

## SECTION I: SE OVERVIEW

*Study Topic Overview Summary* In October 2008, the ASIAS Executive Board (AEB) directed its Issue Analysis Team (IAT) to conduct a follow-on study of TCAS alerts to address specific issues not focused on in earlier, broader studies. The study had several objectives: determine areas within the National Airspace System (NAS) where TCAS resolution advisories (RA) occur with high frequency, utilize NAS-wide results and expert input to guide focused investigations at key airports, and characterize the causes of RAs. In 2010, CAST adopted three SEs as a result of the study.

**SE Objective** The purpose of this SE is to conduct a study to determine if the currently available versions of TCAS are adequate to support the traffic levels predicted in the Next Generation Air Transportation System (NextGen) and to create a strategy for development of NextCAS.

**Primary Risks Mitigated** AIRPROX/TCAS Alert/Loss of Separation/Near Midair Collisions/Midair Collisions (MAC)

Action	Organization(s)	Strategy	Description	Due Date
Action 1	FAA AIR	Directed Study	Complete a study to determine if the currently available versions of TCAS are adequate to support the traffic levels predicted in NextGen.	12/31/2011
<i>Comments: CAST closed this action based on publication of Recommendations for Future Collision Avoidance Systems report.</i>				
Action 2	FAA AIR	Directed Study	Develop a "Strategy for NextCAS" based on the results of the study and recommendations from Action 1.	12/31/2012
<i>Comments: CAST closed this action based on publication of "Concept of Operations for the Airborne Collision Avoidance System X."</i>				

See section II of this SE for detailed action descriptions.

References:

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## SECTION II: DETAILED ACTION INFORMATION

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*SE 191 consists of two actions, which this section lays out in detail.*

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Complete study on use of TCAS in NextGen
- **Action 2 (FAA AIR, Work Group, CAST) .....** ..... **PAGE 4**  
Develop strategy for NextCAS

## 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: Complete study on use of TCAS in NextGen

Primary  
Implementer

FAA Aircraft Certification Service (AIR)

Action Objective

FAA AIR should charter a work group to complete a study to determine if the currently available versions of TCAS are adequate to support the traffic levels predicted in the Next Generation Air Transportation System (NextGen). The study should include recommendations to Government and industry on standards and requirements for NextCAS. Recommendations should be made with consideration of the results of the SE 188 study.

Action Timeline

Flow Time: 12 months

Due Date: 12/31/2011

Timeline/Flow for  
Future Adopters

N/A

CAST Lead

FAA AIR

#	Organization(s)	Detailed Steps
1a	FAA AIR	Develop a work group charter for a team to complete this action and present to CAST for approval. <i>Complete.</i>
1b	CAST	Approve or modify the work group charter. <i>Complete.</i>
1c	Work Group	Convene per the work group charter and conduct the study. <i>Complete.</i>
1d	Work Group	Develop a report to include recommendations to Government and industry on standards and requirements for NextCAS. <i>Complete.</i>
1e	Work Group	Present report to CAST for approval. <i>Complete.</i>
1f	CAST	Make report and recommendations available to appropriate organizations. <i>The RTCA Special Committee (SC)-147 working group issued its report, Recommendations for Future Collision Avoidance Systems, to the Program Management Committee on December 13, 2011. The committee approved and published the report, as DO-337 in April 2012 with no significant changes.</i>

Notes

Note: See section III for detailed costs and resources.



## SECTION II: DETAILED ACTION INFORMATION

## Action 2: Develop strategy for NextCAS

Primary  
Implementer

FAA Aircraft Certification Service (AIR)

Action Objective

FAA AIR should charter a work group to develop a "Strategy for NextCAS" based on the results of the study and recommendations from Action 1. The Strategy for NextCAS should consider aligning TCAS alerting algorithms with current air traffic control separation policies (500 feet).

Action Timeline

Flow Time: 12 months (upon completion of [Action 1](#))

Due Date: 12/31/2012

Timeline/Flow for  
Future Adopters

N/A

CAST Lead

FAA AIR

#	Organization(s)	Detailed Steps
2a	FAA AIR	Develop a work group charter for a team to complete this action and present to CAST for approval. <i>Complete.</i>
2b	CAST	Approve or modify the work group charter. <i>Complete.</i>
2c	Work Group	Convene per the work group charter and develop the strategy. <i>Complete.</i>
2d	Work Group	Develop a report to include recommendations. <i>Complete.</i>
2e	Work Group	Present report to CAST for approval. <i>Complete.</i>
2f	CAST	Make report and recommendations available to appropriate organizations for action. <i>"Concept of Operations for the Airborne Collision Avoidance System X" published March 2012.</i>

Notes

Note: See section III for detailed costs and resources.



## SECTION III: SUPPLEMENTAL INFORMATION

**Source Study** Issue Analysis Team (IAT) TCAS Study (2008)

**Related Initiatives** N/A

**Total Cost** N/A

	Organization	Resources Needed
<i>Direct Resource Overview – Government</i>	N/A	N/A

	Organization	Resources Needed
<i>Direct Resource Overview – Industry</i>	N/A	N/A

*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.
1.0	12/01/2011	Action 2 description revised.
Original	12/02/2010	CAST adopted SE 191.