Transport Canada Transports Canada

Advisory Circular

Subject: **SA CAT II: Special Authorization and Guidance**

Issuing Office:	Civil Aviation, Standards	Document No.:	AC 700-053
File Classification No.:	Z 5000-34	Issue No.:	01
RDIMS No.:	14569690-V13	Effective Date:	2019-12-02

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1.0 INTRODUCTION

(1) Subject to paragraph (3), this Advisory Circular (AC) is provided for information and guidance purposes. It describes an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. This AC on its own does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

(2) Operators are expected to follow the means of compliance described in this AC in all respects, unless the Minister approves an acceptable alternate means of compliance.

(3) The conditions of the associated Special Authorization (SA) appear in Appendix A of this AC. For air operators, the conditions published in Appendix A constitute part of the air operator certificate (AOC). As such, compliance with these conditions is mandatory.

1.1 Purpose

(1) The purpose of this AC is to provide Canadian air operators with information pertaining to the Special Authorization to Conduct Category II Instrument Landing System (ILS) approaches requiring a Special Authorization. This authorization is issued by Transport Canada Civil Aviation (TCCA) to Canadian air operators holding a Private Operator Registration Document (PORD) issued under subpart 604, or an AOC issued under subparts 704 and 705 of the *Canadian Aviation Regulations* (CARs).

1.2 Applicability

(1) This AC is applicable to:

- (a) Canadian air operators holding an AOC issued under subparts 704 and 705 of the CARs, a Private Operator Registration Document (PORD) issued under subpart 604 of the CARs, or foreign air operators holding a Canadian Foreign Air Operator Certificate (FAOC);
- (b) Pilots, flight dispatchers, flight followers and other operations personnel employed by the operators listed above;
- (c) TCCA inspectors with certification and safety oversight responsibilities; and
- (d) Individuals and organizations that exercise privileges granted to them under an External Ministerial Delegation of Authority.

(2) All flight operations personnel should be aware of the SA CAT II (Special Authorization Category II) requirements and should understand how these requirements compare with basic Category II or Category III ILS special authorization requirements, as detailed in Transport Canada Publication (TP) 1490 — Manual of All Weather Operations (Categories II and III).

(3) Operators are encouraged to utilize this AC to assist them in reviewing this topic and to determine the applicability of its contents to their specific aircraft types and operating conditions.

(4) This information is also provided to the aviation industry at large for information and guidance purposes.

1.3 Description of Changes

(1) Not applicable.

2.0 REFERENCES AND REQUIREMENTS

2.1 Reference Documents

(1) It is intended that the following reference materials be used in conjunction with this document:

(a) *Aeronautics Act* (R.S., 1985, c. A-2);

(b) Subpart 604 of the *Canadian Aviation Regulations* (CARs) — Private Operator Passenger Transportation;

(c) Subpart 704 of the CARs — Commuter Operations;

(d) Subpart 705 of the CARs — Airline Operations;

(e) Standard 724 of the Commercial Air Services Standards (CASS) — Commuter Operations;

(f) Standard 725 of the CASS — Airline Operations;

(g) Transport Canada Publication (TP) 308 — Criteria for the Development of Instrument Procedures;

(h) TP 312, 5th Edition, 2015-09-15 — Aerodrome Standards and Recommended Practices - Land Aerodromes*;*

(i) TP 1490, Edition 04, dated June 1 2011 — Manual of All Weather Operations (Categories II and III);

(j) Federal Aviation Administration (FAA) Order 8400.13D; Procedures for the Evaluation and Approval of Facilities for Special Authorization Category I Operations and All Category II and III Operations; Effective date October 22, 2009;

(k) International Civil Aviation Organization (ICAO) DOC 9365 — Manual of All-Weather Operations*;*

(l) ICAO DOC 9830 — Advanced Surface Movement Guidance and Control System (A-SMGCS) Manual*;*

(m) Canada Air Pilot (CAP);

(n) Canada Flight Supplement (CFS).

(2) The table below lists the regulatory authorities under which the Special Authorization for SA CAT II is issued to air operators.

For operations conducted under the following Subparts of the CARs	**The SA is pursuant to the following provisions**
604	Subparagraph 604.51 of the CARs
704	Subparagraphs 704.08(g)(i) and 704.08(g)(xi) of the CARs
705	Subparagraphs 705.08(g)(i) and 705.08(g)(xi) of the CARs

2.2 Cancelled Documents

(1) Not applicable.

(2) By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

2.3 Definitions and Abbreviations

(1) The following **definitions** are used in this document:

(a) **Autoland System** — The airborne equipment which provides automatic control of the aeroplane during the approach and landing.

(b) **Category I operation (CAT I)** — A precision instrument approach and landing with a decision height not lower than 200 feet (60 m) and with either a visibility of not less than ½ statute mile (800 m) or a runway visual range of not less than 2600 feet (800 m).

(c) **Category II operation (CAT II)** — A precision instrument approach and landing with:

(i) a decision height lower than 200 feet (60 m) but not lower than 100 feet (30 m);

(ii) a runway visual range not less than 1,200 feet (350 m) at RVR A; and

(iii) a runway visual range not less than 600 feet (175 m) at RVR B.

(d) **Category III (A) operation (CAT III (A))** — A precision instrument approach and landing with:

(i) a decision height lower than 100 feet (30 m), or no decision height: and

(ii) a runway visual range not less than 600 feet (175 m) at each of RVR A, RVR B and RVR C.

(e) **Category III (B) operation (CAT III (B))** — A precision instrument approach and landing with:

(i) a decision height lower than 50 feet (15 m), or no decision height: and

(ii) a runway visual range less than 600 feet (175 m) but not less than 150 feet (50 m) at each of RVR A, RVR B and RVR C.

(f) **Category III (C) operation (CAT III (C))** — A precision instrument approach and landing with no decision height and no runway visual range limitation.

(g) **Decision Altitude or Decision height (DA/DH)** — Means an altitude or height specified in the Canada Air Pilot or the route and approach inventory at which a missed approach must be initiated during a precision approach or an approach procedure with vertical guidance, if the required visual reference necessary to continue the approach to land has not been established.

(h) **Head Up Display (HUD)** — An airplane system which provides head-up guidance to the pilot during flight and may receive inputs from an airborne navigation system or flight guidance system.

(i) **Heads Up Guidance System (HGS)** — An airborne instrument system which presents sufficient information and guidance in a specific area of the aircraft windshield, superimposed for a conformal view with the external visual scene, which permits the pilot to maneuver the aircraft manually by reference to that information and guidance alone to a level of performance and reliability that is acceptable for the category of operation concerned.

(j) **Required Visual Reference** —In respect of an aircraft on an approach to a runway, means that portion of the approach area of the runway or those visual aids that, when

viewed by the pilot of the aircraft, enable the pilot to make an assessment of the aircraft position and rate of change of position, in order to continue the approach and complete a landing.

(k) **RVR or runway visual range** — Means the range over which the pilot of an aircraft on the centerline of a runway can expect to see the runway surface markings or the lights delineating the runway or identifying that centerline.

(l) **Special Authorizations (SA**) — Are authorizations issued by the Minister under subpart 604 and part VII of the CARs that permit the carrying out of an activity in respect of which the Minister has established requirements. SAs are included as part of the Operations Specifications.

(2) The following **abbreviations** are used in this document:

(a) **AC:** Advisory Circular;

(b) **AFM**: Aircraft Flight Manual;

(c) **ALSF:** Approach Lighting System with sequenced Flashing lights;

(d) **AOC:** Air Operator Certificate;

(e) **A-SMGCS:** Advanced Surface Movement Guidance and Control System;

(f) **ATC:** Air Traffic Control;

(g) **ATS:** Air Traffic Service;

(h) **AWM**: Airworthiness Manual;

(i) **CAA**: Civil Aviation Authority;

(j) **CARs**: Canadian Aviation Regulations;

(k) **CASS**: Commercial Air Service Standards;

(l) **CAT:** Category;

(m) **COM**: Company Operations Manual;

(n) **DA:** Decision Altitude;

(o) **DH**: Decision Height;

(p) **FAA:** Federal Aviation Administration (United States);

(q) **FAOC:** Foreign Air Operator Certificate;

(r) **FAR:** Federal Aviation Regulations (United States);

(s) **FSIMS:** Flight Standards Information Management System (FAA website);

(t) **GP:** Glidepath;

(u) **HGS:** Heads Up Guidance System;

(v) **HIRL:** High Intensity Runway Lights;

(w) **HUD:** Heads Up Display;

(x) **IAP:** Instrument Approach Procedure;

(y) **ICAO:** International Civil Aviation Organization;

(z) **ILS:** Instrument Landing System;

(aa) **IM:** Inner Marker;

(bb)	**LOC:**	Localizer;
(cc)	**LVOP:**	Low Visibility Operations Plan;
(dd)	**MALSR:**	Medium intensity Approach Lighting System with Runway alignment indicator lights;
(ee)	**MTBO:**	Mean Time Between Overhaul;
(ff)	**OFZ:**	Obstacle Free Zone;
(gg)	**PM:**	Pilot Monitoring;
(hh)	**PF:**	Pilot Flying;
(ii)	**PORD:**	Private Operator Registration Document;
(jj)	**RCL:**	Runway Centre Line;
(kk)	**RVOP:**	Reduced Visibility Operations Plan;
(ll)	**RVR:**	Runway Visual Range;
(mm)	**SA:**	Special Authorization;
(nn)	**SA CAT II:**	Special Authorization Category II;
(oo)	**SMGCS:**	Surface Movement Guidance and Control System;
(pp)	**SOPs:**	Standard Operating Procedures;
(qq)	**SSALR:**	Simplified Short Approach Lighting system with Runway alignment Indicator lights;
(rr)	**TCCA:**	Transport Canada Civil Aviation;
(ss)	**TCH:**	Threshold Crossing Height;
(tt)	**TDZ:**	Touchdown Zone;
(uu)	**TP:**	Transport Canada Publication.

3.0 BACKGROUND

3.1 General

(1) NAV CANADA has installed Instrument Landing Systems (ILS) for CAT I ILS approaches that have the performance capabilities of CAT II and CAT III ILS.

(2) CAT I ILS approaches however may not have the ground equipment and/or lighting systems necessary to qualify them to CAT II or CAT III capabilities.

(3) SA CAT II approaches are CAT I ILS approaches that under certain conditions can safely permit a Decision Height (DH) of 100ft and Runway Visual Range (RVR) values of 1200 feet, similar to a conventional CAT II instrument approach. Operators may be authorized to fly SA CAT II approaches if they meet the conditions of Appendix A of this AC.

(4) A major difference between an SA CAT II and a conventional Category II instrument approach is that the SA CAT II approach may only have approach and/or runway lighting systems intended for CAT I approaches.

(5) The ILS performance however, is capable of allowing an aircraft to reach the SA CAT II minima of 100 foot DH and 1200 RVR. Appropriate flight guidance is required for the aircraft to reach the

SA CAT II minima, to allow the flight crew to acquire the Required Visual Reference to continue the approach to a landing.

(6) Because of the reduced lighting systems, SA CAT II approaches must be flown either automatically with an operational autoland system or flown manually using an HGS system providing guidance to touchdown.

(7) SA CAT II approaches must be flown either coupled to the autopilot using an autoland system or manually flown using an HGS depending on the aeroplane equipment and associated authorizations.

Note: Approaches flown using an HGS are normally flown without coupling to the autopilot by design in accordance with the AFM as applicable.

(8) All required conditions for the issuance of special authorization SA CAT II are provided in Appendix A of this AC. The conditions in Appendix A require other SAs as a prerequisite, depending on whether the SA CAT II approaches are to be flown automatically using an autoland system or flown manually using an HGS as follows:

(a) Either of the following SAs are required for SA CAT II approaches flown using an autoland system:

(i) CATEGORY II – INSTRUMENT APPROACHES;

(ii) CATEGORY III – INSTRUMENT APPROACHES; or

(iii) Section 604.51 of the CARs, Precision Approaches – CAT II and CAT III.

(b) The SA for CATEGORY I-II-III – APPROACH OPERATIONS USING A HEADS UP DISPLAY (HUD) is required for manually flown approaches using an HGS.

3.2 Application and Structure of this Advisory Circular

(1) This Advisory Circular (AC) provides the conditions and associated guidance applicable to the SA for SA CAT II.

(2) To accomplish the above stated objectives, the AC is structured in the following sections:

(a) **Appendix A**: Stipulates the conditions which operators must meet when issued the subject SA. Compliance with these conditions is mandatory for operators and pilots conducting SA CAT II approaches.

(b) **Appendix B**: Provides specific guidance respecting the conditions for the subject SA (Appendix A). To facilitate cross-reference, the guidance in Appendix B utilizes the same numbering as the conditions in Appendix A of this AC.

(c) **Appendix C**: Features a compliance checklist for the conditions of the subject SA (Appendix A). This compliance checklist has been developed to assist operators to confirm that they are in compliance with the conditions of the SA. It also serves as an aid to Transport Canada Civil Aviation (TCCA) personnel for certification and safety oversight purposes.

(d) **Appendix D**: Provides a list of the provisions in the *Canadian Aviation Regulations* (CARs) and *Commercial Air Service Standards* (CASS) that are applicable to air operators conducting SA CAT II approaches.

(e) **Main Body**: Provides background information and general guidance.

4.0 TRANSPORT CANADA CIVIL AVIATION APPROVAL

(1) A Canadian operator should apply to their Principal Operations Inspector to request the SA for SA CAT II approaches**.**

(2) NAV CANADA can provide a letter for each published SA CAT II approach attesting that the conditions in Appendix A Part 3 have been satisfied.

5.0 FUTURE DISPOSITION

(1) TCCA is committed to maintaining a viable civil aviation transportation system, while not compromising safety. This AC will remain in effect for information purposes until further notice.

6.0 INFORMATION MANAGEMENT

(1) Not applicable.

7.0 DOCUMENT HISTORY

(1) Not applicable.

8.0 CONTACT OFFICE

For more information, please contact:

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Suggestions for amendment to this document are invited, and should be submitted via: the-email and fax number provided above.

Document approved by Pierre Ruel
for

Robert Sincennes
Director, Standards
Civil Aviation

APPENDIX A — CONDITIONS FOR SA CAT II

AUTHORITY

The **SPECIAL AUTHORIZATION: *SA CAT II*** is issued pursuant to subparagraphs 604.51, 704.08(g)(i), 704.08(g)(xi), 705.08(g)(i) and 705.08(g)(xi) of the *Canadian Aviation Regulations* (CARs). It authorizes an operator to conduct of Category II Instrument Landing System (ILS) approaches with a Decision Height (DH) as low as 100 feet and Runway Visual Range (RVR) as low as 1200 feet when using an aeroplane equipped with an approved Automatic Landing (Autoland) system or Heads Up Guidance System (HGS).

CONDITIONS

This authority is granted subject to the following conditions:

1.0 OPERATOR REQUIREMENTS

1.1 PREREQUISITE SPECIAL AUTHORIZATIONS

1.1.1 The conduct of Special Authorization SA CAT II instrument approaches using an aircraft equipped with a type certified Automatic Landing System requires:

(a) Special Authorization CATEGORY II – INSTRUMENT APPROACHES;

(b) Special Authorization CATEGORY III – INSTRUMENT APPROACHES; or

(c) Section 604.51 of the CARs; Special Authorization Precision Approaches CAT II and CAT III;

1.1.2 The conduct of SA CAT II instrument approaches using an aircraft equipped with a type certified Heads Up Guidance System (HGS) requires Special Authorization CATEGORY I-II-III – APPROACH OPERATIONS USING A HEADS UP DISPLAY (HUD).

1.2 DOCUMENTATION

1.2.1 The air operator's Company Operations Manual (COM) will address the conduct of SA CAT II approaches. The contents of the COM will include, but is not limited to:

(a) the conditions as stipulated in Appendix A of this advisory circular (AC) and associated guidance;

(b) any safety information respecting SA CAT II which the operator deems appropriate.

1.3 OPERATIONAL PROCEDURES

1.3.1 SA CAT II approaches and landings must be flown:

(a) automatically using a type certified Automatic Landing System; or

(b) manually using a type certified HGS.

1.3.2 The operator shall develop and use Standard Operating Procedures (SOPs) applicable to SA CAT II approaches.

1.3.3 The operator shall establish the required visual references necessary to descend below the decision height and to complete a safe landing and roll out.

1.4 GROUND AND FLIGHT TRAINING (INITIAL AND RECURRENT)

1.4.1 The air operator shall have an approved initial and recurrent ground and flight training program to qualify pilots to conduct SA CAT II approaches.

1.4.2 The air operator's approved initial and recurrent ground and flight training program shall include, but is not limited to:

(a) the conditions as stipulated in Appendix A of this AC and associated guidance;

(b) Differences from conventional Category II instrument approaches:

(i) Approach and runway lighting systems;

(ii) Aerodrome facilities and operating procedures;

(iii) Required Visual References for the Pilot Flying (PF) to continue the approach to landing;

(iv) Appropriate use of automation;

(v) Pilot Monitoring (PM) duties; and

(vi) Required interior and exterior aircraft lighting; and

(c) any other safety information respecting SA CAT II approaches the operator deems appropriate.

2.0 AIRCRAFT REQUIREMENTS

2.1. CERTIFICATION STANDARDS

2.2 The aeroplane utilized to conduct SA CAT II approaches must be certified to conduct Category II or Category III automatic landings, or HGS landings as applicable, and in accordance with:

(a) Chapter 523 of the *Airworthiness Manual* (AWM) — Commuter Category Aeroplanes;

(b) Chapter 525 of the AWM — Transport Category Aeroplanes;

(c) Federal Aviation Administration (FAA), *Federal Aviation Regulations* (FAR) 23, Airworthiness Standards: Commuter Category Airplanes; or

(d) FAA FAR 25 *Airworthiness Standards: Transport Category Airplanes*.

3.0 AERODROME REQUIREMENTS

3.1 REDUCED VISIBILITY OPERATIONS PLAN

3.1.1 The airport must be operated in accordance with a Reduced Visibility Operations Plan (RVOP) or a Low Visibility Operations Plan (LVOP) including:

(a) Positive aircraft and vehicle control of ground operations;

(b) Elements of a Surface Movement Guidance and Control System (SMGCS);

(c) Criteria for minimum runway snow clearance widths and windrow height; and

(d) Training requirements for airside and Air Traffic Service (ATS) personnel.

3.2 AIR TRAFFIC SERVICES

3.2.1 SA CAT II operations require an operational Air Traffic Control (ATC) tower.

3.3 RUNWAY REQUIREMENTS

3.3.1 The runway must have a declared landing distance of 6000 feet or greater.

3.3.2 Runways must have or be qualified for an ILS with a DH of 200 feet.

3.3.3 Runways must be equipped with High Intensity Runway Lights (HIRL), runway guard lights, and at least one of the following ancillary components:

(a) Simplified Short Approach Lighting system with Runway alignment indicator lights (SSALR), or

(b) Medium intensity Approach Lighting System with Runway alignment indicator lights (MALSR) with threshold bar that is separate from runway end lights.

3.3.4 SA CAT II operations at or above RVR 1600 require a Touch Down Zone (TDZ) sensor of an RVR reporting system.

3.3.5 SA CAT II operations between RVR 1600 and RVR 1200 require not less than 2 sensors of an RVR reporting system, and one of the required sensors must be for the TDZ.

3.3.6 SA CAT II operations with only one RVR sensor are restricted to RVR 1600 or above.

3.3.7 A midpoint RVR sensor is required in addition to the touchdown and rollout sensors for CAT II operations below RVR 1600 when the runway is in excess of 8000 feet in length.

3.3.8 Runway lighting systems must have standby power with a one-second transfer.

3.3.9 The touchdown RVR system must have standby power with a one-second transfer in the event of a primary power source outage.

3.4 CRITICAL AREA REQUIREMENTS

3.4.1 The ILS critical areas must be protected to provide not less than performance classification II/D/2.

3.5 ILS REQUIREMENTS

3.5.1 Prior to publishing any SA CAT II instrument approach procedure, NAV CANADA must ensure that:

(a) ILS monitors are set to CAT II limits;

(b) Dual channel ILS systems are used;

(c) The Localizer (LOC), Glidepath (GP), and Inner Marker (IM) (if operationally required due to terrain) operational status (e.g., on/off) are remotely monitored by the controlling ATC unit;

(d) The LOC, GP, and IM (if operationally required) have an approved backup power source, which provides an uninterrupted power supply in the event of a primary power source outage;

(e) The LOC, GP, and IM (if operationally required) electrical power requirements must be in accordance with TP 312 for operations down to RVR 1200;

(f) The LOC final course alignment is coincident with the Runway Center Line (RCL);

(g) The GP angle is 3.0 degrees; and

(h) The Threshold Crossing Height (TCH) is between 50 and 60 feet.

3.6 OBSTRUCTION REQUIREMENTS

3.6.1 Prior to publishing any SA CAT II instrument approach procedure, NAV CANADA must ensure that:

(a) The Obstacle Free Zone (OFZ) meets the CAT II/III OFZ standards described in TP 312; and

(b) Obstructions do not penetrate the approach light plane in accordance with TP 312.

3.7 INSTRUMENT APPROACH REQUIREMENTS

3.7.1 Prior to publishing any SA CAT II instrument approach procedure, NAV CANADA must ensure that:

(a) Runway and pre-threshold terrain is accounted for; and

(b) The missed approach segment meets the current TP 308 CAT II/III development standard.

3.7.2 The Instrument Approach Procedure (IAP) chart must include the following operational notes:

(a) PRIOR AUTH REQUIRED FROM Transport Canada;

(b) USE OF AUTOLAND OR HUD REQUIRED TO TOUCHDOWN.

3.7.3 The IAP chart must have the following operational note if the tower does not provide continuous service:

(a) PROCEDURE NOT AUTHORIZED WHEN TOWER CLOSED.

3.7.4 NAV CANADA must adjust and maintain the facility to a CAT II Performance Classification standard and ensure that it meets at least Level 2 integrity, continuity, and Mean Time Between Overhaul (MTBO) requirements.

3.7.5 The approach must meet CAT II flight inspection tolerances including the LOC CAT II structure to Point D.

3.7.6 This procedure must be distinctly promulgated as a SA CAT II approach.

APPENDIX B — SPECIFIC GUIDANCE RESPECTING THE CONDITIONS OF THE SPECIAL AUTHORIZATION – SA CAT II

B.1 Overview

(1) The matrix below provides specific guidance corresponding to the conditions specified for the Special Authorization (SA)**:** SA CAT II which appears in Appendix A of this AC.

CONDITION IN APPENDIX A (PARAGRAPH NO.)	GUIDANCE INFORMATION
1. OPERATOR REQUIREMENTS	
1.1 PREREQUISITE SPECIAL AUTHORIZATIONS	
1.1.1 The conduct of SA CAT II instrument approaches using an aircraft equipped with a type certified Automatic Landing System requires: (a) Special Authorization CATEGORY II – INSTRUMENT APPROACHES; (b) Special Authorization CATEGORY III – INSTRUMENT APPROACHES; or (c) Section 604.51 of the CARs; Special Authorization Precision Approaches CAT II and CAT III;	Either of the SAs listed are a prerequisite requirement for the conduct of SA CAT II instrument approaches when using an aircraft equipped with a type certified Automatic Landing system capable of conducting automatic approaches and landings. All conditions of the applicable SA must be met.
1.1.2 The conduct of SA CAT II instrument approaches using an aircraft equipped with a type certified Heads Up Guidance System (HGS) requires Special Authorization CATEGORY I-II-III – APPROACH OPERATIONS USING A HEADS UP DISPLAY (HUD).	This SA is a prerequisite requirement for the conduct of SA CAT II instrument approaches when using an aircraft equipped with a type certified Heads Up Guidance System (HGS) capable of providing guidance to permit manually flown approaches and landings in low visibility weather conditions. All conditions of this SA must be met.
1.2 DOCUMENTATION	
1.2.1 The air operator's Company Operations Manual (COM) will address the conduct of SA CAT II approaches. The contents of the COM will include, but is not limited to: (a) the conditions as stipulated in Appendix A of this advisory circular	Reserved.

(AC) and associated guidance; (b) any safety information respecting SA CAT II which the operator deems appropriate.	
1.3 OPERATIONAL PROCEDURES	
1.3.1 SA CAT II approaches and landings must be flown: (a) automatically using a type certified Automatic Landing System; or (b) manually using a type certified Heads Up Guidance (HGS).	Because of the reduced lighting systems, SA CAT II approaches must be flown either automatically with an operational autoland system or flown manually using an HGS system providing guidance to touchdown. • SA CAT II approaches using an autoland system must be automatically flown to touchdown. • SA CAT II approaches using an HGS must be flown manually to touchdown using the guidance provided by the HGS.
1.3.2 The operator shall develop and use Standard Operating Procedures (SOPs) applicable to SA CAT II approaches.	Reserved.
1.3.3 The operator shall establish the required visual references necessary to descend below the decision height and to complete a safe landing and roll out.	Reserved.
1.4 GROUND AND FLIGHT TRAINING (INITIAL AND RECURRENT)	
1.4.1 The air operator shall have an approved initial and recurrent ground and flight training program to qualify pilots to conduct SA CAT II approaches.	Where the air operator is SA CAT II approved, the air operator may substitute the SA CAT II approach for the CAT II approach listed in 3.4.1 (c) of the Manual of All Weather Operations (TP1490).
1.4.2 The air operator's approved initial and recurrent ground and flight training program shall include, but is not limited to: (a) the conditions as stipulated in Appendix A of this AC and associated guidance; (b) Differences from conventional Category II instrument approaches: (i) Approach and runway lighting systems; (ii) Aerodrome facilities and	Ref 1.4.2 (b) The training program must include the differences in approach, runway and aerodrome lighting systems between conventional Category II instrument approach and SA CAT II lighting systems. Ref 1.4.2 (b) (iii) The training must include the required visual references necessary to safely continue the approach to a landing with an emphasis on being prepared to conduct a safe go-around if the required visual references are lost. The training should include the acquisition of runway edge lights to help conduct a safe landing and roll-out. Ref 1.4.2 (b) (v) The Pilot Monitoring (PM) should remain heads down during the approach, landing and roll-out and call-out any deviations. Standard Operating Procedures (SOPs) should be developed to define PF and PM duties and call for SA CAT II

operating procedures; (iii) Required Visual References for the Pilot Flying (PF) to continue the approach to landing; (iv) Appropriate use of automation; (v) Pilot Monitoring (PM) duties; and (vi) Required interior and exterior aircraft lighting; and (c) any other safety information respecting SA CAT II approaches the operator deems appropriate.	approaches. Ref 1.4.2 (b) (vi) Recommended use of interior and exterior lighting should include pilot seat position and any adverse use of landing and other exterior lights in low visibility weather conditions.
2. AIRCRAFT REQUIREMENTS	
2.1 CERTIFICATION STANDARDS	
2.1.1 The aeroplane utilized to conduct SA CAT II approaches must be certified to conduct Category II or Category III automatic landings, or HGS landings as applicable, and in accordance with: (a) Chapter 523 of the Airworthiness Manual (AWM)— Commuter Category Aeroplanes; (b) Chapter 525 of the AWM – Transport Category Aeroplanes; (c) Federal Aviation Administration (FAA), Federal Aviation Regulations (FAR) 23, Airworthiness Standards: Commuter Category Airplanes; or (d) FAA FAR 25 Airworthiness Standards: Transport Category Airplanes.	Reserved.
3. AERODROME REQUIREMENTS	
3.1.1 The airport must be operated in accordance with a Reduced Visibility Operations Plan (RVOP) or a Low Visibility Operations Plan (LVOP) including: (a) Positive aircraft and vehicle control of ground operations;	Airport concurrence is required and must be obtained prior to the design of any SA CAT II approach procedure.

(b) Elements of a Surface Movement Guidance and Control System (SMGCS); (c) Criteria for minimum runway snow clearance widths and windrow height; and (d) Training requirements for airside and Air Traffic Service (ATS) personnel.	
3.2 AIR TRAFFIC SERVICES	
3.2.1 SA CAT II operations require an operational Air Traffic Control tower.	SA CAT II operations require an operational Air Traffic Control (ATC) tower to ensure separation of airborne and ground traffic in low visibility conditions, to ensure proper protection of the Localizer (LOC) and Glidepath (GP) critical areas, and to accomplish the required monitoring of ground equipment.
3.3 RUNWAY REQUIREMENTS	
3.3.1 The runway must have a declared landing distance of 6000 feet or greater.	For runways without published declared distances, the declared distances may be assumed to be equal to the physical length of the runway minus any threshold displacement.
3.3.2 Runways must have or be qualified for an ILS with a Decision Height (DH) of 200 feet.	Requests for SA CAT II approaches for a specific runway can be initiated by any operator or organization.
3.3.3 Runways must be equipped with High Intensity Runway Lights (HIRL), runway guard lights, and at least one of the following ancillary components: (a) Simplified Short Approach Lighting system with Runway alignment indicator lights (SSALR), or (b) Medium intensity Approach Lighting System with Runway alignment indicator lights (MALSR) (with threshold bar that is separate from runway end lights).	ALSF-1/ALSF-2 are also acceptable. In the event of a failure of TDZ and/or RCL lighting, or a downgrade from an ALSF-1 or ALSF-2 to an SSALR, SA CAT II operations are authorized for continued use if authorized in the operator's COM. (Note: downgrades or failures may be communicated through ATC or by NOTAM)
3.3.4 SA CAT II operations at or above RVR 1600 require a Touch Down Zone (TDZ) sensor of an RVR reporting system.	Reserved.
3.3.5 SA CAT II operations between RVR 1600 and RVR 1200 require not less than 2 sensors of an RVR reporting system, and one	The RVR sensor in the TDZ is referred to as RVR "A" and the other sensor in the mid-field is referred to as RVR "B".

of the required sensors must be for the TDZ.	
3.3.6 SA CAT II operations with only one RVR sensor are restricted to RVR 1600 or above.	Operations with a single RVR sensor require an RVR “A” sensor (RVR sensor in the TDZ).
3.3.7 A midpoint RVR sensor is required in addition to the touchdown and rollout sensors for CAT II operations below RVR 1600 when the runway is in excess of 8000 feet in length.	The State regulatory authority may approve SA CAT II operations on a runway in excess of 8000 feet with only a TDZ (RVR A) and rollout sensor (RVR B) on a case-by-case basis.
3.3.8 Runway lighting systems must have standby power with a one-second transfer.	Runway lighting systems are to be remotely monitored so that aircraft can be notified immediately if they become inoperative. Note: The approach lighting system does not require standby power or remote monitoring. (reference 3.3.3)
3.3.9 The touchdown RVR system must have standby power with a one-second transfer in the event of a primary power source outage.	Reserved.
3.4 CRITICAL AREA REQUIREMENTS	
3.4.1 The ILS critical areas must be protected to provide not less than performance classification II/D/2.	If the approach or approach facility has restrictions, it must be approved by the state regulatory authority on a case-by-case basis. ILS performance standards to Point D and Level 2 are defined by ICAO. A record of ILS Flight Check Performance is provided by NAV CANADA.
3.5 ILS REQUIREMENTS	
3.5.1 Prior to publishing any SA CAT II instrument approach procedure, NAV CANADA must ensure that: (a) ILS monitors are set to CAT II limits	Any failures of the approach system and ancillary components, which support CAT II operations that would normally downgrade the system, must be acted on in accordance with the procedures contained in TP 1490. A LOC far field monitor is not required.
(b) Dual channel ILS systems are used	Dual ILS transmitter facilities are required.
(c) The LOC, GP, and Inner Marker (IM) (if operationally required due to terrain) operational status (e.g., on/off) are remotely monitored by the controlling ATC unit	An IM is not required to support CAT II approach and landing operations, unless an RA minimum is not authorized due to terrain, obstacles, or other local requirements. This remote status monitoring is distinct from the remote maintenance monitoring done for the benefit of maintenance personnel, and distinct from the local executive integrity monitor, which automatically shuts down the facility when monitored parameters exceed specified tolerances. The remote status monitoring can be implemented by landlines, through-the-air

	receivers, fiber optics, radio links, etc.
(d) The LOC, GP, and IM (if operationally required) have an approved backup power source, which provides an uninterrupted power supply in the event of a primary power source outage.	Reserved.
(e) The LOC, GP, and IM (if operationally required) electrical power requirements must be in accordance with TP 312 for operations down to RVR 1200	Reserved.
(f) The LOC final course alignment is coincident with the Runway Center Line (RCL).	No localizer offset is permitted.
(g) The GP angle is 3.0 degrees.	GP angles other than 3.0 degrees require approval of the State regulatory authority.
(h) The TCH is between 50 and 60 feet.	The commissioned TCH shall be between 50 and 60 feet with the optimum being 55 feet. Any deviation must meet current TP 308 CAT II/III development standards, or must have a formal Flight Standards waiver to TP 308.
3.6 OBSTRUCTION REQUIREMENTS	
3.6.1 Prior to publishing any SA CAT II instrument approach procedure, NAV CANADA must ensure that: (a) The OFZ meets the CAT II/III OFZ standards described in TP312; and (b) Obstructions do not penetrate the approach light plane in accordance with TP312.	Reserved.
3.7 INSTRUMENT APPROACH REQUIREMENTS	
3.7.1 Prior to publishing any SA CAT II instrument approach procedure, NAV CANADA must ensure that: (a) Runway and pre-threshold terrain is accounted for; and (b) The missed approach segment meets the current TP 308 CAT II/III	Operational review and approval of a particular aircraft type and site-specific performance regarding “special terrain” airport runways, is necessary by the regulatory authority for CAT II minimum approvals because it is predicated on the use of autoland or HGS to touchdown.

development standard.	
3.7.2 The IAP chart must include the following operational notes: • PRIOR AUTH REQUIRED FROM TC • USE OF AUTOLAND OR HUD REQUIRED TO TOUCHDOWN	These procedures are developed in accordance with the standard TP 308 CAT II development criteria.
3.7.3 The IAP chart must have the following operational note if the tower does not provide continuous service: • PROCEDURE NOT AUTHORIZED WHEN TOWER CLOSED	Reserved.
3.7.4 NAV CANADA must adjust and maintain the facility to a CAT II Performance Classification standard and ensure that it meets at least Level 2 integrity, continuity, and MTBO requirements.	Reserved.
3.7.5 The approach must meet CAT II flight inspection tolerances including the LOC CAT II structure to Point D.	The record of ILS flight check performance can be found here: http://www.navcanada.ca/EN/products-and--services/Documents/ILS Integrity Classification_EN.pdf
3.7.6 This procedure must be distinctly promulgated as a SA CAT II approach.	Reserved.

APPENDIX C — COMPLIANCE CHECKLIST

C.1 Overview

(1) The matrix below has been developed to assist air operators in ensuring that they are in compliance with the conditions specified for the Special Authorization (SA): SA CAT II (Appendix A).

(2) This matrix also serves as an aid for Transport Canada Civil Aviation (TCCA) personnel for the purposes of certification and safety oversight.

(3) This matrix provides:

(a) A reference to the specific condition in the SA;

(b) The assessment of compliance (to be made by the air operator/private operator/TCCA personnel); and

(c) An area to record the details of the air operator's/private operator's means of compliance. (This can include, such things as the applicable references in the company operations manual, etc.)

(4) This matrix can be reproduced locally.

REQUIREMENT		COMPLIANCE (Y/N)	MEANS OF COMPLIANCE (References / Documentation)
1 OPERATOR REQUIREMENTS	**Paragraph 1.1.1** Prerequisite special authorizations		
	Paragraph 1.1.2 Conduct of SA CAT II with a HGS		
	Paragraph 1.2.1 COM contents		

	Paragraph 1.3.1 Automatic or manual systems		
	Paragraph 1.3.2 SOP development		
	Paragraph 1.4.1 Training program		
	Paragraph 1.4.2 Ground and flight training program inclusions		
2. AIRCRAFT REQUIREMENTS	**Paragraph 2.1.1** Certification Standards		
3. AERODROME REQUIREMENTS	**Paragraph 3.1.1** Reduced Visibility Operations Plan		
	Paragraph 3.2.1 Operational Air Traffic Control Tower		
	Paragraph 3.3.1 Declared landing distance		

	Paragraph 3.3.2 ILS with a DH of 200 feet		
	Paragraph 3.3.3 Runway lighting		
	Paragraph 3.3.4 RVR TDZ sensor		
	Paragraph 3.3.5 RVR sensors at RVR 1200		
	Paragraph 3.3.6 RVR sensors at RVR 1600		
	Paragraph 3.3.7 Midpoint RVR sensor		
	Paragraph 3.3.8 Standby power for runway lighting		
	Paragraph 3.3.9 Standby power for RVR system		

	Paragraph 3.4.1 ILS critical area protection		
	Paragraph 3.5.1 NAV CANADA ILS requirements		
	Paragraph 3.6.1 NAV CANADA obstruction requirements		
	Paragraph 3.7.1 NAV CANADA terrain and missed approach requirements		
	Paragraph 3.7.2 Instrument approach procedures chart notes – authorization and use of automation		
	Paragraph 3.7.3 Instrument approach procedures chart notes – ATC tower		
	Paragraph 3.7.4 NAV CANADA ILS performance classification		
	Paragraph 3.7.5 Flight inspection tolerances		

	Paragraph 3.7.6 Procedure promulgation		

APPENDIX D – APPLICABLE REGULATIONS

D.1 Overview

(1) Some of *Canadian Aviation Regulations* (CARs) and *Commercial Air Service Standards* (CASS) that are applicable to air operators conducting SA CAT II approaches.

CAUTION: The regulations listed below are not necessarily complete and up to date; and they will not necessarily be updated. Air operators and pilots are responsible for compliance with all relevant provisions.

D.2 CAR Part VI subpart 4, Part VII, Subparts 4 and 5

SUBJECT	PROVISIONS in the CARs	PROVISIONS in the CASS
Precision Approaches – CAT II and CAT III	Section 604.51	N/A
Contents of an Air Operator Certificate	Subparagraphs 704.08(g)(i) 704.08(g)(xi), 705.08(g)(i) and 705.08(g)(xi)	Sections 724.08 and 725.08
Company Operations Manual	Sections 704.121 and 705.135	Sections 724.121 and 725.135
Standard Operating Procedures (SOPs)	Sections 704.124 and 705.138	Sections 724.124 and 725.138
Flight Crew Member Qualifications	Sections 704.108 and 705.106	Sections 724.108 and 725.106
Training Program (Pilots)	Sections 704.115 and 705.124 of the CARs	Sections 724.115 and 725.124 of the CASS
Training and Qualification Records	Sections 704.117 and 705.127	N/A

Safety Management System	Sections 107.01, 107.02, 107.03, 107.04 604.183, 604.202, 604.203, 705.151, 705.152 and 705.153	N/A