

SECTION I: SE OVERVIEW

Study Topic Overview Summary CAST chartered the Runway Excursion (RE) Joint Safety Analysis and Implementation Team (JSAIT) in 2012 to review the findings and recommendations from 15 industry reports by 11 different organizations and authorities on the issue of RE. From those reports, the team identified 155 contributing factors and 274 recommendations that it eventually consolidated into 45 Standard Problem Statements (SPS) and 75 Intervention Strategies (IS). The RE JSAIT grouped, analyzed, and consolidated the ISs into 7 SEs for industry implementation and 1 research and development (R&D) SE. CAST approved the SEs the RE JSAIT recommended in June 2014.

SE Objective CAST recommends airport operators and the FAA Office of the Associate Administrator for Airports (ARP) modify policies and procedures to mitigate the consequences of runway excursions.

Primary Risks Mitigated Runway Excursion (RE)

Action	Organization(s)	Strategy	Description	Due Date
Action 1	FAA ARP	Infrastructure	Improve runway safety areas (RSA), including implementation of engineered materials arresting system (EMAS) or other mitigation strategies.	12/31/2018
<i>Comments: CAST closed this action based on FAA ARP reporting all 14 CFR part 139 airports meet RSA standards or have been improved to the extent practical.</i>				
Action 2	FAA ATO	Policy	Improve communication between air traffic control (ATC), flightcrews, and aircraft rescue and fire fighting (ARFF) personnel after occurrence of an RE.	12/31/2015
<i>Comments: CAST closed this action based on issuance of Air Traffic Bulletin.</i>				

See section II of this SE for detailed action descriptions.

References: The detailed analysis in the Runway Excursion Joint Safety Analysis and Implementation Team (RE JSAIT) Final Report (February 12, 2015) is available through CAST.



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SE 221 consists of two actions, which this section lays out in detail.

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- **Action 2 (FAA ATO, FAA ATO AJT).....PAGE 4**
Improve communication between ATC, flightcrews, and ARFF personnel after RE events

SECTION III: SUPPLEMENTAL INFORMATION

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This section contains the following additional information that may be of interest to implementers:

- Source Study
- Related Initiatives
- Total Cost / Resource Overview

SECTION IV: REVISION LOG

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This section provides a history of revisions to this SE.

SECTION II: DETAILED ACTION INFORMATION

Action 1: Improve runway safety areas through EMAS implementation or other mitigation strategies

Primary Implementer	FAA Office of the Associate Administrator for Airports (ARP)	
Action Objective	FAA ARP should work to improve runway safety areas (RSA), including the implementation of engineered materials arresting system (EMAS) or other mitigation strategies, as applicable.	
Action Timeline	Flow Time: 54 months	
	Due Date: 12/31/2018	
Timeline/Flow for Future Adopters	TBD	
CAST Lead	FAA ARP	
#	Organization(s)	Detailed Steps
1a	FAA ARP	<p>Implement a prioritized risk mitigation plan for runways that do not meet the guidance for RSAs contained in FAA Advisory Circular (AC) 150/5300–13A, Airport Design. Mitigation plans will include, but not be limited to, implementation of EMAS at runway ends where existing geographic restrictions do not allow for an overrun/undershoot area that meets the standards in the AC.</p> <p><i>As of February 2018, all runway safety areas at 14 CFR part 139 airports in the United States have been improved to the extent practical.</i></p>
1b	FAA ARP	<p>Track implementation and report progress to JIMDAT and CAST.</p> <p><i>Reported to JIMDAT and CAST in February 2018.</i></p>
Notes	<ul style="list-style-type: none"> FAA ARP has already developed and is currently executing a prioritized risk mitigation plan for runways that do not meet the RSA standards in AC 150/5300–13A. 	

SECTION II: DETAILED ACTION INFORMATION

Action 2: Improve communication between ATC, flightcrews, and ARFF personnel after RE events

Primary Implementer	FAA Air Traffic Organization (ATO)	
Action Objective	FAA ATO should work to improve communication between air traffic control (ATC), flightcrews, and aircraft rescue and fire-fighting (ARFF) personnel after the occurrence of an RE event.	
Action Timeline	Flow Time: 18 months	Due Date: 12/31/2015
Timeline/Flow for Future Adopters	N/A	
CAST Lead	FAA ATO	
#	Organization(s)	Detailed Steps
2a	FAA ATO Office of Terminal Services (ATJ)	<p>Direct all tower facility managers to review their letters of agreement (LOA) that involve Airport Emergency Plans, as required by FAA Order 7210.3, Facility Operation and Administration, to consider the following to aid in airport emergency response:</p> <ul style="list-style-type: none"> a. Include possible use of a local dedicated radio frequency, specifically assigned for communication between air traffic controllers, aircraft rescue and fire-fighting (ARFF) response personnel, and flightcrews involved in an accident, as recommended by FAA Advisory Circular (AC) 150/5210-7D, Aircraft Rescue and Fire Fighting Communications. b. Effective communication of an accident location on the airport property—including recommended use of airport grid maps as described in AC 150/5200-31C, Airport Emergency Plan—to minimize time needed for ARFF to reach the scene. <p><i>Air Traffic Bulletin issued.</i></p>
2b	FAA ATO	Track implementation and report to JIMDAT and CAST.
	<i>Reported to JIMDAT and CAST in December 2015.</i>	
Notes	The estimated costs and schedule do not include hardware/software installation that may be needed to add a local dedicated radio frequency at all airports.	

Note: See Section III for detailed costs and resources.

SECTION III: SUPPLEMENTAL INFORMATION

Source Study	Runway Excursion Joint Safety Analysis and Implementation Team (RE JSAIT) Final Report (February 12, 2015)	
Related Initiatives	<ul style="list-style-type: none"> FAA Advisory Circular (AC) 150/5200–31C, Airport Emergency Plan FAA AC 150/5300–13A, Airport Design FAA AC 150/5210–7D, Aircraft Rescue and Fire Fighting Communications FAA Order 7210.3, Facility Operation and Administration 	
Total Cost	N/A	<i>Note: For labor, 1 Full Time Equivalent (FTE) = \$250,000</i>
Action 1	N/A	No additional cost for Action 1. Funding has been committed through FAA Airport Improvement Program (AIP) and from the Facilities & Equipment (F&E) budgets, and funding levels through FY18 are listed below for CAST's awareness.
Action 2	N/A	Per FAA Order 7210.3, paragraph 4–3–6, it is required to review LOAs annually and update as necessary. This work can be done during this review, and therefore there is no cost associated. All subsequent work would be normal responsibilities, and therefore there is no cost to revise the LOA if necessary.
Direct Resource Overview – Government	Organization	Resources Needed
	FAA ARP	<ul style="list-style-type: none"> Action 1: ~\$500,000,000 in obligated funds for FY14 and FY15 in the AIP for RSAs, including EMAS.
	FAA ATO	<ul style="list-style-type: none"> Action 1: ~\$135,000,000 in obligated funds for FY14–FY18 from F&E budget for the RSA Improvement Program for Navigational Aid (NAVAID) Mitigation.
Indirect Resource Overview	The organizations identified in this section are not expected to incur direct costs associated with implementing this SE, but they may incur indirect costs within their normal line of work.	
Organization	Description	
N/A	N/A	

SECTION IV: REVISION LOG

Major revisions (whole numbers) represent CAST-approved changes to SE language. Minor revisions (decimals) represent minor changes to target dates or completion notes that do not affect implementer actions.

Revision	Date	Description
2.0	09/17/2018	New SE format. Content reorganized and terminology updated. No substantive changes.
0.1	02/01/2018	Action 1 closed. Action 2 closed at December 2015 CAST meeting.
Original	06/05/2014	CAST adopted SE 221.