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TECHNICAL ARRANGEMENT

ON

AIRWORTHINESS CERTIFICATION

Between

The Civil Aviation Authority of Singapore
and
Transport Canada Civil Aviation

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TABLE OF CONTENTS

SECTION I **GENERAL**

1.1	Authorization	5
1.2	Purpose, Scope, and Applicability	5
1.3	Principles	6
1.4	Changes in the Authority Certification Systems	6
1.5	Governance and Maintenance of Confidence.....	7
1.6	Applicable National Requirements, Procedures, and Guidance Material.	7
1.7	Interpretations and Resolution of Conflicts between the CAAS and TCCA.....	7
1.8	Cooperation on Investigation or Enforcement Action	8
1.9	Revisions, Amendments, Addendum, and Points of Contact	8
1.10	Entry into Force and Termination	9
1.11	Definitions	9

SECTION II **SCOPE OF THIS TECHNICAL ARRANGEMENT**

2.1	General	14
2.2	Products, Articles, and Associated Approvals Eligible for CAAS Acceptance or Approval.....	14
2.3	Products, Articles, and Associated Approvals Eligible for TCCA Acceptance or Approval.....	15
2.4	Provisions for Technical Assistance	15
2.5	Provisions for Special Arrangements.....	15
2.6	Summary Tables	16
	Table 1. Summary of Canadian Design Approvals and Products Eligible for Approval by the CAAS.....	17
	Table 2. Summary of Singapore Design Approvals and Products Eligible for Approval by TCCA	18

SECTION III **DESIGN APPROVAL PROCEDURES**

3.1	General	19
3.2	Acceptance Principle.....	19
3.3	Acceptance Procedures for Specific Design Approvals and Articles.....	20
	Table 3. General Overview of Eligible Design Approvals	21
3.4	Validation Principles	24
3.5	Design Approval Validation Procedures	27

SECTION IV CONTINUING AIRWORTHINESS

4.1	General	42
4.2	Malfunctions, Failures, and Defects and Service Difficulty Reports	42
4.3	Unsafe Condition and Airworthiness Directives	44
4.4	Alternative Methods/Mean of Compliance to an Airworthiness Directive	45

SECTION V ADMINISTRATION OF DESIGN APPROVALS

5.1	General	46
5.2	Transfer of Type Certificate and Supplemental Type Certificate	46
5.3	Surrender of Type Certificate or Supplemental Type Certificate	48
5.4	Revocation or Suspension of Type Certificate or Supplemental Type Certificate	49
5.5	Surrender, Withdrawal or Change of Holder of a Canadian Technical Standard Order/Singapore Technical Standard Order Certificate of Approval.....	49

SECTION VI ACCEPTANCE OF EXPORT AIRWORTHINESS APPROVALS

6.1	General	50
6.2	Export Certificates of Airworthiness.....	50
6.3	Export of New Aircraft	50
6.4	Export of Used Aircraft	51
6.5	Export of New Aircraft Engines, Propellers, Appliances, and Parts.....	52
6.6	Export of Used Aircraft Engines, Propellers, Appliances, and Parts	52
6.7	Coordination of Exceptions on Export Certificates of Airworthiness.....	52
6.8	Additional Requirements for Import	52

SECTION VII TECHNICAL ASSISTANCE BETWEEN AUTHORITIES

7.1	General	53
7.2	Witnessing of Tests During Design Approval.....	54
7.3	Compliance Determinations	55
7.4	Flammability Testing Procedures	55
7.5	Other Requests for Assistance or Support	56
7.6	Validating Authority Requirements for Foreign Design Approval Holders	56
7.7	Protection of Proprietary Data	56
7.8	Accident/Incident and Suspected Unapproved Parts Investigation Information Requests.....	56

<u>SECTION VIII</u>	<u>SPECIAL ARRANGEMENTS</u>	
8.1	General	58
<u>SECTION IX</u>	<u>AUTHORITY</u>	
9.1	General	59
<u>APPENDIX A</u>	<u>ADDRESSES</u>	60
<u>APPENDIX B</u>	<u>LIST OF REFERENCE DOCUMENTS</u>	63
<u>APPENDIX C</u>	<u>CROSS-REFERENCE OF STANDARDS</u>	65
<u>APPENDIX D</u>	<u>LIST OF ACRONYMS</u>	66

Technical Arrangement On Airworthiness Certification

covering

Design Approval, Post Design Approval Activities, and Technical Assistance

SECTION I GENERAL

1.1 Authorization

This Technical Arrangement on Airworthiness Certification (TA-AC) is authorized by paragraph 2(a)(i) and Appendix A of the *Memorandum of Understanding Between the Civil Aviation Authority of Singapore and Transport Canada Civil Aviation Concerning Civil Aviation Safety*, also known as the “Memorandum of Understanding” (MOU), dated April 9, 2019. In accordance with Appendix A of the MOU, the Civil Aviation Authority of Singapore (CAAS) and Transport Canada Civil Aviation (TCCA) (individually, the “Authority”, and collectively, the “Authorities”) have determined that the regulations, standards, and aircraft certification systems of each Authority for the design approval, and continuing airworthiness of the civil aeronautical products and articles identified in this document, are sufficiently compatible in structure and performance to support this TA-AC.

1.2 Purpose, Scope, and Applicability

- 1.2.1 This TA-AC establishes terms of cooperation between the Authorities in the domain of initial design certification, subsequent design changes and continued airworthiness and sets out procedures in order to:
- (a) Support the issuance by CAAS or TCCA, as the case may be, of certain design approvals and certificates;
 - (b) Specify the process of cooperation between CAAS and TCCA on related airworthiness approvals as a result of reciprocal acceptance of produced products or parts; and
 - (c) Provide for collaboration and technical assistance when there are significant certification activities covered by this TA-AC.

- 1.2.2 The procedures agreed under this TA-AC will be applied for persons or organizations in Canada and Singapore. Only applicants located in Singapore may submit validation applications to the TCCA through CAAS. Likewise, only applicants located in Canada may submit validation applications to CAAS through the TCCA.
- 1.2.3 The procedures under this TA-AC will not be applied for the validation and/or acceptance of any certificates or approvals issued by the Authorities pursuant to bilateral aviation safety agreements concluded between TCCA or CAAS and any third country's authority.

1.3 Principles

- 1.3.1 This TA-AC is based on mutual confidence and trust between the Authorities on their technical competence, regulatory capabilities, and similarities of each other's certification and approval systems. When a finding is made by the Certifying Authority (CA) under the laws and regulations of the Validating Authority (VA) and this TA-AC, that finding is given the same validity as if it were made by the VA. Therefore, the fundamental principle of this TA-AC is to maximize the use of the CA's aircraft certification system to ensure that the airworthiness requirements and environmental requirements of the VA are satisfied.
- 1.3.2 The Authorities mutually recognize and accept each other's delegation and oversight systems as an integral part of their certification systems. To the maximum extent permitted by this TA-AC and each Authority's regulations, the findings, compliance determinations and approvals made through these systems are given the same validity as those made directly by the other Authority.

1.4 Changes in the Authority Certification Systems

- 1.4.1 The Authorities recognize that continued confidence in each other's certification systems is based upon the continued compatibility of those systems. Therefore, the Authorities will keep each other informed of significant changes within those systems, such as changes to regulations, policies, procedures, statutory responsibilities, organizational structure, oversight, or delegation system. Accordingly, upon notice of such changes by one Authority, the other Authority may request a meeting to review the continued compatibility of the certification systems and the need for amendment to this TA-AC.
- 1.4.2 The Authorities may notify each other of relevant draft policy and guidance material and may consult on new or proposed changes to airworthiness and environmental standards.

1.5 Governance and Maintenance of Confidence

- 1.5.1 The CAAS Director for Flight Standards and the TCCA Director of Standards are the responsible persons for the administration of this TA-AC.
- 1.5.2 The CAAS Deputy Director of Airworthiness Certification and the TCCA Director of National Aircraft Certification are the responsible persons for the implementation of this TA-AC.
- 1.5.3 It is important that this TA-AC remains consistent, relevant, and current. The Authorities should review this TA-AC every two years or as otherwise agreed upon as a form of ensuring continued confidence.
- 1.5.4 The Authorities will have regular bilateral meetings as may be required to follow up on administrative changes to this TA-AC, such as to update the focal points or update of national regulations that will not affect the intent of the TA-AC.

1.6 Applicable National Requirements, Procedures, and Guidance Material

- 1.6.1 TCCA requirements for airworthiness and environmental certification of civil aeronautical products are identified in Part V, Subpart 21 of the Canadian Aviation Regulations (CAR 521). CAR 521 is the enabling regulation for incorporating by reference the comprehensive and detailed standards contained in a separate publication referred to as the Airworthiness Manual (AWM). The AWM provides separate chapters corresponding to each civil aeronautical product, including appliances that are subject to TCCA airworthiness and environmental approvals. Guidance material, policy, and procedures are contained in, but not limited to, TCCA Civil Aviation Directives, Advisory Circulars, Staff Instructions, and Supplementary Staff Instructions.
- 1.6.2 The CAAS' standards for aircraft, aircraft engine, and propeller airworthiness and environmental certification include, but are not limited to those stated in CAAS Singapore Airworthiness Requirements Part 21 (SAR-21), Subpart I.

1.7 Interpretations and Resolution of Conflicts between the CAAS and TCCA

- 1.7.1 In the case of conflicting interpretations between the Authorities regarding the laws, airworthiness or environmental regulations/standards, requirements, or acceptable means of compliance pertaining to certifications, approvals, or acceptance under this TA-AC, the interpretation of the Authority whose laws, regulations, standards, requirements, or acceptable means of compliance are being interpreted will prevail.

1.7.2 The Authorities will resolve issues in a timely manner through consultation. Every effort should be made to resolve issues at the working staff level before elevating issues through the responsible management hierarchy. To resolve issues, the Authorities will use the following process.

1.7.2.1 If the issue cannot be resolved at the working staff level, the first certification decision point is between the CAAS Section Head for Airworthiness Engineering or Design & Production Organisation and the TCCA Chief, Project Management or Chief, Regional Engineering, respectively.

1.7.2.2 If resolution cannot be reached by the persons mentioned in 1.7.2.1, the issue will be expeditiously escalated to the CAAS Deputy Director of Airworthiness Certification and the TCCA Director of National Aircraft Certification.

1.7.2.3 If resolution cannot be reached, the CAAS Director for Flight Standards and the TCCA Director of Standards will resolve the matter.

1.8 Cooperation on Investigation or Enforcement Action

1.8.1 The Authorities will notify each other promptly of any investigation and subsequent closure action due to a finding of non-compliance that falls within the scope of this TA-AC. The notification will be sent to the other Authority's focal points identified in Appendix A to this TA-AC.

1.8.2 The Authorities agree to cooperate and assist in the investigation of any alleged or suspected violations of either Authority's laws or regulations. Both Authorities will cooperate in sharing information needed for any investigation or enforcement action, including its closure. The sharing of information will be subject to the laws and regulations of Singapore and Canada that govern the disclosure or sharing of the requested information.

1.9 Revisions, Amendments, Addendum, and Points of Contact

1.9.1 The designated focal points for this TA-AC are:

1.9.1.1 For CAAS: Flight Standards Division; and

1.9.1.2 For TCCA: Standards Division.

1.9.2 Contact information for the identified offices is listed in Appendix A.

1.9.3 This TA-AC may be amended at any time in writing by mutual consent of the CAAS and TCCA. Such amendments will enter into force upon signature by the duly authorized representatives of both Authorities.

- 1.9.4 In relation to any notice, request, or other communication to be given or served pursuant to this TA-AC, the Authorities will direct notices or other correspondence to the attention of focal points identified in Appendix A to this TA-AC.

1.10 Entry into Force and Termination

- 1.10.1 This TA-AC will enter into force 60 days after signature by the duly authorized representative of each Authority.
- 1.10.2 Either Authority may terminate this TA-AC at any time by giving written notice of its decision to the other Authority. Termination will take effect 60 days following the date of receipt of such notice unless the said notice is withdrawn by mutual consent before the expiry of the 60-day period.
- 1.10.3 Such termination shall not affect the validity of any certificate and other approval granted by the Authorities under the terms of this TA-AC prior to its termination.

1.11 Definitions

For purposes of this TA-AC, the following definitions apply:

- 1.11.1 “Acceptance” means an approval, issuance of a certificate, or finding of compliance by the CA is satisfactory evidence that a product and/or design complies with the VA’s applicable standards, and on that basis the VA does not issue its own equivalent approval, certificate or finding of compliance.
- 1.11.2 “Additional Technical Condition” means a requirement of the VA that is in addition to the applicable airworthiness and environmental requirements of the CA or that may be prescribed:
- 1.11.2.1 For airworthiness requirements, that provides a level of safety equivalent to that provided by the applicable airworthiness requirements of the VA.
- 1.11.2.2 For environmental requirements, that provides noise, fuel venting, and exhaust emission levels no greater than those provided by the applicable environmental requirements of the VA.
- 1.11.3 “Aircraft Flight Manual (AFM)” means an authoritative document prepared for each aircraft type by the type certificate Holder and approved by the CA. Its required content is specified in the appropriate design standards.
- 1.11.4 “Airworthiness Approval” means a document issued by the Authority when the design or change to a design of an aeronautical product or part is found to comply with standards defined by the Authority, or that

aeronautical product conforms to a design that has been found to meet those standards and is in a condition for safe operation.

- 1.11.5 “Airworthiness Directives” (AD) means legally enforceable rules issued by:
- 1.11.5.1 the CAAS under the Air Navigation Act 1966, or
 - 1.11.5.2 TCCA under CAR 521 Division X – *Airworthiness Directives*, or as required by CAR 605.84 where an equivalent notice has been issued by a foreign authority.
- 1.11.6 “Airworthiness Standards” mean:
- 1.11.6.1 for the CAAS, regulations governing the design and performance of civil aeronautical products and articles.
 - 1.11.6.2 for TCCA, the term with respect to design, manufacture, and maintenance of an aeronautical product, means the description, in terms of minimum standard, of the properties and configuration, material, and performance or physical characteristics of that aeronautical product, and includes the procedures to ascertain compliance with or to maintain the minimum standard as specified in CAR Part V. This term is equivalent to “Standard of Airworthiness” as defined in CAR Part I.
- 1.11.7 “Appliance” means any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment that is used or intended to be used in operating or controlling an aircraft in flight, is installed in, or attached to the aircraft, and is not part of an airframe, engine, or propeller.
- Note: For TCCA, an appliance design approval includes Appliance Type Certificate approved under predecessor regulations CAR Part V, Subpart 11, or approved by a Canadian Technical Standard Order (CAN-TSO) design approval issued under CAR 521, and produced under a CAR Part V, Subpart 61 *Manufacturer Certificate*. Canadian Technical Standards for appliances are listed in Airworthiness Manual Chapter 537.
- 1.11.8 “Approved Manuals” means manuals, or sections of manuals, requiring approval by the CAAS or TCCA as part of a certification program. These include, but are not limited to, the AFM, the airworthiness limitation section of the Instructions for Continued Airworthiness (ICA), the engine and propeller installation and operating instructions manuals, and the certification maintenance requirements.
- 1.11.9 “Article” means a material, part, component, process, or appliance.

- 1.11.10 “Certificating Authority” or “(CA)” means the Authority, as charged by their laws to fulfill the International Civil Aviation Organization (ICAO) responsibilities as a State of Design (SoD) or a State of Design of Modification (SoDM) to regulate the design, production, and airworthiness approval and environmental certification of civil aeronautical products and articles originated in their State.
- 1.11.11 “Certification Basis” means the applicable airworthiness and environmental standards established by a CA for the purpose of certification and by a VA for the purpose of validation. The certification basis may include additional technical conditions, special conditions, equivalent level of safety findings, and exemptions or deviations when determined to apply to the type design.
- 1.11.12 “Civil Aeronautical Product” or “Product” means any civil aircraft, aircraft engine, or propeller.
- 1.11.13 “Compliance Determination” means the determination by either of the Authorities system that the Applicant has demonstrated compliance with identified airworthiness and environmental requirements.
- 1.11.14 “Design Approval” means a Type Certificate (TC), Supplemental Type Certificate (STC), CAAS minor modification approval, including amendments thereto, Repair Design Approval (RDA), the approved article or article design under a Part Design Approval (PDA), Singapore Technical Standard Order (STSO) Certificate of Approval, Canadian Technical Standard Order (CAN-TSO), or any other design approval document.
- 1.11.15 “Design Approval Holder (DAH)” means the holder of a Design Approval as defined in 1.11.14.
- 1.11.16 “Deviation” when used with respect to STSO/CAN-TSO articles mean a difference from any performance standard of a STSO/CAN-TSO and requires factors or design features providing an equivalent level of safety to compensate for the standards from which a deviation is requested.
- 1.11.17 “Environmental Approval” means an approval made by the Authority that a civil aeronautical product complies with the Environmental Standards defined in 1.11.18.
- 1.11.18 “Environmental Standards” means regulations or certification specifications governing designs of civil aeronautical products with regard to aircraft noise characteristics, fuel venting, engine exhaust emissions, and aircraft carbon dioxide emissions.
- 1.11.19 “Environmental Compliance Demonstration” means a process by which the design or change to the design of a civil aeronautical product is

evaluated for compliance with the applicable Environmental Standards and procedures of 1.11.18.

- 1.11.20 “Equivalent Level of Safety/Equivalent Safety Finding (ELOS/ESF)” means a finding that alternative action provides a level of safety equivalent to that provided by the requirements.
- 1.11.21 “Exemption” means a grant of relief from requirements of a current regulation when processed through the appropriate regulatory procedure by the CAAS or TCCA.
- 1.11.22 “Familiarization” means the process whereby the Validating Authority (VA) obtains information and experience on an aeronautical product designed in the exporting State in order to prescribe additional technical conditions for that product; mandate corrective airworthiness action in the event that the product experiences service difficulties during its operation in the importing State; and ensure the development of appropriate maintenance, operating, and pilot type rating information (if applicable) for the product.
- 1.11.23 “Finding” means a determination of compliance or non-compliance, as the case may be, with the standards defined by the Authority as the result of action such as analysis, test witnessing, inspections, qualifications, approvals, and monitoring.
- 1.11.24 “Issue Paper” means a document describing an item that requires resolution prior to the issuance of a design approval.
- 1.11.25 “non-TSO Function” means a function that is not covered by a CAN-TSO/STSO-approved minimum performance standard, does not support or affect the hosting article’s function(s), and could technically be implemented outside of the CAN-TSO/STSO article.
- 1.11.26 “Part Design Approval (PDA)”, for TCCA, means an approval of the type design of a replacement part for an aeronautical product, and that references the documents and data defining the type design, the limitations, and the conditions applicable.
- 1.11.27 “Person” means an individual, firm, partnership, corporation, company, association, joint stock association, or government entity, and includes a trustee, receiver, assignee, or other similar representative of any of them.
- 1.11.28 “Special Condition” means an additional airworthiness standard(s) prescribed by the CAAS or TCCA when the airworthiness standards for the category of product do not contain adequate or appropriate safety standards due to novel or unusual design features, and which contain such safety standards as the CAAS or TCCA find necessary to

establish a level of safety equivalent to that established in the applicable regulations.

- 1.11.29 “Standard Part” means a part that may be acceptable for use on aircraft and is manufactured in conformance with an established government or industry-accepted specification, which contains design, manufacturing, and uniform identification requirements. The specification must include all information necessary to produce and conform the part and must be published so that any person or organization may manufacture the part.
- 1.11.30 “Technical Standard Order” (TSO) means the minimum performance standard used to evaluate an article.
- 1.11.31 “Validating Authority (VA)” means the Authority, as charged by their laws to fulfill the ICAO responsibilities of a State of Registry (SoR) to regulate the design, production, and airworthiness approval and environmental certification of civil aeronautical products and articles.
- 1.11.32 “Validation” means the VA’s process of issuing an approval of a design certified by the CA.
- 1.11.33 “Validation Program” means the entire scope of activities that the VA employs to complete the Validation process.
- 1.11.34 “Work Plan” defines the scope of the VA’s level of involvement in a validation program that leads to a VA design approval or letter of acceptance being issued. The Work Plan is scalable and developed by the VA using risk-based criteria and is shared with the Applicant and the CA.

SECTION II SCOPE OF THIS TECHNICAL ARRANGEMENT

2.1 General

This TA-AC covers the products and articles identified below, their approvals, and the following provisions.

- 2.1.1 This TA-AC applies to such aircraft type designs to be type certificated by the Authorities that are eligible for standard airworthiness certification.
- 2.1.2 TCCA issues standard airworthiness certificates for aircraft in the normal, utility, aerobatic, commuter, very light aeroplanes, and transport categories, as well as for manned free balloons and special classes of aircraft which include airships, gliders, and other non-conventional aircraft.
- 2.1.3 CAAS issues certificates of airworthiness in the transport (passenger or cargo), aerial work, private, and special categories of aircraft.
- 2.1.4 Applications for an Authority's approval are intended for civil aeronautical products and articles. Civil aeronautical products engaged strictly in military, customs, police, search and rescue, coastguard or similar activities or services are not eligible for certification or approval under this TA-AC. In these cases, the Authorities will consult to determine whether validation is within the scope of this TA-AC or requires Special Arrangements under SECTION VIII, *Special Arrangements*.
- 2.1.5 Aircraft for which a special airworthiness certificate is issued by TCCA or a permit to fly by the CAAS will be dealt with on a case-by-case basis through the special arrangements provision in SECTION VIII, *Special Arrangements*.

2.2 Products, Articles, and Associated Approvals Eligible for CAAS Acceptance or Approval

- 2.2.1 TCCA design approvals as the basis for the CAAS approval:
 - 2.2.1.1 Type Certificates (TC) or Amended TC for products for which Canada is the SoD;
 - 2.2.1.2 Supplemental Type Certificates (STC) or Amended STCs for all products regardless of SoD;
 - 2.2.1.3 Canadian Technical Standard Order (CAN-TSO);
 - 2.2.1.4 Part Design Approvals (PDA);
 - 2.2.1.5 Repair Design Approvals (RDA); and
 - 2.2.1.6 Other TCCA-approved design changes for products and articles as identified in SECTION III, *Design Approval Procedures*.

2.2.2 TCCA Export Certificate of Airworthiness (C of A) when accepted by CAAS per SECTION VI, *Acceptance of Export Airworthiness Approvals*.

2.2.3 TCCA Authorized Release Certificates when accepted by CAAS per SECTION VI, *Acceptance of Export Airworthiness Approvals*.

2.2.4 TCCA Environmental Approvals

The CAAS will accept environmental approvals by TCCA based upon findings of compliance with AWM Chapter 516, which incorporates by reference ICAO Annex 16, as the basis for establishing compliance with their environmental requirements.

2.3 Products, Articles, and Associated Approvals Eligible for TCCA Acceptance or Approval

2.3.1 CAAS design approvals as the basis for TCCA approval:

2.3.1.1 STCs or amended STCs for all products regardless of the SoD;

2.3.1.2 Singapore Technical Standard Order (STSO) Certificate of Approval;

2.3.1.3 Minor modification approvals;

2.3.1.4 Repair design approvals; and

2.3.1.5 Other CAAS-approved design changes for products and articles as identified in SECTION III, *Design Approval Procedures*.

2.3.2 CAAS Export Certificates of Airworthiness when accepted by TCCA per SECTION VI, *Acceptance of Export Airworthiness Approvals*.

2.3.3 CAAS Authorized Release Certificates when accepted by TCCA per SECTION VI, *Acceptance of Export Airworthiness Approvals*.

2.3.4 CAAS Environmental Approvals

TCCA will accept environmental approvals by CAAS based upon findings of compliance with ICAO Annex 16 as the basis for establishing compliance with their environmental requirements.

2.4 Provisions for Technical Assistance

The types of technical assistance that may be undertaken by the Authorities within the scope of this TA-AC include the activities specified in SECTION VII, *Technical Assistance Between Authorities*.

2.5 Provisions for Special Arrangements

This TA-AC provides for designated officials within the Authorities to make special arrangements with respect to design approval, post design approval, or technical assistance in unique situations which have not been specifically addressed under this TA-AC, but which are anticipated by the MOU. Procedures

between the Authorities for special arrangements are specified in SECTION VIII, *Special Arrangements*.

2.6 Summary Tables

The following tables summarize the design approvals and new products designed and manufactured in Canada or in Singapore that are eligible for import under this TA-AC. (These tables do not show Third-State products eligible for import)

Table 1:

Summary of Canadian Design Approvals and Products Eligible for Approval by the CAAS

PRODUCT	TCCA Type Certificates & Amendments (See Note 1)	TCCA Supplemental Type Certificates (See Note 1)	TCCA Technical Standard Order Appliances (See Note 2)	Repair Design Approvals (See Note 1)	Part Design Approvals (PDA)
Aeroplanes in the following categories:					
Normal	√	√	N/A	√	N/A
Utility	√	√	N/A	√	N/A
Aerobatic	√	√	N/A	√	N/A
Commuter	√	√	N/A	√	N/A
Transport	√	√	N/A	√	N/A
Very Light Aeroplanes (VLA)	√	√	N/A	√	N/A
Airships	√	√	N/A	√	N/A
Gliders	√	√	N/A	√	N/A
Rotorcraft in the following categories:					
Normal	√	√	N/A	√	N/A
Transport	√	√	N/A	√	N/A
Manned Free Balloons	√	√	N/A	√	N/A
Aircraft Engines	√	√	N/A	√	N/A
Propellers	√	√	N/A	√	N/A
Aircraft in Special Classes, but not limited to:					
Powered Lift	√	√	N/A	√	N/A
Aircraft type certificated in the restricted category	√ (See Note 3)	√ (See Note 3)	N/A	√ (See Note 3)	N/A
TSO Articles (see Note 4)	N/A	N/A	√	√	N/A
Parts (see Note 5)					
Replacement or Modification Parts for the above aeroplanes, rotorcraft, balloons, aircraft engines, propellers, special class aircraft and articles.	√	√	√	√	√

Note 1: For TCCA, the following certification designations are interchangeable: Type Certificate (TC) and Type Approval; Supplemental Type Certificate (STC) and Supplemental Type Approval; and Repair Design Approval and Repair Design Certificate (RDC).

Note 2: For TCCA, this includes Appliance TCs issued under CAR Part V, Subpart 11 (repealed in 2009 and replaced by CAR 521).

Note 3: Aircraft certified in the restricted category for purposes of agricultural, forest and wildlife conservation (including aerial dispensing of liquids), aerial surveying, patrolling, weather control, aerial advertising, and other special purpose operations as determined by the Authorities.

Note 4: TCCA TSO Appliances include CAN-TSO Design Approvals or Appliance TCs together with their associated Production Approval.

Note 5: For TCs, STCs, TSOs and PDAs, the manufacturing is covered under CAR 561.06. For repairs, manufacturing of parts is covered under CAR 571.06(5). Refer to SECTION VI, Acceptance of Export Airworthiness Approvals, for more details.

Table 2:

Summary of Singapore Design Approvals And Products Eligible for Approval by TCCA

PRODUCT	CAAS Type Certificates/ Type Acceptance & Amendments	CAAS Supplemental Type Certificates and Minor Modification Approvals	CAAS Singapore Technical Standard Order Certificate of Approval	CAAS Repair Design Approvals
Aeroplanes in the following categories:				
Normal	Reserved	√	N/A	√
Utility	Reserved	√	N/A	√
Aerobatic	Reserved	√	N/A	√
Commuter	Reserved	√	N/A	√
Transport	Reserved	√	N/A	√
Airships	Reserved	√	N/A	√
Very Light Aircraft (VLA)	Reserved	√	N/A	√
Gliders	Reserved	√	N/A	√
Rotorcraft in the following categories:				
Normal	Reserved	√	N/A	√
Transport	Reserved	√	N/A	√
Manned Free Balloons	Reserved	√	N/A	√
Aircraft Engines	Reserved	√	N/A	√
Propellers	Reserved	√	N/A	√
Aircraft in Special Classes:				
Powered Lift	Reserved	√	N/A	√
Aircraft type certificated in the restricted category	Reserved	√ (See Note 1)	N/A	√ (See Note 1)
TSO Articles	N/A	N/A	√	√
Parts (see Note 2)				
Replacement or Modification Parts for the above aeroplanes, rotorcraft, balloons, aircraft engines, propellers, special class aircraft and articles.	√	√	√	√

Note 1: Aircraft certified in the restricted category for purposes of agricultural, forest and wildlife conservation (including aerial dispensing of liquids), aerial surveying, patrolling, weather control, aerial advertising, and other special purpose operations as determined by the Authorities.

Note 2: CAAS approved production organisations are to work with approved design organisations to produce the parts. Refer to SECTION VI, Acceptance of Export Airworthiness Approvals, for more details.

SECTION III DESIGN APPROVAL PROCEDURES

3.1 General

- 3.1.1 The principles and procedures of this Section apply to the acceptance or validation of; the initial design approval of each other's civil aeronautical products and articles, of subsequent design changes to those products and articles and, approval of design data used in support of repairs.
- 3.1.2 These procedures rely on the high degree of mutual confidence and trust between the Authorities and establish the process for implementing the acceptance of each other's compliance determinations and approvals on civil aeronautical products and articles. The procedures in this Section are not intended to diminish the responsibilities of either Authority or their right to type design information.
- 3.1.3 There are three ways in which products, articles and design changes can be accepted or approved by the VA for use within its system:
 - 3.1.3.1 Acceptance (see 3.2 and 3.3);
 - 3.1.3.2 Streamlined Validation (see 3.4, 3.5.1 and 3.5.5); and
 - 3.1.3.3 Technical Validation (see 3.4, 3.5.1 and 3.5.6).
- 3.1.4 Table 3 provides a general overview of CA design approvals eligible for VA acceptance or validation. The references to the applicable Section(s) of this TA-AC provide the details, requirements, conditions, and/or limitations by which the VA may accept or validate the design approvals.

3.2 Acceptance Principle

- 3.2.1 Where specific design approvals and articles present relatively low risks compared to the certification of aircraft, aircraft engine, and propellers, the Authorities concluded that those approvals could benefit from a full and automatic acceptance by each other. Subject to any exception described in 3.3 or exclusion under 3.2.3, the following CA approvals will be accepted by the VA without issuance of its own approval, and no application for validation will be required for:
 - 3.2.1.1 Design Changes by the DAH of TC and STC that do not require the VA to issue an amended TC or Type Certificate Data Sheet (TCDS) or STC (refer to 3.3.1);
 - 3.2.1.2 STSO/CAN-TSO Design Approvals (refer to 3.3.2);

- 3.2.1.3 Minor design changes and minor repairs classified and approved under the CA system (refer to 3.3.3); and
- 3.2.1.4 Design of Replacement Parts (refer to 3.3.4).
- 3.2.2 The VA may request additional data through SECTION VII, *Technical Assistance between Authorities*, where it may be necessary to support the installation on an aeronautical product.
- 3.2.3 The Authority, as the VA, may suspend the acceptance of design approval(s) in 3.2.1 where following consultation with the CA there is no mutually acceptable resolution of airworthiness concern(s) identified by the VA on a specific design approval. In this case, the VA can either take action under SECTION IV, *Continuing Airworthiness*, or require validation of the design approval in question.

3.3 Acceptance Procedures for Specific Design Approvals and Articles

The acceptance of CA design approvals identified below shall be implemented by the Authorities solely on the basis of each other's approval, without the need for submission of an application for validation by the other. An approval originally granted by the CA shall be automatically accepted by the VA as being equivalent to having granted and issued its own approval.

3.3.1 Design Changes by the DAH

For a validation project where a DAH introduces a major design change to an approved design, the Basic/Non-Basic classification criteria detailed in 3.5.2.2 will be applied by the CA as follows:

- 3.3.1.1 If the application classification is determined to be Basic and does not require the VA to reissue the TC or TCDS, or reissue the STC, then the design change is accepted and no application is required. In these cases, the CA will approve these design changes under its own procedures against the certification bases of both the CA and the VA.
- 3.3.1.2 If the application classification is Basic but requires the VA to reissue the TC or TCDS, or reissue the STC, then an application for validation to the VA is required for the design change, and it will be processed by the VA using the Streamlined Validation process detailed in 3.5.5.

Table 3:
 General Overview of Eligible Design Approvals
 (CA Design/Airworthiness Approvals for VA Acceptance or Validation)

Type of approval	Acceptance	Streamlined Validation	Technical Validation	TA-AC Reference
Type Certificate (TC) – <i>Initial Validation</i>			√ Non-Basic	3.5.2.1 3.5.3
Design changes that result in re-issuance of an amended TC or changes in TCDS		√ Basic	√ Non-Basic	3.3.1.2 3.3.1.3 3.5.2.2 3.5.3 3.5.5 3.5.6
Supplemental Type Certificate (STC) – <i>Initial Validation</i>		√ Basic	√ Non-Basic	3.5.2.2 3.5.3 3.5.5 3.5.6
Amended STC		√ Basic	√ Non-Basic	3.3.1.2 3.3.1.3 3.5.2.2 3.5.3 3.5.5 3.5.6
Design changes that result in; (i) no re-issuance of an amended TC, (ii) no change to TCDS, or (iii) no change to STC.	√ Basic			3.3.1.1
Minor design change	√			3.3.3
CAN-TSO / STSO design approval	√			3.3.2
Major repair design		√		3.5.2.2(b)(1) 3.5.2.3 3.5.5
Minor repair design	√			3.3.3
Major design change or major repair that provides alternative means of compliance (AMOC) to an Airworthiness Directive (AD) issued by the State of Design or the State of Design of Modification	√			4.4.2
Design of Replacement Part	√* *With exceptions			3.3.4
CAAS (AW) 82 or TCCA Form 21-0049	√			6.2.1
CAAS (AW) 95 or TCCA Form One	√			6.2.2

- 3.3.1.3 If the application classification is determined to be Non-Basic, then an application for validation to the VA is required for the design change. Where technical review by the VA is deemed necessary, it will be processed by the VA using the Technical Validation process detailed in 3.5.6.
- 3.3.1.4 The design changes described in 3.3.1.1 through 3.3.1.3 above are to be included in the DAH's type design definition, which defines the VA's approved build standard.

3.3.2 STSO/CAN-TSO Articles

CAAS and TCCA recognize the majority of their respective TSO standards are adopted from TSO standards of both the Federal Aviation Administration and the European Union Aviation Safety Agency. Where a TSO standard is unique to either the CAAS or TCCA system, the Authorities agree that such unique TSO standard is also eligible for acceptance under this TA-AC.

- 3.3.2.1 The Authorities share similar certification requirements and procedures leading to the approval of the design and manufacturing of STSO/CAN-TSO articles. Through the practice of acceptance, an STSO/CAN-TSO article approval issued by either the CAAS or TCCA is also considered an approval by the other.
- 3.3.2.2 The Authorities recognize and agree that an STSO, TCCA Appliance TC, or CAN-TSO approval is an approval of the article's design only and does not constitute an approval for installation of the article on any product. The installer must obtain installation approval for use on a product registered under that Authority.
- 3.3.2.3 Where the STSO and CAN-TSO standards are at the same revision levels, an Authority shall not accept an application from the other Authority for approval of an STSO or CAN-TSO article if such article has been issued an approval or is eligible for approval by the Applicant's Authority.
- 3.3.2.4 The acceptance of STSO/CAN-TSO articles is based on the following conditions and provisions as noted:
 - (a) The article meets the applicable STSO or CAN-TSO as evidenced by a statement or declaration of conformity by the approval holder; and
 - (b) Any deviations from the applicable STSO or CAN-TSO are substantiated and have been approved by the CA.

3.3.2.5 Marking Requirement

Through acceptance of STSO/CAN-TSO articles, the CAAS and TCCA also accept each other's identification and marking requirements as being acceptable to their own regulatory requirements, provided such marking is accomplished under the CA regulations.

3.3.2.6 Provision of STSO/CAN-TSO Data for Installation Approval

The CAAS or TCCA may find it necessary to obtain additional data on an STSO/CAN-TSO article, including those non-TSO functions, in order to complete their compliance findings for installation on a product. Upon request, the CAAS or TCCA, as the CA for the subject STSO/CAN-TSO article, shall support the data request, subject to permission or authorization from the STSO/CAN-TSO approval Holder to release such data. Any such request from the VA will be limited only to the data that is necessary to establish compliance with the subject installation.

3.3.2.7 Acceptance of non-STSO/non-CAN-TSO Functions

- (a) The CAAS and TCCA will accept, without further validation, data on non-STSO/non-CAN-TSO functions where those functions are integrated into an article when:
 - (1) The non-STSO/non-CAN-TSO functions included in the article have been shown not to interfere with the STSO/non-CAN-TSO functions and/or ability to comply with the STSO/CAN-TSO standard;
 - (2) The data provided with the article relative to non-STSO/non-CAN-TSO functions is valid data as processed by the CA; and
 - (3) The non- STSO/non-CAN-TSO functions are covered under the STSO or CAN-TSO approval Holder's quality system.
- (b) The acceptance of data on non- STSO/non-CAN-TSO functions does not constitute installation approval.
- (c) The CA and VA may agree to mutual cooperation and technical assistance for the evaluation of non-STSO/non-CAN-TSO functions at the product

level before granting STSO or CAN-TSO design approval.

3.3.3 Minor Design Changes and Minor Repairs Approvals

Minor design changes, minor modifications and minor repairs when classified and approved under the CA system are accepted by the VA without further showing, regardless of the SoD of the aeronautical product.

3.3.4 Design of Replacement Parts

3.3.4.1 A CA design approval of a replacement part is accepted provided it is:

- (a) not a critical part, not a life-limited part, not subject to an airworthiness limitation, or creates an airworthiness limitation;
- (b) not a major change to the type design of the aeronautical product, and
- (c) marked in accordance with the CA regulations.

3.3.4.2 The references to a replacement part approval in this TA-AC are:

- (a) For CAAS, a replacement part design approved by and identified in a Supplemental Type Certificate (STC) or minor modification; and
- (b) For TCCA, a replacement part design approved using a Part Design Approval (PDA).

3.3.4.3 TCCA-published listing of PDA can be verified at NICO website (NAPA Issued Certificates Online: Certificate Search): https://wwwapps.tc.gc.ca/saf-sec-sur/2/nico-celn/c_s.aspx?lang=eng

3.4 Validation Principles

For CA design approvals that require the VA to issue or reissue a design approval, the Authorities have established risk-based thresholds influenced by the complexity of the design that dictates the level of review by the VA. These design approval applications will be subject to either a Streamlined Validation or Technical Validation by the VA prior to a design approval being issued.

3.4.1 The VA's validation program, including development of a Work Plan where required, will be guided by the following principles:

- 3.4.1.1 The VA will rely on the work done by the CA, to the maximum extent practicable, while still meeting the overall objectives of validation, which includes the CA making a finding of compliance, and on that basis, providing a statement certifying compliance with the VA's certification basis;
- 3.4.1.2 The scope of the VA's technical review is commensurate with the mutually agreed upon risk-based criteria identified in 3.5.2, including the option of accepting the CA approval without any technical involvement;
- 3.4.1.3 The scope of the VA's Work Plan is intended to be scalable, focused, and approved by its management; and

Note: For CAAS, the Work Plan will be approved by Head of Section responsible for modification and repair design approvals.
- 3.4.1.4 Confidence in the CA's capabilities enables the reduction of VA involvement in validation activities and is maintained through post-validation monitoring and feedback.

3.4.2 Validation Processes

- 3.4.2.1 Streamlined Validation requires application to the VA and will result in the issuance of an approval or acceptance by the VA. Streamlined validation process allows the VA to make maximum use of the TA-AC by reducing the resource requirements associated with the validation of the CA's approvals.
- 3.4.2.2 Technical Validation requires application to the VA and the activities within a validation program will typically require both technical familiarization and a level of technical involvement that will result in the issuance of an approval by the VA. Where the technical familiarization aspect of the validation program leads to the development and use of a Work Plan, active management oversight will ensure these common principles and procedures are applied to maximize reliance on the CA's findings/compliance determinations.
- 3.4.2.3 The process of design approval validation is intended to allow the VA to:
 - (a) Familiarize itself with the type design, with emphasis on, but not limited to, unique or novel features;
 - (b) Identify any Additional Technical Conditions required within the VA's certification basis;

- (c) Develop and execute a management-approved Work Plan that will define the VA's level of involvement;
 - (d) Rely on the CA to conduct compliance determinations on its behalf, with its certification basis, which will be comprised of the CA's certification basis plus any Additional Technical Conditions applied by the VA; and
 - (e) Issue its own design approval based on the CA making a finding of compliance and, on that basis, providing a statement certifying the type design complies with the VA's certification basis.
- 3.4.3 The satisfactory completion of the validation program is contingent upon the CA providing support to the VA, including its involvement in completion of the Work Plan, which will facilitate the VA's issuance of a corresponding design approval.
- 3.4.4 The Authorities recognize there may be situations when it is more expeditious to conduct direct communications between the VA and the applicant when information is needed. In such cases, it is the responsibility of the initiator of the contact to inform the CA as soon as possible. Direct communications will be limited to technical questions regarding the product.
- 3.4.5 Applications for the Authority's approval are intended for civil aeronautical products and articles certified to applicable airworthiness standards. Products and articles that are intended only for military use are not eligible for the Authority's validation.
- 3.4.6 The Authorities' DAHs are required to hold relevant type design information (e.g., type design data, drawings, processes, materials specifications, operating limitations, test plans, test analysis reports, approved manuals, accepted manuals, and service bulletins) and to make those available to their respective Authority upon request. Data and/or other information to support VA familiarization described in 3.4.2.3(a) are to be made available from the DAH upon written request from the VA to the CA. The CA will include its request (on the title page or cover letter) for Streamlined Validation.

3.5 Design Approval Validation Procedures

3.5.1 General

3.5.1.1 TCCA TCs are issued under CAR 521.

3.5.1.2 The CAAS does not issue TCs. A Letter of Acceptance of Type Certificate may be issued under the provisions of SAR-21, Subpart A or Subpart B for Canadian SoD aircraft imported into Singapore that meet the applicable airworthiness design standards of SAR-21, Subpart I.

(a) For a Canadian SoD aircraft whose application to TCCA for a type certificate was submitted before November 10, 2016, the CAAS Letter of Acceptance for Type Certificate for that aircraft will also include the acceptance of the associated engine and/or propellers.

(b) A Canadian Manufacturer of an engine and/or propeller whose application to TCCA for a type certificate was submitted on or after November 10, 2016, a separate Letter of Acceptance of Type Certificate for such engine and/or propeller is required.

3.5.1.3 TCCA STC and Repair Design Approvals may be issued under CAR 521.

3.5.1.4 CAAS STC and Repair Design Approvals may be issued under SAR-21, Subparts C and F, respectively. The CAAS will validate an STC issued by TCCA through the issuance of a CAAS STC under SAR-21, Subpart C for a major change to a TC that has been granted a CAAS Letter of Acceptance of Type Certificate.

3.5.1.5 An application for a design approval from an Applicant must be submitted by the CA to the VA if:

(a) The product or design change is within the scope of this TA-AC as provided in SECTION III, *Design Approval Procedures*, and is not eligible for acceptance under 3.3;

(b) For TCs, the product has been issued a TCCA TC, or an application for type certification has been made to TCCA;

- (c) For STCs, CAAS or TCCA as the CA for the design change (i.e., SoDM) has issued the STC, or an application for an STC has been received from the Applicant; and
- (d) For repair design, CAAS or TCCA as the CA for the repair design has issued its approval.

3.5.2 Classification of Applications for Validation

The classification of an application by the CA will determine the process and nature of review to be completed by the VA. The CA will classify all applications for validation of a design approval either as Basic or Non-Basic as follows:

3.5.2.1 Classification of initial validation of TC

All CA applications for the initial validation by the VA of a type certificate for an aircraft, aircraft engine, or propeller will be classified as Non-Basic.

3.5.2.2 Classification of Design Changes

- (a) Design changes will be classified as either major or minor under the applicable CA regulations and this classification will be accepted by the VA without further review. Minor changes are automatically accepted under 3.3.3.
- (b) Major changes will be classified under the Basic/Non-Basic criteria below.
 - (1) **Basic:** For major design changes that do not meet the non-Basic criteria and for all major repair designs.
 - (2) **Non-Basic:** For major design changes involving one or more of the following criteria:
 - (i) New Technology to the VA or new application of existing technology (e.g., Additive Manufacturing);
 - (ii) Changes in certification basis involving new interpretation of airworthiness requirements, issuance of new or amended Special Conditions, issuance of ELOS/ESF, Exemptions, elect to comply with later

standards, or novel methods of compliance.

- (iii) Requires re-investigation of compliance to existing Special Conditions, ELOS/ESF or Exemption;
- (iv) Requires compliance with additional technical conditions on the CA's or VA's certification basis;
- (v) Aircraft reclassification to Restricted category;
- (vi) Affects compliance with an AD issued by the VA or affecting compliance with an AD issued by a third Party and adopted by the VA;
- (vii) Impacts or requires compliance with new or revised acoustical or emissions requirements;
- (viii) A Significant change based on TCCA CAR 521.158 (Changed Product Rule);
- (ix) Changes that increase maximum structural loads, expands the certified aircraft envelope or operating limitations;
- (x) Changes that result in a new or a revision to airworthiness limitations;
- (xi) Other design changes that in the opinion of the CA merit technical involvement by the VA including, but not limited to, changes involving use of unusual methods of compliance not previously applied by either the CA or VA, or specific operational or special purpose requirements by the VA.

3.5.2.3 Applications classified as Basic will be subject to Streamlined Validation under 3.5.5. In addition, CAAS may carry out conformity and compliance inspections during the installation

on a Singapore-registered aircraft as part of its involvement in issuing the CAAS STC.

3.5.2.4 Applications classified as Non-Basic will be subject to Technical Validation under 3.5.6.

3.5.3 Application Process

3.5.3.1 All applications must be submitted electronically by the CA to the appropriate VA office (see Appendix A). An application for purposes of this TA-AC consists of the following three items:

- (a) a cover letter from the CA to the appropriate VA office;
- (b) the specified VA application form or equivalent format duly completed by the Applicant; and

Note:

CAAS weblink: <https://www.caas.gov.sg/e-services-forms/forms/design-production>

TCCA weblink: <https://tc.canada.ca/en/aviation/aircraft-airworthiness/aircraft-certification/request-validation-aeronautical-product/how-apply>

- (c) the Applicant's data package. The CA office submitting an application shall identify in the letter its project manager/officer responsible for processing the application and communicating and coordinating with its VA counterpart until the validation is concluded.

3.5.3.2 The assigned CA project manager/officer will ensure that the submitted application contains the information below.

- (a) For a product, a description in accordance with the following:
 - (1) For a TC, descriptive data defined in Advisory Circular 521-002 for applications to TCCA, or SAR-21.110 and Advisory Circular 21-6 for applications to CAAS; or
 - (2) For a design change, a detailed description of the change and the changed product, identification of the change as either Significant or Not Significant per TCCA regulatory definition in CAR 521.158

(Changed Product Rule), CA's certification basis, Applicant's demonstration of compliance and the CA's certifying statement of compliance with the certification basis.

(b) For a major repair design approval, a detailed description of the repair, the CA's certification basis, Applicant's demonstration of compliance, and the CA's certifying statement of compliance with the certification basis.

(c) Clear identification in the cover letter of whether Streamlined Validation or Technical Validation is being requested. If Streamlined Validation is being requested, the CA should clearly identify how the specific design change is eligible for Streamlined Validation per 3.5.5.

(d) A copy of the CA's design approval document, if available, that identifies the certification basis upon which the CA's design approval was based. In the absence of a TCDS, the CA should submit the document that defines the certification basis.

Note: The CA should confirm that DAH information, including legal name and address, is accurate, up to date, and matches the information detailed on issued documents prior to sending the application to the VA.

(e) Date of application, when required, to the CA and the Applicant's requested date for VA approval.

(f) For applications submitted for Streamlined Validation, a statement in the CA's cover letter certifying that the design change complies with the VA's certification basis for the product.

(g) Technical data to enable the VA to complete the applicable review including, but not limited to the following;

(1) Certification plan or equivalent, and to include a compliance checklist to the VA's certification basis,

(2) Approved Manuals or changes to Approved Manuals as applicable,

- (3) Master Documentation List/Master Drawing List,
- (4) Documents listed in the Work Plan (for Technical Validation only) such as but not limited to analysis/test reports and other substantiations demonstrating compliance with the affected airworthiness requirements,
- (5) Weight and Balance data, and
- (6) ICAs such as Maintenance/Repair Manual Supplements.

3.5.3.3 If known at the time of application, the application must also contain the following:

- (a) A description of all novel or unusual design features known to the Applicant or the CA;
- (b) All known or expected Exemptions, Special Conditions, or Equivalent Level of Safety findings;
- (c) All Issue Papers raised during the CA's certification activities;
- (d) Information on any VA customer(s) and associated delivery schedules; and
- (e) Any additional data/information for known in-service issues to understand continuing airworthiness implications and how they have been addressed.

3.5.3.4 Subject to mutual agreement by the Authorities, the VA may accept applications for concurrent validation with the CA, in which case some of the information specified in 3.5.3.2 and 3.5.3.3 may not be available at the time of the application. The CA should provide an explanation of why the information is not available at the time of application. The information will be provided to the VA as it becomes available during the course of the validation project.

3.5.3.5 Applications involving Restricted Category for special-purpose operations may be accepted under this TA-AC subject to mutual agreement by the Authorities.

3.5.4 Acknowledgement of Application

3.5.4.1 The VA will notify the CA within ten (10) working days of receipt of application. The validation process begins with the acknowledgement by the VA of the formal application submitted by the CA.

- (a) The VA office receiving the application shall identify its project manager/officer responsible for processing the application and coordinating the validation with its CA counterpart. The assigned VA project manager/officer will review the application and request any missing information within thirty (30) working days of receipt of application.
- (b) Communication shall be initiated and maintained between the assigned project managers/officers of the CA and VA for the submitted application until the validation is concluded.

3.5.4.2 The VA will accept the CA's application and initiate processing of the application through the Streamlined Validation or Technical Validation process as requested by the VA and as described below. However, if the VA has concerns over the classification of the application, the VA and CA shall engage in a technical consultation per 3.5.4.3 below.

3.5.4.3 Where the VA has concern over the classification of an application, the project managers/officers of the CA and VA should initiate technical consultation in accordance with the procedures below. This technical consultation is intended to achieve a mutual understanding of the CA's rationale for its classification and the cause of concern by the VA. The project managers/officers shall formally document the technical consultation and the resulting conclusion, as documentation is required to be submitted under 3.5.4.3 (e) below as feedback for consideration in future revisions of this TA-AC.

- (a) The CA and VA project managers/officers shall provide each other with the information relevant to the technical consultation. At a minimum, the technical consultation documentation should contain the following:
 - (1) Validation project information (description);
 - (2) VA rationale or cause of concern;

- (3) CA rationale/justification for the classification;
and
- (4) CA final position.
- (b) Where the CA determines that its classification is consistent with the criteria in 3.5.2.2 (b), the VA shall proceed with processing the application as originally classified by the CA.
- (c) Where the CA determines that reclassification of the application is appropriate, the CA application shall be subsequently amended to indicate the revised classification.
- (d) The project manager/officer of the CA shall provide the explanation of its final position in the technical consultation document and forward a copy to the VA project manager/officer.
- (e) The project managers/officers of the CA and VA shall forward the concluded technical consultation document to their respective focal points for this TA-AC as identified in Appendix A.

3.5.5 Streamlined Validation Process

- 3.5.5.1 Eligible design approval applications identified in 3.5.2 will use a Streamlined Validation process where the VA accepts the certification and design data provided by the CA as the basis upon which the VA's design approval will be issued.
- 3.5.5.2 The VA will accept the CA's design approval, including acceptance of any CA approved manuals, after the CA makes a finding of compliance and, on that basis, provides a certifying statement that the design complies with the VA's certification basis for the product.
- 3.5.5.3 Once the data requirements for the Streamlined Validation process have been met and the administrative review of the application file has been completed, the VA shall issue the corresponding design approval or letter of acceptance, as appropriate, following completion of the review.
- 3.5.5.4 The VA will transmit the design approval or letter of acceptance issued under 3.5.5.3 above to the Applicant with concurrent notification to the CA.

3.5.6 Technical Validation Process

This process applies to the initial validation of TCs and STCs, and validation of subsequent design changes to these design approvals. Guided by the validation principles detailed in 3.4, the VA will process applications not eligible for Streamlined Validation under the applicable steps of this Section to establish compliance with its own certification basis, leading to issuance of the corresponding VA design approval. It is envisioned that in certain cases, a CA's design approval and supporting data provided at the time of submission may already be sufficient for the VA to establish compliance with its certification basis. Where such compliance can be established during the VA's initial review of the application package, and the VA deems no further action is required, the VA may at this point conclude the technical validation process and proceed directly to the issuance of its validation design approval. In such cases, a Work Plan is not required. However, where the VA determines that further validation activities are required, it is incumbent on the VA to develop an initial Work Plan early in the validation program schedule that the CA and Applicant can use for planning purposes. The following sequence of events will culminate in the issuance of the VA's design approval.

3.5.6.1 Technical Familiarization

- (a) The VA may establish a project team as required to complete its validation program. The VA and CA will promptly notify each other of their respective Project Managers, who will be responsible to coordinate the technical familiarization integral to developing the Work Plan.
- (b) The VA will notify the CA of the technical familiarization activity necessary to gain sufficient familiarity and knowledge of the type design and, where appropriate, data and processes in support of continuing airworthiness. The CA will arrange any technical familiarization meetings between the VA, the Applicant, and the CA.
- (c) A technical familiarization activity should not prevent the VA from proceeding with its approval when there are no aspects identified that require a discussion and resolution.
- (d) The VA will use the technical familiarization activities to develop and propose the certification bases for both airworthiness and environmental standards, and the intended VA's level of involvement, for purposes of finalizing the initial Work Plan.

- (e) The objectives of technical familiarization can only be fully satisfied when the Applicant or CA has presented to the VA the following information:
 - (1) An overview of the proposed design, intended operational use and, if applicable, relation to previously approved products;
 - (2) Identification and review of certification issues (i.e., Issue Papers) raised by the CA that the Applicant was required to address as part of the compliance showing to the specific aspects of the CA's certification basis;
 - (3) A proposed certification basis, including analysis of potential differences; and
 - (4) Any design features that in the opinion of the CA merit technical involvement by the VA including but not limited to changes involving use of unusual methods of compliance not previously applied by either the CA or VA, new technology or new application of existing technology, or specific operational or special purpose requirements by the VA.
- (f) The VA will focus its attention during technical familiarization on understanding the general compliance methodologies used or to be used by the Applicant, including assumptions, boundary conditions, and critical parameters of that methodology.
- (g) Further details, including review of test plans or other compliance documents, test witnessing, or other details of the compliance demonstration, are deferred until the review items are identified in the Work Plan and approved by VA management.
- (h) Another aspect of technical familiarization is determining if the product needs to be flown by the VA as part of the validation program. Any elements of the VA's certification basis that require the VA to fly the product will be identified in the Work Plan.

3.5.6.2 Establishing Certification Basis

- (a) For the purpose of establishing the VA's certification basis, the application date that determined the applicable standards applied by the CA for the issuance of a CA design approval will be applied.
- (b) The applicable airworthiness standards may be supplemented with the following requirements:
 - (1) Either Authority may require the Applicant to comply with additional requirements in the interest of safety. These requirements may include actions deemed necessary for continuing airworthiness as a result of service history and actions taken by either Authority to correct unsafe conditions;
 - (2) The VA may develop ELOS findings, Special Conditions, and/or Exemptions based on a review of the CA's certification basis. The VA will work closely with the CA in the development of its certification basis by providing the CA and the Applicant with an opportunity to comment on the proposal; or
 - (3) The VA may adopt as part of its certification basis any CA Special Conditions, Exemptions or ELOS findings that it finds appropriate in order to minimize duplication of certification basis documentation already specified by the CA.
- (c) Applicants for a TC or STC must also comply with the applicable Environmental Standards.

3.5.6.3 Development and Approval of the Work Plan.

- (a) Guided by the validation principles in 3.4 and knowledge of the product gained through review of the application package and technical familiarization, the VA will develop its initial and final Work Plan to define the scope and depth of VA level of involvement.
- (b) The Work Plan is intended to be scalable, i.e., commensurate with the scope and/or complexity of the initial design or design change approval being validated. However, as stated in 3.5.6, there may be

situations wherein the VA deems the validation of certain design changes does not warrant developing a Work Plan for reasons of either its familiarity based on previous validation experiences of the same or similar nature, or where sufficient information is available from the data submitted. Where this is the case, the VA may at its discretion conclude the technical validation process without a Work Plan and proceed directly to issuance of its validation design approval. Accordingly, the VA will notify the CA of this decision.

- (c) The VA will identify its level of involvement in the Work Plan based only on those design features that resulted in the Non-Basic classification of the application. The identification will include any requirement to conduct flight-testing as determined during the technical familiarization phase. The Work Plan should also state the VA's expectations. These expectations should be limited to the level of effort the VA would exert if it were finding compliance itself. Changes to the Work Plan are provided for in 3.5.6.4(b)(2)
- (d) Flight test requirements in the Work Plan, as determined during the technical familiarization phase in 3.5.6.1(h) are to be supported by both Authorities as follows, including, but not limited to:
 - (1) Providing the VA flight test representatives with sufficient familiarity with the product whenever needed and justified by the risk-based level of involvement, so as to facilitate VA operational approvals and/or develop any special flight characteristics training requirements;
 - (2) Providing the VA with necessary exposure to the type design, so as to support continuing airworthiness of the VA registered fleet; and
 - (3) Identifying to the CA for resolution any potential compliance issues not previously identified by the validation team.

Note: The CA will coordinate with the Applicant to determine availability of the product and schedule flights identified in the VA Work Plan.

- (e) The Work Plan will be approved by the VA's management and communicated to the CA for the purpose of seeking assistance during the validation activities. The VA will rely on the CA to make findings of compliance on its behalf to the maximum extent practicable.

3.5.6.4 Implementation of the Work Plan

- (a) Data Requests

The VA will make written requests to the CA for technical data in support of, and related to, the areas of VA level of involvement identified in the Work Plan.

- (b) Design Review

- (1) In addition to the initial familiarization meeting and technical data review, the VA will determine whether any other technical meetings are necessary to ensure effective implementation of the Work Plan. Technical meetings will normally be arranged through the CA and where appropriate have representatives from both Authorities in attendance.
- (2) The Work Plan may be revised if during the design review the VA identifies a need to change its level of involvement. Any changes to the VA's Work Plan will be approved by management and should be appropriately communicated to both the CA and Applicant.
- (3) The VA shall not generate a new Issue Paper on a subject already addressed by the CA with which the VA concurs.
- (4) VA Issue Papers will be coordinated through the CA. Such coordination will expedite the timely and mutually acceptable resolution of certification issues. The VA will incorporate the CA's and the Applicant's position in all of the VA originated issue papers.

(c) Flight Testing

- (1) As the VA gains more knowledge from the validation activity, it can be envisaged in certain cases that the flight test requirement earlier identified in the Work Plan may have no aspects or issues that need or require resolution with the CA or Applicant before issuing the validation approval. This could be the case, for example, if the nature of the flight testing shifts from a validation purpose to that of familiarization flights for purposes of, but not limited to, continued airworthiness, to facilitate operational approval, and/or develop special flight characteristics training requirements. When this is the case, the VA may at its discretion request familiarization flights in lieu and notify the CA and applicant accordingly of this decision.
- (2) Familiarization flights should not prevent the VA from issuing the validation approval when there are no other conditions requiring flight tests. The validation program can be concluded by the VA without completing the familiarization flights, provided there is agreement with the CA on a definitive schedule to complete the familiarization flights.
- (3) The CA will remain responsible for coordinating with both the VA and Applicant on the availability of the product and for scheduling the familiarization flights, respecting the timelines of the agreement established above.

(d) Approved Manuals

- (1) The CA approves all manuals unless the VA specifies its involvement to approve certain manuals as documented in the Work Plan.
- (2) VA request for changes to Approved Manuals associated with the design changes will be made through the CA, and the approval of the manual will be made by the CA.

- (3) Request for changes to manuals must be directly related to Work Plan areas of VA involvement.

3.5.6.5 Issuance of the Design Approval

Once the VA is satisfied that the Technical Validation is completed, the Work Plan activities are concluded and compliance with the VA's certification basis has been found, the VA can proceed with either the issuance of the corresponding design approval, or notify the CA of its acceptance, as applicable.

SECTION IV CONTINUING AIRWORTHINESS

4.1 General

- 4.1.1 In accordance with Annex 8 to the Chicago Convention, the SoD or SoDM is responsible for resolving in-service safety issues related to product design, design changes, or production. The CA will provide applicable information that it has found to be necessary for mandatory modifications, required limitations and/or inspections to the VA to ensure continuing airworthiness of the affected product or article. The VA will review and normally accept the corrective actions taken by the CA.
- 4.1.2 At the request of the VA, the CA will assist in determining what action is considered necessary for the continuing airworthiness of the affected product or article. The VA, as Authority of the SoR, retains sole authority for decisions on final actions to be taken for products or articles under its jurisdiction.
- 4.1.3 The Authorities recognize the importance of the routine sharing of data on continuing airworthiness as a means to assist in the identification and resolution of emerging airworthiness issues. The Authorities will share such data with each other to assist in their respective oversight of continuing airworthiness.
- 4.1.4 The VA may seek information, including access to design data, to understand and agree on findings of compliance made by the CA to all requirements and on any mandatory corrective action or any significant on-going continued airworthiness topic and its means of resolution. This is necessary to ensure acceptable continuing airworthiness of products under the jurisdiction of the importing State.
- 4.1.5 The Authorities will ensure active communication between specific focal points, for regular feedback and communicating continuing airworthiness issues on products, articles and design changes certified by an Authority and validated by the other. The extent of this engagement will be commensurate with the continuing airworthiness activities associated with the product or article and will be handled outside of a validation project.

4.2 Malfunctions, Failures, and Defects (MF&D) and Service Difficulty Reports (SDR)

- 4.2.1 The Authorities agree to perform the following functions for the products, articles, or design changes for which it is the CA either as SoD or SoDM:
 - 4.2.1.1 Tracking of MF&D reports/SDR and accident/incidents;
 - 4.2.1.2 Evaluating MF&D reports/SDR and accident/incidents;

- 4.2.1.3 Investigating and resolving all suspected unsafe conditions;
- 4.2.1.4 Advising the VA of all known unsafe conditions and the necessary corrective actions (see 4.30);
- 4.2.1.5 Upon request, providing the VA with the following;
 - (a) Reports of MF&D/SDR and accidents/incidents;
 - (b) Status of investigations into MF&D/SDR and accidents/incidents;
 - (c) Copies of final reports pertaining to the MF&D/SDR; and
 - (d) Copies of final reports pertaining to the accidents/incidents in accordance with Annex 13 to the Chicago Convention.
- 4.2.1.6 Making a reasonable effort to resolve issues raised by the VA concerning matters of safety for products registered in its State.
- 4.2.2 The Authority, as VA, agree to perform the following functions:
 - 4.2.2.1 Advising the CA of MF&D/SDR on potentially unsafe conditions occurring on the imported products, articles, or design changes;
 - 4.2.2.2 Supporting the CA in investigations of unsafe conditions and their occurrences on the imported aircraft; and
 - 4.2.2.3 Advising the CA if as a result of investigations made by the VA into MF&D/SDR and potentially unsafe conditions, it has determined that it will unilaterally make corrective actions mandatory.
- 4.2.3 For continuing airworthiness issues related to investigations of Safety Recommendations, Service Difficulty Reports, accidents or incidents on the imported products, articles or design changes, the VA can directly request information from the DAH after informing the CA of the investigation.
- 4.2.4 Copies of MF&D/SDR reports from the CAAS and TCCA may be obtained from the addresses listed in Appendix A.

4.3 Unsafe Condition and Airworthiness Directives (AD)

- 4.3.1 The Authorities agree to perform the following functions for the products, articles, and design changes for which they are the CA:
- 4.3.1.1 Issuing an AD whenever the Authority determines that an unsafe condition exists in a type certificated product or article, and is likely to exist or develop on a type certificated product or article of the same type design. This may include a product that has an engine, propeller or article installed on it and the installation causes the unsafe condition.
 - 4.3.1.2 Ensuring that the following information is provided to the VA as part of the AD or directly from the approval Holder:
 - (a) Service information that provides the instructions on how to perform the required corrective actions;
 - (b) A statement on the availability of articles/parts; and
 - (c) An estimate of the number of labor hours and the cost of articles/parts required for the corrective actions.
 - 4.3.1.3 Issuing a revised or superseding AD whenever the CA finds any previously issued AD was incomplete or inadequate to fully correct the unsafe condition.
 - 4.3.1.4 Providing timely notification to the VA of the unsafe condition and the necessary corrective actions by submitting a copy of the AD at the time of publication to the address referenced in Appendix A. Additionally, upon request by the VA, the CA will arrange for copies of all relevant service bulletins referenced in the AD, as well as other supporting documentation, to be forwarded to the appropriate focal point in the CAAS Flight Standards Division or the TCCA Continuing Airworthiness Division of the National Aircraft Certification Branch, as appropriate.
 - 4.3.1.5 Immediately notifying the VA of any emergency airworthiness information issued by the CA.
 - 4.3.1.6 Advising and assisting the VA in defining the appropriate actions to consider in the issuance of its own AD.
 - 4.3.1.7 Providing sufficient information to the VA for its use in making determinations as to the acceptability of alternative means of compliance (AMOC) to ADs.

- 4.3.1.8 Maintaining a web-based database of ADs that can be accessed by the VA.
 - 4.3.2 The Authorities recognize that they may disagree as to the finding of an unsafe condition. In that case, it is expected that the VA will normally consult with the CA prior to issuing a unilateral AD.
 - 4.3.3 The Authority, as VAs, agree to respond quickly to the issuance of an AD by the CA in making its own determination of the need for issuing its own AD that addresses all unsafe conditions on affected products or articles certified, approved, or otherwise accepted by the VA.
 - 4.3.4 The Authority, as CA, will share information on any changes that affect operating limitations, life limits, or any other airworthiness limitation, including manual changes and changes to certification maintenance requirements. These changes should be promptly sent to the VA in order to ensure the continuing airworthiness of the aircraft. The Authorities will treat a reduced life limit as an unsafe condition and may accordingly issue an AD. The Authorities may also issue an AD for other limitation changes if they are considered an unsafe condition.
- 4.4 Alternative Methods/Mean of Compliance (AMOC) to an AD
- 4.4.1 If the CA of the SoD or SoDM issues an AMOC of general applicability to an AD issued by the CA against its own SoD products and articles or design changes, the CA will notify the VA of the decision.
 - 4.4.2 Where an AD issued by the SoD or SoDM is adopted by the VA, an AMOC of general applicability issued by the CA is automatically accepted by the VA without issuance of a separate AMOC approval, unless otherwise determined by the VA of a need or requirement to issue a different AMOC.
 - 4.4.3 The CA, upon request by the VA, will provide sufficient information to assist in the VA's determination of the acceptability of an AMOC request on an AD issued by the CA for its SoD products.

SECTION V ADMINISTRATION OF DESIGN APPROVALS

5.1 General

This Section addresses procedures for the transfer, surrender, revocation, suspension, termination, or withdrawal of design approvals.

5.2 Transfer of TC and STC

The Authorities will administer the transfer of TC/STC only where an Applicant agrees to assume responsibilities for the CAAS STC or TCCA TC/STC, as the case may be, and the affected operating fleet. Early coordination with both Authorities is encouraged. The following provisions outline the procedures for TC/STC transfers.

5.2.1 Transfer of a TCCA TC to a Person located in Singapore.

[Reserved]

5.2.2 Transfer of a CAAS TC to a Person located in Canada.

[Reserved]

5.2.3 Transfer of STC with a change in SoDM.

5.2.3.1 Early coordination between the current STC Holder and its Authority, together with the candidate STC Holder and its Authority is essential. The transferring Authority will notify the receiving Authority of the proposed transfer and include information about current production status.

5.2.3.2 The transfer of an STC and the ICAO Annex 8 SoDM responsibilities between Canada and Singapore must be mutually agreed to by both Authorities. If an agreement to transfer an STC, either in full or partial, cannot be reached between the Authorities, the CA retains its status as the SoDM until such time as the STC is either revoked or surrendered, at which time the STC is no longer a valid design approval.

5.2.3.3 A TCCA STC will only be transferable to a person located in Singapore who is a Holder of a Design Organization Approval under SAR-21, Subpart H. TCCA may transfer to the CAAS the SoDM responsibilities for a CAAS validated STC issued in respect of an aircraft type that has been type accepted by the CAAS. CAAS will not assume SoDM responsibilities for STCs that do not meet the CAAS certification requirements.

- 5.2.3.4 The CAAS may transfer to TCCA the SoDM responsibilities for STCs validated by TCCA. TCCA will not assume SoDM responsibilities for STCs that do not meet the TCCA certification requirements.
- 5.2.3.5 Upon notification of a proposed transfer of an STC from Canada or Singapore to a new Holder located in the other country, the transferring Authority's responsible office will notify the receiving Authority's responsible office as listed in Appendix A. An arrangement may be developed to identify each Authority's responsibilities throughout the transfer process.
- 5.2.3.6 If the receiving Authority has not yet validated the STC to be transferred, the candidate Holder must first apply for that Authority's STC. The transferring Authority will provide support to the receiving Authority in making findings of compliance with the applicable certification requirements of the new SoDM. This would include the transferring Authority providing a certifying statement that the affected STC meets the new SoDM certification requirements.
- 5.2.3.7 If the receiving Authority already has a corresponding STC, the transfer will apply to the model listed on that STC.
- 5.2.3.8 The transfer of the ICAO Annex 8 SoDM responsibilities for the STC to the receiving Authority will be considered complete when the receiving Authority confirms all necessary data have been transferred to the new Holder, the new Holder is able to perform the responsibilities required of a DAH and the new SoDM issues its STC.
- 5.2.3.9 The transferring Authority will reissue its original STC in the name of the new Holder after the receiving Authority issues its STC. The receiving Authority becomes the new SoDM in carrying out the responsibilities assigned under ICAO Annex 8.
- 5.2.3.10 If the new SoDM STC only covers a partial list of models from the transferring Authority's original STC, and the new Holder does not apply for approval to add the excluded models, the transferring Authority will retain their SoDM responsibilities for those excluded models.

5.2.4 Transfer of STC with no change in SoDM.

5.2.4.1 Where there is no change in the SoDM, the CA will notify the VA when a STC validated by the VA is successfully transferred to a new DAH.

5.2.4.2 The CA shall provide the VA with a statement confirming the ability of the new Holder to fulfil the regulatory responsibilities assigned to a DAH. The CA shall assist the VA in facilitating the reissuance of the validated STC to the new Holder.

5.2.4.3 The VA, upon completion of its review, will issue an STC in the name of the new DAH, and notify the CA accordingly.

5.2.5 Transfer of STC to a Third State as SoDM.

Where an STC that has been validated/accepted by either CAAS or TCCA is transferred to a third State, the CA will notify the VA prior to the transfer and provide any necessary assistance including sharing of technical information to the VA as required. Early collaboration is crucial prior to processing such a transfer. Upon completion of the transfer, the CA will notify the VA of the change in SoD/SoDM responsibilities and identify the new STC Holder.

5.3 Surrender of TC or STC

5.3.1 If a certificate Holder elects to surrender a TC or STC issued by either Authority, the CA will immediately notify the other in writing of the action. For the CAAS, notification will be to the appropriate TCCA Office as listed in Appendix A. For TCCA, notification will be to the CAAS Flight Standards Division at the address listed in Appendix A.

5.3.2 The Authority, as the CA, will accomplish all actions necessary to ensure continuing airworthiness of the product until such time as:

5.3.2.1 The surrendered TC or STC is transferred/reissued to a new Holder when that new Holder demonstrates competence to fulfill the necessary responsibilities; or

5.3.2.2 The CA revokes the TC or STC. Prior to revocation, the CA will notify the other of the pending action.

5.4 Revocation or Suspension of TC or STC

5.4.1 In the event that the CA revokes or suspends a TC or STC of a product manufactured in its country, that Authority shall immediately inform the other. The VA, upon notification, will conduct an investigation to determine if action is required on its part. If the revocation or suspension by the CA was for cause and the VA concurs with the CA's certificate action, the VA will initiate revocation or suspension of its validated or accepted TC or STC.

5.4.2 Alternatively, the VA may decide to assume continued airworthiness responsibilities if there is sufficient information for it to support the continuing airworthiness of the fleet within its jurisdiction. In this case, the CA should obtain and provide type design data as requested to the VA. Final certificate action is at the sole discretion of the VA.

5.4.3 Either Authority may revoke its TC or STC if the continuing airworthiness responsibilities would cause an undue burden for that Authority.

5.5 Surrender, Withdrawal or Change of Holder of a CAN-TSO Design Approval /STSO Certificate of Approval

5.5.1 Surrender

If a CAAS STSO Certificate of Approval Holder or a TCCA CAN-TSO Holder elects to surrender the approval, the CAAS or TCCA will immediately notify the other in writing of the action.

5.5.2 Withdrawal

If the CAAS STSO Certificate of Approval or a TCCA CAN-TSO design approval is withdrawn, the CAAS or TCCA as CAs will immediately notify the other in writing of the action. The CA will inform the VA when an unsafe condition has been identified. In the event of withdrawal of the approval for non-compliance, the CA will investigate all non-compliances for corrective action and notify the VA of the corrective action. The CA still has the responsibility for the continuing airworthiness of those articles manufactured under its authority.

5.5.3 Change of Holder of CAN-TSO design approval/STSO certificate of approval

Upon notification of a change of Holder of CAN-TSO design approval/STSO certificate of approval, the CA shall notify the VA.

SECTION VI ACCEPTANCE OF EXPORT AIRWORTHINESS APPROVALS

6.1 General

This Section addresses the procedures by which a civil aeronautical product being exported from Canada or Singapore to the other country will be accepted based on the export airworthiness certificate issued by the Exporting Authority (EA). The Importing Authority (IA) will recognize and accept the export airworthiness certificate of the EA when issued in accordance with this TA-AC.

6.2 Export Certificates of Airworthiness

For civil aeronautical products exported from Canada or Singapore, the following export airworthiness certificates are recognized and accepted as follows:

6.2.1 For complete aircraft only, a TCCA Export Airworthiness Certificate, Form 21-0049, or a CAAS export certificate of airworthiness, CAAS(AW) 82; and

6.2.2 For aircraft engines, propellers, appliances, and parts other than Standard Parts, an authorized release certificate, TCCA Form One or CAAS(AW) 95.

6.3 Export of New Aircraft

6.3.1 The EA will certify that a new aircraft being exported to Canada or Singapore:

- (a) conforms to the type design approved by the IA, as specified in the IA's type certificate data sheet and any additional modifications approved by the IA;
- (b) in a condition for safe operation; and
- (c) complies with the applicable airworthiness directives and additional import requirements of the IA, where notified.

6.3.2 The EA will provide a statement of declaration on the Export Airworthiness Certificate of its certification in respect of 6.3.1 above and will include the identification of any exception from the identified approved type design of the IA. The Authorities will coordinate the exception from the identified type design in accordance with 6.7 below.

6.3.3 The EA will provide information on the acoustical configuration of the new aircraft and its noise and emission characteristics necessary for the IA to establish compliance with its environmental requirements and to complete the certificate of noise compliance or equivalent record.

6.4 Export of Used Aircraft

- 6.4.1 A used aircraft under the jurisdiction of Canada or Singapore may be exported to the other only when the used aircraft, regardless of State of Design, has a design approval granted by the IA.
- 6.4.2 The EA will certify that a used aircraft eligible under 6.3.1 above being exported to Canada or to Singapore:
- (a) conforms to the type design approved by the EA, as specified in the EA's type certificate data sheet and any additional STCs approved or accepted by the EA;
 - (b) is in a condition for safe operation;
 - (c) is maintained by using approved procedures and methods (evidenced by logbooks and maintenance records); and
 - (d) complies with the applicable airworthiness directives and additional import requirements of the IA, where notified.
- 6.4.3 Any exception from the identified approved type design of the IA will be coordinated in accordance with 6.7 below.
- 6.4.4 In the case of 6.4.2(c) above, the IA may require inspection and maintenance records, which include but are not limited to:
- (a) the original or certified true copy of the Export Certificate of Airworthiness, or equivalent, issued by the EA;
 - (b) records, which verify that all overhauls, major changes, and major repairs were accomplished under applicable standards of airworthiness;
 - (c) maintenance records and logbook entries which substantiate that the used aircraft is properly maintained by fulfilling the requirements of an approved maintenance program by an authorized person or organization; and
 - (d) where design changes or STCs are embodied in a used aircraft, all necessary data for subsequent maintenance should be provided, such as the data describing the installation, the materials and parts used, wiring diagrams for installation on avionic and electrical systems, drawings or floor plans for installations in the cabin, fuel or hydraulic systems, structural changes.

6.5 Export of New Aircraft Engines, Propellers, Appliances, and Parts

A new aircraft engine, propeller, appliance, and any part being exported to Canada or Singapore, except for Standard Parts, will be certified by the applicable TCCA Form One or CAAS (AW) 95 that it:

- 6.5.1 conforms to the applicable approved design data; and
- 6.5.2 is in a condition for safe operation.

6.6 Export of Used Aircraft Engines, Propellers, Appliances, and Parts

Used and overhauled aircraft engines, propellers, appliances, and parts are accepted for import by TCCA and CAAS and are subject to the provisions of the TCCA-CAAS Technical Arrangement on Aviation Maintenance.

6.7 Coordination of Exceptions on Export Certificate of Airworthiness

- 6.7.1 Where the EA identifies a non-compliance to the approved type design of the IA and intends to identify these as exceptions to its export certification, the EA will, prior to issuing its Export Certificate of Airworthiness, notify the IA of such non-compliance. This notification by the EA is expected to help to resolve all issues concerning the aircraft's eligibility for an airworthiness certificate. This notification is expected to be sent to the appropriate office of TCCA or CAAS.
- 6.7.2 In all cases, the IA will provide a written confirmation of its acceptance of the non-compliance notified under 6.7.1 before the EA issues its Export Certificate of Airworthiness.

6.8 Additional Requirements for Import

- 6.8.1 The IA may have additional requirements, which will be complied with in order to import the civil aeronautical product. The following are required, but not limited to those in (a), (b) and (c) below.
 - (a) ICAs will be provided by the TC or STC Holder.
 - (b) The Authorities understand that an approved AFM, including all applicable supplements, accompanies each aircraft and that the aircraft has the appropriate operating placards and markings, a current weight and balance report, and a list of installed equipment.
 - (c) The Authorities understand that logbooks and maintenance records accompany each aircraft (including the aircraft engine, propeller, rotor, or appliance).

SECTION VII TECHNICAL ASSISTANCE BETWEEN AUTHORITIES

7.1 General

7.1.1 Upon request and after mutual agreement, and as resources permit, the Authorities will provide technical assistance to each other when significant activities are conducted in either Singapore or Canada.

7.1.2 Every effort should be made to have these certification tasks performed locally on each other's behalf. These technical assistance activities will help with regulatory surveillance and oversight functions at locations outside of the requesting Authority's country. These supporting technical assistance activities do not relieve the Authority of the responsibilities for regulatory control, environmental certification, and airworthiness approval of products and articles manufactured at facilities located outside of the requesting Authority's country.

7.1.3 The Authorities will use their own policies and procedures when providing such technical assistance to the other unless other special arrangements are agreed upon. Types of assistance may include, but are not limited to, the following:

7.1.3.1 Certification Support

- (a) Witnessing tests;
- (b) Performing compliance inspections;
- (c) Reviewing reports;
- (d) Obtaining data;
- (e) Verifying/determining compliance;
- (f) Monitoring the activities and functions of designees or approved organizations; and
- (g) Conducting investigations of service difficulties.

7.1.3.2 VA Requirements for DAH Responsibilities

Any additional assistance needed to support or implement responsibilities assigned by the VA regulations to a DAH under the jurisdiction of the CA. See further explanation in 7.8.

7.1.3.3 Technical Training

Any additional assistance needed to support the technical implementation of this agreement and any other training needs an Authority may have.

7.2 Witnessing of Tests during Design Approval

- 7.2.1 An Authority may request assistance from the other in the witnessing of tests.
- 7.2.2 Only Authority-to-Authority requests are permissible and neither the CAAS nor TCCA will respond to a test witnessing request made directly by the design approval Applicant. Witnessing of tests will be conducted only after consultations and agreement between the Authorities on the specific work to be performed. A written request for witnessing of tests will be provided.
- 7.2.3 Unless otherwise delegated, approval of the design approval Applicant's test plans, test procedures, test specimens, and hardware configuration remains the responsibility of the CA. Establishing the conformity of each test article prior to the conduct of the test is the responsibility of the design approval Applicant.
- 7.2.4 Test witnessing activities may require the development of a working arrangement based on the complexity and frequency of the requested certifications. At the discretion of the Authority receiving such requests, these activities may be delegated to authorized designees, delegates, or approved organizations, as applicable.
- 7.2.5 Where there is no working arrangement, requests for witnessing of individual tests must be specific enough to provide for identification of the location, timing, and nature of the test to be witnessed. An approved test plan must be provided by the requesting Authority, prior to each scheduled test.
- 7.2.6 CAAS requests for conformity of the test set-up and/or witnessing of tests should be sent in writing to the appropriate TCCA office with geographic responsibility for the location of the test. TCCA Offices are listed in Appendix A. TCCA requests for conformity of the test set-up and/or witnessing of tests will be sent in writing to the CAAS Flight Standards Division at the address listed in Appendix A.
- 7.2.7 Upon completion of test witnessing on behalf of the requesting Authority, the Authority will send a report stating that the test was conducted in accordance with approved test plans and confirming the test results, as well as any other documentation as notified by the requesting Authority.

7.3 Compliance Determinations

- 7.3.1 An Authority may also request that specific compliance determinations be made after the witnessing of tests or other activities. Such statements of compliance will be made to the airworthiness or environmental standards of the requesting Authority.
- 7.3.2 The Authority's statements of compliance will be formally communicated electronically to the requesting TCCA office or the CAAS Flight Standards Division.

7.4 Flammability Testing Procedures

- 7.4.1 Design approval Applicants may utilize flammability test facilities located in Singapore or Canada in support of their design approval activities.
 - 7.4.1.1 The CA will approve the Flammability Test Plan submitted by the design approval Applicant and send a letter to the test facility, with a copy to the VA, requesting from the test facility, information relating to the specific conformity inspection and witnessing of testing of the articles. The CA's notification will fully communicate any special requirements for the testing and inspections.
 - 7.4.1.2 The CA will ensure that its Applicant has made its own Statement of Conformity prior to any VA's conformity inspection or test.
 - 7.4.1.3 The Authorities may agree to use the authorized person(s) such as CAAS Design Signatory or TCCA delegated personnel to conduct the inspection and/or witness the test and submit the results to the CA. The CA will evaluate and disposition any non-conformities or deviations identified during an inspection or test.
 - 7.4.1.4 The CA is responsible for accepting the findings from the VA or the duly authorized person(s) as agreed in 7.4.1.3. TCCA should rely on the CAAS oversight of its Design Organisation Approval Holder and their approved processes to assure validity of the flammability data generated to support these findings. Similarly, CAAS should rely on TCCA oversight on its appropriate authorized delegates to assure validity of the flammability data generated to support these findings.

7.5 Other Requests for Assistance or Support

The Authorities may request other types of technical assistance in addition to those outlined in 7.1.3. Each request will be handled on a case-by-case basis, as resources permit. Each written request will include sufficient information for the task to be performed and reported back to the requestor. Where the technical assistance is repetitive or long-term, an agreement may be needed.

7.6 VA Requirements for Foreign DAHs

The VA has regulatory requirements requiring a foreign DAH to fulfill certain administrative procedures and technical actions intended for the continuing airworthiness of imported products. Where the regulatory requirements of the CA and the VA are the same or equivalent, the VA will rely on the CA's oversight and enforcement of that requirement on behalf of the VA. Where the requirements are unilateral for the VA, the CA and the VA shall consult each other on the appropriate action to be taken in order for the affected DAH to respond or comply with the applicable VA requirement.

7.7 Protection of Proprietary Data

Both authorities recognize that data submitted by a DAH is the intellectual property of that Holder, and release of that data by the Authority is restricted. The Authorities agree that they will not copy, release, or show proprietary data obtained from either Authority or the Applicant to anyone other than an Authority employee without written consent of the DAH or other data submitter. This written consent should be obtained through the Authority having jurisdiction over the DAH and provided to the other Authority.

7.8 Accident/Incident and Suspected Unapproved Parts Investigation Information Requests

7.8.1 When either Authority needs information for the investigation of service incidents, accidents, or suspected unapproved parts involving a product or article imported under this TA-AC, the request for the information should be directed to the appropriate office of the appropriate Authority. In turn, upon receipt of the request for information, the CA will ensure that the requested information is provided in a timely manner.

7.8.2 In case of an incident/accident, the Authorities will cooperate to address urgent information needs. Following an incident/accident, upon receipt of a request for urgent information, the Authority will provide the requested information. The Authorities will establish individual focal points to respond to each other's questions and ensure that timely communication occurs. The Authority may request information directly from a DAH or Manufacturer if immediate contact with the appropriate focal points cannot be made. If the Authority requests information directly from a DAH or Manufacturer, notification of this action will be made to the other Authority as soon as possible. Either the Authority,

as applicable, will assist in ensuring that the DAH or Manufacturer provides the requested information expeditiously.

SECTION VIII SPECIAL ARRANGEMENTS

8.1 General

- 8.1.1 It is anticipated that situations may arise that have not been specifically addressed in this TA-AC but are within the scope of the MOU. When such a situation arises, it will be reviewed by the respective Director of CAAS Flight Standards Division and TCCA Director of Standards, and a mutually agreed upon procedure be developed into a Special Arrangement to address the situation.
- 8.1.2 Where the situation is unique, with little possibility of repetition, then the Special Arrangement will be of limited duration. However, if the situation could lead to further repetitions, then this TA-AC will be revised accordingly by the Authorities.
- 8.1.3 Special Arrangements shall be developed and administered by the focal points for this TA-AC, listed in Appendix A. Special Arrangements may be posted on both Authorities websites for public viewing, as appropriate.

SECTION IX AUTHORITY

9.1 General

The CAAS and TCCA agree to the provisions of this TA-AC as indicated by the signature of their duly authorized representatives.

Civil Aviation Authority of Singapore

Transport Canada Civil Aviation

By:



By:



Mr. Han Kok Juan
Director General

Mr. Félix Meunier
Director General

August 28, 2024

August 28, 2024

APPENDIX A ADDRESSES

The designated focal point offices for these TA-AC are tabulated:

For the CAAS

Flight Standards Division
Civil Aviation Authority of Singapore

Office/ Mailing Address:
Room 047-029, 4th Storey Terminal 2
Singapore Changi Airport
Singapore 819643

For TCCA

Aircraft Certification Standards (AARTC)
Standards Branch
Transport Canada Civil Aviation

Mailing Address:
330 Sparks Street (AARTC)
Place de Ville, Tower C
Ottawa, ON K1A 0N5
Canada

Office Location (no mail service):
159 Cleopatra Drive
Nepean, ON K1A 0N5
Canada

Tel: 1 (343) 573-4113
Fax: 1-613-996-9178
E-mail : TC.InternationalArrangements-Ententesinternationales.TC@tc.gc.ca

CAAS Offices

Key Contacts for these Technical Arrangement

Contact Point for CAAS

CAAS Offices
Flight Standards Division
Civil Aviation Authority of Singapore
Room 047-029, 4th Storey Terminal 2
Singapore Changi Airport
Singapore 819643

Telephone: Refer to the following links for the contacts of the respective officers in Flight Standards division:

- Flight Standards division: <https://www.sgdi.gov.sg/ministries/mot/statutory-boards/caas/departments/srg/departments/fs>

TCCA Offices

Contact Point for Aircraft Certification Issues

Aircraft Certification Standards – International Arrangements (AARTC)

Standards Branch

Transport Canada Civil Aviation

Mailing Address:

330 Sparks Street, 2nd Floor

Place de Ville, Tower C

Ottawa, ON K1A 0N5

Office Address (no mail service)

159 Cleopatra Drive

Ottawa, ON K1A 0N5

Tel: 1 (343) 573-4113

Fax: 1 (613) 996-9178

E-mail: TC.InternationalArrangements-Ententesinternationales.TC@tc.gc.ca

Contact Point for Airworthiness Directives and AMOC

Continuing Airworthiness Division (AARDG)

Chief – Continuing Airworthiness

National Aircraft Certification Branch

Transport Canada Civil Aviation

Mailing Address:

330 Sparks Street, 2nd Floor

Place de Ville, Tower C

Ottawa, ON K1A 0N5

Office Address (no mail service)

159 Cleopatra Drive

Ottawa, ON K1A 0N5

Tel: 1 (888) 663-3639

Fax: 1 (613) 996-9178

E-mail: TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca

Contact Point for STC and other Airworthiness Applications

National Aircraft Certification Branch
Chief, Project Management (AARDE)
Transport Canada Civil Aviation

Mailing Address:

330 Sparks Street, 2nd Floor
Place de Ville, Tower C
Ottawa, ON K1A 0N5

Office Address (no mail service)

159 Cleopatra Drive
Ottawa, ON K1A 0N5

E-mail: TC.CivAv.STC.CTS.AvCiv.TC@tc.gc.ca.

Tel: 1 (888) 663-3639

Contact point for Operational Airworthiness Issues

Operational Airworthiness Division (AARTM)

Chief – Operational Airworthiness
Standards Branch
Transport Canada Civil Aviation

Mailing Address:

330 Sparks Street, 4th Floor
Place de Ville, Tower C
Ottawa, ON K1A 0N5

Tel: 1 (613) 952-4386

Fax: 1 (613) 952-3298

APPENDIX B LIST OF REFERENCE DOCUMENTS

B.1 TCCA Reference Documents

Part V of the CARs (partial listing of applicable Subparts to this TA-AC):

- a. Subpart 0 – General
- b. Subpart 1 – Annual Airworthiness Information Report
- c. Subpart 7 – Flight Authority and Certificate of Noise Compliance
- d. Subpart 9 – Export Airworthiness Certificates
- e. Subpart 21 – Approval of the Type Design or a Change to the Type Design of an Aeronautical Product, consisting of:
 - Division I – General
 - Division II – Type Certificates
 - Division III – Canadian Technical Standard Order (CAN-TSO) Design Approvals
 - Division IV – Changes to a Type Design
 - Division V – Supplemental Type Certificates
 - Division VI – Repair Design Approvals
 - Division VII – Part Design Approvals
 - Division VIII – Responsibilities of a Design Approval Document Holder
 - Division IX – Service Difficulty Reporting
 - Division X – Airworthiness Directives
 - Division XI – Foreign Aeronautical Products
- f. Subpart 49 – Amateur Built Aircraft
- g. Subpart 61 - Manufacturer Certificate
- h. Subpart 71 – Aircraft Maintenance Requirements

B.2 CAAS Reference Documents

CAAS Legislation & Regulations

E.g., Air Navigation Order, Singapore Airworthiness Requirement (SAR), SAR-21, SAR-39

Weblink: <https://www.caas.gov.sg/legislation-regulations/>

CAAS Advisory Circular

Weblink: <https://www.caas.gov.sg/legislation-regulations/guidelines-advisory>

CAAS Application Forms

1. Letter of Acceptance of Type Certificate Form CAAS(AW)204
2. CAAS STC Form CAAS(AW)212
3. CAAS Repair Design Approval Form CAAS(AW)206

Weblink: <https://www.caas.gov.sg/e-services-forms/forms/design-production>

APPENDIX C CROSS REFERENCE OF STANDARDS

PRODUCT	CAAS STANDARDS*	TCCA STANDARDS AWM CHAPTER
Aircraft Noise and Emissions	SAR-21.755 (a), (b), (c), (d) (adopted ICAO Annex 16 Vol I, II and III)	AWM 516 (adopted ICAO Annex 16)
Gliders & Powered Gliders	[Reserved]	AWM 522 (adopted CS-22)
Small Aeroplanes (Normal, Utility, Aerobatic, & Commuter)	SAR-21.755 (a), (b), (c), (d)	AWM 523
Very Light Aeroplanes	[Reserved]	AWM 523 – VLA (adopted JAR-VLA)
Light Sport Aircraft	[Reserved]	----
Transport Category Aeroplanes	SAR-21.755 (a), (b), (c), (d)	AWM 525
Normal Category Rotorcraft	SAR-21.755 (a), (b), (c), (d)	AWM 527
Transport Category Rotorcraft	SAR-21.755 (a), (b), (c), (d)	AWM 529
Manned Free Balloons	SAR-21.755 (a), (b), (c), (d)	AWM 531
Aircraft Engines	SAR-21.755 (a), (b), (c), (d)	AWM 533
Propellers	SAR-21.755 (a), (b), (c), (d)	AWM 535
Articles & Parts	SAR-21.760	AWM 537
Airships	[Reserved]	AWM 541
Amateur Built Aircraft	[Reserved]	AWM 549
Aircraft Equipment & Installation	SAR-21 Subpart C, SAR-21.760	AWM 551

*The CAAS's regulations and guidance materials are available at CAAS website:

<https://www.caas.gov.sg/legislation-regulations>

APPENDIX D LIST OF ACRONYMS

AC	Advisory Circular
AD	Airworthiness Directive
AFM	Aircraft Flight Manual
AMOC	Alternative Methods/Mean of Compliance
AWM	Airworthiness Manual
CAN-TSO	Canadian Technical Standard Order
CA	Certificating Authority
CAAS	Civil Aviation Authority of Singapore
CAR	Canadian Aviation Regulations
DAH	Design Approval Holder
EA	Exporting Authority
ELOS/ESF	Equivalent Level of Safety or Equivalent Safety Finding
MF&D	Malfunctions, Failures, and Defects
IA	Importing Authority
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
IP	Issue Paper
MOU	<i>Memorandum of Understanding Between the Civil Aviation Authority of Singapore and Transport Canada Civil Aviation Concerning Civil Aviation Safety, also known as the “Memorandum of Understanding (MOU), dated April 9, 2019</i>
PDA	Part Design Approval (TCCA)
RDA	Repair Design Approval (TCCA)
SAR	Singapore Airworthiness Requirements
SDR	Service Difficulty Reports
SoD	State of Design
SoDM	State of Design of Modification
SoR	State of Registry
STC	Supplemental Type Certificate
STSO	Singapore Technical Standard Order
TA-AC	Technical Arrangement on Airworthiness Certification
TC	Type Certificate

TCCA	Transport Canada Civil Aviation
TCDS	Type Certificate Data Sheet
TSO	Technical Standard Order
VA	Validating Authority
VLA	Very Light Aeroplanes