FY2021

Northwest Mountain (ANM) Regional Runway Safety Plan

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Executive Summary

The Federal Aviation Administration's (FAA) top priority is maintaining safety in the National Airspace System (NAS). The FAA's long-term goal for runway safety is to improve safety by decreasing the number and severity of runway incursions (RI), runway excursions (RE) and serious surface incidents (SI). FAA's National Runway Safety Plan (NRSP) aligns our strategic priorities with established Safety Risk Management principles. The plan defines how the FAA, airports, and industry partners collaborate and use data-driven, risk-based decision-making to enhance the safety of the National Airspace System. The NRSP outlines the FAA's strategy to adapt its runway safety efforts through enhanced collection and integrated analysis of data, development of new safety metrics, and leveraged organizational capabilities in support of meeting this goal.

In response to the agency goal and the NRSP, the Northwest Mountain Region (ANM) has developed this Regional Runway Safety Plan (RRSP) to provide a roadmap with added regional emphasis for FY21. **FAA ORDER 7050.1**, signed by the FAA Administrator, prescribes FAA's Runway Safety Program (RSP). This cross-organizational directive establishes policy, assigns responsibility, and delegates authority for ensuring compliance with this order within each organization.

The ANM Regional Runway Safety Governance Council (RGC) is chaired by the Regional Administrator and composed of the Regional Runway Safety Program Manager (RRSPM) and executives or designees from the Airports Division, Flight Standards Service and Air Traffic Organization Western Service Area and Western Service Center. Each council member identified and designated their Line of Business (LOB) expert representative on the Regional Runway Safety Team (RRST). **APPENDIX F** lists the members of the RRST.

As directed by the RSP, the RRST is tasked with identifying regional priorities and working through their executive representative to ensure that issues are properly vetted through their respective LOBs for prior coordination before each RGC quarterly meeting. The RRST has aligned this plan with agency priorities, Runway Safety Program (FAA Order 7050.1) and methodologies to include Safety Management Systems (SMS). In concert with these, the RRST identified FY21 priorities to include seven Priority Airports, four of which are Core 30/Busiest 50 airports. Additional ANM Airports of Interest were identified based on various categories defined in the matrix in **APPENDIX D**, Data Table, and as further described in the Methodology section within this plan.

TABLE OF CONTENTS

FAA Safety Management System (SMS)

FAA is employing and evolving a Safety Management System (SMS), which provides a formalized and proactive approach to system safety in order to find, analyze and address risk in the NAS. The SMS is comprised of four main components (Figure 1) which combine to create a systemic approach to managing and ensuring safety. These components are: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. Presently, the ATO and Airports Division utilize SMS as a systemic approach to managing the safety of airport operations. Through the NRSP, the Runway Safety Program is transitioning to assimilate runway safety activities into FAA's SMS.

The NRSP builds on the achievements of the National Runway Safety Plan 2015-2017. The most fundamental impact of the first plan has been the successful integration of the Safety Management System principles into the Runway Safety strategy. The goals for the FY21 NRSP are expected to continue the efforts and successes put forth by the 2015-2017 NRSP: namely to leverage new processes, sources of safety data, and integrated safety analysis to continue to reduce serious runway safety events, and to identify, mitigate and monitor the conditions and factors that combine to create risk before serious events occur. These efforts are both local and national in scope. We can pinpoint problems at an airport to a single intersection at a specific time of day, or use millions of data points to identify a systemic problem. Our Runway Safety Enhancement Initiatives apply strategic efforts to mitigate the identified risk. To that end, this regional plan endeavors to align its activities with the principles and components of FAA's current SMS to the greatest extent possible.

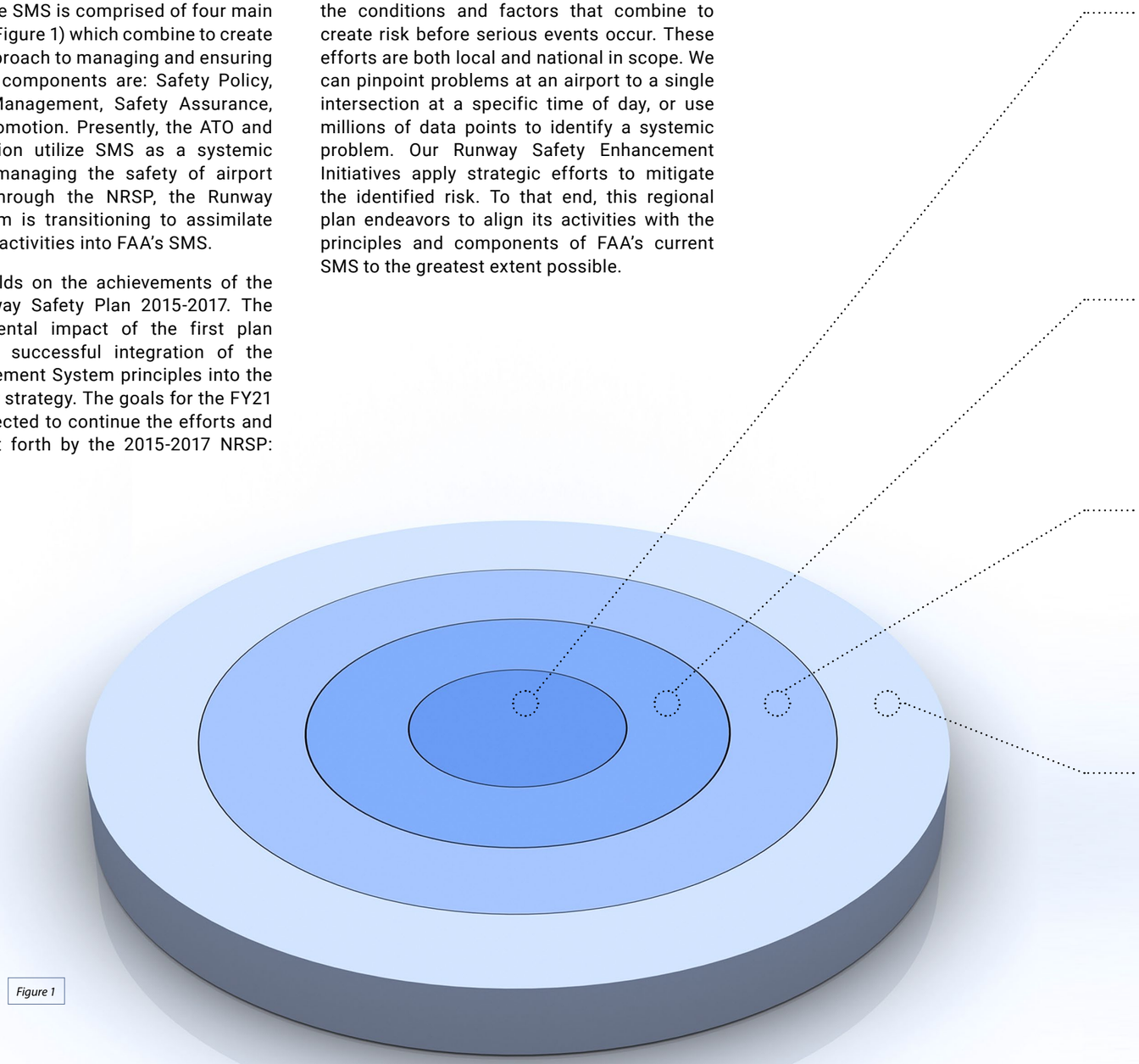


Figure 1

National Runway Safety Plan Objectives

SAFETY ASSURANCE

Remain the global leader in assuring runway safety enhancement initiatives are effective in maintaining an acceptable level of safety at U.S. airports with an air traffic control tower.

- Identify Operating Hazards
- Program Data
- Voluntary Safety Reporting
- Investigations
- Safety Risk Monitoring
- Data Analysis
- Partnership for Safety
- Audits and Evaluations

SAFETY RISK MANAGEMENT

Implement Runway Safety Enhancement Initiatives that manage or reduce the risk of airport operations.

- Analyze, Assess, Mitigate, and Accept Risk
- Develop Monitoring Plan
- Safety Risk Management Documents

SAFETY POLICY

Establish and maintain policies and procedures to ensure adequate resources are available to accomplish the FAA's near-term and strategic objectives.

- SMS Orders
- Safety Guidance
- FAA/ATO Safety Orders
- SMS Manual

SAFETY PROMOTION

Relentlessly promote best practices, lessons learned, and actionable information obtained from data analysis to our global runway safety stakeholders.

- Outreach and Education Products
- Lessons Learned
- Workshops
- Safety Communication

Regional Runway Safety Plan (RRSP) Methodology

To focus surface safety activities for FY21, the RRST attempted to identify locations experiencing the greatest risk of serious surface events. The team discussed several factors that indicate potential risk including number and type of surface events, rate of events, volume of operations, traffic mix, and existing safety barriers. A high number of events indicate that there may be current issues at a certain location that merit attention. A high number of surface events compared to airports of similar size may help to identify uncharacteristic challenges at certain locations. High traffic volume increases complexity for pilots, controllers, and vehicle operations, and increases likelihood that multiple aircraft may be involved in a surface event. Similarly, a traffic mix that includes a larger percentage of air carrier aircraft such as at the Core 30 airports increases the likelihood that many people could be exposed to an elevated risk in a single serious event. For this reason, the region's busiest air carrier airports, Denver (DEN), Salt Lake (SLC), Seattle (SEA) and Portland (PDX), which have substantially more air carrier traffic than the region's other airports, were considered to be priority airports by default.

To determine which other locations present the most potential risk, surface event data for fiscal year 2020 was collected for all ANM towered airports. The data for all ANM airports is contained in Figure 2.

ANM FY2020 to FY2021 Candidate Airports

Ranked by RI Events

Loc ID	RIs	RI Rate /100k	Airport Ops	Incident Type				Wrong Surface
				OI	PD	VP	OT	Includes Alignments
BJC	19	9.75	194,827	3	14	2		8
APA	18	5.42	332,036		17		1	4
HIO	15	11.43	131,230	1	12	3		1
SLC	9	3.15	285,900	1	7	1		3
BOI	8	6.83	117,173	2	6			5
MWH	7	11.01	63,603	1	2	4		1
DEN	6	1.24	483,345	1	4	1		1
COS	5	3.75	133,377	2	3			1
PIH	4	17.37	23,030		4			
GTF	4	12.17	32,875		1	2	1	
RDM	4	5.53	72,341		3	1		1
TIW	4	5.47	73,130		4			
PAE	4	3.33	120,167		2	2		3
Ranked by RI Rate								
PIH	4	17.37	23,030		4			
PDT	2	13.30	15,032					2
HIO	15	11.43	131,230	1	12			1
GTF	4	12.17	32,875		1			
MWH	7	11.01	63,603	1	2			1
BJC	19	9.75	194,827	3	14			8
BOI	8	6.83	117,173	2	6			5
RDM	4	5.53	72,341		3			1
SLE	2	5.49	36,461		2			
TIW	4	5.47	73,130		4			
APA	18	5.42	332,036		17			4
ASE	2	5.03	39,750		2			
UAO	3	4.71	63,750	1	2			

Top 10 RI Rate Common to both lists Top 13 RI Events

Figure 2

Two lists were created, one ranking airports according to the number of runway incursions (RI), and the other ranking the airports by the RI rate (number of RIs per 100,000 operations). The top airports on each list were identified as candidates to be considered for designation as priority airports and airports of interest. The RI list contained 13 airports because 5 airports had 4 RIs, while the RI Rate list contained 10 airports. These airports are listed in Figure 2.

The Regional Runway Safety Team (RRST) evaluated the candidate airports and selected the remaining priority airports and airports of interest. The primary factor considered was the number of RIs, since each RI represents the potential for a collision. The second major factor considered was the RI rate, since a high rate may indicate issues specific to that airport. The team gave additional consideration to airports that had experienced two or more wrong surface events, including wrong-surface alignments. Finally, the team took into account increases in each type of RI—pilot deviations (PD), operational incidents (OI), and vehicle/pedestrian deviations (VPDs at each airport.

Eight of the 15 candidate airports were common to both lists: BJC, HIO, BOI, MWH, GTF, PIH, RDM, and TIW. BJC, APA, and HIO were selected to join the Core 30/50 Busiest Airports to complete the list of priority airports. From the remaining candidate airports, four (BOI, COS, MWH, and PIH) were selected to be airports of interest. As this RRSP is a living document, this information may be updated if subsequent data shows a significant change. See **APPENDIX C** for a complete list of Airport Codes.

ANM Priority Airports

Additionally, due to their connectivity and impact to mu ltiple facilities with in the region, the RRST c ontinues to work various systemic aviation issues. The RGC may elevate systemic issues as appropriate to their respective headquarters Line of Business or to the National Runway Safety Governance Council. The ANM plan priorities listed on the following page will be reported up to the RGC by the RRST as appropriate.

ANM Priority Airports

- Centennial Airport (APA)
- Rocky Mountain Metropolitan Airport (BJC)
- Portland-Hillsboro Airport (HIO)
- Denver International Airport (DEN)*
- Portland International Airport (PDX)*
- Seattle-Tacoma International Airport (SEA)*
- Salt Lake City International Airport (SLC)

*Core 30/Busiest 50

ANM Airports of Interest

- Boise Air Terminal/Gowen Field (BOI)
- Colorado Springs Municipal Airport (COS)
- Grant County International Airport (MWH)
- Pocatello Regional Airport (PIH)

The RRST established a three-tier support structure for ANM airports:

1. Seven Priority Airports
2. Four Airports of Interest
3. Monitored (all remaining) Airports

Specific activities and initiatives within this plan directly address the first two tiers noted above. The RRSPM(s) will take appropriate action to monitor and the remaining airports and address increasing surface error trends and/or raise the level of attention within the RRST.

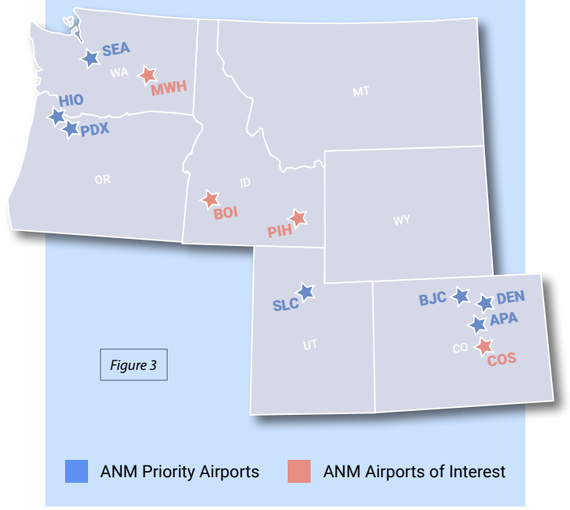


Figure 3

FY21 Regional Runway Safety Plan Initiatives

To assist with the implementation process of this plan, the RRST has developed the initiatives noted in Figure 4 as its primary focus. The RRST will be working in concert with the appropriate field office manager within each respective Line of Business to implement the initiatives as outlined.

In addition to these priorities and currently identified initiatives, the RRST will monitor and elevate appropriate impromptu issues to the RGC. The RRST will monitor additional Airports of Interest that may not have risen to the level of RGC coordination at the time this plan was developed. This is a living document and the RRST may update the issues if deemed appropriate by them or the council.

All major lines of business have collaborated in the development of this plan, which will be updated annually by the RRST and with concurrence from the RGC. The purpose of this plan is to document Northwest Mountain Region priorities for FY21.

To support the National Runway Safety Plan (NRSP), the Northwest Mountain Regional Runway Safety Team (RRST) has developed Initiatives for the FY2021 Regional Runway Safety Plan (RRSP). These initiatives are discussed in Sections 2.0 through 5.0 below. For continuity, the RRSP initiatives are aligned with the four components of the SMS.

Runway Safety Program Order 7050.1 prescribes the FAA Runway Safety Program (RSP). This directive establishes policy, assigns responsibility, and delegates authority for ensuring compliance with this order within each organization.

Unless otherwise indicated, all initiatives will run for the full fiscal year. Progress reports and any requests for assistance will be briefed at least quarterly to the Regional Runway Safety Governance Council.

The following initiatives are addressed in this plan:	
1.1	Incorporation of Trend Information
1.2	Hot Spot Validation and Review
2.1	Local RSAT Support—General
2.2	Local RSAT Support—Priority Airports: APA, BJC, HIO, DEN, PDX, SEA, and SLC
2.3	Local RSAT Support—Airports of Interest: BOI, COS, MWH, and PIH
3.1	Runway Safety—SMS Continuity
4.1	Wrong Surface Operations
4.2	Reduce Pilot Surface Errors
4.3	Runway Incursion Mitigation (RIM) Program Support

Figure 4

Throughout this section, each RRST Line of Business (LOB) or Organization is referenced as follows:

Acronym	Line Of Business / Organization
RS	Runway Safety
AFX	Flight Standards Service
ATO	Air Traffic Organization
ARP	Airports Division
NATCA	National Air Traffic Controllers Association
SUPCOM	FAA Supervisory Committee
ANM-1	Northwest Mountain Regional Administrator's Office

1. Safety Assurance

A set of processes within the SMS that verify that the organization meets or exceeds its safety performance objectives and that function systematically to determine the effectiveness of safety risk controls through the collection, analysis, and assessment of information.

Activity 1.1

Incorporation of Trend Information

Objective: Continued monitoring, evaluation, and adjustment of the ANM Priority Airports

Rationale/Background: Runway Safety efforts are an ongoing process; therefore, trend assessment and monitoring plans must continue to be evaluated. All ANM Airport trends will be routinely monitored, and if the RRST deems airports that were not placed on the Priority list in this RRSP worthy of more focused attention, they may be added to the RRSP and appropriate mitigations and monitoring plans developed.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Item:

1.1a RRST members will review and assess regional trend data during each monthly team meeting. If any new trends emerge that the team determines merit extra monitoring, mitigation, and/or addition to this plan, the changes will be made to this document as required.

Target Date:
Monthly, during RRST meetings

Activity 1.2

Hot Spot Validation and Review

Rationale/Background: The baseline data generated by Runway Safety as ANM FY2018 Initiative 4.2 Hot Spot Validation and Review, Action Item 2, showed minor effects from the publication of hot spots alone. At locations that experienced a positive change in hot spot incidents, some action was taken by a local entity – air carrier, airport sponsor, or air traffic – that affected the change.

For example, at Hot Spot 1 in Boise, events were increasing until the tower reached out to several air carriers that fly into Boise, informed them of

the nature of the problem and that their carrier had posted events at the hot spot, which led to two carriers listing the Hot Spot information on the 10-7 page for pilots. Additionally, Boise Airport repainted the taxiway centerlines, installed surface-painted signs, and refocused elevated runway guard lights to be more visible to pilots. Events since these steps were taken have significantly decreased. Similar decreases in event rates have been seen at Seattle (SEA) as a result of either geometry or procedural changes, at Denver as a result of Jeppesen inserting a zoomed-in image of the hot spot on their DEN chart, and at King County (BFI) due to a change in taxi instructions.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Items:

1.2a The RRST will undertake a systematic review of published Hot Spots in the region. RRST will review published hot spots to determine if they accurately represent a current surface safety issue and take action to eliminate or modify hot spots, as appropriate. This activity will take place annually. ARP will report on any physical modifications to ANM Hot Spot locations during the monthly RRST meetings.

Target Date:
June 30, 2021

1.2b RRST Members will advocate for action beyond the publication of hot spots. These actions may include procedural changes, phraseology changes, signs and marking changes, geometry changes, and outreach to local users and operators.

Target Date:
September 30, 2021

2. Safety Risk Management (SRM)

A process within the SMS composed of describing the system; identifying the hazards; and analyzing, assessing, and controlling risk.

Activity 2.1

Local RSAT Support—General

Objective: Provide advanced in-depth technical knowledge and experience of the NAS to support the reduction of risk at airports in ANM.

Rationale/Background: Local Runway Safety Action Team (LRSAT) meetings provide the foundation of the Runway Safety Program and are the primary means to identify and address site-specific surface risk. The technical expertise provided by Runway Safety and its LOB partners helps to ensure the most appropriate and effective outcomes from Local RSAT meetings. In addition to the specific RRSP Initiatives (2.2–2.3), participation by RRST members or their designees in all LRSAT meetings in the region is highly encouraged.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Items:

2.1a ANM Runway Safety will provide an updated list of upcoming RSAT meetings in the region.

Target Date:
Monthly

2.1b ANM Runway Safety will promote Pilot/Controller Forums that coincide with annual RSAT meetings.

Target Date:
September 30, 2021

Activity 2.2

Local RSAT Support—Priority Airports: DEN, PDX, SEA, SLC, APA, BJC, HIO

Objective: Provide advanced in-depth technical knowledge and experience of the NAS to support the reduction of risk at Priority Airports

Rationale/Background: The airports listed above have been named by the RRST as having the most pervasive and challenging surface risks in the region. To support the identification of, and the most appropriate and effective mitigations to, surface safety risks, the RRST core members (or their representative) from each LOB are requested to participate in the LRSAT meetings at ANM FY21 Priority Airports. The RRST member will be the subject matter expert for runway safety-related issues pertaining to their LOB and will proactively solicit input from field managers to obtain locally possible solutions to identified surface safety concerns. A pre-RSAT meeting will be held in the preceding 30 days among RRST members to discuss site-specific concerns. This meeting may be in conjunction with an RRST meeting. The facility and airport sponsor should be invited to participate in this meeting as well.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Item:

2.2a Core RRST members, or their delegates, will participate in the following activities on behalf of the FY21 RRSP Priority Airports DEN, PDX, SEA, SLC, APA, BJC, and HIO:

- Remain actively engaged with the Priority Airports and maintain awareness of their runway safety related issues and concerns
- Coordinate with appropriate parties within their LOB to be aware of the Priority Airports and attendant activities within the RRSP
- Coordinate for appropriate LOB representatives to participate in the pre-RSAT meeting
- Coordinate for appropriate LOB representatives to participate in person at the annual RSAT meeting
- Actively track action items that have been accepted by their LOB/ organization

In addition, Runway Safety will accomplish the following:

- Work with Priority Airports to schedule RSAT meetings at least 60 days in advance
- Track surface event trending at Priority Airports
- Track progress overall toward completing action items
- Facilitate additional activities where mitigations are not showing positive results
- Be prepared to brief ANM Runway Safety Governance Council on all matters pertaining to priority airports

Target Date:
September 30, 2021

Activity 2.3

Local RSAT Support—Airports of Interest: BOI, COS, MWH, PIH

Objective: Provide additional support and participation by regional and service area entities to reduce the number and severity of surface events at Airports of Interest.

Rationale/Background: Airports identified by the RRST as Airports of Interest will receive elevated attention in addressing airport surface risks. At least one person from each LOB is requested to participate in the annual RSAT meetings for these airports to support the reduction of surface risk. The additional support of regional and service area entities will have a positive influence in reducing the number and severity of surface events at the airport through the direct and informative support of the RSAT.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Item:

2.3a RRST members will participate in the following activities on behalf of the FY21 RRSP Airports of Interest: BOI, COS, MWH, PIH:

- Coordinate with appropriate parties within their LOB to be aware of the Airports of Interest and attendant activities within the RRSP
- Coordinate for LOB participation at the annual RSAT meeting, at least virtually
- Actively track action items that have been accepted by their LOB/ organization

In addition, Runway Safety will accomplish the following:

- Track surface event trending at Airports of interest
- Track progress overall toward completing action items
- Facilitate additional activities where mitigations are not showing positive results.

Target Date:
September 30, 2021

3. Safety Policy

The documented organizational policy that defines management's commitment, responsibility, and accountability for safety. Safety Policy identifies and assigns responsibilities to key safety personnel.

Activity 3.1

Runway Safety and SMS Continuity

Beginning with the 2015–2017 NRSP, the Runway Safety Group committed to align its activities with the FAA Safety Management System. This plan presents a portfolio-based approach to risk management by addressing the diverse initiatives associated with each SMS component.

Policy, responsibility and accountability that bear on surface safety, and the organizations charged with risk mitigation and safety improvement, are put forth in FAA JO 7050.1B Runway Safety Program (RSP) and the National Runway Safety Plan.

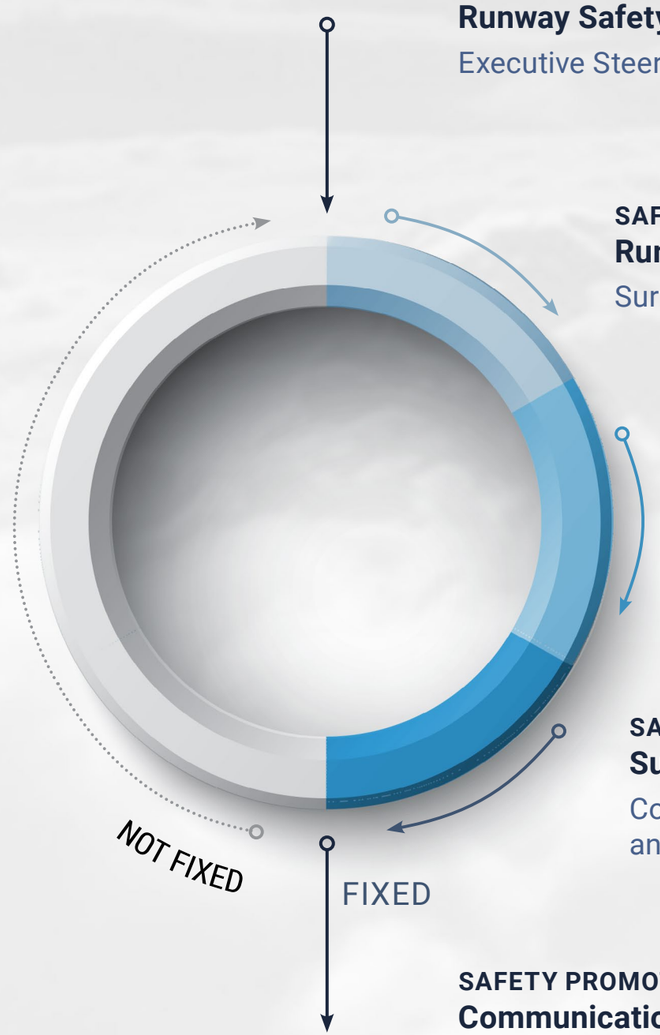
RSP: The RSP is intended to improve surface safety by decreasing the number and severity of Runway Incursions (RI), Runway Excursions (RE), and other Surface Incidents (SI).

NRSP: The FY2018-2020 NRSP builds on the achievements of the NRSP 2015-2017, most fundamentally through the integration of the Safety Management System principles into the Runway Safety strategy. The current plan favors iterative steps in support of data-driven, risk based decision-making. It outlines methods and collaboration opportunities to identify and mitigate safety risks. Three strategic steps include Data Collection and Analysis, Plans and Policy, and Communicating Change.

Within the FY21 Northwest Mountain Region (ANM) RRSP, the RRST used a methodology and process to objectively determine the priorities with which its collective efforts would have the most potential for surface safety improvement and severity reduction amongst ANM airports. This process is described in the RRSP Methodology section in **APPENDIX D**.

The FY21 ANM RRST, in accordance with the NRSP, leverages and combines the expertise of Office of Airports, Flight Standards Service, Runway Safety Group, and Air Traffic Technical Operations and Terminal Services, toward the mutual goal of surface risk reduction.

How We Are Collaborating



4. Safety Promotion

The communication and distribution of information to improve the safety culture and the development and implementation of programs and/or processes that support the integration and continuous improvement of the SMS.

Activity 4.1

Wrong Surface Operations

Objective: Reduce the risk of wrong surface operations in ANM.

Rationale/Background: Wrong Surface Landings continue to be an ATO Top Five safety issue. Additionally, during the FY2017 RRSP plan year, Western Service Area (WSA) Quality Assurance Group (QAG) identified an increasing trend in Wrong Surface Landings at airports within the service area. This resulted in an analysis of WSA events and QA Bulletin issued to the field in June 2017 to educate air traffic controllers about contributing factors in wrong surface events. Other activities toward Wrong Surface Operations (WSO) have ensued, including production of a Wrong Surface Landing video and most recently convening a high-level Safety Summit to engage and energize all stakeholders within and outside of FAA around the issue. Starting in FY2019, Wrong Surface Operations was incorporated into the FAA Strategic Plan and Special-Focus Runway Safety Action Team (RSAT) meetings were held at various airports with a history of wrong-surface operations, including BOI in 2019 and APA in 2020.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Item:

4.1a Follow, develop, promote and participate in activities throughout FY2021 aimed at reduction of Wrong Surface Operations. Combine efforts with other LOBs regionally and/or nationally as appropriate. Report on WSO initiatives and progress toward risk reduction to the RGC quarterly.

Target Date:
Quarterly by December 31, 2020, March 31, 2021, June 30, 2021, September 30, 2021.

Activity 4.2

Reduce Pilot Surface Errors

Objective: Elevate stakeholder awareness of pilot surface error trends and pilot best practices toward reduction of surface events.

Rationale/Background: Historically, Pilot Deviations (PD) remain the prevalent contributor of runway incursions within the NAS. For FY2020, approximately 67 percent of RIs are categorized as PDs. Of those, 86 percent were caused by FAR Part 91 operators.

In late 2017, the ATO identified runway incursions as one of the "high-priority safety issues" that needed to be addressed across LOBs. [Runway Incursion Safety Issue, Safety Risk Management Document Version 1.0, dated September 22, 2017]. One of the hazards determined by this panel was the "incorrect presence of aircraft in the protected area designated for takeoff or landing of an aircraft" (Hazard 16-RI-PD).

In the Safety Requirements section addressing this hazard, Item 5 calls for "a Runway Safety Action Team [scheduled] in conjunction with pilot/controller forums." Consequently, the FAAST FY19 National Performance Plan item NPP05 provided direction and guidance to FPMs for promoting and directly supporting Pilot Controller Forums in conjunction with the annual RSAT. A Pilot Controller Forum is a safety seminar attended by the Air Traffic Manager (ATM) and local pilots for the purpose promoting communications between ATO and National Airspace System (NAS) users.

The purpose of the annual LRSAT meeting is to identify and mitigate hazards and risks that lead to human errors that result in runway incursions and/or excursions. Often air traffic managers, particularly those at smaller facilities, are challenged to gain the participation of local pilot users and stakeholders who are critical for providing their perspective on runway safety related issues at their airport.

Pilots willingly and regularly participate in Pilot Controller Forums supported by FAA's FAAST/Wings program.

ATMs can leverage the pilot participation characteristically present at Pilot Controller Forums to obtain valuable user feedback toward their annual LRSAT meeting. Ideally, these seminars are scheduled just prior to the LRSAT in order to obtain timely information from the pilot community that pertains to surface safety.

LOB:
RS AFX ATO ARP ANM-1 NATCA SUPCOM

Action Items:

4.2a At the beginning of the fiscal year, Runway Safety will address all Air Traffic Managers and FAAST Program Managers in the region to encourage the use of a Pilot/Controller Forum in the days prior to the annual LRSAT meeting or to include surface safety in other Pilot/Controller Forums during the year.

Target Date:
December 31, 2020

4.2b Provide resources such as data and recommended best practices for use at Pilot Controller Forums to heighten pilot awareness of surface error trends and encourage use of pilot best practices during surface operations.

Target Date:
September 30, 2021

Activity 4.3

Support Runway Incursion Mitigation (RIM) Program

Objective: Improve Runway Safety's interface with the Office of Airports' Runway Incursion Mitigation (RIM) Program.

Rationale/Background: The RIM program identifies locations on airports with a history of runway incursions that are a result of airport geometry, for improvements to airfield layout, and/or airfield lighting, signs, and markings, with the goal of reducing runway incursions.

RIM locations differ from Hot Spots. The RIM program is data driven. Locations on an airport that experience three or more runway incursions in a year, or an average of one or more incursions per year over the study period, are added to the list. Hot Spots may identified based on previous runway incursions, or on the existence of factors which stakeholders feel may lead to incursions. The differences between the two programs have sometimes caused confusion on the part of airport sponsors and others.

Runway incursions can be the result of various factors, such as air traffic control procedures, pilot/controller communications, pilot deficiencies, etc. Runway Safety possesses the information and expertise to help determine whether or not the factors involved in a runway incursion at a given RIM location relate to airport geometry.

LOB:
RS ARP

Action Item:

4.3a Runway Safety will provide data and analysis on runway incursions, as needed, to help determine if airport infrastructure contributed to an incursion.

Target Date:
September 30, 2021

4.3b ARP will keep Runway Safety informed on RIM program changes in the Northwest Mountain Region.

Target Date:
September 30, 2021

5. Appendix A.

Regional Runway Safety Plan: Activity Tracker

Regional Runway Safety Plan Activity Tracking Tool

1.1 ANM RRSP FY2021 INITIATIVE:
Incorporation of Trend Information

Objective	Action Item / Activity	Initiative	LOB
Continued monitoring, evaluation, and adjustment of the ANM Priority Airports.	**Action Item 1:** RRST members will review and assess regional trend data during each monthly team meeting. If any new trends emerge that the team determines merit extra monitoring, mitigation, and/or addition to this plan, the changes will be made to this document as required.	**Target Date:** Monthly, during RRST meetings	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: Regional trend information is reviewed at each RRST meeting		

1.2 ANM RRSP FY2021 INITIATIVE:
Hot Spot Validation and Review

Objective	Action Item / Activity	Initiative	LOB
Ensure effectiveness of Hot Spots in ANM.	**Action Item 1:** The RRST will undertake a systematic review of published Hot Spots in the region. RRST will review published hot spots to determine if they accurately represent a current surface safety issue and take action to eliminate or modify hot spots, as appropriate. This activity will take place annually. ARP will report on any physical modifications to ANM Hot Spot locations during the monthly RRST meetings.	**Target Date:** June 30, 2021	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update:		
	Action Item 2: RRST Members will advocate for action beyond the publication of hot spots. These actions may include procedural changes, phraseology changes, signs and marking changes, geometry changes, and outreach to local users and operators.	**Target Date:** September 30, 2021	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: Submitted requests to have hold lines at APA Hot Spot 4 and SEA Hot Spot 2 depicted on the airport diagram.		

2.1 ANM RRSP FY2021 INITIATIVE:
Local RSAT Support—General

Objective	Action Item / Activity	Initiative	LOB
Provide advanced in-depth technical knowledge and experience of the NAS to support the reduction of risk at airports in ANM.	**Action Item 1:** ANM Runway Safety will provide an updated list of upcoming RSAT meetings in the region.	**Target Date:** Monthly	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: An updated list of upcoming RSAT meetings is sent prior to each RRST meeting and when significant changes warrant.		
	Action Item 2: ANM Runway Safety will promote Pilot Controller Forums that coincide with annual RSAT meetings.	**Target Date:** September 30, 2021	RS AFX ATO ARP NATCA SUPCOM ANM-1
	Status Update: Runway Safety promoted Pilot Controller Forums in an e-mail sent to facilities through the Districts in December 2020, during RRST meetings, and during phone conversations with ATMs.		

2.2 ANM RRSP FY2021 INITIATIVE:
Local RSAT Support—Priority Airports

Objective	Action Item / Activity	Initiative	LOB
Provide advanced in-depth technical knowledge and experience of the NAS to support the reduction of risk at Priority Airports	**Action Item 1:** Core RRST members, or their delegates, will participate in the activities listed in 2.2 on behalf of the FY21 RRSP Priority Airports DEN, PDX, SEA, SLC, APA, BJC, and HIO. In addition, Runway Safety will accomplish the following: • Work with Priority Airports to schedule RSAT meetings at least 60 days in advance • Track surface event trending at Priority Airports • Track progress overall toward completing action items • Facilitate additional activities where mitigations are not showing positive results • Be prepared to brief ANM Runway Safety Governance Council on all matters pertaining to priority airports	**Target Date:** September 30, 2021	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: All Priority Airport RSATS were scheduled at least 60 days in advance. FAA LOB-only Pre-RSAT meetings were held prior to the six Priority Airport RSATs held so far to go over surface events and action item status.		

2.3 ANM RRSP FY2021 INITIATIVE:
Local RSAT Support—Airports of Interest

Objective	Action Item / Activity	Initiative	LOB
Provide additional support and participation by regional and service area entities to reduce the number and severity of surface events at Airports of Interest.	**Action Item 1:** RRST members will participate in activities listed in 2.3 on behalf of the FY21 RRSP Airports of Interest: BOI, COS, MWH, PIH. In addition, Runway Safety will accomplish the following • Track surface event trending at Airports of interest • Track progress overall toward completing action items • Facilitate additional activities where mitigations are not showing positive results.	**Milestone:** RRST representative participation at FY21 RSAT Meetings. **Target Date:** September 30, 2021	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: FAA LOB-only Pre-RSAT meetings were held prior to the three Airport of Interest RSATs held so far to go over surface events and action item status.		

4.1 ANM RRSP FY2021 INITIATIVE:
Wrong Surface Operations

Objective	Action Item / Activity	Initiative	LOB
Reduce the risk of wrong surface landings in ANM.	**Action Item 1:** Follow, develop, promote and participate in activities throughout FY21 aimed at reduction of Wrong Surface Operations. Combine efforts with other LOBs regionally and/or nationally as appropriate. Report on WSO initiatives and progress toward risk reduction to the RGC quarterly.	**Target Date:** Quarterly by December 31, 2020, March 31, 2021, June 30, 2021, September 30, 2021.	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: From the Flight Deck videos were completed for APA and BJC, the top wrong surface landing airports in the region. APA and BJC were designated Priority Airports. The ANM RSPM gave a wrong surface operations presentation during FAAST ANM Safety Week and presentation to Seattle FSDO designated pilot examiners on airport geometry that can lead to wrong surface events.		

4.2 ANM RRSP FY2021 INITIATIVE:
Reduce Pilot Surface Errors

Objective	Action Item / Activity	Initiative	LOB
Elevate stakeholder awareness of pilot surface error trends, and pilot best practices toward reduction of surface events.	**Action Item 1:** At the beginning of the fiscal year, Runway Safety will address all Air Traffic Managers and FAAST Program Managers in the region to encourage the use of a Pilot/Controller Forum in the days prior to the annual LRSAT meeting or to include surface safety in other Pilot/Controller Forums during the year.	**Target Date:** December 31, 2020	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update: The RSPM encouraged Pilot/Controller Forums in an e-mail sent to facilities through the Districts in December 2020. The RSPM communicated with the WSA FAAST lead, as well as most FAAST Program Managers to promote Pilot/Controller Forums.		
	Action Item 2: Provide resources such as data and recommended best practices for use at Pilot Controller Forums to heighten pilot awareness of surface error trends and encourage use of pilot best practices during surface operations.	**Target Date:** September 30, 2021	✕ RS ✕ AFX ✕ ATO ✕ ARP ✕ NATCA ✕ SUPCOM ✕ ANM-1
	Status Update:		

6. Appendix B. FAA Programs & Definitions

Airport Construction Advisory Council (ACAC): ACAC is dedicated to ensuring the safety of all stakeholders operating in the National Airspace System (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.

Airports Division: The Airports Division is involved in a number of programs and initiatives focused on improving airport and runway safety and reducing the number and severity of runway incursions. Provided below is a brief synopsis of these programs:

Airport Improvement Program (AIP): The Airports Division administers the Airport Improvement Program (AIP) which provides grant funds to airport operators for airport planning and improvements. Airfield projects designed to reduce runway incursions may be eligible for AIP funding. These may include airfield geometry changes, certain Runway Safety Action Plan (RSAP) Action Items, certain airfield marking, lighting, and signage projects. All questions and discussions regarding AIP projects or eligibility must be referred to the appropriate Airports District Office (ADO).

Part 139 Airport Certification Safety Program: The Airports Division certificates airports serving air carriers utilizing aircraft over nine passenger seats. Part 139 contains a number of regulations relevant to runway safety. These include requirements and minimum standards for airport pavement; runway safety areas; airfield marking, lighting, and signage; limiting access to airport movement areas; and airfield driver training. Airport Certification Safety Inspectors conduct airfield inspections on a regular basis to ensure compliance with these and other applicable requirements. In addition, all Runway Incursions involving ground vehicles or pedestrian deviations (V/PDs) are formally investigated by the Airports Division. Any questions and discussions about compliance with Part 139 must be referred to the Airport Safety and Standards Branch (ASO-620).

Local Runway Safety Action Teams (LRSAT): The Airports Division Strives to participate in as many RSAT meetings as possible. Airports Division utilizes a Regional Tracking System to monitor Airports Division Action Items in Runway Safety Action Plans and report on the status as part of Business Plan reporting.

Runway Incursion Mitigation Program (RIM): In 2014, the Office of Airport launched the Runway Incursion Mitigation (RIM) Program to address non-standard geometry at airports. RIM initially mapped the location of all runway incursions occurring in 2007 through 2013. The data for 2014 and 2016 has since been added. This information was then overlaid upon locations where airfield geometry appeared to not meet current FAA design standards. Locations with multiple runway incursions and non-standard geometry were identified as priority RIM locations and discussions were initiated with the airport operators regarding possible changes to the airfield to address the runway incursion risks. The RIM is a dynamic and continuing program using risk-based decision making to focus resources on the planning and construction of projects to reduce the potential for runway incursions where airfield geometry may be a contributing factor.

Air Traffic Organization Technical Operations (AJW): Technical Operations is responsible for maintaining and repairing National Airspace System (NAS) equipment. This may include but is not limited to Instrumental Landing Systems (ILS). Typically, the ILS is located in between or near runways. The Airway Transportation System Specialists (ATSS) attend required instruction annually to traverse in those areas. If a deviation has occurred involving Technical Operations, a "Lessons Learned" is completed and a review of driver training records is conducted. If need be, a briefing or Service Rendered Telecom (SRT) will take place involving the parties.

Air Traffic Services (ATS): The primary purpose of the ATC system is to prevent a collision between aircraft operating in the system and to provide a safe, orderly and expeditious flow of traffic. ATS provides safe, efficient and secure air traffic control and traffic management services to system stakeholders.

Air Traffic Services Quality Control Group (QCG): The purpose of quality control, as defined in the ATO, is to assess the output (whether a product or service) of a particular process or function and identify any deficiencies or problems that need to be addressed. Within this quality control concept, it is a primary responsibility to take action, particularly at the Service Delivery Point (SDP), to ensure that these products or services meet the requirements of the SDP and the ATO organizationally. Quality Control directives outline the processes and steps utilized to ensure the quality of products and services provided at the SDP level on an ongoing basis.

Anti-Runway Incursion Device (A-RID): Any device that is used to provide a reminder to a controller that the runway surface is in use and therefore not safe to be crossed, landed upon, used for takeoff, etc.

Compliance Philosophy: The FAA relies on voluntary compliance with aviation safety regulations by certificated airmen and organizations operating in the NAS. The FAA Flight Standards Organization investigates reports of noncompliance and has a statutory responsibility to take appropriate corrective action up to and including punitive enforcement when necessary to ensure that certificated entities are meeting regulatory safety standards. In FY16, the FAA adopted a program named Compliance Philosophy that, for Flight Standards, mandates that Aviation Safety Inspectors finding any airman or organization not meeting the minimum regulatory requirements related to their certificate, evaluate underlying cause, airman/organizational attitude, and implement corrective action that promptly and effectively restores full compliance. Such actions are taken in a cooperative process involving specific compliance actions such as airman counselling, remedial training, or other specific program related to the problem(s) identified in the investigation. If the deviation does not involve intentional, reckless, or criminal behavior and the airman/organization is qualified and willing to cooperate, AFX should resolve the issue through use of compliance tools, techniques, concepts, and programs. Beyond Flight Standards, Compliance Philosophy exists throughout the FAA and is supported by the Safety Management System (SMS) approach to aviation safety.

Comprehensive Electronic Data Analysis and Reporting Tool (CEDAR): Refers to the Comprehensive Electronic Data Analysis and Reporting Tool used by ATO to report occurrences in the National Airspace System (NAS).

Construction Notice Diagrams: Construction Notice Diagrams are created for airports that are undergoing major construction projects. They currently are manually created Monday thru Friday and uploaded to the following site:

https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/Apt_Constr_Notices/

FAA Safety Team (FAAST): The FAASTeam supports the Administrator's Runway Safety initiatives by participating at LRSATs and providing Runway Safety outreach to pilots. FAASTeam employees working within (Flight Standards District Offices) FSDOs are engaged in the following efforts related to Runway Safety:

- Carry out tasks in the FAASTeam National Performance Plan (NPP) related to Runway Safety.
- Coordinate FAA outreach with airmen and aviation organizations in association with local ATC facilities and airport operators.
- Assist FSDO Inspectors in investigation of PDs to the extent that useful safety information is discovered and acted upon.
- Draft formal Safety Recommendations if applicable.
- Draft educational programs and/or products appropriate to local Runway Safety issues.
- Aviation English Language Educational Outreach (AELEO): Flight Standards' program to reduce the frequency of operations affected by Aviation English Language Proficiency (AELP).
- Utilize volunteer FAASTeam Representatives including CFIs and DPEs in all aspects of Runway Safety Promotion.
- Assist FSDO Inspectors in implementation of airman remedial training and counselling per the Compliance Philosophy.
- Report and analyze local safety issues and trends as a section of the annual FSDO Report to the FSDO Manager.

Flight Standards District Office (FSDO): On August 20, 2017, the Flight Standards Service was reorganized from a regionally (geographically) based organization to a functionally based organization employing the Safety Management System (SMS) principles of safety assurance, safety standards, Safety Risk Management (SRM), and safety promotion. Flight Standards Service has four offices:

- Office of Air Carrier Safety Assurance
- Office of General Aviation Safety Assurance
- Office of Safety Standards
- Office of Foundational Business

FSDOs are aligned with the Office of General Aviation Safety Assurance.

The Office of General Aviation Safety Assurance is comprised of functionally aligned divisions, which share responsibilities and balance the level of work identified below:

- Provides all certification and oversight activities of all aviation entities that are not under the purview of the Office of Air Carrier Safety Assurance's purview.
- Ensures consistency and standardization in application of oversight activities by the workforce, applies RBDM for enhanced and focused utilization of certification and surveillance resources, and works across the Service to ensure stakeholder and public needs are proactively and expeditiously met.
- Conducts or assists in investigating accidents, incidents, and possible violations of 14 CFR and ensures the adequacy of operators' flight procedures, operating methods, airmen qualifications and proficiency, and aircraft maintenance not under the Office of Air Carrier Safety Assurance's purview.

General Aviation and Commercial Division. The General Aviation and Commercial Division is responsible for regulations and policy development governing the training, certification, inspection, and surveillance of General Aviation (GA) airmen, flight instructors, GA air agencies (pilot schools), commercial operations (rotorcraft, external-load, agricultural, banner tow, Title 14 of the Code of Federal Regulations (14 CFR) part 125 operators, part 91, corporate, business, personal and recreational (aviation events, experimental aircraft, parachute, and ultralight operations), part 91subpart K (part 91K) fractional ownership), and public aircraft operations.

Commercial Operations Branch. The Commercial Operations Branch (AFS-820) is responsible for the operational aspects of 14 CFR part 91 (except for air traffic and aircraft maintenance rules). Additional operational responsibilities include aerial work and public aircraft operations (PAO), UAS policy and processing under part 107, private and commercial (non-air carrier) flights conducted in piston and turbine aircraft by individuals and companies under parts 91 and 125, fractional ownership program managers under part 91K, helicopter external load operators under part 133, agricultural aircraft operators under part 137.

General Aviation Operations Branch. The General Aviation Operations Branch (AFS-830) is responsible for policy and regulatory development related to the GA operational aspects of part 91 (except for air traffic and aircraft maintenance rules) as pertaining to amateur-built / recreational / personal operations aircraft, aerobatic practice, areas air shows and aviation events (including airshows, balloon events, air races, parachute demonstrations, aerobatic contests and fly-overs), civil operations of surplus military aircraft, and operations under 14 CFR parts 103 and 105. This branch also provides guidance and regulatory support for parts 101, 103, 105, and 91.

Hotspot: 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.

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

Mandatory Occurrence Report (MOR): An occurrence involving air traffic services for which the collection of associated safety-related data and conditions is mandatory. CEDAR is the preferred method of submitting MOR's.

Movement Area: The runways, taxiways, and other surface areas of an airport/heliport which are used for taxiing/hover taxiing, air taxiing, and/or takeoff and landing of aircraft, and which are under control of the operating ATCT. The movement area is typically defined in a local letter of agreement between the ATCT and airport operator.

NASAO Runway Safety Initiative (FAA/NASAO Runway Safety Initiative): As put forth in a Memorandum of Understanding (MOU) between FAA and NASAO (National Association of State Aviation Officials) both parties will explore methods of working collaboratively, to provide and disseminate information on runway safety in order to reduce both incursion and excursions at towered controlled airports. The focus will be on providing educational outreach and subject matter expertise to the aviation community regarding Runway Safety operations, regulations, and related issues. The MOU is considered an ongoing commitment, until both FAA and NASAO determine the objectives of the MOU have been satisfactorily achieved.

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.

Runway Safety Council (RSC): The mission of the RSC is to provide government and industry leadership to develop and focus implementation of an integrated, data-driven strategy to reduce the number and severity of runway incursions. The vision to develop a world-class methodology for achieving the highest levels of runway safety. To enable the data-driven approach to runway safety, the RSC chartered a joint government and industry team to analyze key runway safety events, conduct integrated causal and human performance analyses from a systems perspective, and recommend intervention strategies.

Regional Runway Safety Governance Council (RSGC): Chaired by the Regional Administrator or designee, and composed of the RRSPM and executives or designees from Airports, Flight Standards, and ATO Terminal Operations. Northwest Mountain Region established the council, based on the needs of the region and the judgment of the Regional Administrator. The

council is responsible for ensuring that regional initiatives and actions are being accomplished in the appropriate manner and timeframe, and to approve/concur or provide resources, if necessary, as recommended by the RRST.

Regional Runway Safety Program Managers (RSPM): Represents the Runway Safety Group in activities within the region. Chairs the RRST, develops and implements the Regional Runway Safety Plan. For a complete description of responsibilities, please see Order 7050.1B.

Regional Runway Safety Team (RRST): The Northwest Mountain RRST is comprised of Runway Safety staff and at least one designated representative of Service Area Terminal Operations, Service Area Technical Operations, and the Flight Standards and Airports regional divisions. Advisory members of the team may include designees from each of the Air Traffic and Tech-Ops districts. Appendix F lists the members of the RRST. RRST is charged with identifying regional priorities and working through their executive representative on the RSGC to ensure that issues are properly vetted through their respective LOB and for prior coordination before RSGC meetings.

Runway Excursion (RE): A veer-off or overrun off the runway surface.

Runway Incursion (RI): 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 take-off of aircraft.

Runway Incursion Prevention Shortfall Analysis (RIPSA): Runway Incursion Reduction Program (RIRP) has initiated the Runway Incursion Prevention Shortfall Analysis (RIPSA). RIPSA was created in response to NTSB Safety Recommendation A-00-66 and is also a Call to Action NextGen Technology Initiative. Initial candidate airports were selected from a list of 484 airports that reported runway incursions over a 10-year period ending FY 2014. The candidate airports were reevaluated and the list adjusted due to changes in RI trending. RIPSA focuses on small to medium airports that do not have existing surface surveillance systems. Within the Northwest Mountain region, the NextGen team visited DeKalb-Peachtree Airport, Daytona Beach International Airport, Sanford International Airport, Miami Executive Airport, and Fort Lauderdale Executive Airport and met with airport and air traffic management to discuss the runway safety challenges at that airport, the present and planned mitigations to address runway safety related risks. The assessment report resulting from the visits suggested PDK, TMB, and FXE be revisited in FY18 for further analysis. DAB has been recommended as a potential candidate site and SFB will be reassessed in FY17. This will amount to selecting the candidate airports and identifying the technology that is the right size, right fit for that airport. The current projection is 12 to 18 months to gain approval and purchase the technology. The testing period could be up to three years

Runway Incursion Warning System (RIWS): The RIWS system has been proven to prevent incursions by alerting a driver – visually and audibly, prior to the vehicle entering a runway safety area (RSA) or other airport defined hazard zones. The system meets the technical requirements for accuracy, frequency of positional updates, prediction of vehicle position, and alerting set forth by the FAA on windows or Apple iOS based systems. This is accomplished through proprietary software algorithms and precision WAAS enabled GPS modules on each device. The combination of software and hardware make it possible to calculate the position of the vehicle, its speed and direction of travel ten times per second and to predict if the vehicle will make entry into a protected area and alert the driver with sufficient time to take corrective action if not authorized to make entry. The system has demonstrated its capability to prevent runway incursions and improve situational awareness at airports like Dallas Fort-Worth, Baltimore Washington International, Tampa and Centennial International Airports.

The RIWS solution provides airports of all sizes with an added layer of safety for vehicle movements by:

- Preemptively alerting a drive of a potential incursion into a Runway Safety Area or protected space.
- Improving situational awareness by displaying a highly accurate location of the vehicle over the airports own geographical information system maps.
- Displaying the position of aircraft and other vehicles in near real-time from sources such as the FAA ASDE-X/ ASSC systems.
- Broadcasting the position of the vehicle through FAA certified vehicle movement area transponder units to air traffic controllers and pilots.
- Displaying of static, airport pre-defined routes to common locations, to further assist in mitigating disorientation of a driver in reduced visibility or at night.

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 (including Runway Safety) and interested users of the airport. Composition of special focus teams may vary. All attendees at the RSAT meeting are considered part of the RSAT. A Regional RSAT is led by Runway Safety and a local RSAT is led by the ATCT manager.

Runway Safety Service Area Manager: Located in the Western Service Center in Renton, Washington, the manager manages the Regional Runway Safety Program Managers and interacts with the ATO Service area offices, Regional LOBs Managers, and Regional Administrators. For a complete description of responsibilities, please see Order 7050.1B.

Runway Safety Group (RSG): RSG is the focal point for runway safety initiatives in the NAS. RSG works with other FAA organizations and the aviation community to improve runway safety by reducing the frequency and severity of Runway Incursions (RI) Runway Excursion (RE) and Surface Incidents (SI). RSG responsibilities are set forth by FAAO 7050.1B, Runway Safety Program.

Runway Safety Program (RSP): RSP is a cross lines of business program focused on improving runway safety by decreasing the number and severity of runway incursion, runway excursions, and other surface incidents. The FAA lines of business are guided by FAA Order 7050.1B, Runway Safety Program. The order establishes policy, assigns responsibilities and delegates authority for ensuring compliance with this order within each organization.

Runway Safety Tracking System (RSTS): The RSTS is a web based database application employed by the RSG to track events, action items, documents and other information pertinent to FAA's runway safety mission. The primary data sources are regional and local Runway Safety Action Team meetings.

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

- **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.
- **Category A**. A serious incident in which a collision was narrowly avoided.
- **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.
- **Category C.** An incident characterized by ample time and/or distance to avoid a collision.
- **Category D.** An incident that meets the definition of a runway incursion, such as incorrect presence of a single vehicle/person/aircraft on the protected area of a surface designated for the landing and take-off of aircraft, but with no immediate safety consequences.
- **Category E.** An incident in which insufficient or conflicting evidence of the event precludes assigning another category.

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.

Surface Incident (SI): 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.

Types of Surface Events: Surface events are classified into the following types:

- **Operational Incident (OI).** A surface event attributed to ATCT action or inaction.
- **Pilot Deviation (PD).** A surface event caused by a pilot or other person operating an aircraft under its own power (see FAA Order 8020.11, Aircraft Accident and Incident Notification, Investigation and Reporting, for the official definition).
- **Vehicle or Pedestrian Deviation (VPD).** A surface event caused by a vehicle driver or pedestrian (see FAA Order 8020.11, Aircraft Accident and Incident Notification, Investigation and Reporting, for the official definition).
- **Other.** Surface events that cannot clearly be attributed to a mistake or incorrect action 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

Western Service Area Safety Working Group (WSA SWG): A number of groups in each Service Area are focused on the identification and resolution of NAS safety concerns. These groups include Quality Assurance, Quality Control Group, Runway Safety, Technical Operations and the Air Traffic Safety Action Program (ATSAP) Event Review Committee. Each group has their own defined procedures and sources of safety data. The Service Area Safety Council provides an opportunity for these groups to share information and provide mutual support for efforts to mitigate identified safety risks. The council has the following specific purposes: share information on possible safety concerns across programs, ensuring that all parties are knowledgeable about the types of safety issues being reported in the field; provide mutual support to each other in mitigating safety risks identified in each program area and ensure safety efforts are well coordinated between organizations; provide a consolidated picture for the Directors of Operations on the highest priority NAS safety issues in the Service Area. Participation in the council does not prevent any individual member from taking action to address safety risks in their own program area using the tools available to them.

7. Appendix C.

Code	Airport Name
ALW	Walla Walla Regional, WA
APA	Centennial Airport, Denver, CO
ASE	Sardy Field, Aspen, CO
BFI	Boeing Field/King CO Intl, Seattle, WA
BIL	Billings Logan International, MT
BJC	Rocky Mountain Metro, Denver, CO
BLI	Bellingham International, WA
BOI	Boise Air Terminal/Gowen Field, ID
BZN	Gallatin Field, Bozeman, MT
CFO	Colorado Air and Space Port, Denver, CO
COS	City of Colorado Springs Muni, CO
CPR	Natrona CO International, Casper, WY
CYS	Cheyenne Regional/Jerry Olsen Field, WY
DEN	Denver International, CO
EGE	Eagle CO Regional, CO
EUG	Mahlon Sweet Field Airport, Eugene, OR
GEG	Spokane International, WA
GJT	Walker Field, Grand Junction, CO
GPI	Glacier Park Intl, Kalispell, MT
GTF	Great Falls International, MT
HIO	Portland-Hillsboro Airport, Portland, OR
HLN	Helena Regional, MT
IDA	Idaho Falls Regional, ID

Code	Airport Name
JAC	Jackson Hole Airport, Jackson, WY
LMT	Klamath Falls Airport, OR
LWS	Lewiston-Nez Perce CO Airport, Lewiston, ID
MFR	Rogue Valley International-Medford Airport, Medford, OR
MSO	Missoula International, MT
MWH	Grant CO Intl, Moses Lake, WA
OGD	Ogden-Hinckley Airport, Ogden, UT
OLM	Olympia Regional, WA
OTH	Southwest Oregon Regional, North Bend, OR
PAE	Snohomish CO (Paine Field), Everett, WA
PDT	Eastern Oregon Regional at Pendleton, OR
PDX	Portland International, OR
PIH	Pocatello Regional, ID
PSC	Tri-Cities Airport, Pasco, WA
PUB	Pueblo Memorial Airport, CO
PVU	Provo Municipal, UT
RDM	Roberts Field, Redmond, OR
RNT	Renton Municipal, WA
SEA	Seattle-Tacoma International, WA
SFF	Felts Field, Spokane, WA
SLC	Salt Lake City International, UT
SLE	McNary Field, Salem, OR
SUN	Friedman Memorial Airport, Hailey, ID
TIW	Tacoma Narrows Airport, WA
TTD	Portland-Troutdale Airport, Portland, OR
TWF	Joslin Field- Magic Valley Regional, Twin Falls, ID

Code	Airport Name
UAO	Aurora State, Aurora, OR
VUO	Pearson Field, Vancouver, WA
YKM	Yakima Air Terminal/McAllister Field, WA

8. Appendix D.

ANM FY2020 to FY2021 Candidate Airports								
Ranked by RI Events								
Loc ID	RIs	RI Rate /100k	Airport Ops	Incident Type				Wrong Surface Includes Alignments
				OI	PD	VP	OT	
BJC	19	9.75	194,827	3	14	2		8
APA	18	5.42	332,036		17		1	4
HIO	15	11.43	131,230	1	12	3		1
SLC	9	3.15	285,900	1	7	1		3
BOI	8	6.83	117,173	2	6			5
MWH	7	11.01	63,603	1	2	4		1
DEN	6	1.24	483,345	1	4	1		1
COS	5	3.75	133,377	2	3			1
PIH	4	17.37	23,030		4			
GTF	4	12.17	32,875		1	2	1	
RDM	4	5.53	72,341		3	1		1
TIW	4	5.47	73,130		4			
PAE	4	3.33	120,167		2	2		3
Ranked by RI Rate								
PIH	4	17.37	23,030		4			
PDT	2	13.30	15,032					2
HIO	15	11.43	131,230	1	12			1
GTF	4	12.17	32,875		1			
MWH	7	11.01	63,603	1	2			1
BJC	19	9.75	194,827	3	14			8
BOI	8	6.83	117,173	2	6			5
RDM	4	5.53	72,341		3			1
SLE	2	5.49	36,461		2			
TIW	4	5.47	73,130		4			
APA	18	5.42	332,036		17			4
ASE	2	5.03	39,750		2			
UAO	3	4.71	63,750	1	2			

Top 10 RI Rate Common to both lists Top 13 RI Events

Figure 2

9. Appendix E. Discussion of FY2021 RRSP Airports

Priority Airports

Centennial Airport (APA)

Centennial is a very busy general aviation airport with a mixture of traffic ranging from primary training aircraft to business jets. It is a priority airport due to its high number of runway incursions. The airport experienced three wrong runway landings in FY2020 compared to two in FY2019. This is still lower than the five wrong runway landings in FY2018; however it is greater than FY2017 (1), FY2016 (0) and FY2015 (1). Centennial continues to experience a high number of runway incursions, with 18 in FY2019, up from 11 in FY2019. A Special-Focus RSAT was held in June, 2020. The resulting action items to reduce the high number of runway incursions on Taxiway B8 have not been completed.

Portland-Hillsboro Airport (HIO)

HIO is a busy general aviation airport with a mixture of traffic ranging from primary training aircraft to business jets. It is a priority airport due to its continued high number of runway incursions. HIO experienced 15 runway incursions in FY2020, compared to 10 in FY2019, though it is lower than the 24 runway incursions in FY2018.

Rocky Mountain Metropolitan Airport (BJC)

BJC is a busy general aviation airport with a mixture of traffic ranging from primary training aircraft to business jets. The airport experienced 19 runway incursions in FY2020, compared to 17 in FY2019 and 8 in FY2018. The airport experienced seven wrong runway landings and one wrong alignment in FY2020 compared to two wrong runway landings in FY2019 and four in FY2018.

Denver International Airport (DEN)

Denver is a Core 30 airport and the busiest in ANM. DEN is a priority airport due to the emphasis on air carrier operations. DEN had 6 runway incursions in FY2020 comparted to 9 in FY2019, and 12 in FY2018. Given the large number of operations, the rate of incursions is relatively low.

Portland International Airport (PDX)

PDX is a Regional Administrator's 50 airport. PDX is a priority airport due to the emphasis on air carrier operations. The airport had one runway incursion in FY2020, down from five in FY2019.

Seattle-Tacoma International Airport (SEA)

SEA is a Core 30 airport. SEA is a priority airport due to the emphasis on air carrier operations. The airport experienced 3 runway incursions in FY2020, down from 14 in FY2019. Two involved aircraft taxiing to the terminal after landing. One factor is the airport's geometry. At SEA, all three runways are on the same side of the terminal. Aircraft that land on the outer Runway (16R/34L) have to cross two runways to get to the terminal, increasing the opportunity for runway incursions.

Salt Lake City International Airport (SLC)

SLC is a Core 30 airport. SEA is a priority airport due the emphasis on air carrier operations and the number of runway incursions. The number of runway incursions has varied year to year, with 9 in FY2020 compared to 11 in FY2019, 4 in FY2018 and 14 in FY2017. Six of the incursions involved general aviation aircraft.

Airports of Interest

Boise Airport (BOI)

Boise has an ongoing pattern of wrong runway landings and alignments. There were three wrong runway landings in FY2018, one involved a Part 121 operator landing on a closed runway that was occupied by vehicle. In FY2019, there were two wrong runway landings. Additionally, there were at least two instances where controllers identified that an aircraft was lined up on the wrong runway in time to take corrective action and another event where an aircraft mistakenly landed on the assault strip southeast of the airport. A Special-Focus RSAT was held in July, 2019 to address Boise's wrong surface landing issue. Not all of the resulting action items have been completed. In FY2020, there were two wrong runway landings and three instances wee controllers identified an aircraft was lined up on the wrong runway in time to take corrective action. Total wrong surface landings are down from five in FY2017; however, the number of wrong surface events remains high, indicating continued wrong surface confusion.

City of Colorado Springs Municipal Airport (COS)

COS is an airport of interest due to its elevated number of runway incursions It experienced five runway incursions in FY2020, up from two in FY2019 and none in FY2018.

Grant County Int'l Airport (MWH)

MWH is an airport of interest due to its elevated number of runway incursions and the unique layout of the airport. It experienced seven runway incursions in FY2020, up from two in FY2019 and two in FY2018. Four of the FY2020 incursions were caused vehicles involved in construction on the airfield.

Pocatello Regional Airport (PIH)

PIH is an airport of interest due to the number of runway incursions (four) compared to the low number of operations at the airport (23,030), resulting in a runway incursion rate of 17.37 per 100,000 operations.

10. Appendix F. Regional Runway Safety Team Roster

Positions and Contact Information

Name	Position / Organization Representing	Team Role	Phone
Runway Safety			
Koran, Kent	ANM Runway Safety Program Manager, AJI-144	Core	206-231-2485
Regional Administrator's Office			
Lardie, Leslie	Senior Advisor, ANM-002	Core	206-231-2008
Airports Division			
Ritchie, Jason	Manager, Safety & Standards Branch, ANM-620	Core	
TBD	Lead Airport Certification Safety Inspector, ANM-620		206-231-4118
Hirsch, Cindy	Lead Civil Engineer, Safety & Standards Br, ANM-620		206-231-4113
Air Traffic Services			
Novia, Robert	Group Manager, WSA QCG, AJV-W14		206-351-3813
Wright, Mindy	Team Manager, WSA QCG, AJIV-W14	Core	206-231-2475
Flight Standards Service			
Thomas, Kenneth A.	WSA Safety Liaison Team Lead, AFS-850	Core	907-474-0276
NATCA			
Johnson, Brandon	NATCA Regional Representative		386-299-6201
Quality Assurance			
Meigs, Mike	WSA QA Manager, AJI-124	Core	206-321-2056
Schimpf, Brian	WSA QA Team Manager, AJI-124		206-231-2055
SUPCOM			
Thomas, Kyle	SUPCOM Safety		330-492-3801
Technical Operations			
Stewart, Kevin	Deputy Director, WSA Technical Operations, AJW-W	Core	206-231-2355
WSC Operations Support Group			
Wilhelm, Glen	Airspace & Procedures Specialist, AJV-W29		206-231-2229

For More Information:

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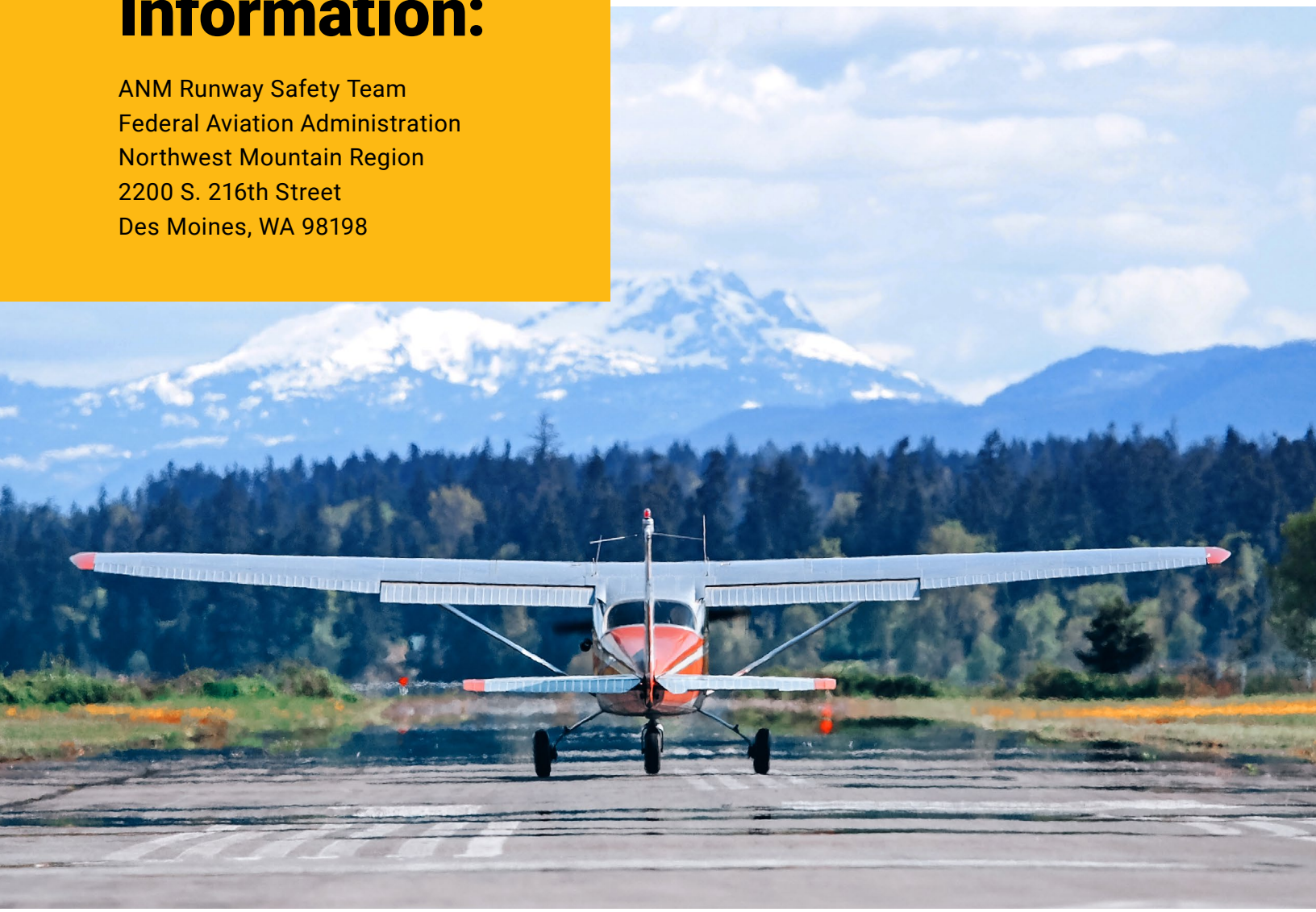
Des Moines, WA 98198



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