

SECTION I: SE OVERVIEW

Study Topic Overview Summary

Because approach and landing represent the most common phases of flight for aircraft accidents in the National Airspace System (NAS), the go-around serves as a primary risk mitigation tool for pilots and controllers when conditions call for approach termination or suggest the risks of continuing an approach are unacceptably high. Controllers may also call for a go-around for traffic separation or to change runways because of wind conditions. Many published studies have highlighted the safety value of—and recommended decision criteria for—go-arounds, yet established CAST metrics show the go-around rate from approaches that meet CAST-specified unstable approach criteria remains low, at less than 5 percent, while the go-around rate from CAST-defined egregious unstable approaches is 18 percent, following a recent upward trend. Moreover, go-arounds could introduce other operational risks, and their execution sometimes leads to undesired aircraft states linked to historical accident precursors.

Traditional data sources make it challenging for aviation safety teams to understand the underlying contributing factors influencing go-around-related aeronautical decision making and outcomes. By integrating Flight Operational Quality Assurance (FOQA), weather, airport, ambient lighting condition, and voluntary Aviation Safety Action Program (ASAP) data to create a complete flight story, the Aviation Safety Information Analysis and Sharing (ASIAS) fusion process provides new insights into the underlying contributing factors influencing go-arounds and their outcomes.

CAST chartered the Approach and Landing Go-Around (ALG) Joint Safety Analysis and Implementation Team (JSAT) in April 2018 to leverage ASIAS fusion data to gain new insights into two fundamental go-around-related questions:

1. Why are go-arounds infrequent in the NAS, even in cases where conditions indicate that based on established guidance, the execution of a go-around should have been warranted?
2. Why do some go-arounds result in undesired aircraft states?

SE Objective

CAST recommends establishing a working group to evaluate go-around-related air traffic control (ATC)-pilot interactions/communications and pertinent aeronautical information services to identify changes that will improve pilot-controller communications, procedures, flightcrew expectations, and go-around-related aeronautical decision making; implement new procedures; and develop or incorporate new technologies as appropriate based on those findings.

Primary Risks Mitigated

Abnormal Runway Contact (ARC), Controlled Flight Into or Toward Terrain (CFIT), Loss of Control-Inflight (LOC-I), Undershoot/Overshoot (USOS), Runway Excursion (RE), and Airprox/TCAS¹ Alert/Loss of Separation/Near Midair Collisions/Midair Collisions (MAC)

¹ traffic alert and collision avoidance system (TCAS)



SECTION I: SE OVERVIEW

Action	Organization(s)	Strategy	Description	Due Date
Action 1	Air Carriers, Air Carrier Labor Organizations, OEMs, ² FAA AFX, ³ FAA ATO, ⁴ NATCA ⁵	Collaboration	Establish a collaborative working group to identify potential changes to go-around-related phraseology, procedures, and pertinent aeronautical information services to improve pilot-controller communications, flightcrew expectations, and aeronautical decision making related specifically to go-arounds.	12/31/2024
Action 2	Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA	Procedures	Implement changes identified in Action 1 to improve go-around-related pilot-controller communications, procedures, flightcrew expectations, and aeronautical decision making related specifically to go-arounds.	06/30/2026

See section II of this SE for detailed action descriptions.

References: The detailed analysis in the ALG JSAIT Final Report is available through CAST.

² original equipment manufacturer

³ FAA Flight Standards Service

⁴ FAA Air Traffic Organization

⁵ National Air Traffic Controllers Association



TABLE OF CONTENTS

STUDY TOPIC	ALG
APPROACH AND LANDING GO-AROUND	
CICTT RISK AREAS ARC, CFIT, LOC-I, USOS, RE, and MAC	

SECTION II: DETAILED ACTION INFORMATION

PAGE 4

SE 237 consists of two actions, which this section lays out in detail.

- **Action 1 (Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA)** PAGE 4
Form a working group to identify changes to improve phraseology, procedures, services, and technologies.
- **Action 2 (Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA)** PAGE 5
Implement changes identified in Action 1.

SECTION III: SUPPLEMENTAL INFORMATION

PAGE 6

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

PAGE 8

This section provides a history of revisions to this SE.

SECTION II: DETAILED ACTION INFORMATION

Action 1: Form a working group to identify changes to improve phraseology, procedures, services, and technologies.

Primary Implementer Air Carriers, Air Carrier Labor Organizations, Original Equipment Manufacturers (OEM), FAA Flight Standards Service (AFX), FAA Air Traffic Organization (ATO), National Air Traffic Controllers Association (NATCA)

Action Objective Air carriers, air carrier labor organizations, OEMs, FAA AFX, FAA ATO, and NATCA should establish a collaborative working group to identify potential changes to go-around-related phraseology, procedures, and pertinent aeronautical information services to improve pilot-controller communications, flightcrew expectations, and aeronautical decision making.

Action Timeline Flow Time: 24 months
Due Date: 12/31/2024

Timeline/Flow for Future Adopters N/A

#	Organization(s)	Detailed Steps
1a	Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA	Conduct open and bi-directional conversations to evaluate existing go-around-related pilot-air traffic control (ATC) communications to identify methods for enhancing phraseology, procedures, and aeronautical information services to improve pilot-controller communications, flightcrew expectations, and aeronautical decision making.
1b	Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA	<p>Closing Action [TBD]</p> <p>Generate a list of identified methods and research their levels of use related to:</p> <ul style="list-style-type: none"> i. Go-around-related ATC-pilot phraseology: Consider phraseology that will decrease pilot-controller interactions during a go-around to reduce critical phase-of-flight distractions. In addition, consider introduction of phraseology like “discontinue approach” to improve pilot expectation and energy state management. ii. Go-around-related ATC-pilot procedures: Consider whether informing pilots about local ATC procedural information (such as an airport’s non-published go-around or missed approach protocols) could improve pilot expectations and reduce pilot-controller radio interactions during go-around events. iii. Other go-around-related aeronautical information services. <p>Closing Action [TBD]</p>

Notes

Note: See section III for detailed costs and resources.



SECTION II: DETAILED ACTION INFORMATION

Action 2: Implement changes identified in Action 1.

Primary Implementer Air Carriers, Air Carrier Labor Organizations, Original Equipment Manufacturers (OEM), FAA Flight Standards Service (AFX), FAA Air Traffic Organization (ATO), National Air Traffic Controllers Association (NATCA)

Action Objective Air carriers, air carrier labor organizations, OEMs, FAA AFX, FAA ATO, and NATCA should implement changes identified in Action 1 to improve go-around-related pilot-controller communications, procedures, flightcrew expectations, and aeronautical decision making.

Action Timeline Flow Time: 18 months
Due Date: 06/30/2026

Timeline/Flow for Future Adopters N/A

#	Organization(s)	Detailed Steps
2a	Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA	Implement changes identified in Action 1 to improve go-around-related pilot-controller communications, flightcrew expectations, and aeronautical decision making.
	Closing Action [TBD]	
2b	Air Carriers, Air Carrier Labor Organizations, OEMs, FAA AFX, FAA ATO, NATCA	Assess the effectiveness of the changes made in Action 2a and report to CAST.
	Closing Action [TBD]	

Notes

Note: See section III for detailed costs and resources.

SECTION III: SUPPLEMENTAL INFORMATION

Source Study

Related Initiatives
None**Total Cost** (TBD) \$USD Note: For labor, 1 Full Time Equivalent (FTE) = \$250,000

Action 1 \$435,000 USD 1.1 FTE Total includes \$160,000 for other indirect costs (travel) for five meetings.

Action 2 \$USD TBD

Organization		Resources Needed
Direct Resource Overview—Government	FAA Flight Standards Service (AFX)	<ul style="list-style-type: none"> Action 1: 0.14 FTE (assumes 0.07 FTE × 2 FAA AFX representatives) plus \$20,000 in other indirect costs (travel) for five meetings. Action 2: X.X FT TBD
	FAA Air Traffic Organization (ATO)	<ul style="list-style-type: none"> Action 1: 0.14 FTE (assumes 0.07 FTE × 2 FAA ATO representatives) plus \$20,000 in other indirect costs (travel) for five meetings. Action 2: X.X FTE TBD
	Government Chair	<ul style="list-style-type: none"> Action 1: 0.07 FTE plus \$10,000 in other indirect costs (travel) for five meetings. Action 2: X.X FTE TBD

Organization		Resources Needed
Direct Resource Overview—Industry	Air Carriers	<ul style="list-style-type: none"> Action 1: 0.28 FTE (assumes 0.07 FTE × 4 air carrier representatives) plus \$40,000 in other indirect costs (travel) for five meetings. Action 2: X.X FTE TBD
	Air Carrier Labor Organizations	<ul style="list-style-type: none"> Action 1: 0.14 FTE (assumes 0.07 FTE × 2 labor organization representatives) plus \$20,000 in other indirect costs (travel) for five meetings. Action 2: X.X FTE TBD <p><i>Note: Two pilot labor organizations are represented at CAST:</i></p> <ul style="list-style-type: none"> ○ Air Line Pilots Association, International (ALPA), and ○ Coalition of Airline Pilots Associations (CAPA).
	National Air Traffic Controllers Association (NATCA)	<ul style="list-style-type: none"> Action 1: 0.14 FTE (assumes 0.07 FTE × 2 NATCA representatives) plus \$20,000 in other indirect costs (travel) for five meetings. Action 2: X.X FTE TBD
	Original Equipment Manufacturers (OEM)	<ul style="list-style-type: none"> Action 1: 0.14 FTE (assumes 0.07 FTE × 2 OEM organizations) plus \$20,000 in other indirect costs (travel) for five meetings. Action 2: X.X FTE TBD
	Industry Chair	<ul style="list-style-type: none"> Action 1: 0.07 FTE plus \$10,000 in other indirect costs (travel) for five meetings. Action 2: TBD



SECTION III: SUPPLEMENTAL INFORMATION

*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

FAA AFX

Resources required for normal review and approval of [outputs] associated with Actions 1 and 2 as part of duties performed.

FAA ATO

Resources required for normal review and approval of [outputs] associated with Actions 1 and 2 as part of duties performed.

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
0.1	09/27/2023	Administrative update to due dates of Action 1 and Action 2 for portfolio consistency.
Original	12/01/2022	Start date based on CAST adoption