the beginning of the fiscal year in which the regional RSAT is scheduled.

(3) Special Focus RSAT. Someone from the headquarters Runway Safety Group, or as defined by Runway Safety, leads a special focus RSAT. The special focus RSAT is designed to be used to address specific problems and focus additional resources at locations where the level or type of problem justifies it. The RSAT team may not follow traditional RSAT procedures, but must complete a Runway Safety Action Plan.

b. Scheduling and Notification. RSAT meetings must be conducted once each fiscal year. Invitations to the meeting must be issued at least 30 days in advance and may be done via electronic means. Invitations must be issued to:

- (1) Airport Operator.
- (2) Airport tenants and other users.
- (3) RRSPM.
- (4) Office of Airports at the regional and district office level.
- (5) Flight Standards Service at the regional and district office level.

- (6) Appropriate ATO Service Center personnel.
- (7) Technical Operations at the service area and local level.
- (8) Others as determined by the RSAT meeting chairperson.

c. Meeting Content and Attendees. The RSAT meeting must include at least the meeting chairperson, the airport operator, and ATCT manager or staff. A regional RSAT must include members of the RRST from at least Flight Standards, Airports, ATO Air Traffic Services, and Runway Safety. At a minimum, the following subjects must be discussed during regional and local RSAT meetings.

- (1) Runway incursions and excursions since the last RSAT meeting, including any mitigations implemented as a result.
- (2) Open action items from past RSAPs, and any actions completed since the last RSAT meeting.
- (3) Planned airport construction.
- (4) Best practices in use by the airport or tower.
- (5) Procedures and training for vehicle operator access to the movement area, including snow removal procedures (if applicable).
- (6) Any letters of agreement or published notices related to surface operations.
- (7) Surface safety issues reported to the ATCT or airport within the past year.
- (8) Any persistent weather conditions that could affect surface safety. This must include areas where lack of adequate drainage may cause markings to be obscured, and sun conditions that may compromise visibility by pilots.
- (9) Movement controls for vehicle drivers involved in wildlife mitigation.
- (10) The published airport hotspots, including whether additions or deletions of hotspots might be appropriate.
- (11) Any user concerns dealing with aircraft, pedestrian, or vehicle operations on the airport surface.
- (12) Air Shows, Civil Fly-Ins, Parachute Operations, and other special events.

4-3. Runway Safety Action Plans. Each airport with an operational ATCT (including FCTs) must develop and maintain a documented RSAP. The party responsible for conducting the RSAT meeting develops the RSAP. A Runway Safety Action Team must be convened to update the RSAP. An RSAT meeting must be convened once each fiscal year.

a. RSAP Requirements. As a minimum, the plan must include the following:

- (1) A list of participants, their affiliation, and a general overview of the team meeting.

(2) Runway safety concerns, issues, or problems at the airport. These may include existing as well as prospective issues.

(3) Best Practices. A local or regional RSAT may determine that an operational practice observed at an airport is a best practice that should be shared with other locations.

(4) Specific Action Items. Action items should be airport-specific and linked to a runway safety concern, issue, or problem at the airport. Consensus is desirable for the assignment of an action item, and at a minimum, the organization responsible for accomplishing the action must agree to accept the action. Proposed action items where consensus is not reached and/or the action office is not willing to accept the item may be documented as recommendations at the discretion of the RRSPM or ATCT manager. Action items should fall within the authority of the local, regional, or service area level. The RRSPM will forward action items that require national implementation to the Manager, Runway Safety Group, through the Service Area Team Manager. Action items for nonstandard facilities or procedures will be investigative only (i.e., investigate the use of) until approval is obtained from the FAA regional or service area office organization that has the authority to grant waivers or modifications to the standard. Action items may include, but are not limited to:

- (a) Changes in physical features/facilities of the airfield.
 - (b) Air traffic control procedures.
 - (c) Airfield access requirements.
 - (d) Pilot/vehicle operator awareness.
- (5) A proposed implementation schedule for each action item.
 - (6) The party/parties responsible for implementing each action item.
 - (7) A review of open action items and any completed since the last RSAT meeting.
 - (8) A current airport diagram.

b. Plan Coordination. The airport operator and FAA LOBs (Airports, Flight Standards, and Runway Safety) must be coordinated on RSAPs, at a minimum, and any organization assigned an action item. Any organization that is assigned an action item must agree to accept that item and provide a target completion date. An absence of a response within the requested review timeframe (typically 30 days) will be considered concurrence with the draft RSAP. Team members are required to coordinate the acceptance of actions with their parent organizations. If during the review process a team member asks for withdrawal of an action item that was agreed to at or after the formal RSAT meeting, the request and its justification must be documented in the RSAP.

c. Review. The RSAT team lead must forward RSAPs resulting from local RSATs to the RRSPM. The RRSPM reviews all RSAPs (from both regional and local RSATs) to document whether they meet the requirements of this order and associated standard operating procedures. Feedback on compliance is provided by the RRSPM to the RSAT chairperson. The RSAT chairperson approves the Runway Safety Action Plan by signing the cover page. Acceptance of

an RSAP by the RRSPM means that the action items and RSAP document will be inputted into the data tracking system, known as the Runway Safety Tracking System (RSTS). Acceptance does not indicate agreement with the specific actions contained in the plan, nor relieve the RSAT chairperson of the responsibility to ensure the RSAP meets the requirements of this order. The RRSPM may choose to provide feedback on action items, as appropriate, as part of the acceptance process. Local RSAPs should be forwarded to the RRSPM by the ATCT manager within 45 days of the RSAP meeting.

d. Distribution. The RRSPM will forward accepted RSAPs to the RSAT, and the following:

- (1) Manager, Runway Safety Group.
- (2) Service Area Director, Air Traffic Services.
- (3) Regional Administrator.
- (4) Flight Standards and Airports Division Managers.
- (5) Airport Manager or Director.
- (6) ATCT Manager and Air Traffic Services District Manager.
- (7) Members of the RRST.

e. Tracking.

(1) ATO Air Traffic Services will track the status of RSAPs at the national and service area levels by monitoring the RSTS and providing oversight for the scheduling of RSAT meetings and completion of RSAPs, and report the status annually to both the National and Regional Runway Safety Governance Councils.

(2) Runway Safety must use the RSTS to document meeting completion, store RSAPs, track their acceptance, and track all action items resulting from RSAT meetings.

(3) Airports and Flight Standards are expected to oversee and facilitate the completion of action items that are accepted by organizations or entities under its regulatory authority. They must assist Runway Safety in securing action item status when requested by the RRSPM.

Appendix A. Runway Incursion and Surface Incident Determinations

A-1. Purpose. This appendix provides a process for determining whether a surface event is a runway incursion or surface incident. These procedures do not apply to events reported only through agency voluntary safety reporting programs.

A-2. Guidelines for the Determination of Runway Incursions and Surface Incidents.

Runway Safety is responsible for determining whether an occurrence at an airport is a runway incursion or surface incident. The following guidelines are used in these determinations:

- a.** Only surface events at airports with an operating ATCT are recorded and classified as runway incursions and surface incidents. The FAA ATO does not control surface movement where an ATCT is not present or operational.
- b.** Any operation intended to take place on a runway surface, such as a takeoff or landing that is conducted on a taxiway or ramp, will be classified as a surface incident.
- c.** Events involving wildlife on the airport surface are not classified as runway incursions or surface incidents.
- d.** Surface events may involve aircraft that are not touching the ground. Examples might include helicopters hover taxiing or an aircraft arriving or departing that is very near the surface. At the discretion of the Runway Safety Group Manager, such events may be classified as runway incursions or surface incidents if the aircraft is still over the runway, runway protected area, or taxiway and has not reached a safe maneuvering altitude.

A-3. Types of Surface Events. Surface events are classified into the following types:

- a. Operational Incident.** A surface event attributed to ATCT action or inaction.
- b. Pilot Deviation (PD).** A surface event caused by a pilot operating an aircraft under its own power (see FAA Order 8020.11, *Aircraft Accident and Incident Notification, Investigation, and Reporting*, for the official definition).
- c. Vehicle or Pedestrian Deviation (VPD).** A surface event caused by a vehicle driver (including a vehicle towing an aircraft), a non-pilot operating an aircraft under its own power, or a pedestrian.
- d. Other.** Surface events that cannot clearly be attributed to incorrect action(s) by an air traffic controller, pilot, driver, or pedestrian will be classified as “other.” These events would include incursions caused by equipment failure or other factors.

A-4. Determination Process. Runway Safety will analyze all potential surface events when occurrence reports are forwarded to the Runway Safety Group Service Area Team by Quality Assurance and make a preliminary determination of whether the event is a runway incursion, surface incident, or runway excursion. Working with Quality Assurance, Runway Safety will then ensure appropriate data is collected to support severity classification. Data collected may include statements from those involved, surveillance data, voice data, and so on. Once sufficient data are available, the event will be recorded as a surface event as appropriate and forwarded to the Runway Incursion Assessment Team. The determination of runway incursions will be

10/20/2021

7050.1B CHG 2
Appendix A

confirmed and made final by the Manager, Runway Safety Group, or their designee at the same time the severity ranking is finalized.

Appendix B. Runway Incursion Severity Classification

B-1. Purpose. This appendix provides a process for assessing and classifying the severity of runway incursions. This appendix defines a legacy process in use at the time of this order revision.

B-2. Severity Classifications. Runway Incursions are assessed by Runway Safety and classified by the severity of the event. The Severity Classifications are:

a. Accident. An incursion that results in a collision. For the purposes of tracking incursion performance, an accident will be treated as a Category A runway incursion.

b. Category A. A serious incident in which a collision was narrowly avoided.

c. Category B. An incident in which separation decreases and there is a significant potential for collision, which may result in a time-critical corrective/evasive response to avoid a collision.

d. Category C. An incident characterized by ample time and/or distance to avoid a collision.

e. Category D. An incident that meets the definition of a runway incursion, such as the incorrect presence of a single vehicle/person/aircraft on the protected area of a surface designated for the landing and takeoff of aircraft, but with no immediate safety consequences.

f. Category E. An incident in which insufficient or conflicting evidence of the event precludes assigning another category.

B-3. Severity Examples. A representative example for each type of runway incursion is provided here to help the reader understand the severity categories. These examples are for information only and are not meant to affect the severity ranking definitions or process.

a. Category A. An air traffic controller cleared an aircraft for takeoff, mistakenly believing that an aircraft that had previously landed had exited and cleared the runway. During the takeoff roll, the aircraft heard the previous aircraft notify the ATCT that they were still on the runway. The aircraft aborted takeoff and had to swerve to one side of the runway to miss hitting the aircraft by 10 feet.

b. Category B. Local Control (LC) cleared a Diamond DV20 for takeoff. When the DV20 was rotating, LC observed a Cessna C182 entering the runway without authorization approximately 1050 feet down field from where the DV20 rotated. The DV20 overflew the C182 by 150 feet, the closest proximity reported.

c. Category C. A Boeing B737 landed and exited at a high-speed taxiway. The B737 pilot was instructed to hold short of the adjacent runway, and the pilot acknowledged hold short instructions. An Airbus A330 was cleared for takeoff on the adjacent runway full length. The 737 pilot missed the hold line and pulled onto the runway and stopped. The A330 rotated 3600 feet prior to the 737 entry point to the runway and overflew the 737 by 400 feet. The A330 rotated normally and was not aware of the incursion by the B737.

d. Category D. An aircraft is instructed to hold short of the runway but crosses the hold line by mistake. No other aircraft are in the area.

e. Category E. An aircraft reports a pedestrian on the runway on takeoff. Estimates of the closest proximity from the pilot and pedestrian differ significantly and there is no way to confirm which is correct, as the incident occurred at night and was not observable from the ATCT.

B-4. Factors Affecting Severity Classification. Factors affecting the severity of a runway incursion are listed below.

a. Proximity of the Aircraft and/or Vehicle. The closest proximity is taken from the most reliable source available. When an aircraft flies directly over another aircraft or vehicle the closest vertical proximity should be used. When both aircraft are on the ground, the proximity that is used to classify the severity of the runway incursion is the closest horizontal proximity. In incidents in which the aircraft are on intersecting runways, the distance from each aircraft to the intersection is used. It should be noted that in some instances, one party involved in an incursion may intentionally choose to close the distance between itself and the other vehicle, pedestrian, or aircraft. In such cases, the closest unintended proximity should be used in the ranking process.

b. Geometry of the Encounter. Certain encounters are inherently more severe than others. For example, encounters with two aircraft on the same runway are more severe than incidents with one aircraft on the runway and one aircraft approaching the runway. Similarly, head-on encounters are more severe than aircraft moving in the same direction.

c. Evasive or Corrective Action. When evasive or corrective action is taken to avoid a collision, the magnitude of the maneuver is an important consideration in classifying the severity. This includes, but is not limited to, hard braking action, swerving, rejected takeoff, early rotation on takeoff, and go-around. The more severe the maneuver, the higher its contribution to the severity rating. For example, encounters involving a rejected takeoff in which the distance rolled is 300 feet are more severe than those in which the distance rolled is less than 30 feet.

d. Available Reaction Time. Encounters that allow little time to react to avoid a collision are more severe than encounters in which there is ample time available to respond. For example, in incidents involving a go-around, the approach speed of the aircraft and the distance to the runway at which the go-around was initiated needs to be considered in the severity classification. This means that an incident involving a heavy aircraft initiating a go-around at the runway threshold is more severe than one that involves a small aircraft initiating a go-around on a one-mile final.

e. Environmental Conditions, Weather, Visibility and Surface Conditions. Conditions that degrade the quality of the visual information available to the pilot and controller, such as poor visibility, increase the variability of the pilot and controller response and, as such, may increase the severity of the incursion. Similarly, conditions that degrade the stopping performance of the aircraft or vehicle, such as wet or icy runways, should also be considered.

f. Factors that Affect System Performance. Factors that affect system performance, such as communication failures (e.g., “open mike”) and communication errors (e.g., the controller’s failure to correct an error in the pilot’s read back), also contribute to the severity of the incident.

B-5. Data Collection for Severity Classification. Surface events are reported by the airport traffic control tower where the event occurred. Other FAA directives provide the guidance and requirements for reporting these events. Only the data collection process needed to classify incursions is discussed here.

a. Initial Data Collection. In accordance with agency directions, ATCT personnel submit occurrence reports in the CEDAR tool, which represent possible surface events. Occurrence reports are screened by Quality Assurance and forwarded to Runway Safety for evaluation as possible surface events and, when appropriate, determination of runway incursion severity.

b. Detailed Data Collection. When additional data is required to classify a surface event, the request is forwarded to the Runway Safety Service Area Team. The service area team will ensure all data requested by the classification team is provided. In order to support this effort:

(1) ATO Air Traffic Services will ensure that Runway Safety has access to the following data for each event upon request, and as soon as practical:

- (a) Voice recordings for all ATCT positions involved in a surface event.
- (b) Ground Surveillance data for all incursions involving more than one aircraft (at locations where that capability was available during the event).
- (c) Other surveillance data recordings or replays, if requested and available.
- (d) Airport and air traffic control data sufficient to allow an airport diagram with appropriate distances, including closest proximity and distance when aircraft sent around.

(2) Flight Standards will provide Runway Safety a copy of any pilot statements for potential Category A or B events. These materials should be made available as soon as possible.

(3) The Office of Airports will provide data on investigations into VPDs as soon as they are available for potential Category A and B runway incursions, and upon request in other surface events. This will include driver or pedestrian statements, if available. Runway Safety may request and Airports will provide driver statements in the case of a vehicle involved in an operational incident or pilot deviation surface event, if available.

c. Onsite Data Collection. Although Runway Safety does not conduct investigations, in the case of a potential Category A or B runway incursion, Runway Safety personnel may join official investigators in the onsite investigation process. They may join these efforts to offer expertise, and ensure that adequate data is collected from all parties involved in the surface event, including airport operators, pilots and Air Traffic Control personnel. FAA organizations responsible for investigating surface events must cooperate with Runway Safety personnel who are directed to participate in surface event investigations to the fullest extent possible.

B-6. Data Required for Severity Classifications. Data on all of the factors affecting the severity of a runway incursion must be available prior to classifying the incursion. The need to have a complete set of data available should be balanced with the reality that some data may not be available for some time. In general, the more severe the incursion, the more data will be needed to accurately classify the severity of the incursion. The following guidelines on required

data are established:

a. Preliminary reports will typically be sufficient to rank incursions involving only one aircraft. The appropriate preliminary FAA form coupled with available airport information, may be used to complete the classification of these events.

b. Other than (a) above, incursions for which replays or recordings of ground surveillance data are available will not be classified without these data, if the reported minimum separation is less than 4,000 feet.

c. Other than (a) above, voice recordings should be made available to the assessment team before an incursion is classified when one or more team members determines this is required.

d. Other than (a) above, all classifications require an airport diagram and appropriate distances, including closest proximity and distance when an aircraft is sent around.

B-7. Runway Incursion Assessment Team. The Runway Incursion Assessment Team (RIAT) determines runway incursion severity classification in accordance with the procedures in this document. The team is comprised of one or more members from each of the following core organizations: Air Traffic Organization Air Traffic Services, Flight Standards, and the Office of Airports. Each of these organizations must assign a minimum of two people to the classification team, a primary and backup representative. Qualifications of the assigned personnel must be reviewed and approved by the Manager, Runway Safety Group. The background of each LOB representative will be:

a. Flight Standards. Personnel will be qualified aviation safety inspectors or have equivalent experience with either general aviation and/or air carrier background and field experience. Their knowledge should be broad enough to cover the various aircraft types, models, and performance characteristics.

b. Office of Airports. Personnel will have a background as qualified airport certification safety inspectors, or have a background in airport operations.

c. Air Traffic Organization Air Traffic Services. Personnel will have experience working as Certified Professional Controllers in one or more FAA ATCTs.

B-8. Surface Event Classification. The RIAT will normally classify events on a weekly basis. At least one team member from each core organization must participate in all classifications. Team members may participate either in person or via electronic means such as a teleconference, video conference, or an online discussion. Team members will consider all relevant data and use their best judgment to determine which of the severity categories best fit the incursion. Events will be classified under the following guidelines:

a. Each organization will provide one vote. Consensus on classification among team members is highly desirable but not required. A consensus among team members from the same organization is required before a vote is held.

b. Classification may be deferred if the team believes additional data are needed to accurately rank the event.

c. If the team cannot achieve consensus upon classification, the event will be forwarded to the Manager, Runway Safety Group, who will provide a final classification.

d. The ATO Safety and Technical Training, Director of Safety, may authorize the use of automated tools to assist the team in classifying the severity of the runway incursions. Such tools must be validated and the authorization must be provided in writing prior to the use of the tool.

e. In order to promote consistency in the process, the following guidelines are established:

(1) A runway incursion involving only a single aircraft, pedestrian, or vehicle is assigned a default severity ranking of Category D. An aircraft which is one mile or more from the runway threshold is not considered to be involved in a runway incursion.

(2) If the aircraft, vehicle, or pedestrian causing a surface event crossed the runway holding position marking (hold line) but stopped more than 100 feet from the runway edge, the event is expected to be assigned a severity ranking of Category C.

(3) If both aircraft and/or vehicles are within the edges of the runway and the closest unintended proximity is no less than 2000 feet horizontal or in the case of an over flight, no less than 200 feet vertical, the event is expected to be assigned a severity ranking of Category C.

(4) If any part of an aircraft, and an aircraft, vehicle, or pedestrian are on or above the runway surface and the closest unintended proximity is within 100 feet horizontal or vertical, the event is expected to be assigned a severity ranking of Category A.

f. There may be insufficient data to provide a severity ranking for a surface event. These events will be assigned a severity classification of E.

B-9. Recording Final Assessment Ratings. The Severity Classification Team will maintain a record of proceedings including, at a minimum, the members participating in each classification, the events reviewed, the recommended severity classification and any justification the team deems necessary for the rating. The Manager, Runway Safety Group, may choose to review events within 30 days of the classification to ensure that the severity classification meets all requirements set forth in this order. The event is considered finalized once the review is complete or 30 days after classification by the RIAT.

B-10. Distribution of Severity Classification Results. Runway Safety will distribute results of the severity classification process to appropriate FAA offices.

Appendix C. Surface Event Hazard Identification and Risk Analysis

C-1. Purpose. This appendix documents roles and responsibilities for identifying, analyzing, and tracking hazards that contribute to runway incursion and excursion risk.

C-2. Background. ATO policy governing the identification of hazards and the analysis and mitigation of risk in the NAS is documented in FAA Order 1000.37, *ATO Safety Management System*. The “Safety Assurance” part of the Safety Management System (SMS) includes the processes used to evaluate and ensure the safety of the NAS, including evaluations, data tracking, and analysis. Runway Incursions are considered “safety events” that must be analyzed in order to identify new hazards/risks and to assess existing safety controls.

C-3. Individual Surface Event Investigation and Analysis. An ATCT facility reports surface events as occurrence reports in CEDAR, and ATO Quality Assurance verifies occurrence reports in CEDAR. Runway Safety classifies every event and makes sure appropriate data are captured for the official agency runway incursion database. Some surface events may be reported only through the ATO voluntary safety reporting programs. Events reported under those voluntary programs are handled in accordance with the directives governing those programs. For all other events, the responsibilities for investigation and analysis are as follows:

a. Potential Operational Incidents. Surface events represent quality control data, and FAA Order JO 7210.634 assigns the SDP (in this case, the ATCT) to continually review quality control data and information and develop initiatives or take action as appropriate. ATCT facilities may choose to initiate a review of services provided during a surface event in accordance with the policy contained in this order. ATO Quality Assurance reviews all surface events reported in the CEDAR system. Quality Assurance conducts a risk analysis of any surface event in which there is a loss of separation. Issues representing a risk pertinent to a single event or systemic risks are dealt with in accordance with ATO Quality Control and Quality Assurance policies.

b. Potential Pilot Deviations (PD). The Flight Standards Service investigates surface events that are possible pilot deviations. Based on the results of the investigations, Flight Standards may assign corrective action to the pilot or operator involved. If risks or hazards under the control of the ATO or the airport are identified, Flight Standards notifies the responsible organization. If the Flight Standards investigator identifies a potential system-wide safety concern, the investigator must forward that information to Runway Safety, ATO Office of Safety Quality Assurance and appropriate Flight Standards headquarters organization.

c. Potential Vehicle or Pedestrian Deviations (VPD). The FAA Office of Airports investigates surface events that are potential vehicle or pedestrian deviations, or in the case of events with mechanics taxiing aircraft, by the Flight Standards Service. Based on the results of the investigation, the Office of Airports may assign corrective actions to the airport involved. If risks or hazards are identified that are under the control of the ATCT, the Office of Airports notifies the ATCT manager. If the airport investigator identifies a potential system-wide safety concern, they must forward that information to the Office of Airport Safety and Standards and the ATO Office of Safety and Technical Training through appropriate channels.

d. Runway Safety Group. Runway Safety examines every surface event for potential

hazards at both Service Area and national levels.

(1) At the Service Area level, Runway Safety staff examine each surface event based on initial reports and the results of investigations conducted by the responsible agency organization. If follow-up actions are necessary to mitigate hazards, Runway Safety provides recommendations to the appropriate FAA LOB.

(2) At the national level, Runway Safety documents the details of each surface event in the national surface event database. Individual events may be selected for in-depth analysis of causal factors. Recommendations that arise from causal factor analysis are referred to the appropriate entity (e.g., FAA LOB, aviation organization, air carrier operator, airport business) for accomplishment.

C-4. Surface Event Trend Analysis and Mitigation. Trend analysis and mitigation efforts include:

a. Regional Trend Analysis. The RRSPM is responsible for analyzing surface event trends for their region and forwarding any recommendations for mitigating trends to the appropriate FAA LOB.

b. Service Area Trend Analysis. The Runway Safety Service Area Team Manager is responsible for analyzing surface event trends for their service area. Particular attention should be paid to operational incidents that show common causal and contributing factors across a service area. The service area team manager is responsible for forwarding any recommendations for mitigating trends to the appropriate FAA LOB.

c. National Trend Analysis.

(1) Runway Incursions are grouped into Surface Events, PDs, and VPDs. The organization responsible for oversight and investigation of each type of incursion is responsible for analyzing trends and looking for common causal factors. ATO Air Traffic Services, Flight Standards and the Office of Airports must complete and publish an analysis of runway incursion trends and an action plan to address common hazards at least once per year. A copy of the action plan must be provided to the Manager, Runway Safety Group.

(2) Runway Safety is responsible for overall trend analysis and tracking of mitigations.

C-5. ARIA for Surface Events (a.k.a. Surface ARIA)

a. ARIA is an automated system that supports risk-based, data-driven decision-making, providing better insight into potential risk in the NAS. It facilitates the transition from compliance-based monitoring to RBSM.

b. At surface surveillance-equipped airports, ARIA will use surveillance data to identify and categorize the potential risk of collision between an aircraft and moving objects (i.e., another aircraft, vehicle, etc.) within a predetermined area on or surrounding the airport environment. The system will continually assess and capture data about such encounters based on vertical, lateral, and speed components. This data will help uncover and focus on systemic and local potential risks in the airport surface environment.

Appendix D. Incorporation of Runway Excursions into the Runway Safety Program

D-1. Purpose. This appendix provides initial guidance on incorporating runway excursions into the FAA Runway Safety Program.

D-2. Background. The Runway Safety Program was established to deal with runway incursions only. Runway excursions were not addressed by the agency across LOBs, unless investigating a particular aircraft incident or accident. Runway excursions are one of the leading causes of aircraft damage and injuries worldwide. In September 2010, the ATO charged the Director of Runway Safety with developing and implementing programs to reduce the risk of runway excursions. The introduction of this appendix represents the start of the implementation of a program to reduce the risk of runway excursions in the NAS.

D-3. Approach. The key to the past success of the Runway Safety Program was bringing together air traffic controllers, airport operators, pilots and aviation organizations, and working together effectively and proactively to reduce risks. Runway Safety plans to apply the same approach in reducing the risks of runway excursions. Assessing and mitigating the risks of runway excursions will be implemented into all of the existing activities that comprise the Runway Safety Program.

D-4. Individual Event Data Collection. FAA Order JO 7210.632 requires an occurrence report for any instance in which an aircraft unintentionally maneuvers off the runway/taxiway. Quality Assurance will refer any such report to the Runway Safety Service Area Team, who will determine whether the occurrence meets the definition of a runway excursion contained in Chapter 1 of this directive. If the event is determined to be a runway excursion, Runway Safety will ensure that adequate data are collected to assess the apparent severity of the event and determine whether any notable risk factors were involved. The Manager, Runway Safety Group, will ensure that data collection requirements are defined in a standard operating procedure, and that data collected are archived at the national level.

D-5. Classification of Runway Excursions. It is the intent of Runway Safety to develop a classification system for the cause and severity of runway excursion events. At this time, events will be classified as veer-offs or overruns only. The Manager, Runway Safety Group, will ensure that, in cooperation with appropriate FAA LOBs and industry groups, a scheme for classifications is developed and documented in this directive and internal standard operating procedures, as appropriate.

D-6. Periodic Data Review. Runway Safety will publish excursion statistics and make them available to FAA LOBs and others as determined by the Manager, Runway Safety Group, on a quarterly basis at minimum. Runway Safety will engage appropriate FAA LOBs in evaluating trends and pursuing mitigations using the procedures defined in this order.

D-7. Best Practices. Runway Safety will compile a list of best practices applicable to airlines/pilots, airport operators, and Air Traffic Control and publish those lists on the Runway Safety Web site (www.faa.gov/go/runwaysafety). These lists will be updated as needed.

D-8. Runway Excursions and RSATs. Runway excursion risk includes areas which the

traditional RSAT approach, focused only on ground activities, may not address properly. In the long term, adjustments will be made to RSAT procedures to better tailor them to address excursion risk.

a. Regional and Local RSATs are expected to review any reported runway excursions and to document issues and problems reported by users related to runway excursions. Mitigations may be proposed as action items to be included in RSAPs. Systemic issues identified in a regional or local RSAT meeting should be forwarded to the Manager, Runway Safety Group. Runway Safety will adjust RSAT standard operating procedures as required to help regional and local teams address runway excursions properly.

b. Special Focus RSATs are the preferred tool to address airports that experience a significant number of runway excursions. The composition of an RSAT convened to address runway excursions is likely to look much different than a traditional RSAT team. Visits with a large team to the airport may or may not be necessary. More significant involvement and commitment from industry is likely to be needed, as aircrew procedures have a significant impact on the risk of a runway excursion. Special focus RSATs must include representatives of Runway Safety, Air Traffic Control, Airport Operators, Flight Standards, and industry. Runway Safety personnel who are designated as chairpersons for such special focus RSATs are hereby given wide latitude to vary team composition and activities in order to best address each particular situation.

Appendix E. Airport Construction Advisory Council

E-1. Purpose. The Airport Construction Advisory Council (ACAC) is dedicated to ensuring the safety of all stakeholders operating in the NAS during all runway and taxiway construction projects. The ACAC is tasked with developing strategies and risk mitigations, for Air Traffic Managers (ATMs) to employ, that will enhance surface safety and ensure that communication is complete and consistent. The ACAC strives to serve as a conduit for sharing good operating practices between managers throughout the NAS. The ACAC is responsible for transforming appropriate strategies and best practices into future Air Traffic Organization policy to perpetuate operational safety during all construction projects.

E-2. Background. Airport construction projects present hazards to aircraft and air traffic control operations in many ways. Standards and policies covering construction are often developed independently within FAA organizations and do not cover all situations. ATMs frequently encounter safety hazards created by construction projects that are not specifically covered by existing policy.

Further, there is no method for ensuring that organizational experiences with such situations are documented and passed on to other managers. The ACAC was developed by the ATO to address these issues by providing a “field manager working with field manager” process to support ATMs facing airport construction projects. The ACAC, in coordination with the Runway Safety Group, supports the ATO Vice President of Safety and Technical Training.

E-3. Objectives and Scope. The ACAC brings various FAA LOBs together to address construction-related issues. It ensures that lessons learned are documented and communicated throughout the agency. The ACAC tracks and analyzes construction projects, suggests safety mitigation strategies to ATMs, provides onsite support to air traffic facilities and the airport community, develops and implements ATO policy changes and tools to facilitate construction projects for ATMs, and interfaces with internal and external entities as needed.

E-4. Council Structure. The council is made up of a core group and an associate group, and has a chairperson from ATO Air Traffic Services. ACAC members do not change their organization alignment, and ACAC membership is considered part-time non-essential unless designated separately.

a. Chairperson. The chairperson must be or have experience as an ATCT facility manager or front line manager in an ATCT. The chairperson will be approved by the Vice Presidents for ATO Air Traffic Services and Safety and Technical Training.

b. Core Group. The core group is composed of two ATCT field managers (minimum MSS – 3/K-level or above), one Runway Safety representative, one Office of Airports member, one Flight Standards member, and is supported by one contract support specialist. This group develops the strategic direction for ACAC activities, provides analysis and review of current and upcoming construction projects, drives policy changes, and provides direction to Associate ACAC members.

c. Associate Group. Associate Group members are strategically placed across the NAS as needed. They provide ACAC support as directed by the Core Group. Industry associations and

professional organizations may be invited to provide a member to the Associate Group if the Core Group feels their participation advances the ACAC mission.

E-5. Resources and Support. ATO Air Traffic Services and ATO Safety and Technical Training (AJI) jointly share the responsibility of providing resources to the ACAC. ATO Air Traffic Services provides members for the ACAC Core Group. Safety and Technical Training provides a Runway Safety Group representative and the contract support specialist to the Core Group. The Office of Airports and Flight Standards Service will provide one member from each organization to the Core Group. ATO Safety and Technical Training will provide travel for all their employees and contractor members of ACAC plus share in the travel expenses for the chairperson. Other organizations will provide travel funding for their representatives on the council.